MATHEMATICS ACHIEVEMENT AND LANGUAGE SPOKEN AT HOME

Key Findings: Canada, France, Germany, Italy, Japan, Russian Federation, United States

In all G-8 countries, 15-year-old students who spoke the language of assessment, other official languages, or other national dialects at home most of the time scored higher in mathematics literacy than did their peers who spoke another language at home most of the time.

Children in the United States who speak languages other than English at home and who also have difficulty speaking English may face greater challenges progressing in school and in the labor market (Federal Interagency Forum on Child and Family Statistics 2005). Among the G-8 countries, the United States is not unique with respect to educating language minority students.

The 2003 Program for International Student Assessment (PISA 2003) distinguished between 15-year-old students who reported speaking the language of assessment, other official languages, or other national dialects at home most of the time and those who reported speaking another language at home most of the time. In 2003, 9 percent of U.S. students reported speaking another language at home most of the time (figure 9a). The U.S. percentage is higher than the corresponding percentages for France, the Russian Federation, Italy, and Japan (all 6 percent or less) and lower than the corresponding percentage for Canada (11 percent).

In all G-8 countries reporting data,[9] 15-year-olds who spoke the language of assessment, other official languages, or other national dialects at home most of the time scored higher on the PISA 2003 combined mathematics literacy scale than did their peers who spoke another language at home most of the time (figure 9b). This difference ranged from 13 points in Canada to 90 points in Germany; in the United States, this difference was 46 points.

In the United States, 15-year-olds who spoke another language at home most of the time scored 444 on the combined mathematics literacy scale. This is measurably different from the corresponding score in one G-8 country—Canada. In Canada, students who spoke another language at home most of the time had a higher score (525) than their U.S. peers did.

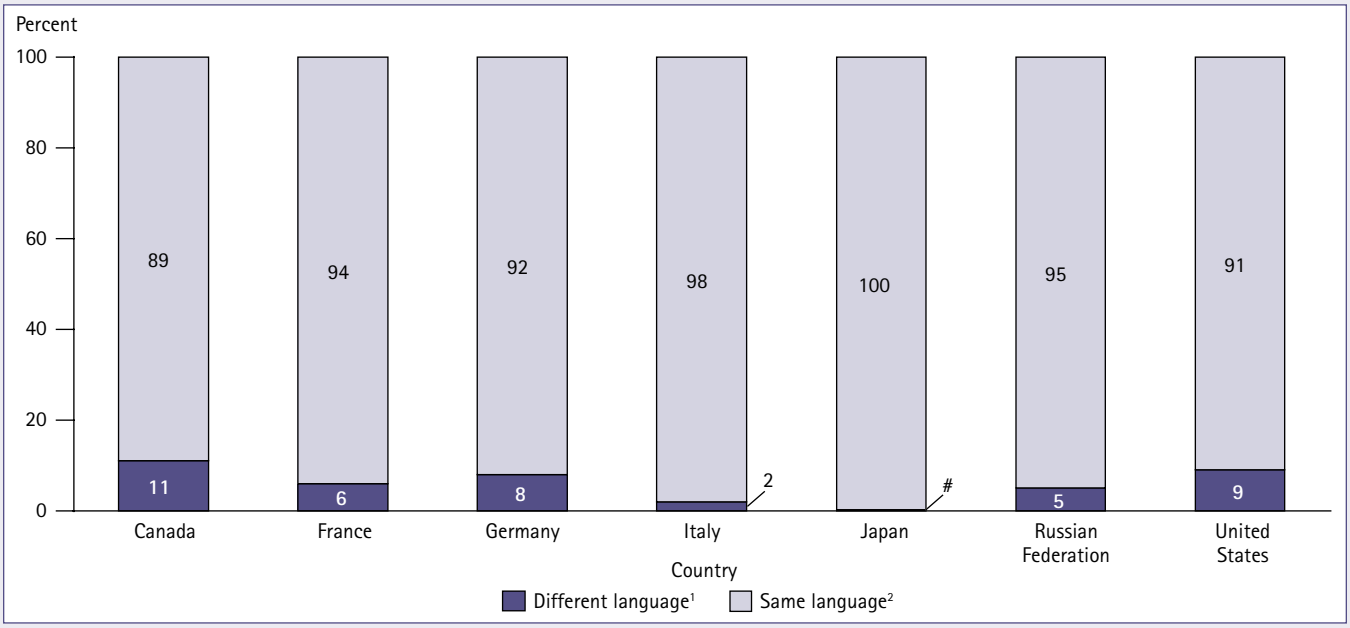
Definitions and Methodology

To facilitate the cross country comparison of achievement scores on the PISA 2003 combined mathematics literacy scale, an Organization for Economic Cooperation and Development (OECD) average was calculated whereby all the participating OECD countries contributed equally. The data were then standardized to set the OECD average at 500, with a range from 0 to 1000 and a standard deviation of 100. Since the individual country means were weighted averages of the student scores, this standardization implied that about two-thirds of the students across all the participating OECD countries scored between 400 and 600. For more information about mathematics literacy in PISA 2003, see the Definitions and Methodology section of indicators 6 and 7.

