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Motives for the choice of geography in Matura¹ examinations in the context of Poland's examination policy

Abstract

The educational reform in 1999 introduced external examinations into the Polish system of education. The examinations are carried out on the basis of educational standards for individual subjects and subject groups. External examinations, especially new Matura examination, changed diametrically previous solutions which is a challenge to teachers, students and parents.

Being frequently chosen by students out of the group of optional subjects, geography has a large contribution to Matura overall results. Therefore, a question arises what makes young people decide to take Matura examination in geography. The study shows the results of a survey carried out among those Matura grade students who chose geography for Matura in 2012. The gathered results also allowed to estimate how the alterations introduced by Ministry of Education into the procedures of examination subjects' choice influence students' choice in relation to geography.

Keywords: choice of geography on an examination; educational reform; examination policy; geography; motives

Introduction

Introduced in 1999, the reform of the system of education in Poland launched external examinations coordinated by Central Examination Commission (CEC). Since 2002, pupils take obligatory examination at the end of primary school (at the age of 13) and gymnasium (at the age of 16). The third examination, Matura (at the age of 19), introduced in a new form in 2005, has great significance as it opens paths for further education in state or private universities and colleges or in post-Matura schools.

From 1994, works were carried out on the concept for new Matura examination as a part of ministerial project "Nowa Matura" and SMART. The new Matura examination form comprises three compulsory exams: Polish, a foreign modern

¹ Examinations usually taken in Poland at the age of 19, necessary for entrance to university; the equivalent of A level exams in British schools.

language and one subject chosen from a group of obligatory ones. Students have the right to choose the level of an exam subject – basic or extended. Apart from that, they can take some extra subjects examinations. Geography is the subject included in the list of obligatory subjects to choose from.

In 2010, a modification to Matura examination took place. Mathematics was introduced as the third compulsory subject for Matura examination. The remaining subjects may be chosen by students as additional ones, but their number must not exceed 6. According to Central Examination Commission data, students usually choose one (45,2% of students), two (27,5%) or three (27,5%) additional subjects for Matura examinations. Currently, geography is included in the group of additional subjects which may be taken on basic or extended level.

Geography in Matura examinations in 2005–2013

Matura examination in geography on basic level lasts for 120 minutes. An exam sheet I-basic level comprises, on average, 30 questions (multiple choice and open-ended), a topographical map of a given area (e.g. national or landscape park) at a scale of 1 : 50 000 and other source materials (table, photographs, figures, etc.). Extended level examination, on the other hand, has been subject to change in the analyzed period. In 2005–2006, the exam lasted for 240 minutes and was divided into two parts; the first part lasted for 120 minutes and comprised questions from exam paper I, while the second part consisted of open-ended questions put in paper II (socio-economic and regional geography). Since 2007, extended-level exam lasts for 150 minutes and contains just one paper with a topographic map of a given area added to it. An extended-level paper comprises, on average, 34–36 questions.

The examination sheets contained a various number of tasks. They included open-ended and closed-ended questions. Out of all sheets, closed-ended questions predominated in more sheets, open-ended ones prevailed in less sheets. Typically, more tasks were prepared to verify the knowledge than to check the skill. The number of closed-ended tasks and the tasks verifying the knowledge has increased, while the number of open-ended tasks and the tasks checking the skill has decreased. These unfavorable trends were observed at high school final examinations in the years 2005–2011 (Tracz, 2013).

Out of the total number of sheets, tasks related to geography of the world predominated in 9 sheets, while tasks related to geography of Poland prevailed in 5 sheets. At the basic level of the matura examination, greater emphasis was put on the knowledge of geography of Poland, while at the extended level – on the geography of the world (Wójcik, 2013).

Zadanie 19. (2 pkt)

W tabeli zamieszczono wartości salda migracji wewnętrznych ludności Polski w wybranych latach.

Lata	1961–1965	1971–1975	1981–1985	1986–1990	2000	2002	2003	2005	2006
	przeciętne roczne w tysiącach osób				w tysiącach osób				
Saldo migracji w miastach	+100,6	+187,6	+137,2	+131,6	-4,2	-17,6	-30,4	-32,6	-35,1

Na podstawie: Świat w liczbach 2007/2008, 2008/2009, WSiP, Warszawa

a) Sformułuj wniosek dotyczący migracji w Polsce między miastem a wsią w latach 1961–1990 i 2000–2006.

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b) Podaj dwie przyczyny zmian salda migracji wewnętrznych w Polsce po 2000 roku.

1.

2.

