

ICILS 2018 U.S. Results

Explore how U.S. 8th-grade students' computer and information literacy and computational thinking compared internationally in 2018

The United States participated in the 2018 International Computer and Information Literacy Study (ICILS) along with [13 other education systems](#). ICILS is sponsored by the International Association for the Evaluation of Educational Achievement (IEA).

ICILS assesses 8th-grade students in two domains: computer and information literacy (CIL) and computational thinking (CT). It also compares U.S. students' skills and experience using technology to that of students in other education systems and provides information on factors such as teachers' experiences and school resources that may influence students' CIL and CT skills. This information is especially relevant today, since building strong foundations for STEM literacy, including CT, has been identified as one of the three goals in the White House's 5-year STEM education strategic plan, "[Charting a Course for Success: America's Strategy for STEM Education](#)."¹

As the results show, U.S. 8th-grade students' average score in CIL was higher than the ICILS 2018 average,² while the U.S. average score in CT was not significantly different from the ICILS 2018 average. In the United States, female 8th-grade students outperformed their male peers in CIL, but male 8th-grade students outperformed female students in CT. Also, U.S. 8th-grade students with 2 or more computers at home performed better in both CIL and CT than their U.S. peers with fewer computers. Among U.S. 8th-grade students, 72 percent reported using the Internet to do research every school day or at least once a week, and 65 percent reported teaching themselves how to find information on the Internet.

About half of U.S. 8th-grade teachers reported using information and communications technologies (ICT) in teaching. Eighty-six percent of U.S. 8th-grade teachers strongly agreed or agreed that ICT was considered a priority for use in teaching at their schools. Compared with the ICILS 2018 averages, higher percentages of U.S. 8th-grade teachers reported participating in eight out of nine professional learning activities related to ICT.

Click on the questions below for more details. The [technical notes](#) for the 2018 ICILS, [additional information](#), the [questionnaires](#), [FAQs](#), and the full international report, [Preparing for Life in a Digital World](#), are also available.

¹ National Science and Technology Council. (December 2018). *Charting a Course for Success: America's Strategy for STEM Education*. <https://www.whitehouse.gov/wp-content/uploads/2018/12/STEM-Education-Strategic-Plan-2018.pdf>.

² U.S. results are not included in the ICILS international average because the U.S. school level response rate of 77 percent was below the international requirement for a participation rate of 85 percent.

Suggested Citation: *U.S. Results from the 2018 International Computer and Information Literacy Study (ICILS) Web Report* (NCES 2019-164). U.S. Department of Education. Institute of Education Sciences, National Center for Education Statistics. Available at <https://nces.ed.gov/surveys/icils/icils2018/theme1.asp>.

International Comparisons of Student Achievement

All education systems that participated in the 2018 ICILS were required to assess computer and information literacy (CIL), but computational thinking (CT) was optional. Nine education systems, including the United States, participated in the optional CT component.

How do U.S. 8th-grade students perform in ICILS 2018 compared with students in other education systems?

