Teachers Matter

Report on the State of Education in 2013

Information booklet

Educational Research Institute

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Dear Reader,

Teachers matter the most. This statement keeps resonating. It is worth quoting and we should keep looking for its new meanings. Teachers form one of the largest professional groups which is rather diversified but demonstrates the prevailing sense of identity. It constitutes their strength and weakness in terms of developing and promoting the new role of the teacher. Meanwhile, the identity of the present day and future teachers is an indicator of the country's long-term development potential. Therefore, this year's edition of the Report on the state of education is dedicated to teachers.

Evolution of methods facilitating implementation of teaching roles, reinforced by adequate legal regulations, creates prospects for unleashing the social energy essential to boost the social, economic and political potential of Poland. Achievements of Polish teachers, also those related to the new common lower secondary school, have been recognised worldwide. Nevertheless, we should analyse both positive developments in the Polish school and efforts which have not been brought into picture, which are underrepresented or went awry.

The main dilemma faced by modern universal education relates to the scope of the teacher's essential autonomy. The autonomy teachers experience and practise in real life determines the developmental potential of the Polish education. Admission to the teaching profession granted to anyone demonstrating an adequate set of competencies and enhancement of measures facilitating the transition from teaching profession to other occupations mark a step towards the situation where – to paraphrase a hot educational slogan of recent years – the teaching occupation will become a positive career choice.

Our report has not been written to present the "grand synthesis" or "concise recommendations." Its objective – aligned to the goals of previous editions – is to highlight facts confirmed by domestic and international research which elucidate the state of affairs and constitute a foundation for a mature social debate.

By presenting this brochure, I would like to invite your contribution to this debate. I would also like to encourage you to read the entire report available at www.eduentuzjasci.pl.

Professor Michał Federowicz
Director of the Educational Research Institute

1. Education in numbers

As a result of changes in education over the past quarter-century, more than 25% of Polish adults hold a higher education degree, whereas 25 years ago it was barely 8%. This revolutionary transition was mainly driven by the widespread belief that an appropriate level of education guarantees a quality job and enhances career prospects.

1.1. The ongoing popularity of higher education

The share of individuals with higher education is growing steadily year by year in population aged 25–64, what reflects the growing number of university graduates. The growing popularity of higher education is especially visible among young females. In 2012, 51% of females aged 25–35 and barely 33% of males from the same age group had at least a Bachelor's degree.

Table 1. The education structure of Polish population aged 25–64 (%)

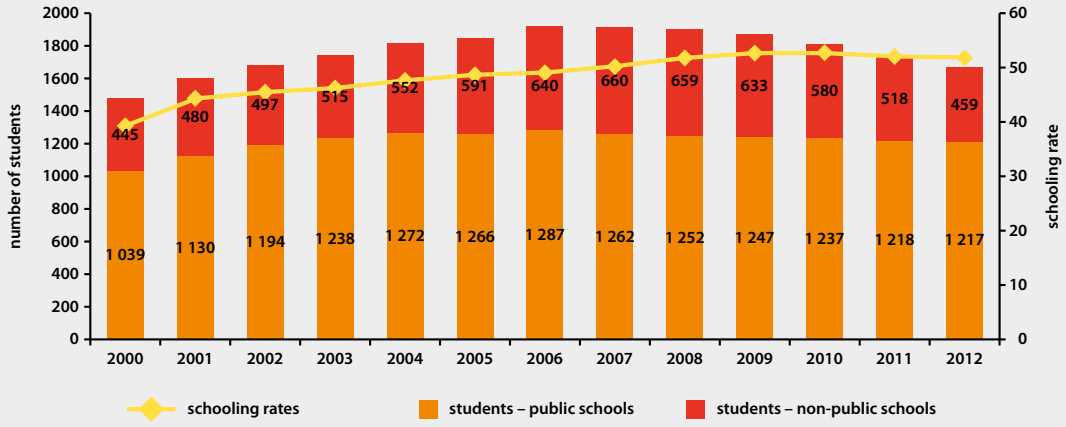
year	education level				
	higher	vocational upper secondary and post-secondary	general upper secondary	basic vocational	lower secondary and below
2002	11.5	27.7	6.8	33.9	20.0
2005	17.4	27.2	7.4	33.6	14.4
2010	23.1	26.7	8.0	30.9	11.3
2012	25.2	26.4	8.1	30.2	10.2

Source: IBE calculations based on BAEL data, Q4 in selected years.

In recent years, the belief that prospects for finding an attractive employment and ensuing professional career are driven by the education level weakened. The overwhelming majority of parents want their children to obtain university degrees, but this percentage is decreasing from 77% in 2004 down to 75% in 2011. The same applies to the conviction that education is important – this belief is shared by 82% of Poles, whereas in the early 2000s it was 90%. In 2002, 92% of respondents declared that it was easier for educated people to succeed, whereas in 2013 only 80% of Poles shared this belief. Such evolution of views has been triggered mainly by the awareness of the persistently high unemployment rate among university graduates and unsatisfactory working conditions of those individuals who managed to find employment.

Changes in social views on the role of education in professional life reflect less interest in higher education. The share of university students aged 19–24 in total population of the relevant age group has decreased since 2010 and reached 52.7% in 2012. Combined with demographic shifts, these minor changes have resulted in a decline in the number of total university students. This downward tendency is visible especially in non-public institutions of higher education – in 2012 the enrolment rate dropped by 11% as compared with the previous year.

Figure 1. The gross schooling rate of people aged 19–24 (%) and the number of students (thousands) of public and non-public universities

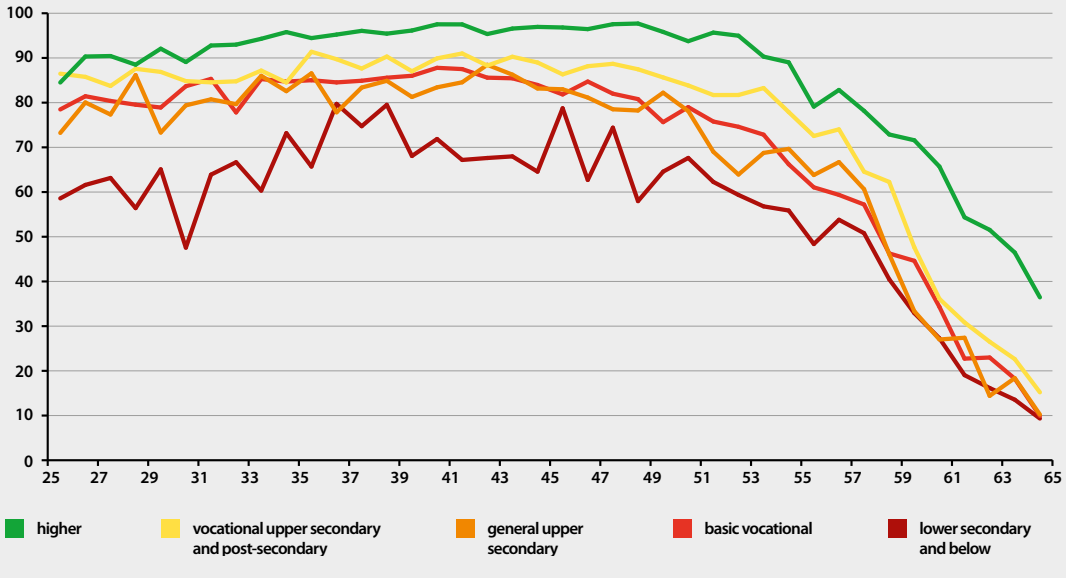


Source: IBE calculations based on the Local Data Bank, Central Statistical Office of Poland (CSO).

1.2. Education enhances prospects on the labour market and increases chances for higher income

Individuals holding higher education degrees are the most active participants of the labour market and the level of professional activity decreases on the lower education levels. This regularity remained stable in 2000–2012. In 2012, 90% of the working-age population holding higher education degrees were employed or actively looking for employment. A similarly high employment activity rate was demonstrated by individuals with secondary vocational education (76%), whereas the lowest figure was declared for people at lower secondary education level or below. The lowest unemployment rate was reported for higher education graduates, regardless of their gender and age.

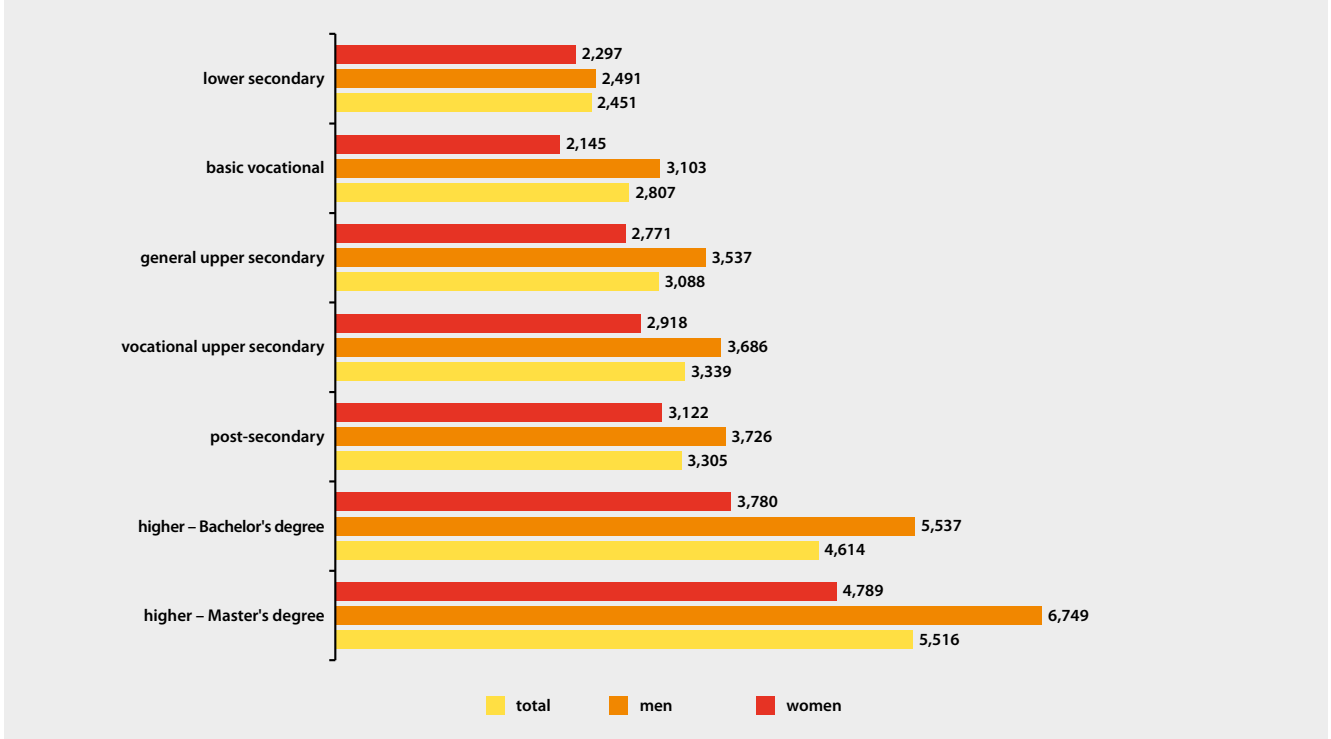
Figure 2. Employment activity rate by age and education for population aged 25–64 in 2012 (%)



Source: IBE calculations based on BAEL data, Q4 in 2012.

Higher education equals higher income. The income of individuals who have completed only lower secondary school corresponded to merely 44.4% of the pay of university graduates holding a Master's degree.

Figure 3. Average monthly gross wages and salary by education level in October 2012 (PLN)

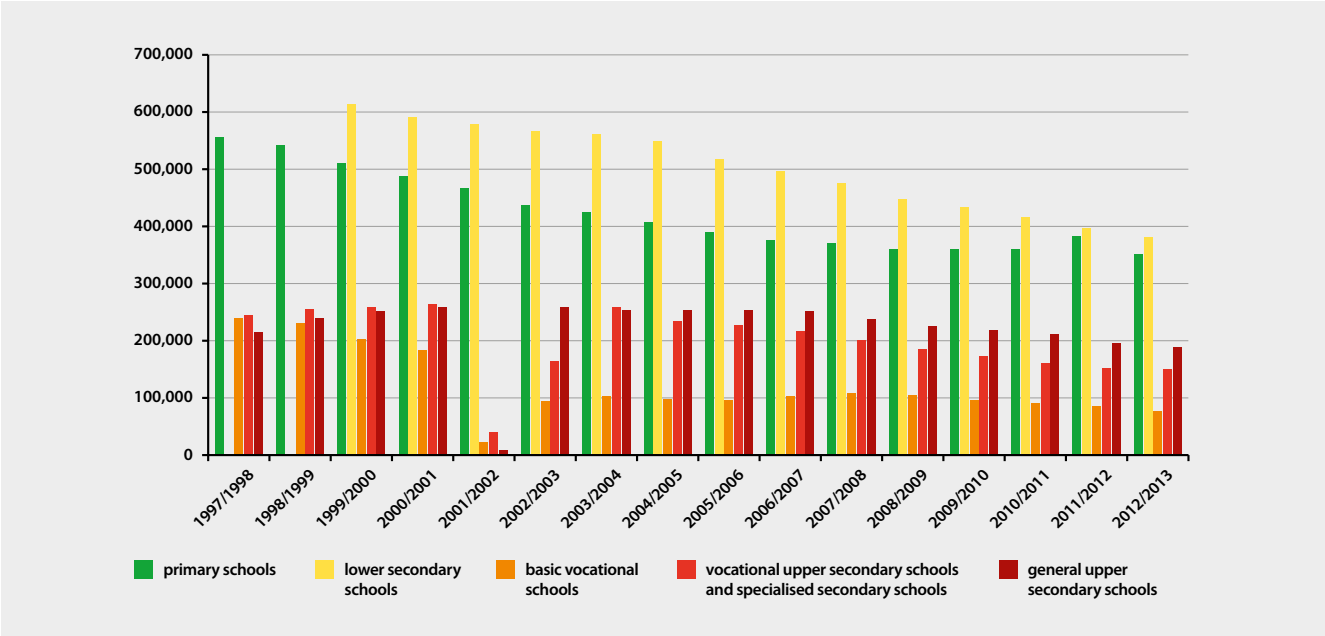


Source: Based on data from Average monthly gross wages and salary in October 2012, CSO. Within the higher education category: Master's degree covers individuals holding at least PhD, Master's, M.D. or equivalent degree; Bachelor's degree covers individuals holding the Bachelor's, Master of Engineering or equivalent degree; post-secondary education category covers graduates of post-secondary schools and vocational collages.