Fig. 1. Example of questions from a geography sheet I-basic level

Source: archiwum.cke.edu.pl/image/stores/matura_czerwiec2012/geografia/geografia_pp.pdf

Through the analysis of the number of Matura examinees, one may observe an increase in students' interest in choosing geography. Popularity of geography was rising in 2005–2009 – from 76 200 examinees in 2005 to 201 400 in 2009 (Fig. 2, Fig. 3). Geography is of particular interest to the students of technical secondary schools (48–49% of students taking geography) and specialized secondary schools (38–40% of the examinees). These schools' students had a significant contribution to frequent selecting geography for Matura examination up to 2009. Grammar schools students, on the other hand, showed lower interest in geography (20–25% of examinees).

In comparison to other subjects, only social study (wos) showed similar increase in the percentage of examinees in Matura examination in 2005–2009 (Tab. 1). Some researchers connect the increase in popularity of geography, social study (wos) and history in Matura with the scope of their subject matter which is frequently related with contemporary events (Kurczaba-Dzięcioł, 2011; Szmigel, 2007). Moreover, Tracz's research (2008) showed that the change in the Matura examination in geography form, from oral to written, caused larger interest by students in this exam in relation to previous years when geography could be chosen only as an oral exam.

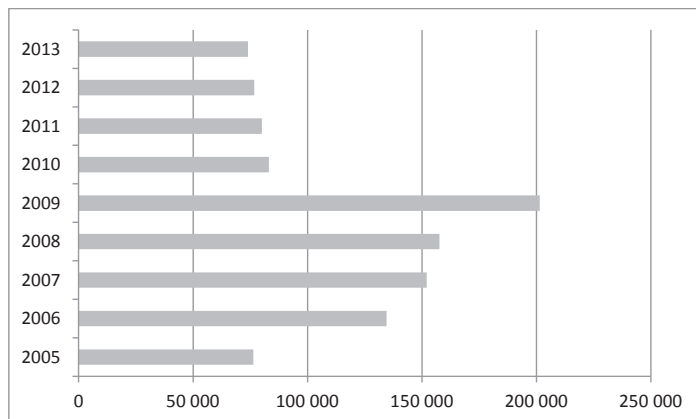


Fig. 2. Number of students taking geography in Matura examination in 2005–2013

Source: Sprawozdania z egzaminu maturalnego za lata 2005–2009, CKE, Warszawa

Since 2007, when the procedures of choosing extended level were introduced, examination in geography on this level has been chosen by noticeably fewer students. The highest percentage of students who choose the extended level attend grammar schools. In relation to other subjects, over 50% of students taking mathematics, physics and chemistry chose extended level (Tab. 1). The data on obligatory subject's choice from the group to choose in Matura in 2005–2009 lead to the following conclusions:

- the most frequently chosen subjects in Matura, i.e. geography, social studies and history, were selected by most students on basic level,
- science subjects, less frequently chosen for Matura (physics, chemistry, mathematics), were taken by most Matura examinees on extended level (Table 1).

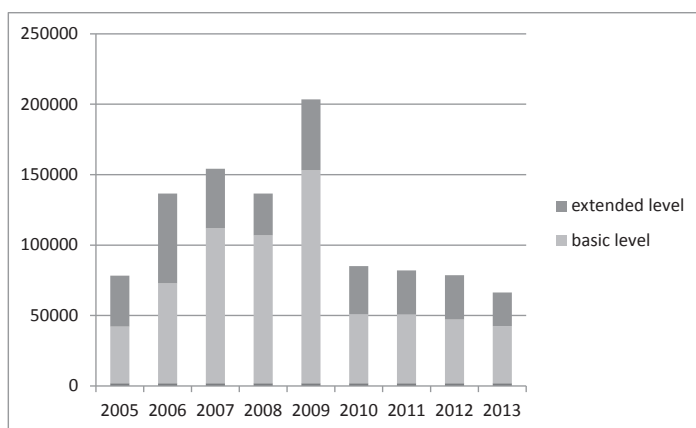


Fig. 3. Number of students taking geography in Matura examination in basic level and extended level in years 2005–2013

Source: Sprawozdania z egzaminu maturalnego za lata 2005–2009, CKE, Warszawa

Tab. 1. Students taking obligatory subjects from the group to choose in Matura examination in 2005–2009 [in %]

Subject	Altogether					Extended level				
	2005	2006	2007	2008	2009	2005	2006	2007	2008	2009
Biology	23	24	27	24	23,9	59	58	45	48	47
Chemistry	8	8	9	9	9,0	72	97	87	88	87
Physics	6	6,5	6	6	5,9	73	98	89	87	85
History	19	14	14	11	9,6	66	80	60	56	51
Geography	21	29	37	39	50,8	40	42	23	21	25
Mathematics	26	18	19	18	19,4	60	78	52	52	46
Social studies (wos)	10	13	28	32	29,9	49	68	48	39	34