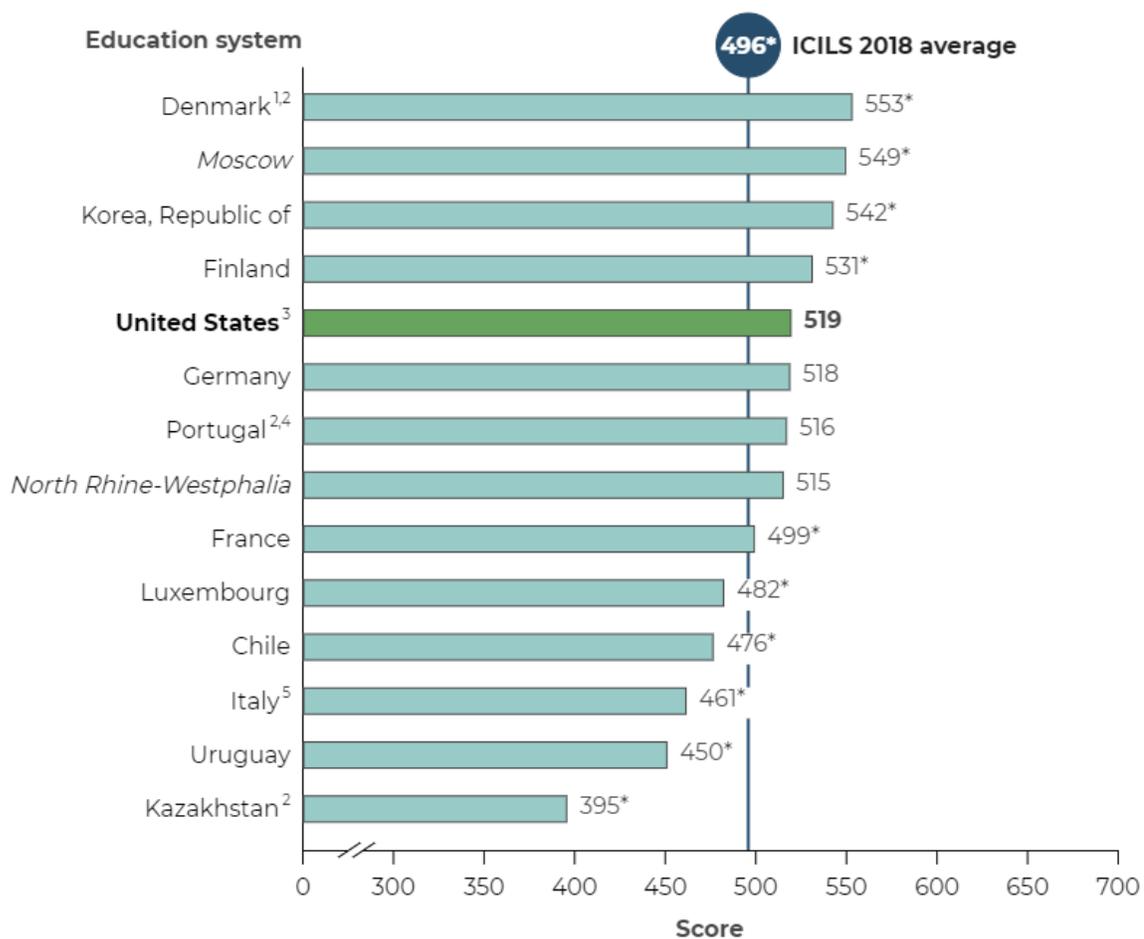
COMPUTER AND INFORMATION LITERACY

U.S. 8th-graders' average score for CIL was higher than the ICILS 2018 average. U.S. students ranked fifth among the 14 participating education systems.

- U.S. 8th-graders' average score for CIL was 519, which was higher than the ICILS 2018 average of 496.
- Among the 14 participating education systems, average CIL scores were higher for students in Denmark, Moscow, the Republic of Korea, and Finland than for students in the United States.
- Average CIL scores were lower for students in France, Luxembourg, Chile, Italy, Uruguay, and Kazakhstan than for students in the United States.

See figure on the next page.

Figure 1. Average CIL scores of 8th-grade students, by education system: 2018



* $p < .05$. Significantly different from the U.S. estimate at the .05 level of statistical significance.

¹ Met guidelines for sample participation rates only after replacement schools were included.

² National Defined Population covers 90 to 95 percent of National Target Population.

³ Did not meet the guidelines for a sample participation rate of 85 percent and not included in the international average.

⁴ Nearly met guidelines for sample participation rates after replacement schools were included.

⁵ Data collected at the beginning of the school year.

NOTE: CIL = Computer and information literacy. The ICILS CIL scale ranges from 100 to 700. The ICILS 2018 average is the average of all participating education systems meeting international technical standards, with each education system weighted equally. Education systems are ordered by their average CIL scores, from largest to smallest. Italics indicate the benchmarking participants.