1.3. Decreasing number of students and schools

Current demographic changes are the fundamental challenge for Polish education system. Over the past two decades, the number of students went visibly down across all stages of education.

Figure 4. The number of first-grade students in 1997–2012



Source: Compiled by IBE on the basis Education in the school year 1997/1998–2012/2013, CSO. Data cover schools for children, youth and special schools, exclusive of schools for adults.

The number of first-graders in the school year 2012/2013 declined by half as compared to the beginning of the transformation period. Paradoxically, because the years 2008–2010 saw the birth rate increase and those children will soon be covered by the reform reducing the mandatory school age, we may expect a major surge in the number of students in the school year of 2015/2016.

The declining number of students forced schools to reduce the number of classes and their size. It resulted in an increase in individual education costs due to stable overheads of educational establishments which had to be incurred regardless of the number of students.

The effect of demographic processes is the overall decline in the number of schools, at all levels of education, exclusive of lower secondary schools. Schools, especially primary and lower secondary, are often transformed by their governing bodies into school clusters. Changes in the number of various school types took a different course in the public and non-public school segment. 344 non-public primary and 157 lower secondary schools were established over the past six years. The role of non-public establishments which have dominated post-secondary education (more than 63% of schools and almost 50% of students in 2012) has become more prominent at all levels of education. In general, the higher the education level, the greater the proportion of students in non-public schools and the higher number of such institutions.

1.4. More preschoolers

Despite the decline in children's population, its share in the pre-school education was growing. A spectacular increase in the number of preschools (by 26% from 2006 to 2009) and preschoolers resulted from the increasing number of children aged 3–5 covered by various forms of preschool care. Less than 50% of this demographic group was enrolled to preschools in 2006, whereas its share reached almost 63% in 2010 and nearly 70% in 2012. Undoubtedly, this trend has been triggered by introducing compulsory one-year long preschooling for all children aged 5 since the school year 2011/2012 – 92% of this age group was covered by preschooling.

1.5. Salaries dominate educational expenditure

Educational subsidy covers more than 60% of self-government expenditure allocated to education from preschool to post-secondary school. Other sources of funding include support from Polish and foreign sources as well as income generated by self-government from other portions of the general grant and their own revenue, including shares in PIT and CIT.

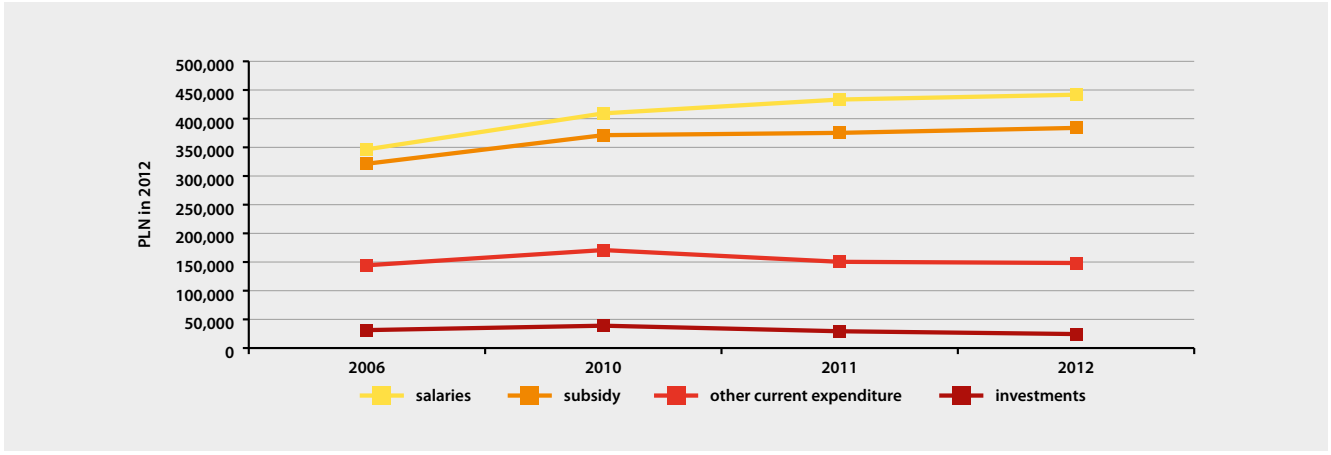
Table 2. Expenditures of the state budget relating to education from preschool to upper secondary education allocated to self-government as subsidies and grants in 2006, 2010–2012 (PLN million, fixed prices from 2012)

	2006	2010	2011	2012
educational subsidy	32,852.70	37,866.08	38,290.96	39,161.10
subsidies for current tasks	1,246.77	1,154.15	1,298.45	1,253.78
subsidies for investments	232.91	754.92	771.46	666.24
total	**34,332.38**	**39,775.15**	**40,360.87**	**41,081.12**

Source: Compiled by IBE on the basis of budgetary data from RB27S report.

The value of subsidies increased in real terms in 2010–2012, although this was a minor change (1.1% in 2011 as compared to previous year and 2.3% in 2012 as compared to 2011). Subsidies are of minor importance, especially that their value has been fluctuating in subsequent years. Additionally, a large portion of subsidies is tied to the implementation of projects co-financed from the European Union funds. It is particularly true for investment subsidies – 72% were related to such projects in 2012.

Figure 5. Expenditure of municipal and county on salaries, investments and other current educational expenses (from sections 801 and 854 of the budget classification) as well as educational subsidy in the years 2006, 2010–2012 (in fixed prices from 2012)



Source: Compiled by IBE on the basis of R28S self-government budgetary reports.

Most of municipal and country self-governments expenditure were allocated to salaries, especially teachers' salaries according to the Teacher's Charter. Such prevalence of fixed expenditure triggered actual decline in funds allocated to other goals, especially investment expenditures which in 2012 were down by 15% versus 2011 and decreased by 21% as compared to 2006.

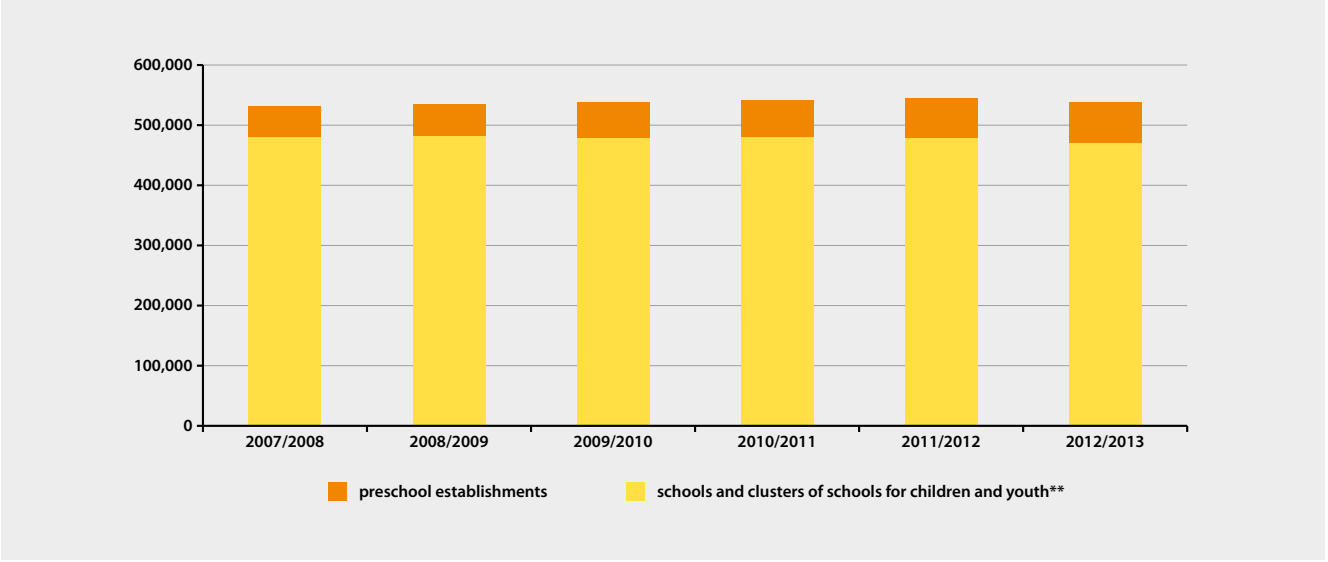
2. Profession – teacher

Teachers form probably the largest professional group in Poland. It is essential from the perspective of the country's socio-economic development. High educational standards and the education level of society are currently key factors determining the civilisation advancement and development prospects of individual countries. These standards largely depend on teachers.

2.1. The number of teachers decreases in schools and increases in preschools

Demography has substantial impact on teacher employment level but changes vary depending on the education level. The decline in the number of children and youth in primary, lower secondary and upper secondary schools from 2007 until 2012 led to a reduction in teacher workforce by 3%. The influx of higher number of younger children triggered a significant increase in the number of preschool teachers by as much as 32% (from 2007 until 2012). The direction of these changes is thus aligned to trends in the size of the population of children and youth, but demonstrates much lower dynamics.

Figure 6. Employment level of teaching positions in preschools and schools for children and youth (including special schools) in the school year of 2007/2008–2012/2013*



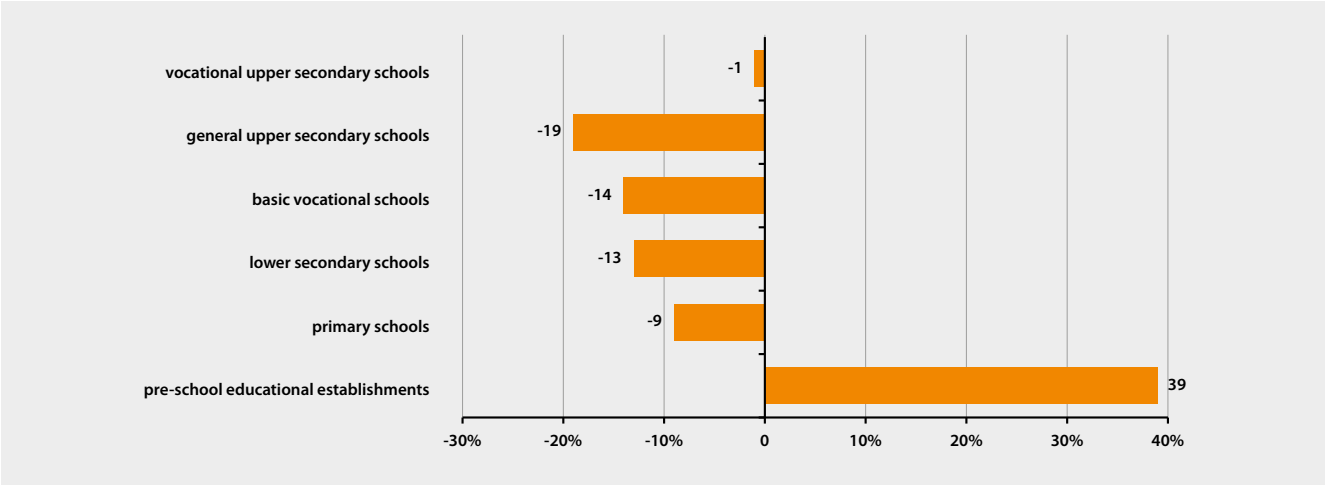
** The graph includes data on total number of teachers, including those whose absence prevents them from delivering classes. This group is not included in by public and international statistics and accounts annually for at least approx. 5% of total teachers.*

*** School clusters may include preschools.*

Source: IBE calculations based on data from the Educational Information System.

The biggest decrease in the employment level has been declared for general secondary schools, basic vocational schools and lower secondary schools.

Figure 7. Changes in the number of teaching full-time equivalents in selected types of schools for children and youth in school years 2007/2008–2012/2013



Source: IBE's calculations based on data from the Educational Information System.

2.2. An average teacher is a female

The average teacher is 42 years old. IBE's study "Time and Working Conditions of Teachers" indicates that lower secondary and secondary technical school teachers are the youngest, whereas early education teachers form the oldest group. Findings also confirm that the teaching profession has been dominated by females, which is particularly visible in case of early education where only one out of hundred teachers is a male (according to the data from the Educational Information System).

Interesting differences regarding the educational background of teachers' parents are visible at various levels of education. Primary schools are dominated by teachers from small towns and families with relatively low level of education, whereas most upper secondary school teachers come from bigger cities and better educated families.