Source: Sprawozdania z egzaminu maturalnego za lata 2005–2009, CKE, Warszawa

On the basis of these conclusions, one may claim that potential positive results in Matura examination was a vital factor determining the choice of the third obligatory subject which was especially clearly visible among students of technical and specialized secondary schools (Kopeć, Michalski, 2007; Soja, 2008). As far as geography is concerned, the thesis was proved by pilot survey carried out by Piróg and others (2007) among 197 students of post-gymnasium schools. As main motives for their choice of geography, the respondents mentioned: easiness of questions (26%), interest in geography (17,0%), university recruitments (13%).

Tab. 2. Students taking additional subjects in Matura examination in 2010–2013 [%]

Subject	Altogether				Extended level			
	2010	2011	2012	2013	2010	2011	2012	2013
Biology	19,8	18,6	19,1	21,0	54,5	58,9	41,1	60,0
Chemistry	9,9	10,5	11,5	12,7	80,1	81,1	80,3	77,4
Physics	7,8	8,5	9,6	9,6	41,0	54,1	48,0	44,3
History	7,5	6,6	6,2	6,0	54,3	52,5	49,2	50,1
Geography	22,6	22,5	22,4	23,5	41,2	39,1	41,1	41,3
Mathematics	85,0	85,5	82,5	83,0	15,0	14,5	17,5	17,0
Social studies (wos)	16,7	17,1	55,2	15,4	46,1	44,7	54,8	38,9

Source: Sprawozdania z egzaminu maturalnego za lata 2010–2013, CKE, Warszawa

The modification to Matura examination in 2010 introduced changes within obligatory and additional subjects. Since 2010, the number of students taking geography for Matura has diminished. Taking into consideration the data on the choice of additional subject from the group to choose in Matura in 2010–2013, one may draw the following conclusions:

- the number of students choosing geography decreased by 50%, and the subject is still taken by most students on basic level,
- the number of students choosing science subjects (physics, chemistry) did not undergo any significant changes.

Although the number of classes allowed for teaching geography has been systematically decreased, the subject is still popular among students as a Matura one (Piróg et al., 2007; Tracz, 2009, 2013). It has been observed that since 2010, students of grammar schools have chosen geography more frequently. Therefore, a question arises about the motives that stand behind students' choice of geography for Matura examination.

Methodology

In order to find factors determining the choice of geography in Matura after the modification to procedures of Matura examination, diagnostic research has been carried out since 2010. Its goals were:

- finding the motives for the choice of geography as a Matura subject by students of various types of schools,
- recognizing relations between the choice of a subject and students' further educational plans,
- finding forms of classes that students take part in to prepare for the exam.

The author used a questionnaire for reaching the goals. The survey covered third-grade students of post-gymnasium schools who chose geography for their Matura examination in 2012. The sample comprised 271 students from 14 post-gymnasium schools (10 grammar schools, 3 technical secondary schools, 1 specialized secondary school). Among the respondents, the students of grammar schools accounted for 85%, technical secondary schools – 10,6%, and specialized secondary school – 4% which constituted a representative sample of students taking Matura exam in geography with division into types of schools in Poland. The surveyed students received the following marks in geography in winter term: 8,2% the highest mark – excellent, very good – 31,1%, good – 28,3%, satisfactory – 19,0% and the lowest – mediocre – 13,4%.

Results of the survey – motives for choice of geography for Matura after 2010

The question of what motivates students to choose geography for Matura relates to psychology of motives. Many internal and external factors have impact on the choice. Important factors of students' choice of geography for the exam in 2012 were: university or college recruitments (37,5%), interest in geography (27,5%), easiness of the subject matter (17,0%), other people's suggestions (9,2%) – (Table 3).

When taking types of schools into consideration, there were no significant differences as far as the motives for choice of geography for Matura is concerned. On the other hand, there are some discrepancies in relation to the size of a center

where the school is located: students from smaller centers – up to 100 000 citizens, mentioned university or college recruitments (Tab. 3).

Tab. 3. Students' motives for choice of geography for Matura in 2012 [%]

Motive	Total	Students from large centers (over 100.000 citizens)	Students from smaller centers (up to 100.000 citizens)
university or college recruitments	37,5	18,0	57,0
interest in geography	27,0	28,6	25,2
suggestions from other people (teacher, friends, parents)	9,2	15,6	3,5
easiness of the subject matter	17,0	25,8	8,5
accidental	4,1	4,6	4,7
other	5,2	7,4	1,1
TOTAL	100	100	100

Source: questionnaire research

When comparing the motives for choice of geography in Matura in 2012 with the results of the research carried out by Piróg et al. (2007), we observe an alteration in the Matura examinees' motives hierarchy. Data show that the choice of additional subjects is more conscious and related, to a sizeable degree, with university or college recruitments, as a consequence of respondents' further education plans, and interest in geography (Table 4).