SOURCE: International Association for the Evaluation of Educational Achievement (IEA), The International Computer and Information Literacy Study (ICILS), 2018.

For More Information

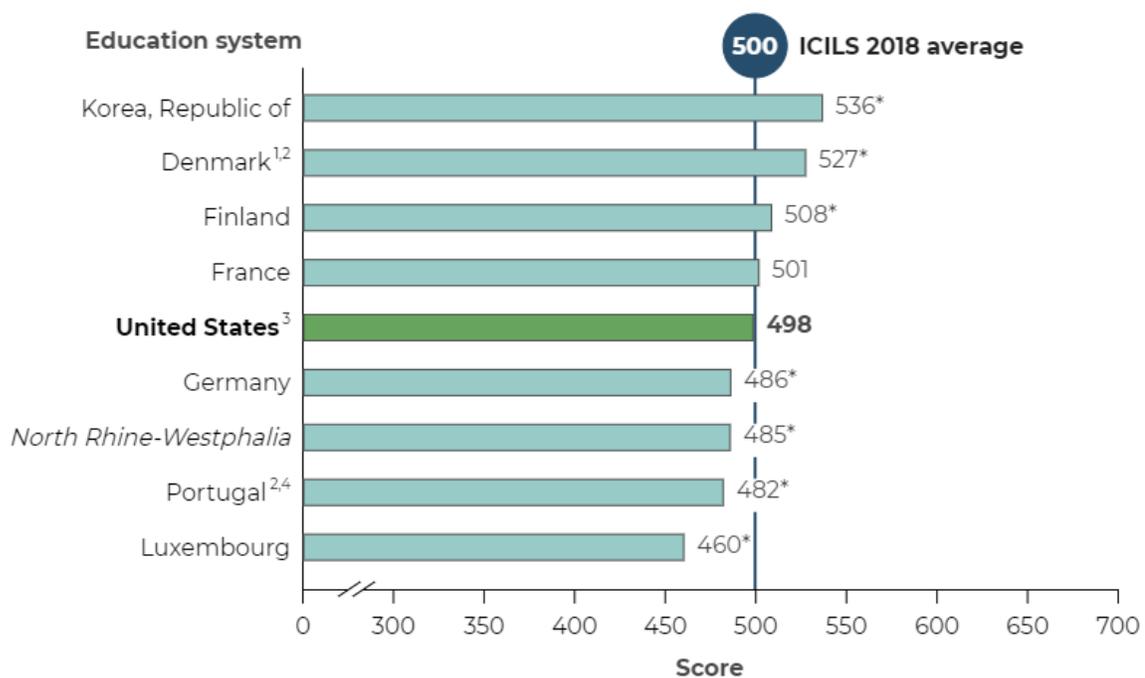
- For the Accessible version of this table/figure, please see the corresponding data table ([Download Excel file](#))
- See [Technical Notes](#)
- Visit the [IEA website](#) and the [ACER website](#)
- Read the [International ICILS 2018 Report](#) and [Assessment Framework](#)

COMPUTATIONAL THINKING

U.S. 8th-graders' average score for CT was not significantly different from the ICILS 2018 average. U.S. students ranked fifth among the 9 participating education systems.

- U.S. 8th-graders' average score for CT was 498, which was not significantly different from the ICILS 2018 average of 500.
- Among the 9 participating education systems, average CT scores were higher for students in the Republic of Korea, Denmark, and Finland than for students in the United States.
- Average CT scores were lower for students in Germany, North Rhine-Westphalia (a province of Germany), Portugal, and Luxembourg than for students in the United States.

Figure 2. Average CT scores of 8th-grade students, by education system: 2018



* $p < .05$. Significantly different from the U.S. estimate at the .05 level of statistical significance.

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³ Did not meet the guidelines for for a sample participation rate of 85 percent and not included in the international average.