2.3. Well-educated teachers

Records from the Educational Information System indicate that almost all teachers hold higher education degree. Only 4% hold a Bachelor's degree or a diploma in engineering, whereas 4% have no higher education institution degree. Bachelors and engineers who took part in the study on the time and working conditions of teachers were usually employed by primary and lower secondary schools or taught foreign languages. Polish language and science include the highest number of individuals with a PhD degree.

As indicated in the study "Time and Working Conditions of Teachers", the most popular way of obtaining qualifications for the teaching profession are specialised courses for teachers – this is how qualifications were obtained by the two-thirds of lower secondary, secondary and basic vocational school teachers.

Table 3. The percentage of qualified teachers by levels of education and school type (%)

	early education	grades 4–6	lower secondary schools	general upper secondary school	vocational upper secondary schools	basic vocational schools
university teacher preparation programme	78.9	65.5	65.4	66.2	58.9	67.8
university course in pedagogy	9.4	20.9	21.9	26.1	28.5	20.2
courses at a teacher training institution	33.4	17.9	15.0	8.2	11.8	10.5
post-graduate course in pedagogy	6.3	5.5	4.3	5.0	6.4	4.6
post-graduate studies in the subject field	14.4	21.1	16.1	9.9	12.6	12.8
qualification course in pedagogy	7.3	8.7	9.0	6.2	8.2	9.7
qualification course in subject field	6.2	7.7	5.4	2.9	3.2	3.2
other	1.4	2.6	2.2	2.5	2.4	1.4

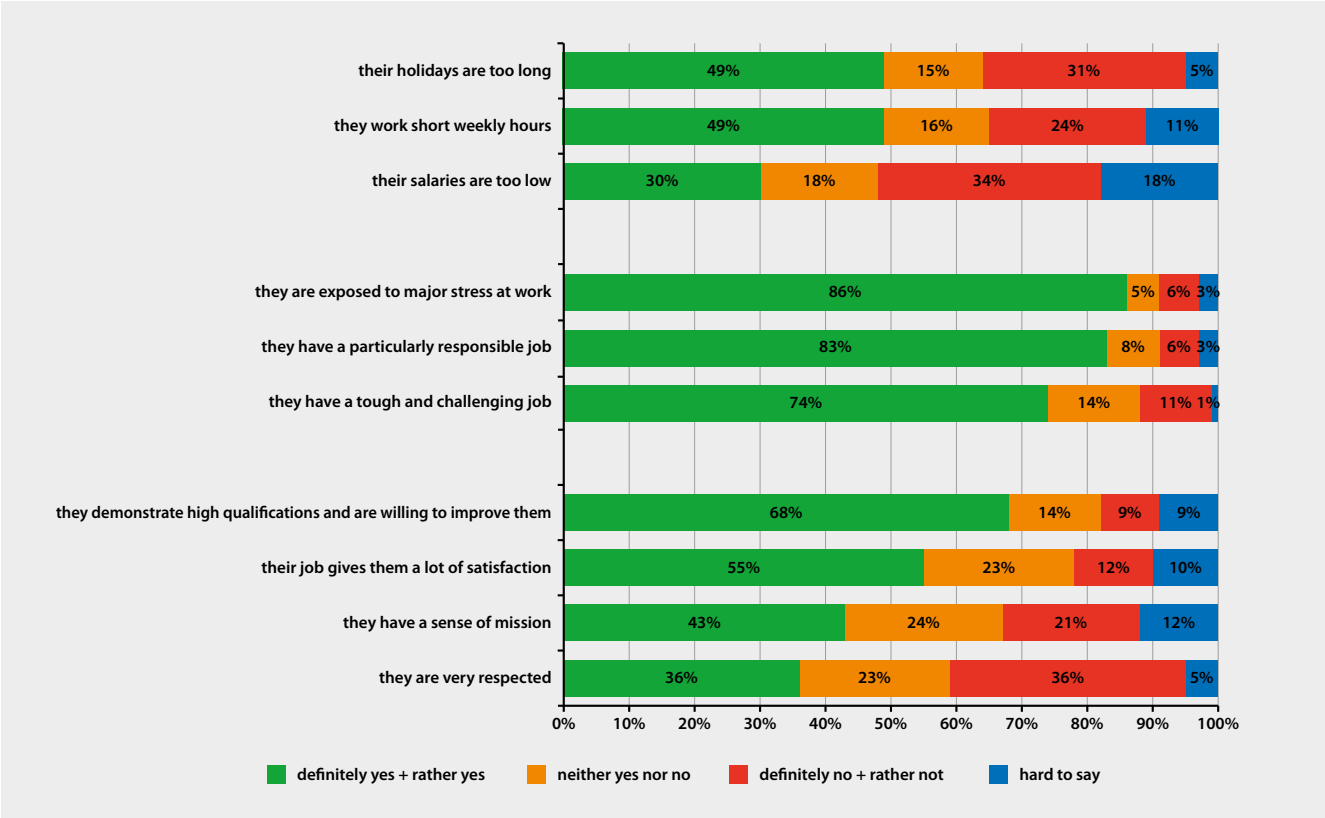
Source: IBE's calculations based on Time and Working Conditions of Teachers.

2.4. The positive perception of teachers

Despite the fact that teachers don't have a sense of being members of a group enjoying social recognition, for decades they have been ranking in the top ten in the study on the hierarchy of occupations conducted by the Public Opinion Research Centre (OBOP) in terms of prestige attributed by Poles to representatives of various professions. Teachers rank only slightly behind university professors and engineers from manufacturing facilities.

One-third of Polish adults participating in this OBOP survey believe that teachers' salaries are too low. Teachers' line of work was regarded as stressful, responsible and challenging. At the same time, teachers were perceived as highly qualified individuals motivated to continuously improve their competencies. The strongest confidence in the professional satisfaction of teachers was declared by students' parents (61% of indications), and the lowest one (53% of indications, 16% of negative answers) by teachers themselves and people who have no contact with this profession.

Figure 8. A survey into the image of teachers in total respondent population



Source: The image of teachers, communication from CBOS survey BS/173/2012.

The image of teachers is supplemented by IBE's survey dedicated to six- and seven-year-olds beginning school. In most cases, parents of these children highly evaluated class teachers in terms of various aspects of their cooperation with parents and care provided to students. 96% of parents of five-year-olds interviewed in the study on school factors determining the effectiveness of education were satisfied with their interactions with the class teacher.

The perception of teachers among students depends on the level of education and age. Younger students tend to have a very positive image of their teachers, while older ones are more critical.

2.5. The inverted pyramid – the professional promotion system

Polish teachers are determined to improve their qualifications. They expand and update their knowledge of the subject, teaching methods, individual work with students. They also focus on developing competencies which may be useful beyond education, such as the use of new technologies or so-called soft skills.

Teachers themselves believe that the range of available professional development activities should put greater stress on "soft aspects", such as student behaviour, classroom management and teaching cross-curricular skills.

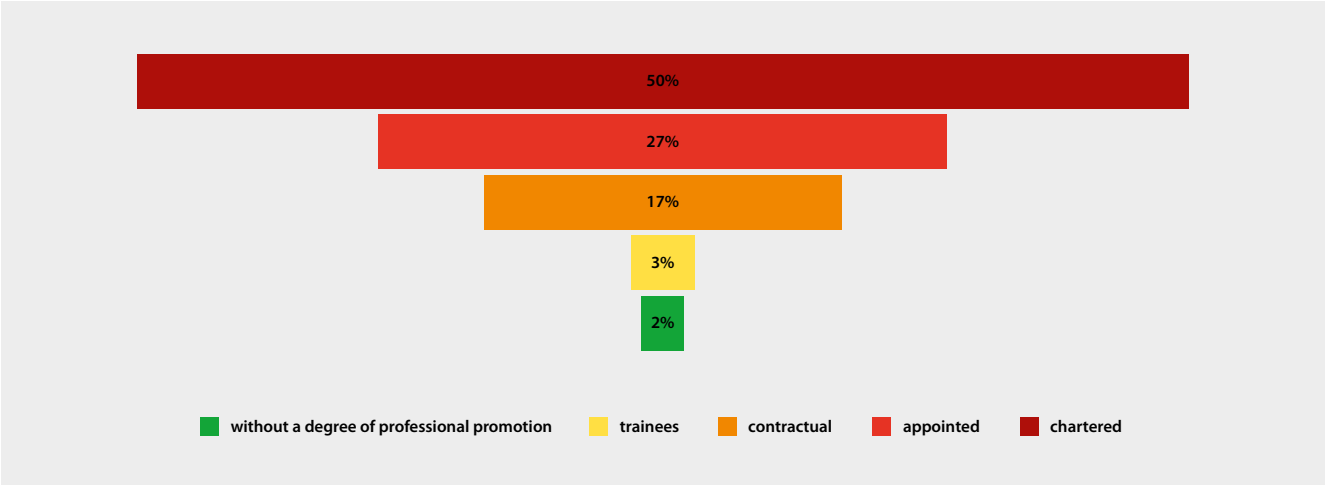
Teachers improve their competencies mainly by participating in courses and workshops or, less frequently, by taking part in conferences, collaboration networks or conducting research. Nevertheless, the relevance of available development forms is unsatisfactory. Main problems include a mismatch of available development forms to the needs of schools and teachers, mistakes made while arranging the funding and insufficient support of schools. This results in

problems with balancing professional development with professional duties. Teachers pursue professional development also in their free time and acquire new skills by performing various functions within their line of work at school and professional activities beyond it.

The professional promotion system should motivate teachers to continue their professional development, but research indicates that it fails to do so.

Currently, 50% of Polish teachers have achieved the highest degree of professional promotion (chartered teacher), and more than one-fourth are appointed teachers.

Figure 9. The structure of teachers by a degree of professional promotion



Source: Compiled by IBE on the basis Education in the school year 2012/2013, CSO.

For many years, we have been observing the "inverted pyramid" where trends which should be relevant to a small group of the best, outstanding teachers meeting the highest (formal) requirements – the tip of the pyramid – are actually visible among the largest group (chartered teachers).

Domestic and international research findings indicate a problem within the framework of the promotion system which affects teachers achieving higher levels of professional advancement. They are frazzled by this procedure and have no faith in its efficiency. They also notice barriers to effective school management.

Teachers perceive the promotion procedure as time-consuming activities forcing them to sacrifice their private life to take part in training seminars and conferences related to professional training. The positive attitude to this system seen as a series of activities which contribute to professional development and require major intellectual effort is much less frequent. Asked to indicate advantages of the current promotion scheme, teachers pointed mainly to its financial aspects and barely one-third mentioned any motivation to pursue professional development. In this respect, the system was assessed slightly better by school principals, but they stressed one of its shortcomings – lack of motivation to continue development after promotion – much more often than teachers. Moreover, three-quarters of respondents argued that one of the key barriers to their effectiveness as school principals is the professional promotion-driven remuneration system.

All quoted studies question the actual role of the professional promotion system's ability to motivate teachers to pursue development and facilitating improvement of competencies

compatible with the needs of teachers and schools employing them. Profound reforms of the professional promotion system have been advocated by both representatives of local self-governments managing schools, representatives of non-public schools, managers of educational establishments, experts, teachers, trade unions and parents.

IBE's Teacher Research Unit prepared recommendations for the framework of the teacher's professional promotion system. Every professional promotion system should:

- provide incentives to acquire and develop essential teaching competencies,
- provide teachers with varied patterns of professional development,
- strive after a balance between teacher's development and the school as a whole,
- support teacher's sense of self-efficacy,
- enhance the professionalism of the teaching profession.

2.6. The school as a workplace

The atmosphere of the work environment as well as relations with peers and supervisors are the key drivers which may decrease or boost work satisfaction.

The introduction of newcomers is particularly important in the context of relations within the teaching community. As indicated by quantitative research on novice teachers, this group usually describes the school climate as positive or even family-like. Introduction was arranged more efficiently in small schools where relations were established faster and usually went beyond strictly professional contacts.

In case of lower secondary schools, the most frequent form of collaboration of teachers from the same school was contributing to discussions about the learning progress of individual students. TALIS 2013 survey results indicate that three-fourths of teachers discuss this with their peers at least once a month. Another activity reported by more than 50% of surveyed teachers was cooperation to assure consistent standards for evaluation of students' academic progress. Slightly more than 40% of teachers exchange teaching materials once a month or more frequently. Teachers observe lessons of their peers and share feedback about it rather rarely – 17% of respondents never do it. Cooperation with other teachers is understood as providing mutual support or sharing materials, which may but not necessarily has to stand for teamwork which is not only desirable in the Polish school but also required by law. As many as 87% of Polish teachers contribute to efforts of a subject team, more than a half (57%) are members of a pedagogical team and slightly more than one-third are members of a counselling team (33%). Teachers engage in teamwork at different intervals: from weekly meetings to meetings held several times during school year or less frequently. Save for many highly positive aspects of such teams, these studies revealed a certain disturbing trend to reduce activities of such teams to a written summary of their operations. Reporting becomes a goal in itself. This approach seems to be natural given that reporting provides evidence and facilitates assessment of the school's performance, it may, however, create an obstacle to team-

work based on teacher interactions and mutual openness underpinning the teachers' reflective attitude and support reporting activities of the institution.

2.7. School atmosphere

School fosters positive teacher relations. 83% of respondents admitted that they have made real friends at school. Teachers, especially those from large schools, form groups – usually subjects-oriented – and initiate their closest professional and personal relations within such teams. Faced by challenges and unable to cope with responsibilities, teachers receive peer support.

24% of respondents declared that there were individuals in the teaching community with whom they found it difficult to find a common language. On the other hand, only 17% of teachers mentioned peer competition. One of such rare competitive areas in the school may include overtime which constitutes a source of additional income.