Tab. 4. Main groups of motives for choice of geography in Matura in 2006 and 2012 year [in%]

Groups of motives	2006	2012
university or college recruitments	13,0	37,5
interest in geography	28,0	27,0
suggestions from other people (teacher, friends, parents)	10,0	9,2
easiness of the subject matter	33,0	17,9
Accidental	7,5	4,1
Other	8,5	5,2

Source: questionnaire research and Piróg, Tracz, Gurgala, 2006

The students' responses to the question about their further career plans prove the facts mentioned above. According to the survey, 94% of the sample declared the will for further education. The respondents mentioned the following fields of study: geography – 7,1%, teacher training in geography – 2,5%, studies at fields of studies related to geography – 42,1% (nature preservation, tourism and recreation, spatial

economy, geology), technical and other studies (economy, law, computer science) – 48,3% (Fig.4). Similar results about students further plans in education were taken in the research by Wójtowicz & Tracz (2011) and Tracz (2011).

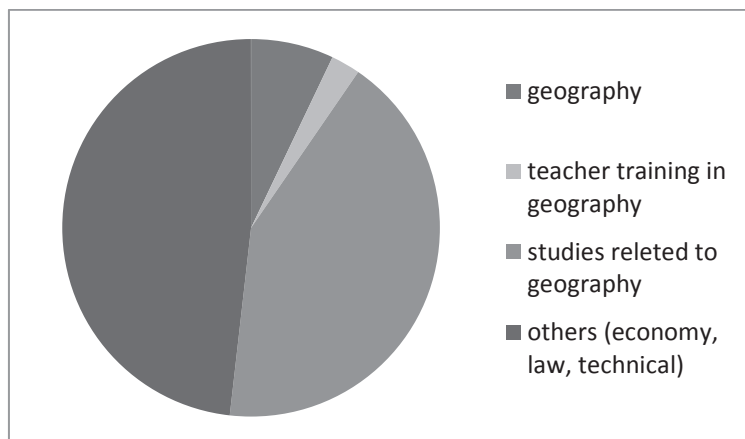


Fig. 4. Students' further career plans in education

Source: questionnaire research

Another confirmation of more conscious choice of geography for Matura are students' responses to the question: when did your interest in geography start? The answers show that for 32% of respondents it began in primary school, for 47% in gymnasium, and for 17,5% in a post-gymnasium school. Only 3,5 % of Matura examinees stated that they had been interested in geography only since the beginning of third grade of a post-gymnasium school (i.e. just before Matura). The level of the respondents' interest in geography was diverse. Only 23% of the respondents considered their level of interest in geography as very high, 46,5% as high, 25% as average, and 5,5% as low.

The respondents were also asked about the declared level of Matura exam in geography. In the schools chosen for the survey, 47,2% of students selected basic level (in the technical secondary schools and the specialized secondary school – 79%). The extended level was chosen by 52,8% of students (in grammar schools – 66,5%). On the basis of the gathered data, the author established that students from prestigious grammar schools had chosen geography only at extended level.

Since the introduction of written Matura in geography, teaching that subject at school presents a considerable challenge for teachers, especially in technical secondary schools where there is no possibility of getting extra classes for teaching it due to simultaneous preparing students for vocational examinations. The respondents were asked how they revise for Matura exam in geography apart from attending regular geography classes. Most of the respondents (51,6%) mentioned

additional geography classes organized at school, self-studying on the basis of literature provided by a teacher – 26,7%, and taking private lessons – 9,4%.

Conclusions

The researches provided information about changes that took place in relation to the motives for choice of geography as an additional subject in Matura examination. The results allow for stating that at present the choice of geography for Matura is, to a large degree, dependant on students' self-motivation, their interests, the aims they pursue and outside determinants.

There is no doubt that the change in hierarchy of motives for students' choice of geography was influenced by decisions of the Ministry of Education in relation to the rules of conducting Matura examination after 2010. The introduction of Matura obligatory examination in mathematics significantly modified students' choices of additional subjects; it resulted in a decreased number of students taking geography in Matura, although it is still the subject most frequently chosen out of the group of additional subjects.

