
Schools for Gifted Students or Selected Students? International Comparison²

AUGUST 2026

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Summary of key issues

- European educational systems differ not only in terms of how directly they support gifted students, but also in how extensively they identify gifted students and the various types of schools available to them. The method, extent, and timing of selection of gifted students into schools determine the degree of (un)even concentration of gifted students across schools. This, in turn, helps to determine the peer and educational environment in which their giftedness will develop. We pay particular attention to “early selection,” which sorts students at young ages, while their educational opportunities are significantly influenced by their family background. In the Czech context, this refers to selection into selective secondary schools.³
- Our analysis, which is apparently the first of its kind, maps the distributions of quantitatively gifted students across schools in European countries, reveals the role of selection, and identifies the characteristics of schools with higher proportions of gifted students. We define quantitatively gifted students as those who achieve the highest scores on mathematics tests in international assessments: TIMSS 2019 for 4th graders, TIMSS 2023 for 8th graders, and PISA 2022 for 15-year-olds. We pay particular attention to the situation in the Czech Republic.
- Our findings show that, in 4th grade, the differences between selective and non-selective educational systems are not yet significant. At this age, gifted students are distributed relatively evenly across schools, although certain differences exist between countries.

² This work was produced as part of the Talent project with support from the RSJ Foundation. This study represents only the author's opinion and not the official position of the Economics Institute of the Czech Academy of Sciences, or the Center for Economic Research and Graduate Studies at Charles University (CERGE). The author would like to thank Roman Folwarczny, Jana Straková, and Nikola Šrámková, and her colleagues Daniel Münich, Václav Korběl, and Alena Bičáková for their valuable comments and advice on the draft of this study. Any errors are solely the responsibility of the author. The study was produced with support from the Czech Academy of Sciences and IOCB TECH.

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³ After completing the first five years of primary school, a small share of students can transfer to selective eight-year secondary schools (gymnasia). These schools cover both lower- and upper-secondary education.

A more pronounced concentration of gifted students appears later, in 8th grade and among 15-year-old students—that is, at ages when, in countries with early selection, some students have already undergone their first round of selection. It is precisely in these countries—such as the Czech Republic, Slovakia, and Hungary—that gifted students are more often concentrated in a smaller number of schools. In contrast, countries that do not apply early selection—particularly Nordic countries—show a more even distribution of gifted students across schools even at later ages.

- Our analysis further shows that selection can significantly influence the schools and environments in which gifted students are educated. In systems with early selection, such as the Czech Republic, gifted students are more often concentrated in a smaller number of schools, and these schools differ significantly from others in terms of student composition. This may offer a more stimulating environment for some gifted students, but it can disadvantage other gifted students who fall outside the selective track, thereby further widening the gaps between schools and students.
- Schools with higher proportions of gifted students differ from other schools primarily in the composition of their student body. The most significant differences are found in the students' socioeconomic background, particularly in their parents' education and overall family backgrounds. Differences also emerge in certain aspects of instruction, such as the extent of independent work in math classes and teachers' ability to maintain discipline in the classroom. However, these differences are less pronounced than differences in the socioeconomic composition of the schools.
- Early selection tends to further widen these differences between schools. In countries with early selection, the differences between schools with below-average and above-average proportions of gifted students are more pronounced precisely in terms of socio-economic composition. Among the European countries we examine, the Czech Republic ranks among those with the greatest differences in this regard. Conversely, selection does not appear to play an equally significant role when it comes to teaching methods. Better conditions in schools with higher concentrations of gifted students are more closely related to the characteristics of the students than to significantly different teaching methods.
- In the Czech Republic, early selection creates inequalities even among gifted students themselves. Although some quantitatively gifted students transfer to selective secondary schools, a significant portion—up to about half—remain in basic schools. The school environments of these two groups differ significantly. At selective secondary schools, gifted students make up a significant portion of the student body, whereas in basic schools, the gifted 15-year-olds are often the only gifted students in the school. This suggests that opportunities for developing giftedness may be closely linked to family background and access to information about educational options.
- Our findings have a number of implications for education policy. It is desirable to mitigate the negative effects of early selection and to enhance the permeability of the education system. There is a need to systematically support gifted students including those in regular basic schools, so that the development of their talents does not depend solely on their success in transitioning to a selective secondary school. It is also important to ensure access to information about educational opportunities—and thus to promote awareness—particularly among families with lower socioeconomic status. Another key factor is incorporating principles for working with gifted students into the initial and continuing education of teaching staff at all types of schools, and regularly monitoring disparities among schools.