70% of teachers are convinced (TEDS-M study) that their reviews of management decisions give them an impact on key decisions made by their school. However, the overwhelming majority of teachers have highly evaluated the support provided by their supervisors. More than two-thirds of teachers have clearly described the school principal as an individual truly committed to his/her work, and over 50% concluded that their principal offers reasonable advice on professional issues.

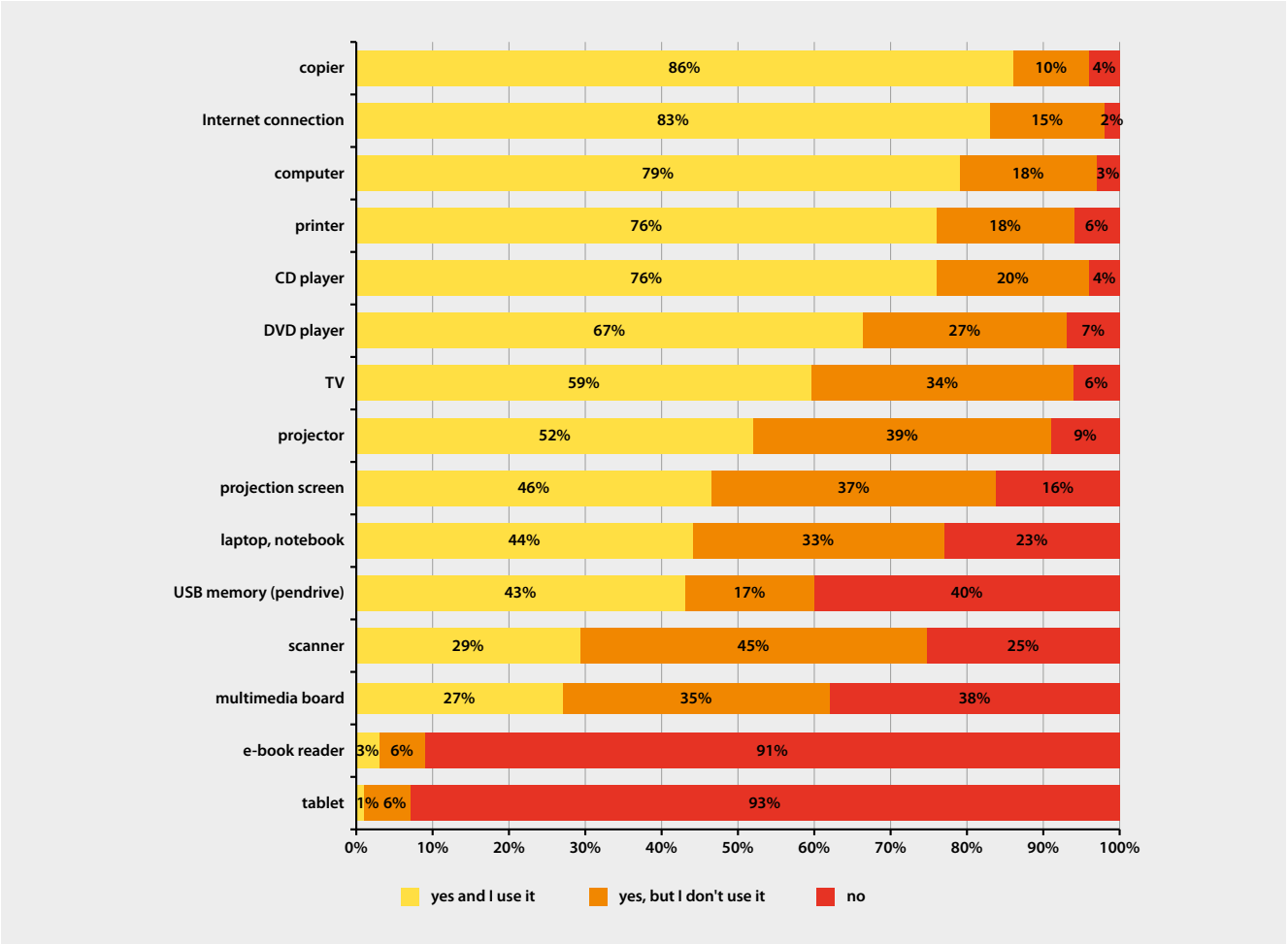
2.8. Teaching aids and equipment

Various Polish studies into teachers' working conditions produced different findings. Asked about their working conditions, most respondents reply that they are satisfactory (92%). However, when asked about problems at work, only 30% of teachers don't perceive poor working conditions as an issue, while others point to minor or major inconveniences in this area (including lack of teaching materials and office supplies or overcrowded classes). Four out of five teachers believe that working conditions defined and perceived in such way are not a reason to change school (if such possibility existed). Moreover, they would recommend their school as a good workplace.

Therefore, while analysing teachers' working conditions we should take into consideration such indicators as school equipment, including classrooms and staff room, as this is an actual driver of teachers' perception of their working conditions.

Polish teachers have access to basic office and technical equipment essential for their work (93–97% of respondents confirmed they had access to: computer, Internet, copier, printer, CD/DVD player). Schools are also striving to manage their resources to respond to teachers' needs relating to the specific profile of their work. In reality, however, it turns out that the overwhelming majority of teachers have limited prospects for using such facilitations (lack of paper and/or toners for printers, long waiting time to use some devices, damaged equipment). Another notable shortcoming is the absence of a place for individual work at school and the functionality of the staff room which in many schools was reduced to a "checkroom" or a break room mainly intended for meals and drinks.

Figure 10. Availability of office and IT equipment in school and its use by teachers



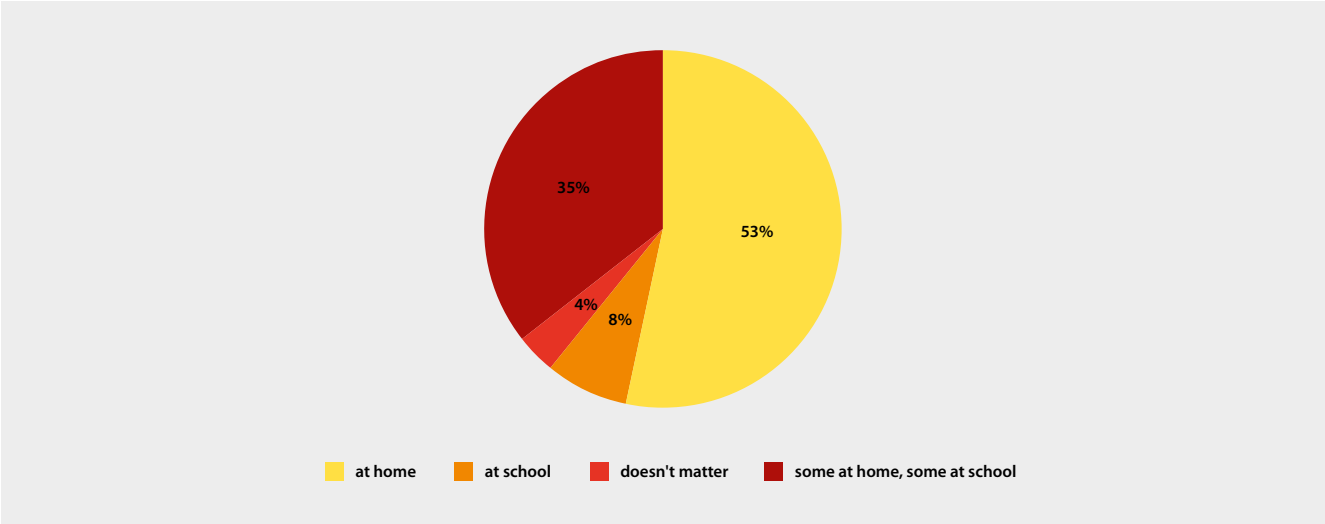
Source: IBE calculations based on Time and Working Conditions of Teachers.

2.9. Teachers' individual work

The specific profile of Polish teachers' work is mainly driven by individual efforts including preparations for classroom work, evaluating students' work or keeping school records at any place – school or home. Such tasks often require silence and focus, an isolated place of work. This is one of the reasons why most teachers (53%) chose home as their preferred place for individual work and argued that this is also where they benefit from access to all essential materials and are able to work at any time. 35% of respondents declared their preference to perform some tasks at home (conceptual work, evaluating students' papers) and others at school (those which require access to school records or office equipment). Only 8% of teachers preferred individual work at school. The remaining 4% stated that it made no difference where they perform their individual work. One of declared reasons for encouraging teachers to perform most of their work at home include insufficient school

equipment (mainly computers with access to Internet, printers) and unavailability of a quiet place for focused work.

Figure 11. Teachers' preferred place for "individual work"



Source: IBE calculations based on Time and Working Conditions of Teachers.

2.10. Teachers' working time – their own account

Responsibilities of teachers working full-time cover five main areas (preparing and teaching regular lessons, teaching extracurricular classes, evaluating students' work) which consume 34 hours and 25 minutes per week. These findings of the "Time and Working Conditions of Teachers" study are partially confirmed by the results from the global TALIS 2013 study ("The Teaching and Learning International Survey").

Discussions dedicated to working time are often centred on differences between working time of various teacher groups, for instance teachers from different education levels. The "Time and Working Conditions of Teachers" report proves that these differences are not as big as they seem. A comparison of time spent on five core activities reflects differences between teachers by a degree of professional promotion. Teachers with the highest professional status spend more time on five core activities that those with a lower status (33 hours and 48 minutes for contractual teachers, 34 hours and 48 minutes for a appointed teacher and 36 hours and 12 minutes for chartered teachers). Those differences mainly relate to the time spent on evaluating students' work.

Therefore, the type of the subject taught (understood as a subject covering the teachers' classroom time) determines the time load allocated to five core activities. The division by five core activities indicates that the biggest amount of time is spent by by Polish language teachers (40 hours a week) and the smallest by PE teachers (28 hours).

3. Selected subject teachers

Obviously, the generic portrait of the Polish teacher does exhaust all aspects of this professional group. It demonstrates stark internal differences determined by teachers' substantial specialisation. To create the comprehensive picture of Polish teachers, we need to conduct an in-depth analysis and examine this group in the context of the specific profile of their subjects.

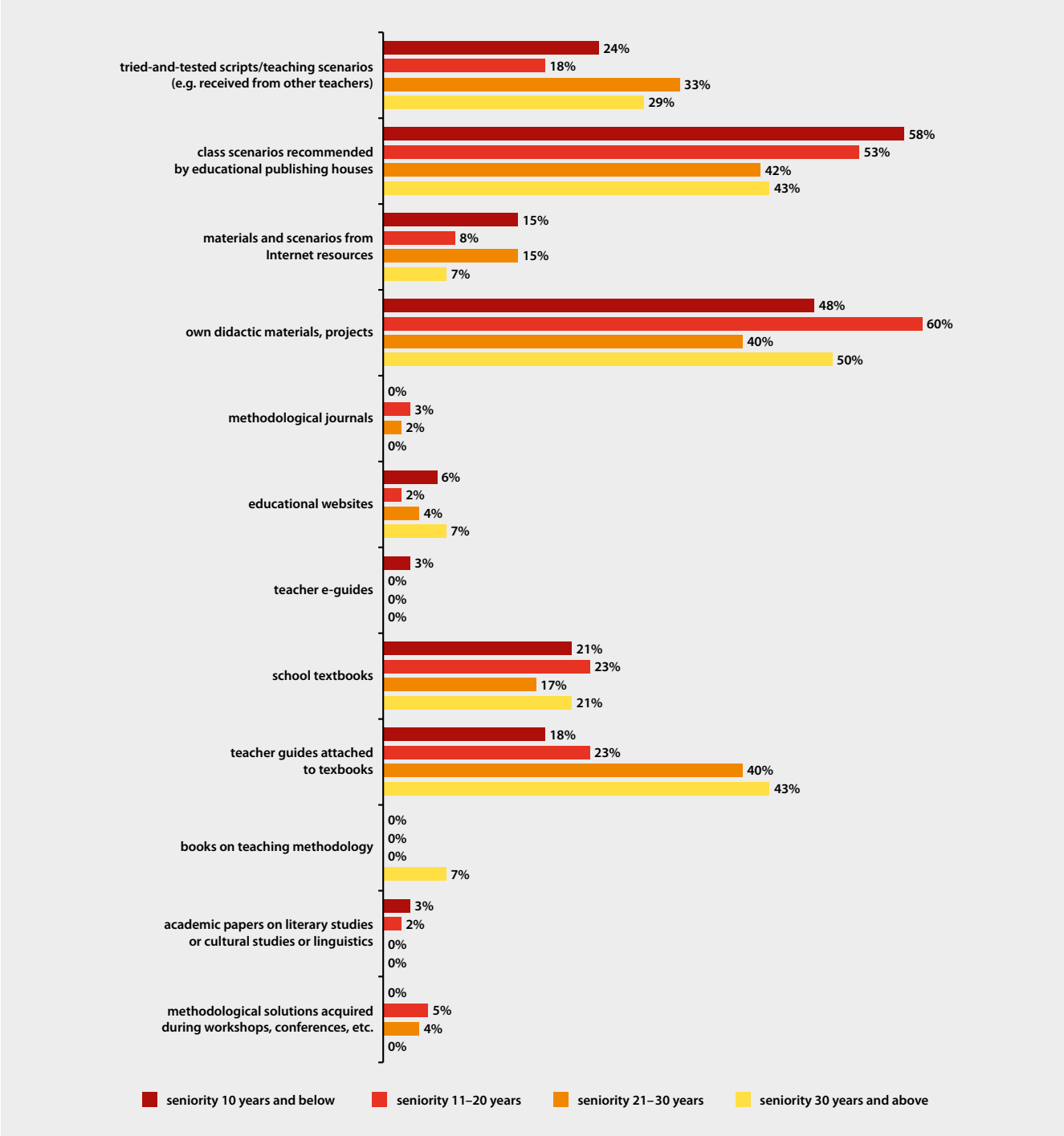
3.1. Polish language teachers

As indicated by IBE's study "Teaching Polish literature and language under the new core curriculum", most Polish language teachers (70%) are 45 years old or below and 74% of them are females[1]. Polish language teachers have educational background relevant to their subject: 97% are graduates of Polish studies and among them 88% have a Master's degree; 85% obtained teaching qualifications following a university teacher preparation programme; 12% completed post-graduate courses; 43% are qualified to teach more than one subject (in towns with a population of 20,000 and below – 56% and 37% in cities with a population of 100,000 and over). More than half of teachers are qualified examiners of the Central Examination Board (55%). They usually evaluate external lower secondary school examinations (80% of qualified Polish language teachers), less frequently Matura exams (25%) or six-graders' tests (20%). 66% of respondents are chartered teachers and 23% are appointed teachers.