The alterations to obligatory subjects examinations have also impact on recruitment policies of universities and colleges. In 2005–2009, when a large group of students chose geography as a compulsory subject for Matura, it used to be included in recruitments for various fields of study. Since 2010, many universities and colleges take mathematics into consideration, which is taken as obligatory by all the Matura examinees.

Although data show that geography still counts as a recruitment subject for some fields of study, most of them require the basic-level exam. Therefore, students have no motivation for choosing an extended level in geography. In order to increase the rank of geography as a recruitment subject, it seems to be necessary for Geographical Education Commissions of Polish Geographical Society to take actions for suggesting university centers to take into consideration an extended-level Matura exam in geography for fields of study related to geography and other.

It is worth noticing that out of all outside factors influencing students' choices, especially among those students who have not yet decided about their future, the teacher has some impact. The data gathered show that 5,1% of respondents chose geography for Matura after conversations with their geography teachers. It leads to a conclusion that during their training, geography teachers-to-be should be comprehensively prepared not only for realization of geographical education aims (established in the core curriculum), but also for expressing possibilities of career plans and interests' realization through geography.

References

- Kurczaba-Dzięcioł, B. (2011). Przyczyny zróżnicowania przestrzennego efektów kształcenia geograficznego w świetle wyników egzaminu maturalnego. In: M. Tracz, E. Szkurłat (ed.), *Efekty kształcenia geograficznego na różnych poziomach edukacji*. Prace Komisji Edukacji Geograficznej Polskiego Towarzystwa Geograficznego, Łódź: Uniwersytet Łódzki, 81–96.
- Kopeć, K., Michalski, T. (2007). Sytuacja nowego egzaminu maturalnego ze szczególnym uwzględnieniem geografii. In: A. Hibszer, Michalski T. (ed.), *Geografia na egzaminach zewnętrznych 2002–2006 (wybrane zagadnienia)*. Komisja Edukacji Geograficznej Polskiego Towarzystwa Geograficznego. Peplin: Wydawnictwo Bernardinum, 68–79.
- Piróg, D., Tracz, M., Gurgul, B. (2007). Motywy wyboru geografii na maturze a wyniki egzaminu maturalnego – studium przypadku. In: B. Niemierko, K. Szmigiel (ed.), *Uczenie się i egzamin w oczach uczniów*. Łomża: Polskie Towarzystwo Diagnostyki Edukacyjnej, 271–287.
- Soja, J. (2008). Egzamin maturalny z geografii w latach 2005–2007. In: A. Hibszer (ed.), *Polska dydaktyka geografii: idee – tradycje – wyzwania*. Prace Wydziału Nauk o Ziemi Uniwersytetu Śląskiego, 47, 267–289.
- Szmigiel, M. K. (2007). Drugie podejście do zewnętrznego egzaminu maturalnego z geografii w 2005 roku. In: A. Hibszer, Michalski T. (ed.), *Geografia na egzaminach zewnętrznych 2002–2006 (wybrane zagadnienia)*. Peplin: Wydawnictwo Bernardinum, 54–67.
- Sprawozdania z egzaminu maturalnego za lata 2005–2009. Warszawa: CKE.
- Sprawozdania z egzaminu maturalnego za lata 2010–2013. Warszawa: CKE.
- Tracz, M. (2008). Zróżnicowanie wyników egzaminu maturalnego z geografii na poziomie podstawowym w latach 2005–2008. In: B. Niemierko, M. Szmigiel (ed.), *Uczenie się i egzamin w oczach nauczyciela*. Opole: Polskie Towarzystwo Diagnostyki Edukacyjnej, 475–484.
- Tracz, M. (2011). Interest in geography and its studies among students of post secondary school. *Prace i Studia Geograficzne Uniwersytetu Warszawskiego*, 38, 79–86.
- Tracz, M. (2013). Wpływ egzaminów zewnętrznych na nauczanie geografii. In: B. Niemierko, M.K. Szmigiel (eds.), *Polska edukacja w świetle diagnoz prowadzonych z różnych perspektyw badawczych*. Gniezno: Polskie Towarzystwo Diagnostyki Edukacyjnej, 440–448.
- Wójcik, J. (2013). Geografia na maturze – zróżnicowanie merytoryczne i ocena zadań z arkuszy egzaminacyjnych w latach 2005–2011. *Annales Universitatis Paedagogicae Cracoviensis, Studia Geographica IV*, 148, 100–115.
- Wójtowicz, B., Tracz, M. (2011). Popularność geografii jako kierunku studiów. In: Z. Długosz, T. Rachwał (eds.), *Priorytety badawcze i aplikacyjne geografii polskiej*. Kraków: Wydawnictwo Naukowe Uniwersytetu Pedagogicznego, 88–100.

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