⁴ Nearly met guidelines for sample participation rates after replacement schools were included.

NOTE: CT = Computational thinking. The ICILS CT scale ranges from 100 to 700. The ICILS 2018 average is the average of all participating education systems meeting international technical standards, with each education system weighted equally. Education systems are ordered by their average CT scores, from largest to smallest. Italics indicate the benchmarking participants.

SOURCE: International Association for the Evaluation of Educational Achievement (IEA), The International Computer and Information Literacy Study (ICILS), 2018.

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How do the 8th-grade students in each education system perform against the ICILS benchmarks?

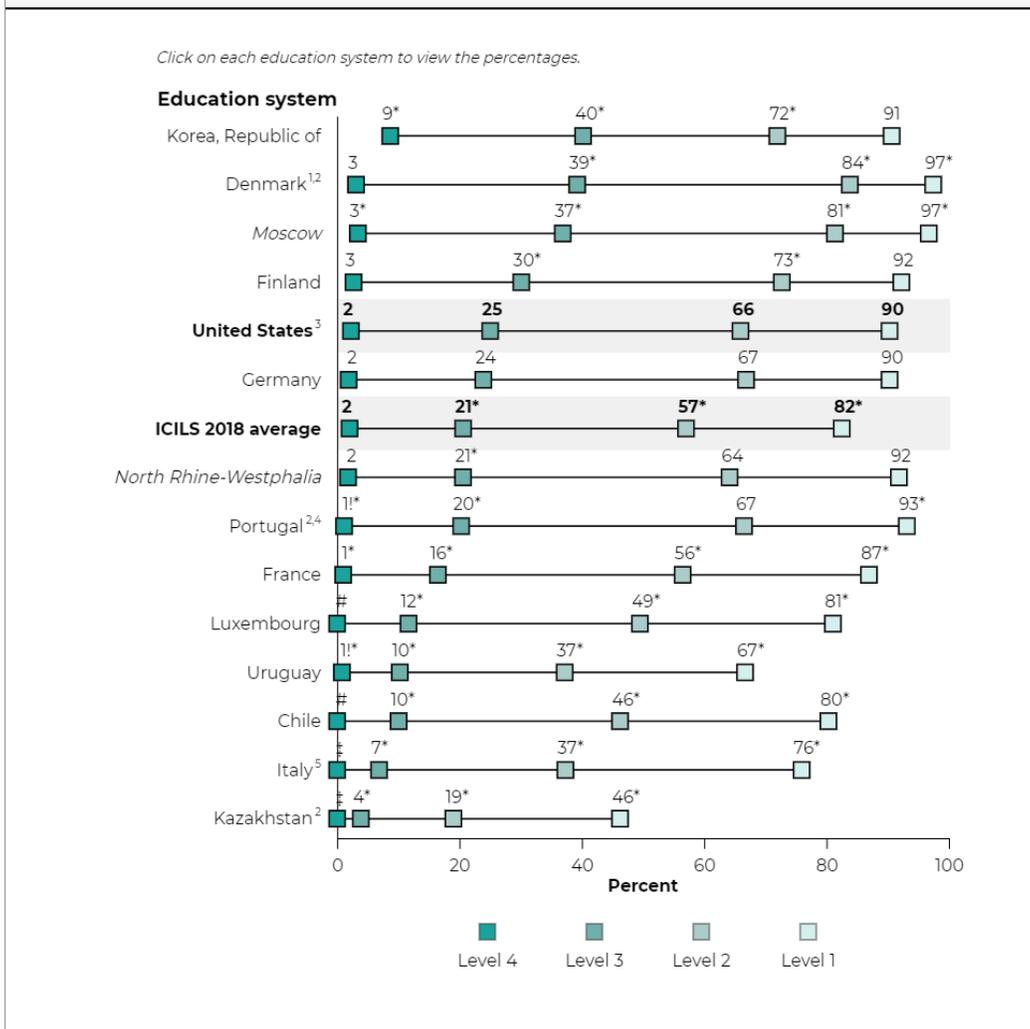
COMPUTER AND INFORMATION LITERACY

ICILS CIL benchmarks are described as proficiency levels. Twenty-five percent of 8th-grade students in the United States reached at least proficiency level 3, which was higher than the ICILS 2018 average, but lower than in four other education systems reaching at least proficiency level 3.