Polish language teachers attach major significance to their preparations for classroom work. They usually perform related activities at home and on average it takes them 9 hours per week. They rely on class scenarios recommended by educational publishing houses and their own didactic materials and projects. On the other hand, findings of the "Time and Working Conditions of Teachers" study indicate that Polish language teachers spend relatively more time on evaluating students' work than other teachers.

1) A study conducted in three regions of Poland. The population of interviewed teachers was not representative enough to generalise the findings for total teacher population from the region and the country. Nevertheless, the analysis of results from these three regions created grounds for identification of visible trends in the practice of Polish language teachers. Results of quantitative and qualitative studies from all three regions are similar but to assure the transparency of reasoning presented in this brochure, we presented figures from a survey conducted in one region (provinces: warmińsko-mazurskie, pomorskie, kujawsko-pomorskie, zachodniopomorskie and podlaskie).

Figure 12. Which materials do you use most often while preparing for classroom work? (by seniority, n=162)

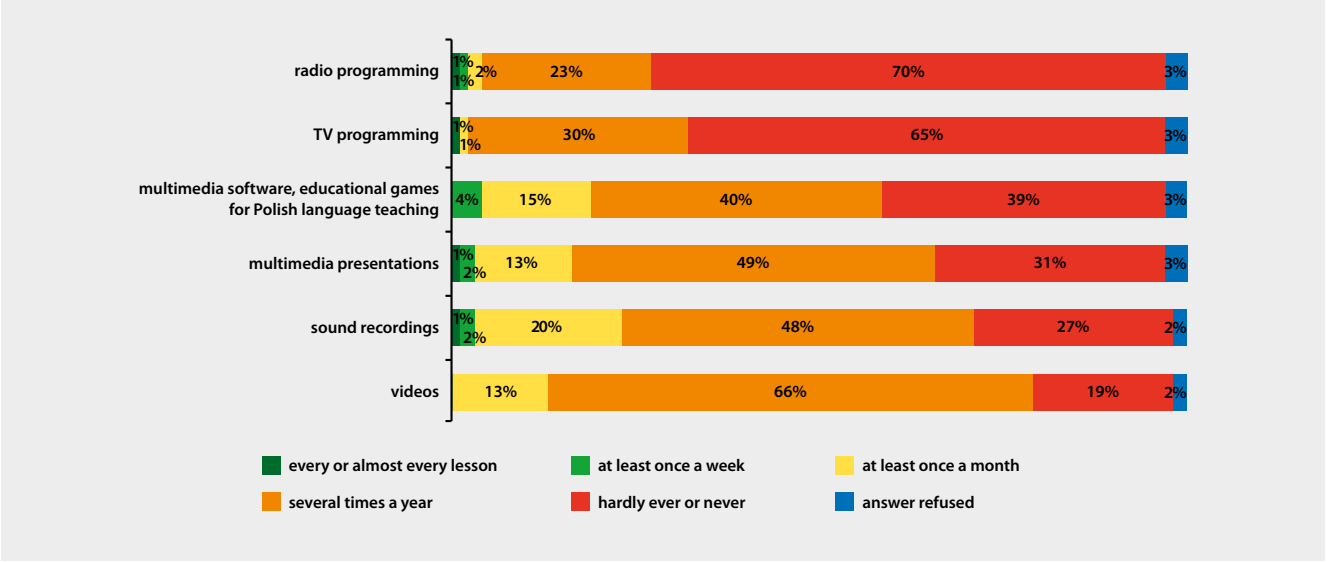


Source: IBE calculations based on Teaching Polish literature and language in lower secondary schools under the new core curriculum.

Core tools used by teachers during Polish language lessons include traditional materials offered by publishing houses: textbooks, exercise books, all additional materials (including practise tests). In their daily teaching practice, Polish language teachers also use: videos, TV and radio programming, multimedia software and educational games, sound recordings. More advanced additional tools are rather seldom used – these are usually sound recordings, videos, presentations and multimedia software.

The pressure of time experienced by teachers who feel compelled to implement the curriculum discourages the use of technological aids during their lessons.

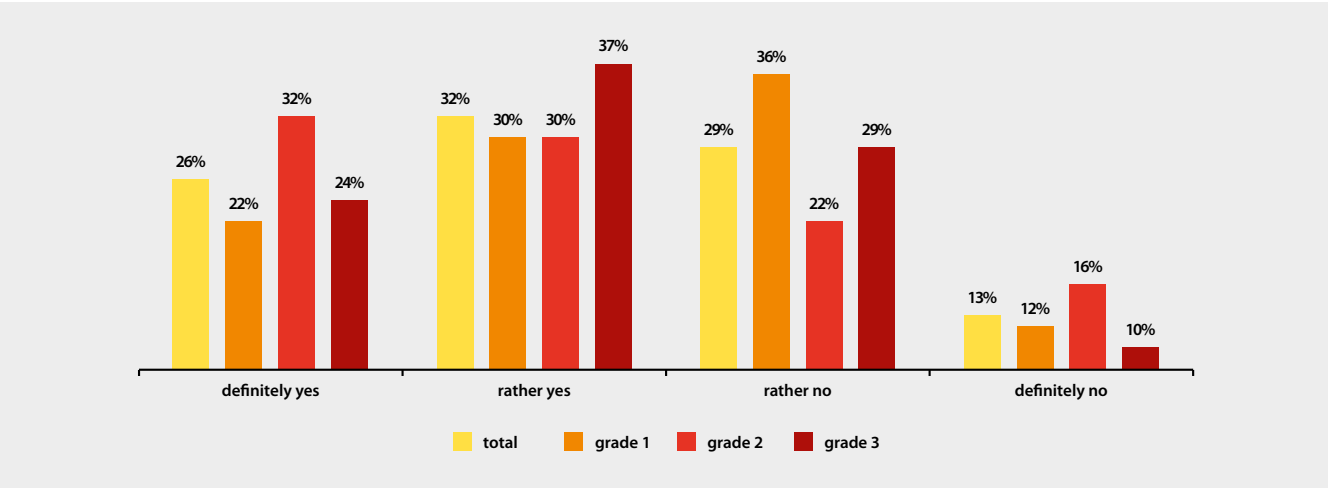
Figure 13. How often do you use teaching aids listed below during individual lessons on literature? (n=162)



Source: IBE calculations based on Teaching Polish literature and language in lower secondary schools under the new core curriculum.

The style of delivering Polish language lessons may be analysed in the context of two approaches: mechanical or organic. The first one is characterised by persistent implementation of previously scheduled and logically structured elements of the material, whereas the latter is the effect of a didactic concept which students find highly attractive because it engages their mind and imagination leaving room for initiative. Most observed lessons were built around an exciting didactic concept which was introduced more frequently during lessons driven by the organic approach. Nevertheless, it should be stated that lessons based on the mechanical approach may be also attractive for students.

Figure 14. Did the observed lesson feature a didactic concept which consistently put together all elements of the content to make it attractive for students? (based on lesson observations, n=151)



Source: IBE calculations based on Teaching Polish literature and language in lower secondary schools under the new core curriculum.

The fact that during lessons students often write down notes dictated by the teacher is a matter of concern. It should be emphasised that students do notice the difference between the course

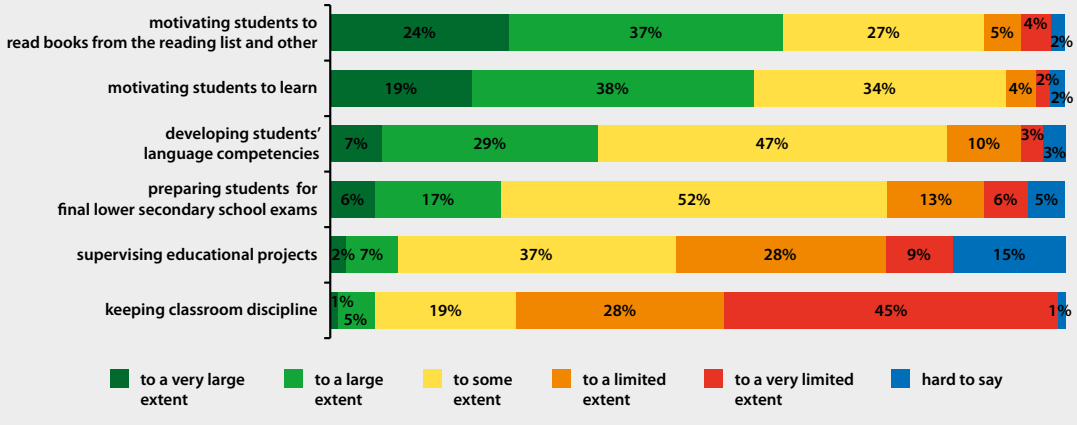
of lessons on literature and grammar-oriented classes – they perceive the latter as more conventional and the former as more diversified.

All-class involvement is the most frequent type of classroom work. Activities used less frequently include group work which enhances communication and teamwork skills, teaches accountability, activates passive students and stimulates additional motivation to engage in collaboration.

Polish language classes are usually delivered in good atmosphere. Students themselves emphasised teachers' positive towards them and that they are nice, friendly and always willing to help. Two-thirds of interviewed students stressed that Polish language teachers encourage classroom discussions. They also believed that Polish language teachers shape role models and promote the hierarchy of values.

Students' feedback is compatible with teachers' self-assessment. Surveyed Polish language teachers draw satisfaction from their work and strive to combine everyday teaching with educational practice.

Figure 15. To what extent do you find the elements of the teaching process listed below challenging during Polish language lessons? (n=162)



Source: IBE calculations based on Teaching Polish literature and language in lower secondary schools under the new core curriculum.

At the same time, teachers declare that the biggest challenges and obstacles to cooperation with students include motivating children and youth to read on their own – not only books from the reading list, but books in general. Additional problems are posed by students' insufficient language competencies – every third interviewed teacher failed to cope with their development.

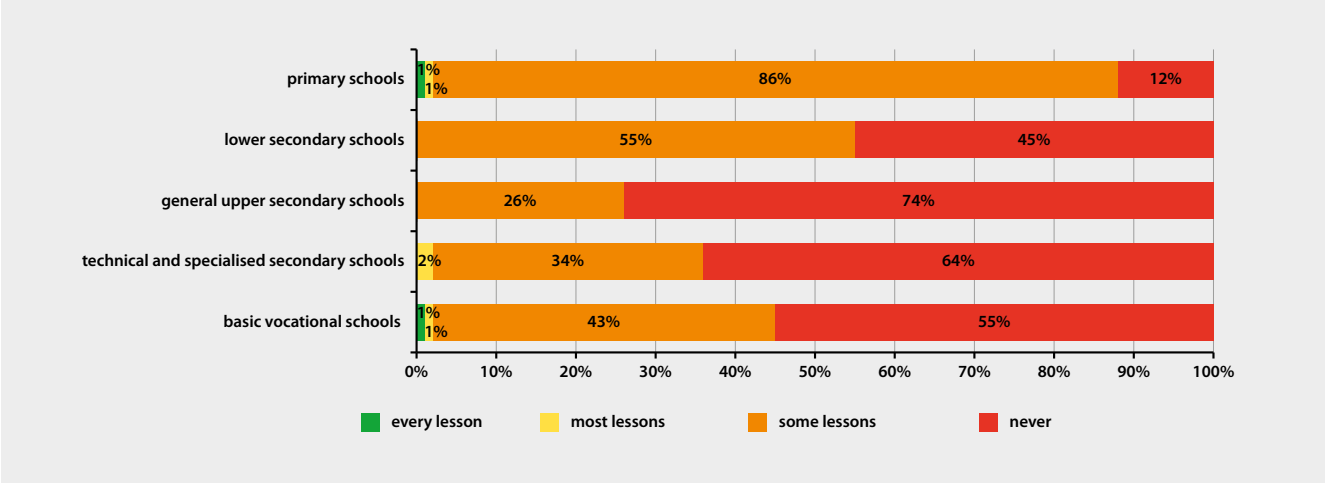
3.2. Mathematics teachers

Mathematics is one of the quintessential subjects constituting the cornerstone of education. Despite the fact that mathematical content is embraced by the curriculum since the first grade of the primary school, or even since preschool, and continued until Matura exam and higher education, mathematics is one of the most challenging subjects to teach and learn. Therefore, mathematics teachers are relentlessly seeking for didactic solutions which would facilitate acquisition of specific skills by their students, enhance the beauty of the subject and provide an incentive to explore the mysteries of mathematics. Preparing for mathematics lessons, teachers usually resort to materials published by educational publishing houses. They are convinced that having discussed the content of textbooks with their students and completed assignments from activity packs, they will fully implement provisions of the core curriculum. More than 97% of teachers declared that while preparing their lessons, they use school textbooks, 90% benefit from teachers' methodological guides, and 86% from websites of educational publishers.