Score-point differences presented in the text are computed from unrounded numbers; therefore, they may differ from computations made using the rounded whole numbers that appear in figure 9b.

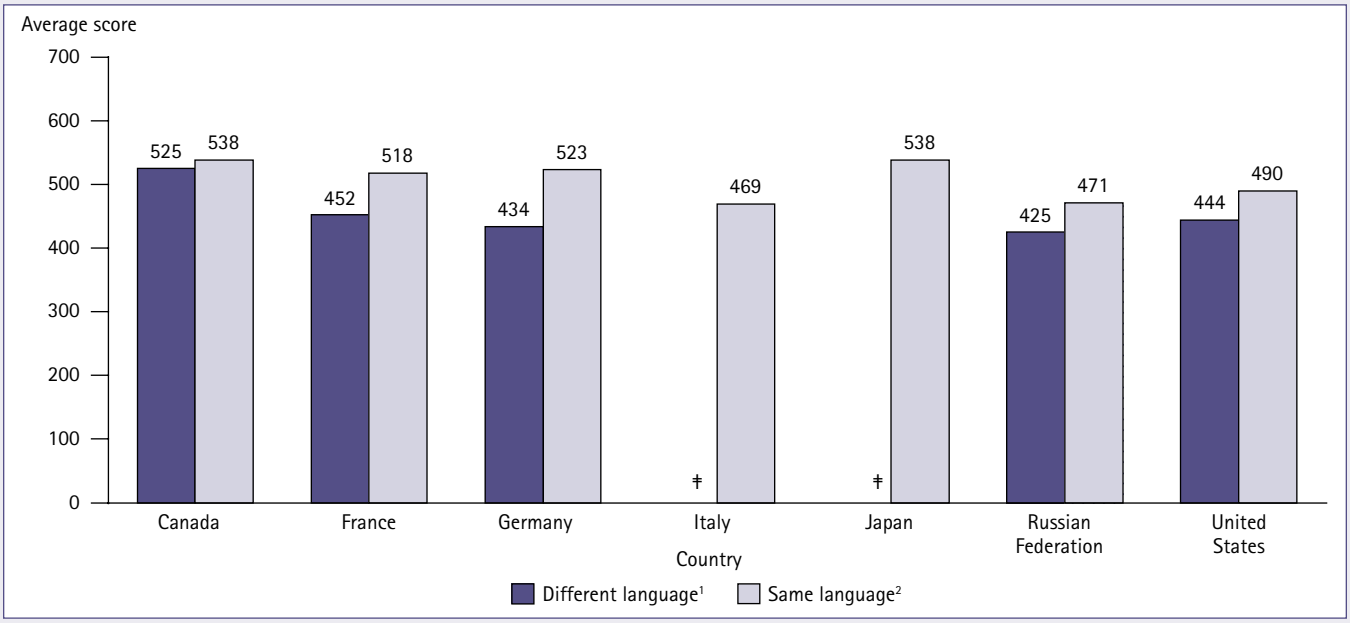
[9]Due to low response rates, data for the United Kingdom are not shown in this indicator. In Italy and Japan, combined mathematics literacy scores are not shown for students whose language spoken at home most of the time is different from the language of assessment, other official languages, or other national dialects because there are too few cases to provide reliable estimates.

Figure 9a. Percentage distribution of 15-year-old students, by language spoken at home and country: 2003



#Rounds to zero.
[1]Language spoken at home most of the time is different from the language of assessment, other official languages, or other national dialects.
[2]Language spoken at home most of the time is the same as the language of assessment, other official languages, or other national dialects.
NOTE: Due to low response rates, data for the United Kingdom are not shown. Detail may not sum to totals because of rounding.
SOURCE: Organization for Economic Cooperation and Development (OECD). (2004). *Learning for Tomorrow's World: First Results From PISA 2003*, table 4.2g. Paris: Author.

Figure 9b. Combined mathematics literacy scores of 15-year-old students, by language spoken at home and country: 2003



‡Reporting standards not met. Too few observations to provide reliable estimates.
[1]Language spoken at home most of the time is different from the language of assessment, other official languages, or other national dialects.
[2]Language spoken at home most of the time is the same as the language of assessment, other official languages, or other national dialects.
NOTE: Due to low response rates, data for the United Kingdom are not shown.
SOURCE: Organization for Economic Cooperation and Development (OECD). (2004). *Learning for Tomorrow's World: First Results From PISA 2003*, table 4.2g. Paris: Author.