- For CIL, 25 percent of U.S. 8th-grade students reached at least proficiency level 3, which was higher than the ICILS 2018 average (21 percent).
- Among the 14 participating education systems, a higher percentage of students reached proficiency level 4 in the Republic of Korea and Moscow (9 and 3 percent, respectively) than in the United States (2 percent).
- Higher percentages of students reached proficiency levels 3 and 2 in the Republic of Korea, Denmark, Moscow, and Finland than in the United States.
- About 10 percent of 8th-grade students in the United States did not reach the lowest proficiency level (level 1), which was higher than the percentages of students in Denmark, Moscow, and Portugal, but lower than the ICILS 2018 average.

See figure on the next page.

Figure 3. Percentage of 8th-grade students reaching each CIL proficiency level, by education system: 2018



Rounds to zero.
 ! Interpret data with caution. Estimate is unstable due to high coefficient of variation (>30 percent and ≤50 percent).
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⁵ Data collected at the beginning of the school year.

NOTE: CIL = Computer and information literacy. The ICILS 2018 average is the average of all participating education systems meeting international technical standards, with each education system weighted equally. The CIL proficiency levels were established in 2013 after consideration of the content and difficulty of the test items. The item content and relative difficulty were analyzed to identify themes of content and process that could be used to characterize the different ranges, or levels, on the CIL achievement scale. This process was performed iteratively until each level showed distinctive characteristics, and the progression from low to high achievement across the levels was clear. The level boundaries—set at 407, 492, 576, and 661 scale points out of 700 total—form four proficiency levels. Student scores below 407 scale points indicate CIL proficiency below the lowest level targeted by the assessment instrument. The CIL proficiency levels did not change from 2013 to 2018. Education systems are ordered by their percentages of students reaching proficiency level 3, from largest to smallest. Italics indicate the benchmarking participants.

SOURCE: International Association for the Evaluation of Educational Achievement (IEA), The International Computer and Information Literacy Study (ICILS), 2018.