Mathematics teachers use the knowledge and skills of other fellow teachers of this subject. They exchange experiences, test out methods and teaching aids enabling other teachers to achieve their goals and attain the desirable change in students' minds and practices. They discuss challenges relating to implementation of specific content and ways of overcoming them. Such cooperation has been declared by 69% of teachers.

Mathematics teachers claim that they are using highly diversified teaching methods. They mention transfer methods (e.g. talk, discussion, work with textbooks), engaging methods (e.g. brainstorming, games and activities) and practical ones (task solving). Most of them are convinced that engaging methods bring about the best results and greater student involvement. Nevertheless, teachers' declarations of the diversity of applied teaching techniques and work forms or their theoretical knowledge of the subject are not always reflected by their classroom practice. Lesson observations and in-depth interviews with teachers and students clearly indicate that mathematics teachers usually use direct instruction, whereas engaging methods are seldom used (see: figure 16).

Figure 16. Distribution of teachers' responses to the question: "How often during the past two months did students play games and complete mathematical activities during mathematics lessons?" by school type



Source: Compiled by IBE on the basis of the study School of independent thinking.

Computers and the Internet are seldom used by mathematics teachers in the classroom. 30% of mathematics teachers use computer software in the class in primary schools, 25% in lower secondary schools and 20% in secondary, technical secondary and vocational school. Teachers relatively rarely use CDs attached to textbooks (22%) – such practices are usually demonstrated by lower secondary (29%) and primary school teachers (28%), less frequently by vocational school teachers (11%). Every third teacher declares the use of Internet resources during selected lessons – most often primary school (40%) and general secondary schools teachers (30%).

Key reasons behind such rare use of modern technology and multimedia aids include:

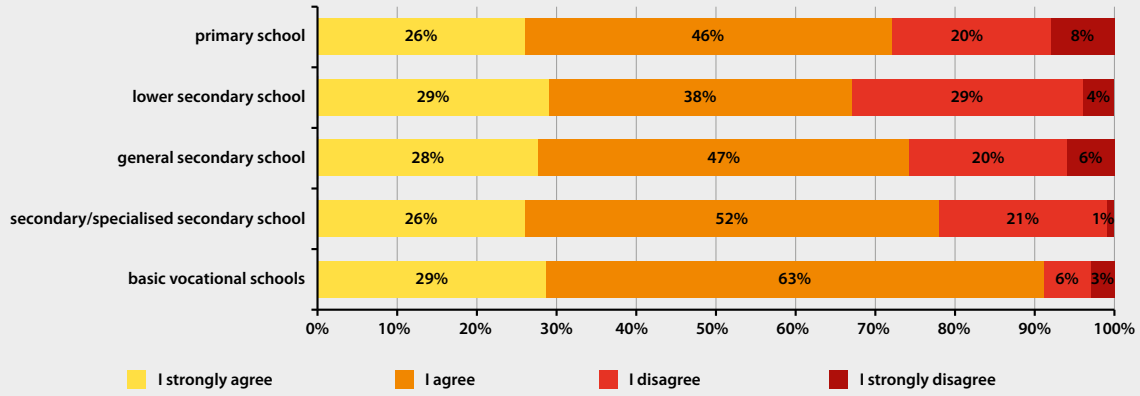
- insufficient classroom equipment lacking adequate devices,
- lack of skills to adapt new technologies to support mathematics teaching (77% of mathematics teachers in primary schools and 73% in lower secondary schools pointed out to a training need in this area),
- lack of confidence in efficiency of those tools.

A common practice involves guiding students "step by step" to help them solve a problem. Mathematics teachers ask detailed questions to guide their students and demonstrate how a problem may be solved. Nevertheless, such instructional approach often prevents students from undertaking autonomous activities or devising their own strategies.

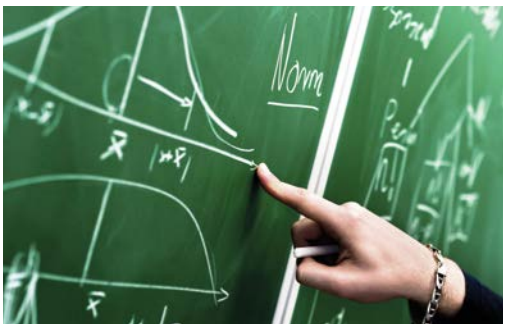
Curiously enough, most teachers apply the "step by step" method despite the fact that its effectiveness is questioned by the overwhelming majority of teaching staff (33% in lower secondary

schools, 28% in primary schools, 26% in general secondary schools and 22% in secondary technical and profiled secondary schools) – see Fig. 17.

Figure 17. Distribution of teachers' responses to the question: "To what extent do you agree with the statement: In order to effectively teach mathematics, the teacher should thoroughly demonstrate step by step how to solve various mathematical problems?" by school type



Source: Compiled by IBE on the basis of the study School of independent thinking.



Teaching aids used most often by mathematics teachers, regardless of the level of education, include chalk, board, textbooks, handouts with activities and worksheets. Teachers often use various teaching aids to introduce other, specific subjects (e.g. solid models while discussing solid geometry, leaflets or receipts while discussing problems relating to percentages or descriptive statistics).

The biggest challenges encountered by mathematics teachers in implementation of the core curriculum include:

- students' attitude to mathematics and their diversified individual capabilities explaining why not all of them acquire knowledge at the same pace or are able to acquire and develop complex skills;
- lack of students' skills to comprehend the text they are reading manifested by the ability to assimilate only the simplest instructions such as: write down, calculate or draw.

Mathematics teachers are aware of problems related to teaching their subject field and have the need for training which would contribute to improvement of their professional competencies. It should also be emphasised that most teachers declare the need to explore good practices and develop practical skills (see: Table 4).

Table 4. Areas indicated most often by mathematics teachers as needing support (%)

issue	mathematics teachers in primary schools	mathematics teachers in lower secondary schools
examples of good practices	82	82
lessons developing students' mathematical interests	82	79
preparing students for competitions in mathematics	74	80
working with mathematically gifted students	76	78
working with low achievers	78	74
computer-assisted mathematics teaching	77	73
counselling, psychological counselling for students	69	62
methods for evaluating students' achievements in maths	61	60

Source: Compiled by IBE on the basis of Professional development needs of early education and mathematics teachers development – pilot study".

The results of conducted surveys comprehensively presented in the report enable us to identify overall characteristics of mathematics teachers, their weaknesses and strengths. They may also serve as a pretext for reflections on the direction of desirable changes in teachers and their practice.

3.3. Foreign language teachers

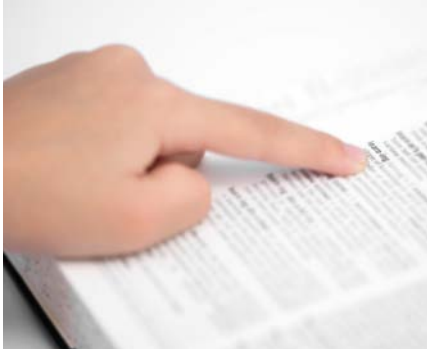
Modern Western languages have been taught within the framework of the Polish education system for the past two decades; previously Russian was the compulsory language until 1989. Introduction of Western languages to schools triggered massive demand for teachers – there were 18,000 Russian and barely 2,400 English and German teachers employed by schools in 1990. Currently, schools for children and youth employ more than 70,000 teachers of modern foreign languages of which English language teachers constitute the largest group.

Table 5. Teachers of modern foreign languages in schools for children and youth in the school year 2012/2013 (%)

English teachers	64.7
German teachers	27.2
Russian teachers	5.2
French teachers	3.2
Spanish teachers	1.3
Italian teachers	0.4

Source: IBE calculations based on data from the Educational Information System.

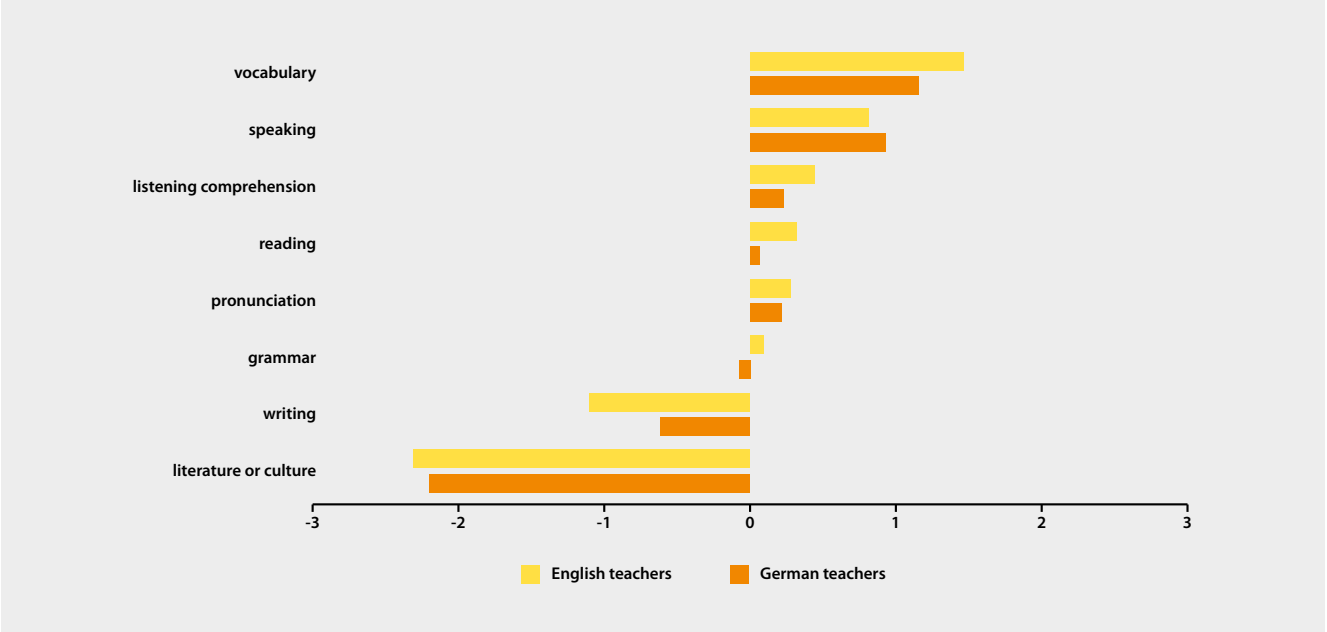
Apart from the key didactic objective, i.e. development of students' language skills, one of the priorities of foreign language teachers is to shape students' positive attitude to a foreign language as a practical communication tool in daily life and to build a positive image of a student as a learner. Their efforts are appreciated by students. The overwhelming majority of lower secondary school students notice benefits offered by a good command of foreign language for their further education or professional career. Students also provide positive feedback for the lessons – most of them perceive foreign language as one of the most practical and enjoyable subjects in lower secondary schools.



While planning and preparing classroom work, teachers rely mainly on textbooks. Their content and layout determines both the content and lesson scenarios. The textbook serves as a lesson plan, despite the fact that it should be just a teaching aid facilitating its implementation.

In practice, teachers focus on vocabulary and speaking in the foreign language rather than writing, which suggests that working on written assignments is seen as a task of secondary importance. Teaching vocabulary is not integrated with teaching language competencies. Little emphasis is also put on teaching aspects of culture and literature of countries from a given language area.

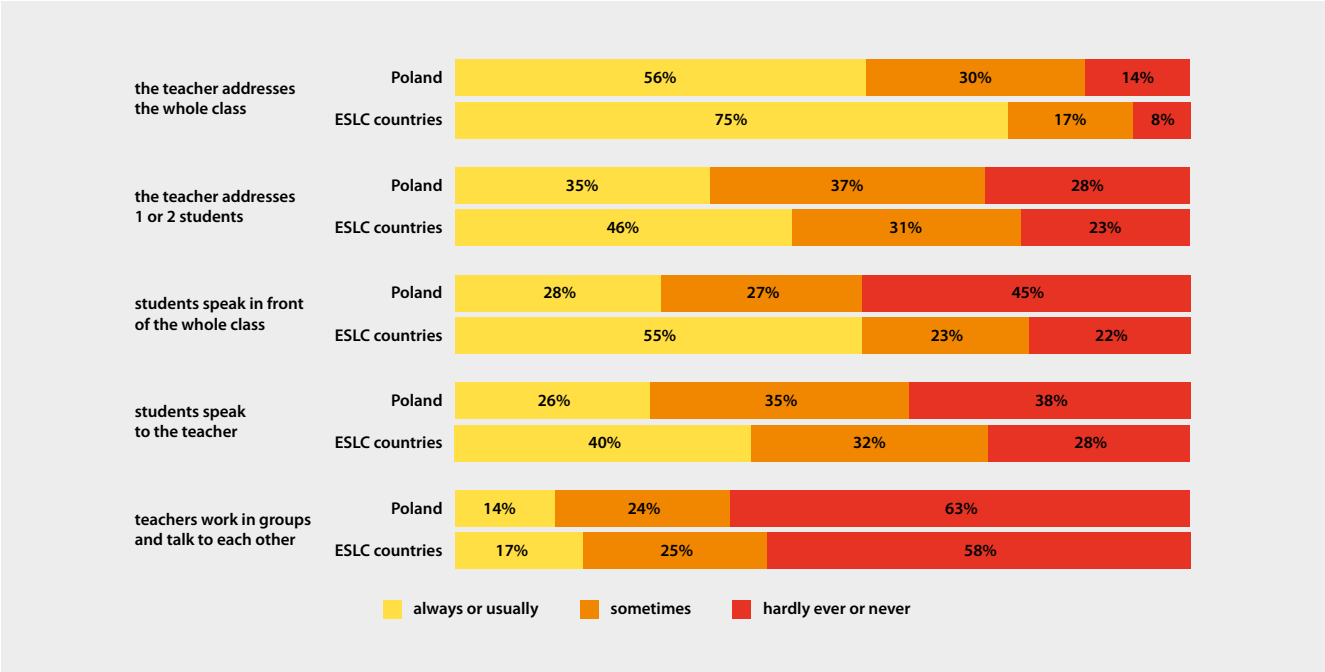
Figure 18. Relative focus* of Polish English and German language teachers on teaching individual language competencies and linguistic measures on the basis of teachers' responses to the ESLC survey



** Equal stress put on all discussed aspects of foreign language teaching equals zero, more focus on a given competency or language subsystem in reference to others equals more than zero, and less focus equals less than zero. Source: Gajewska-Dyszkiewicz et al. European Survey on Language Competences (ESLC) – Polish country report, 2011, 2013, p. 79.*

It is not typical for a teacher to communicate with students in the language he/she teaches. Only 56% of lower secondary school students assess that their teacher usually speaks English while addressing the whole class. Even less (35% of lower secondary school students) declare that teachers usually speak the language they teach while addressing individual students. While we do realise that it is not always possible or advisable to use foreign language in classroom communication, the data from European countries prove that this goal may be achieved to a greater extent.

Figure 19. The frequency of using foreign language taught in the classroom in specific communication situations on the basis of responses of Polish English language students in the ESLC survey (Poland) and all students of English taught as first foreign language in ESLC participating countries (ESLC countries)

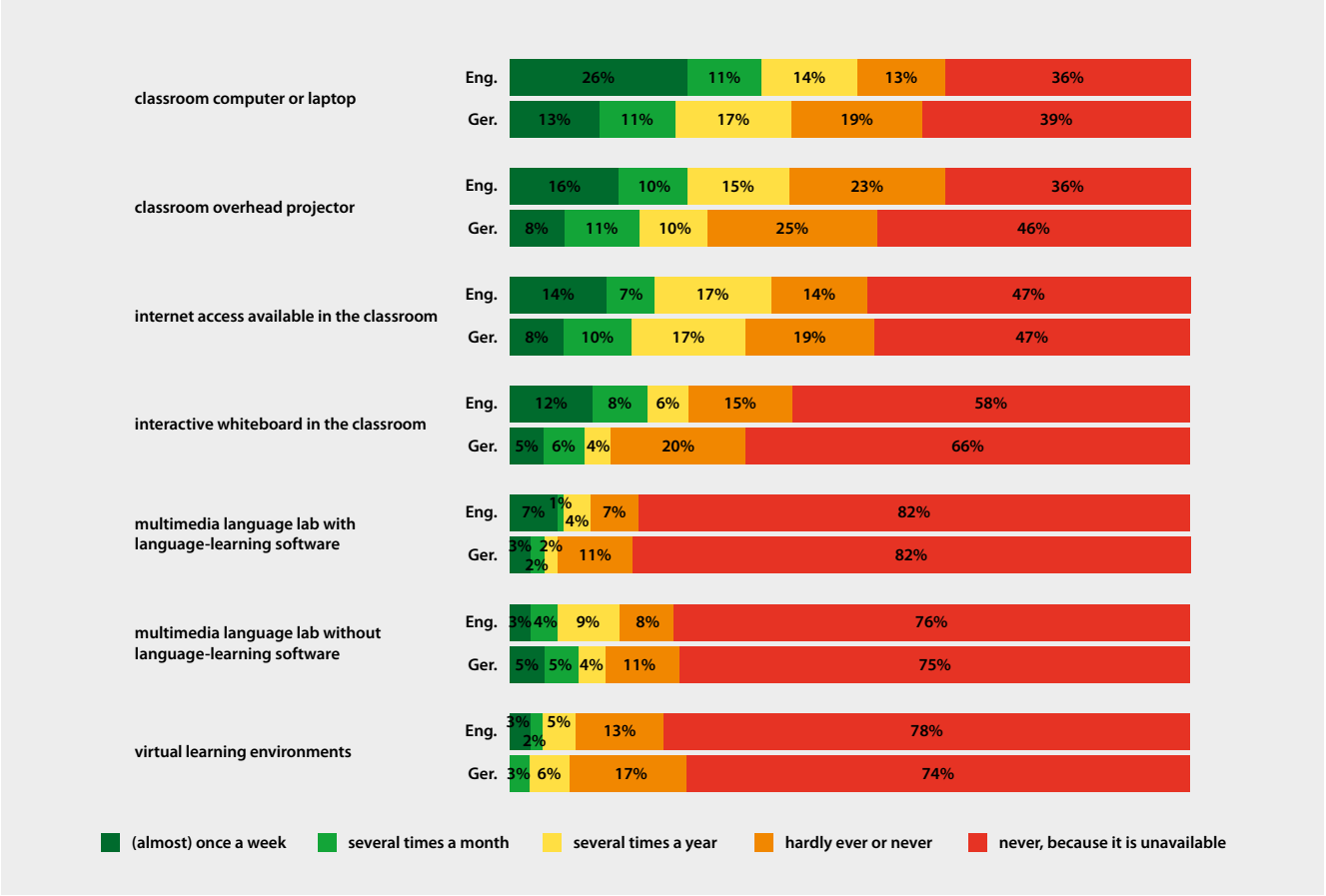


Source: Compiled by IBE on the basis of the study ESLC 2011.

While choosing methods for classroom work, most foreign language teachers decide on the teacher-centred methods. Almost 90% of lower secondary school students assess that the teacher always or almost always addresses the whole class during lessons. Teachers less frequently use teamwork – more than 75% of lower secondary school students report that they usually work individually, while approximately 45% of students declare that their teacher rarely or never introduces group work.

Typical didactic materials used by foreign language teachers include a textbook and audio recordings available as CDs or cassettes (which are usually attached to the textbook). Only some foreign lower secondary school language teachers regularly supplement the textbook with their original materials or content designed by other teachers – every fourth German teacher and every third English teacher uses them during practically every lesson. Audiovisual materials are rarely used. Almost 50% of teachers of both languages do it only several times a year. The same applies to authentic materials, such as newspapers, comic strips, song lyrics or books.

Figure 20. The frequency of ICT use by Polish teachers of English (Eng.) and German languages (Ger.) on the basis of teachers' responses in the ESLC survey



Source: Compiled by IBE on the basis of the study ESLC 2011.

Foreign language teachers rarely use information and communications technologies (ICT) in the classroom, which may be partially attributed to the absence of essential equipment and software at school or lack of access to it. Almost 50% of English and German lower secondary school teachers declare they have no classroom Internet access and 35% have no computer in the classroom. Slightly broader access to essential facilities is enjoyed by teachers from lower grades of primary schools – access to computers has been declared by approximately 50% of English language teachers from first to third grades.

Teachers monitor and evaluate academic achievements of their students in terms of key aspects of foreign language proficiency with varied frequency. Almost 25% of lower secondary school students reported that their teachers regularly grade their ability to formulate oral statements, whereas regular tests in listening and reading comprehension were declared by 42% of students and regular evaluation of written papers by 55% of students. Teachers of the largest group of lower secondary school students (58%) regularly test their grammar and vocabulary. It is possible that it is an after-effect of misaligning teaching goals: development of linguistic competences in communication skills (including oral skills) and preparations for the lower secondary school exam which is essentially a written test.

The efficiency of foreign language learning is facilitated by interactions with the language outside school when there is a natural need to engage in a conversation or correspondence. Such opportunities are created by international language projects. However, only 9% of English language teachers from first to third grade of the primary school declared participation in such

initiatives. In lower secondary schools, the commitment to cooperation with foreign schools initiated at least once during the past three years has been declared by 42% of German and 37% of English language teachers. Almost every second lower secondary school English and German language teacher indicated that he/she prompted students to make pen pals using electronic mail or instant messenger systems at least once during the past three years.

The biggest challenges pointed out by foreign language teachers include insufficient interest and involvement of students, insufficient access to modern ICT, overcrowded classrooms and diversified language proficiency of students from the same group.

3.4. History teachers

Teaching history has played a pivotal role in the Polish tradition because historical awareness is perceived as the bond of the national, civilisational and cultural community. Therefore, history lessons are not only expected to provide young people with knowledge of the past and help them understand the world around them better, but also to shape adequate attitudes. History teachers are fully aware of these expectations and embrace them as a natural element of their professional duties.

History teachers usually prepare lessons at home and dedicate a lot of time to this goal. Lessons are planned on the basis of a textbook, but teachers spend a lot of time looking for additional teaching resources on the Internet and in monograph research materials. They are mainly interested in source materials, iconographic representations and maps other than those published in the textbook. Their concepts for lessons and methodological solutions are usually reused in consecutive years but each time they are slightly reworked.

One of the objectives of history teachers is to develop historical skills in three areas of competencies identified by the core curriculum:

- historical chronology;
- historical analysis and interpretation;
- ddeveloping historical narrative.

Historical chronology

Assignments relating to these skills are introduced quite frequently during both lessons and tests but competencies from this area are in most cases associated with memorizing dates. Tasks developing more complex elements of chronological thinking, such as the skill of structuring events based on the cause-and-effect analysis, synchronising facts or relating events from the distant past are rarely introduced in the classroom environment.

Historical analysis and interpretation

In this area teachers focus on developing the ability to perform a simple search and compare information from different sources. They are also determined to make sure that students are able to explain the genesis and consequences of specific events and phenomena and identify their causes and effects. In practice, however, observations of specific lessons indicate that diversification of applied types of sources remains insufficient. Teachers usually resort to reference texts and historical maps, using iconographic and statistical sources less frequently.

The fact that certain teachers overlook the development of these skills results from their conviction that it is a time-consuming process which obstructs implementation of the curriculum.

Developing historical narrative

Teachers attach minor significance to improving skills related to developing historical narrative. Despite their declarations that such competencies are vital, teachers rarely require their students to formulate longer oral or written statements. Students elaborate longer statements requiring more efforts and consuming more time only as part of their homework.

Teachers argue that this results from the format of the lower secondary school history exam which fails to include tasks requiring development of a written statement.

In terms of instructional methods, history lessons are dominated by the Socratic dialogue and lecture. Other methods engaging students and enhancing their autonomy are applied less frequently, which mainly results from teachers' belief that the quantity of information delivered to and memorised by students is the fundamental measure of their teaching efficacy. Therefore, the teacher plays the role of the lecturer who explains and students play the role of listeners.

Most of the time, during history lessons students are working individually. Group work is rarely used by teachers. It seems that teachers:

- find it difficult to prepare materials to implement this method;
- perceive group work as an overly time-consuming method;
- find assessment of group performance challenging.

While assessing their students, history teachers embrace classical solutions – oral answers and more or less complex written tests. Both of them are mainly applied to evaluate students' factual knowledge while less significance is attached to improving competencies or developing historical skills.

The obstacles to working with students reported by history teachers include:

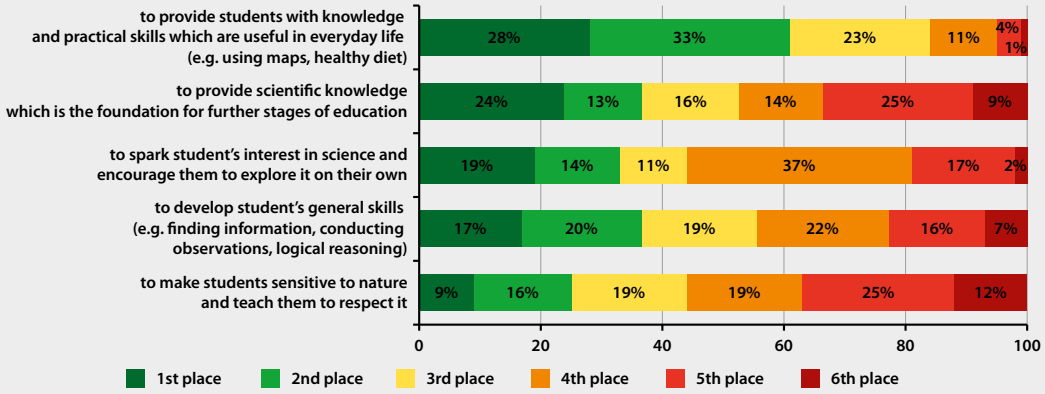
- lack of students' interest in the subject and motivation to study it;
- excessive number of students in the class;
- absence of consistent criteria to assess student's historical skills (a question whether or not skills should be evaluated in isolation from knowledge) and resulting problems with evaluating efficacy of their teaching activities;
- substantial problems related to delivering valuable classes outside school;
- insufficient substantial support, especially absence of training seminars which could verify in practice the relevance of various methods and tools used in development of historical skills;
- ineffective system of communicating changes within the curriculum and exam requirements.

3.5. Science teachers

The picture of science teachers is not uniform since it represents a highly diversified group covering teachers of five subject fields: nature, biology chemistry, physics and geography.

Science teachers tend to focus on objectives whose implementation is assessed or for which they are made accountable by the school principal, the school governing body or parents. It is a positive trend because these objectives are aligned to educational goals of the current core curriculum, but it is regrettable that students' sensitivity to the surrounding environment and respect for it are insufficiently appreciated and not widely developed in young people.