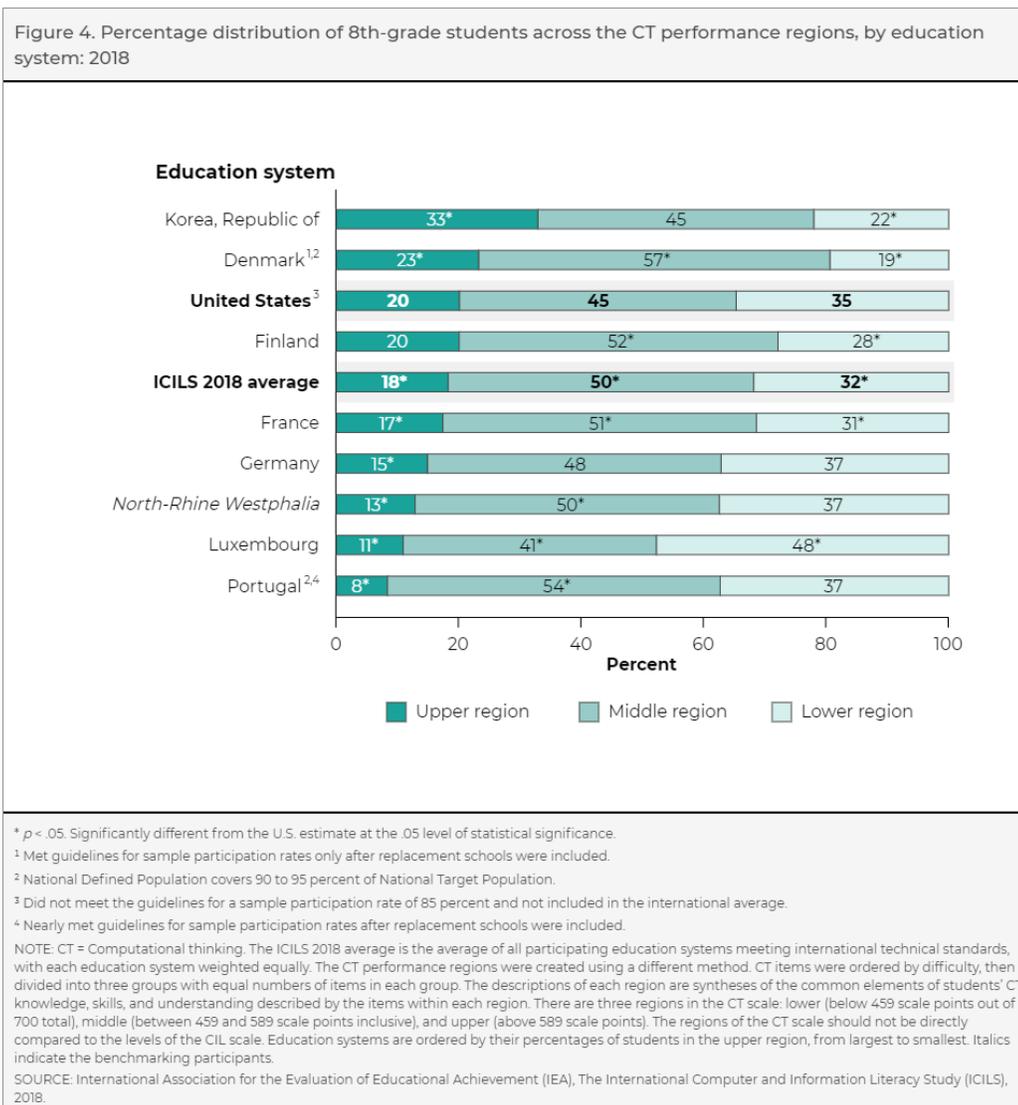
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COMPUTATIONAL THINKING

ICILS CT benchmarks are described as performance regions. Twenty percent of 8th-grade students in the United States scored in the upper region, which was higher than the ICILS 2018 average, but lower than in two other education systems in the upper region.

- For CT, 20 percent of U.S. 8th-grade students scored in the upper region, 45 percent scored in the middle region, and 35 percent in the lower region. The United States had higher percentages of students in both the upper and lower regions, but a lower percentage of students in the middle region, compared with the ICILS 2018 average.
- Among the nine participating education systems, higher percentages of students scored in the upper region in the Republic of Korea and Denmark than in the United States.
- Higher percentages of students scored in the middle region in Denmark, Portugal, Finland, France, and North-Rhine Westphalia than in the United States.



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How do U.S. 8th-grade male and female students perform in CIL and CT compared with male and female students in other education systems?