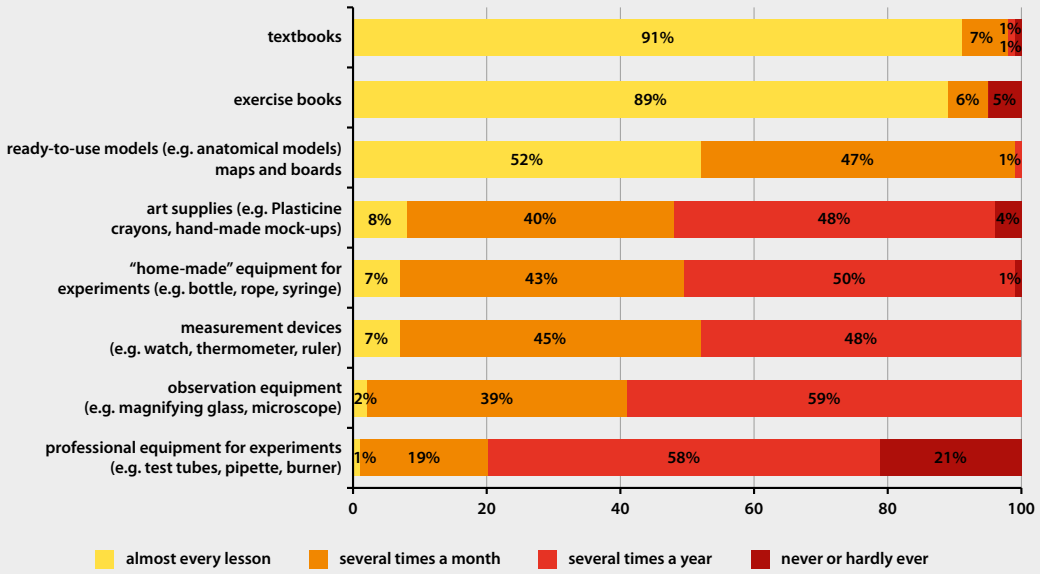
Figure 21. The ranking of objectives primary school biology teachers strive to achieve in their work with students, from the most (1) to the least important one (6)



Source: Compiled by IBE on the basis of Teaching science in primary school, 2013.

Textbooks and exercise books are the most frequently used teaching aids during science lessons. Didactic displays, maps and models are further down the list. The majority of interviewed teachers use lecture-based methods which make little contribution to developing competencies essential in modern times – creative problem solving or communication. The overwhelming majority of respondents use equipment for laboratory tests and observations several times a year; more than 20% never use it. Such responses may suggest that science teachers just as rarely apply the research methods covering experiments, observations or student-made measurements.

Figure 22. The frequency* of using various teaching aids by science teachers in grades 4–6 of primary school

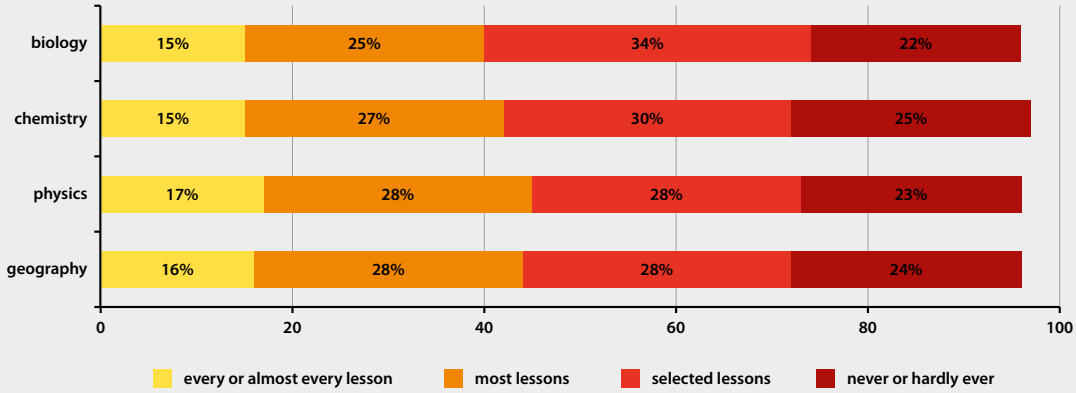


**The frequency relates to the number of classes delivered by teachers.*

Source: Compiled by IBE on the basis of Teaching science in primary school, 2013.

Declarations of interviewed teachers reflect their growing interest in using information and communications technologies in the classroom. In 2012, videos and multimedia presentations were introduced during all, almost all and most lessons by approximately 40% of surveyed teachers, which indicates an increase as compared to 2011. Increased frequency of using such multimedia aids as presentations and educational videos is certainly a positive consequence of the curriculum reform, but their application reduced to transfering knowledge assisted by the teacher-centred method may be a reason for concern.

Figure 23. The frequency of using videos and multimedia presentations by lower secondary school teachers as declared by students in the second round of the Laboratory of thinking survey (LM, 2012, unpublished report)



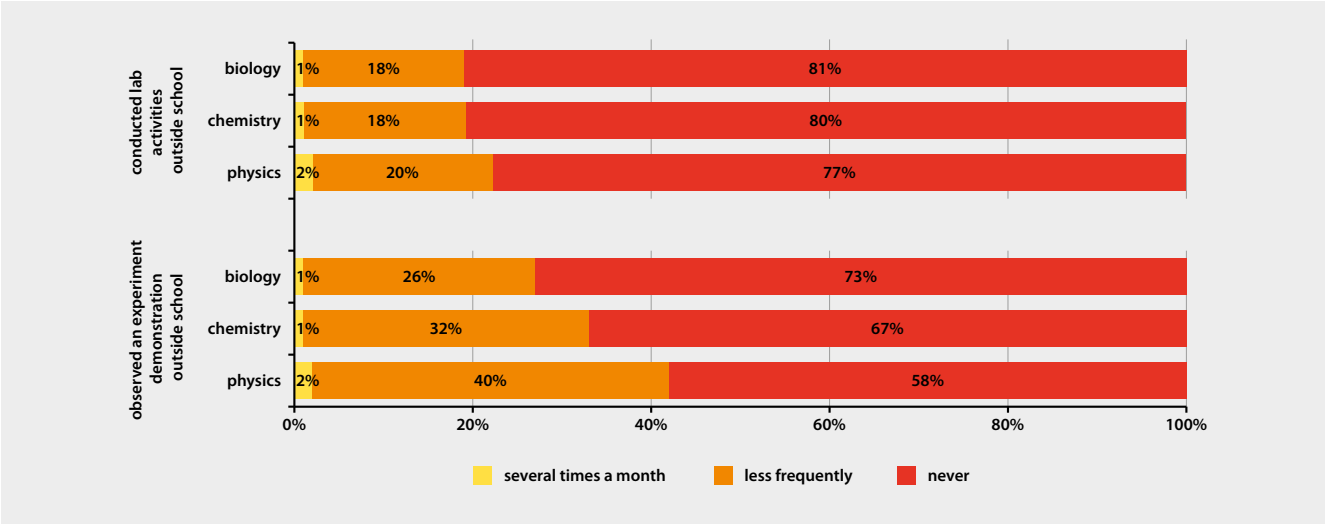
Source: Compiled by IBE on the basis of Laboratory of thinking.

Nearly 50% of surveyed teachers have access to the Internet, but a much smaller group (32%) declared that their students are actually allowed to use it. Therefore, it is fair to conclude that teachers benefit from IT equipment, multimedia and the Internet used for demonstrations during many (but not all) science lessons in Polish schools, but students are only passive recipients of information conveyed by image and sound.

Despite clearly defined recommendations in the core curriculum, science teachers conduct an insufficient number of field activities. Approximately 85% of surveyed lower secondary school students strongly disagreed with statements that they leave school or go for an excursion during science classes (biology, chemistry, physics and geography). Most classes are delivered in subject classrooms or classrooms assigned to a given lesson.

Teachers rarely capitalise on opportunities to organise lab activities at a non-formal education centre for their students. If they do arrange field activities, they are usually staged at locations which may be reached by foot and are cost-free.

Figure 24. Declarations of teachers concerning demonstration of experiments and lab activities in biology, chemistry and physics staged outside school since the beginning of the school year 2011/2013 in the third grade of lower secondary school (Centre for Education Development 2012a)



Source: Compiled by IBE on the basis of the study by the Centre for Education Development.

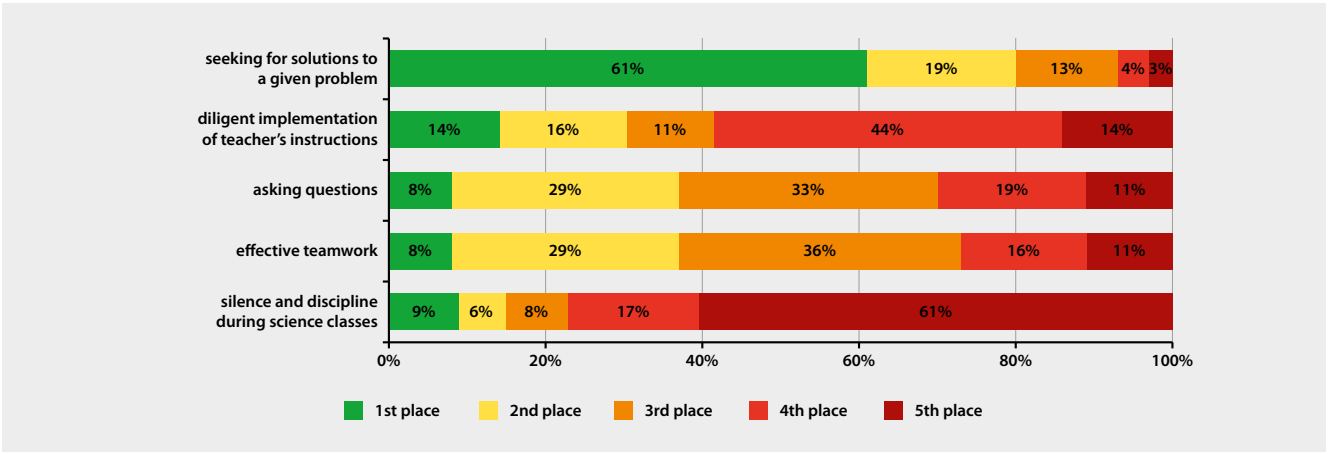
The pivotal role in science teaching and learning is played by research methods which include natural experiments, laboratory experiments, modelling and observation methods, such as observation of ecosystems or living plants and animals.

Science teachers tend to choose direct instruction methods – every second surveyed student has declared that he/she listens to their teacher's explanations during every lesson. The second most preferred teaching method is student's individual work (approximately 40%). Gathered data illustrating most frequently used teaching aids suggest that students mainly work on their own with their textbook and exercise book. Students rarely have the opportunity to solve problems in small groups or present their findings to the whole class. They are also seldom able to autonomously plan an experiment. Drawing conclusions based on data analyses seems to be the most frequent activity. Declarations of students also indicate that they rarely take part in self-conducted or group experiments. In most cases, they were merely observers of experiments demonstrated by the teacher.

Declarations of teachers concerning the development of students' ability to employ research methods and deliver experiments did not exactly match the feedback of students. Only 14% of interviewed teachers admitted that they never applied teamwork or work in small groups during experiments, whereas over 50% of surveyed students stated that they never solved problems in small groups. Similarly disproportional results were obtained for planning and implementing experiments/practical activities.

Teachers covered by the survey "Teaching science in primary school" appreciate their students' ability to seek for solutions of a given problem, whereas few of them gave the priority to asking questions and effective teamwork. We may conclude that not all teachers are aware of the importance of teamwork and skills it enhances.

Figure 25. The ranking of student behaviours appreciated by primary school science teachers from the most to the least appreciated one



Source: Compiled by IBE on the basis of Teaching science in primary school, 2013.

While diagnosing the level of students' knowledge and skills, in most cases teachers focus on how much a student has memorised, whereas their practical skills are less important. Written tests are the most popular form of assessment. By preferring this evaluation form, teachers strive to meet expectations of parents, school principal, the governing authority and often students themselves who wish to achieve the highest score, both on individual and all-school level.

They find the excessive number of students in the class, problems with discipline and no interest in the subject most disturbing in their teaching practice. Constraints of a science teacher include shortage of teaching aids, modestly equipped classrooms, absence of materials for students, including those with special learning needs, and lack of computer equipment. A relatively large group of science teachers feel challenged by open experiments in the classroom and experiments which failed to meet their expectations.

Successes of students – talented and low academic achievers who fail to cope with the subject – are yet another accomplishment of science teachers. Teachers also interpret success as good relations with students or school alumni, what is manifested by effortless classroom discipline, students' perception of their teacher as a serious partner or openly expressed emotions triggered by the subject of a lesson. In their view, achievements also include overcoming one's challenges relating to their teaching practice or even the decision to carry on working in this difficult line of work.

The portrait of a good science teacher as indicated by student feedback largely overlaps with views declared by teachers themselves. Their responses indicate that a good teacher is able to deliver an exciting, engaging and effective lesson. His/her key features include passion and creativity, demonstrating genuine interest in the subject and willingness to share this enthusiasm with students, delivering extracurricular classes and initiating student-led projects, the ability to tell compelling anecdotes or to share the latest interesting facts and provide non-standard explanations. Teachers stressed the importance of individualised approach to students and appreciation of their efforts as well as willingness to continue development in their subject field, ongoing acquisition of subject knowledge and teaching techniques as well as the ability to swiftly adapt to changes.

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