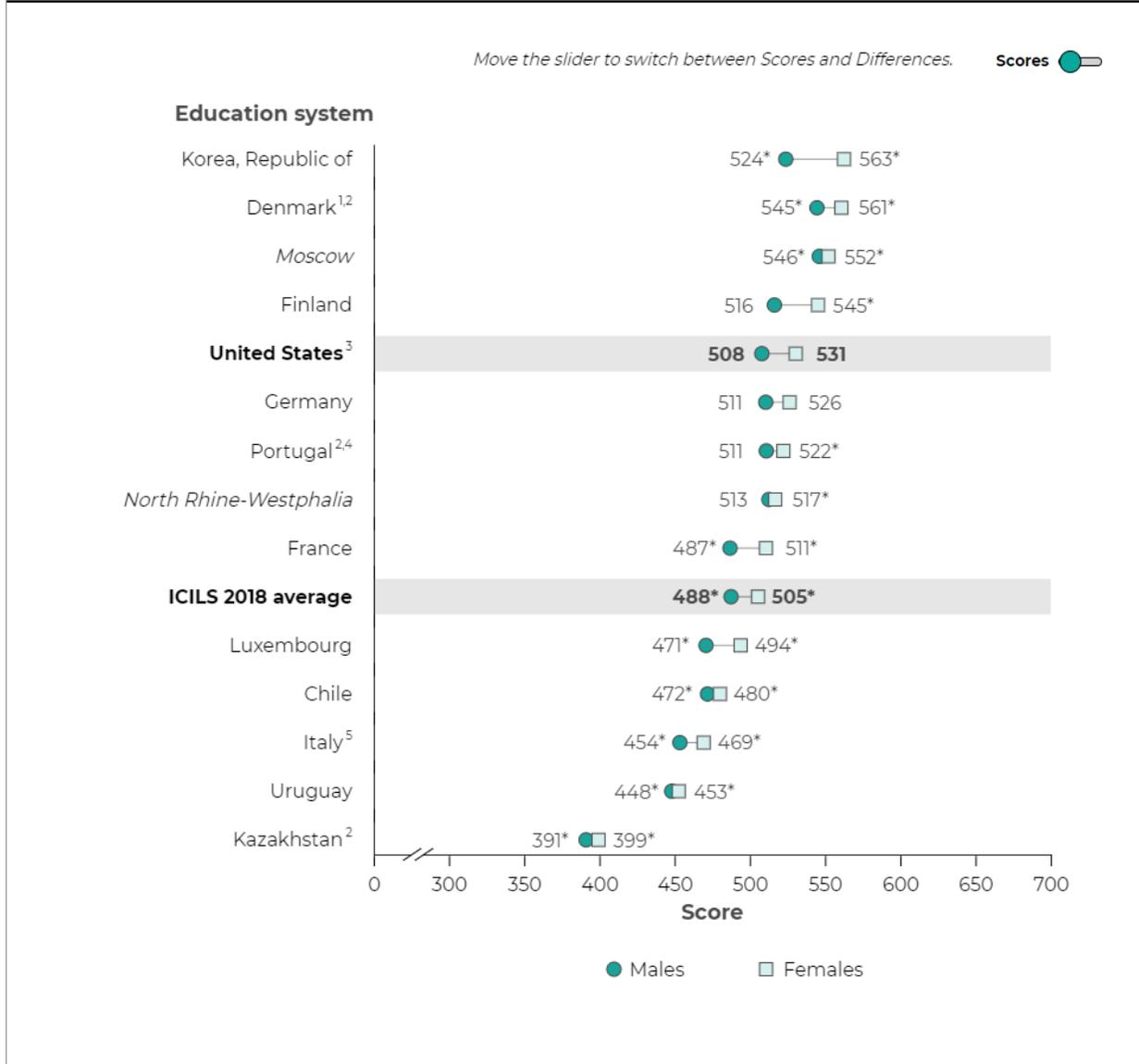
COMPUTER AND INFORMATION LITERACY

In the United States, female students on average scored higher in CIL than male students. The female-male score gap in the United States was not significantly different from the ICILS 2018 average gender gap.

- In the United States, female students on average scored higher in CIL than male students. Average CIL scores of both male and female students in the United States were higher than the ICILS 2018 averages for male and female students, respectively.
- Female students in the Republic of Korea, Denmark, Moscow, and Finland on average scored higher in CIL than female students in the United States; male students in Moscow, Denmark, and the Republic of Korea on average scored higher than male students in the United States.
- The U.S. female-male score gap in CIL was not significantly different from the ICILS 2018 average gender gap. The Republic of Korea had a larger gender gap, and three other education systems had smaller gender gaps than the United States.

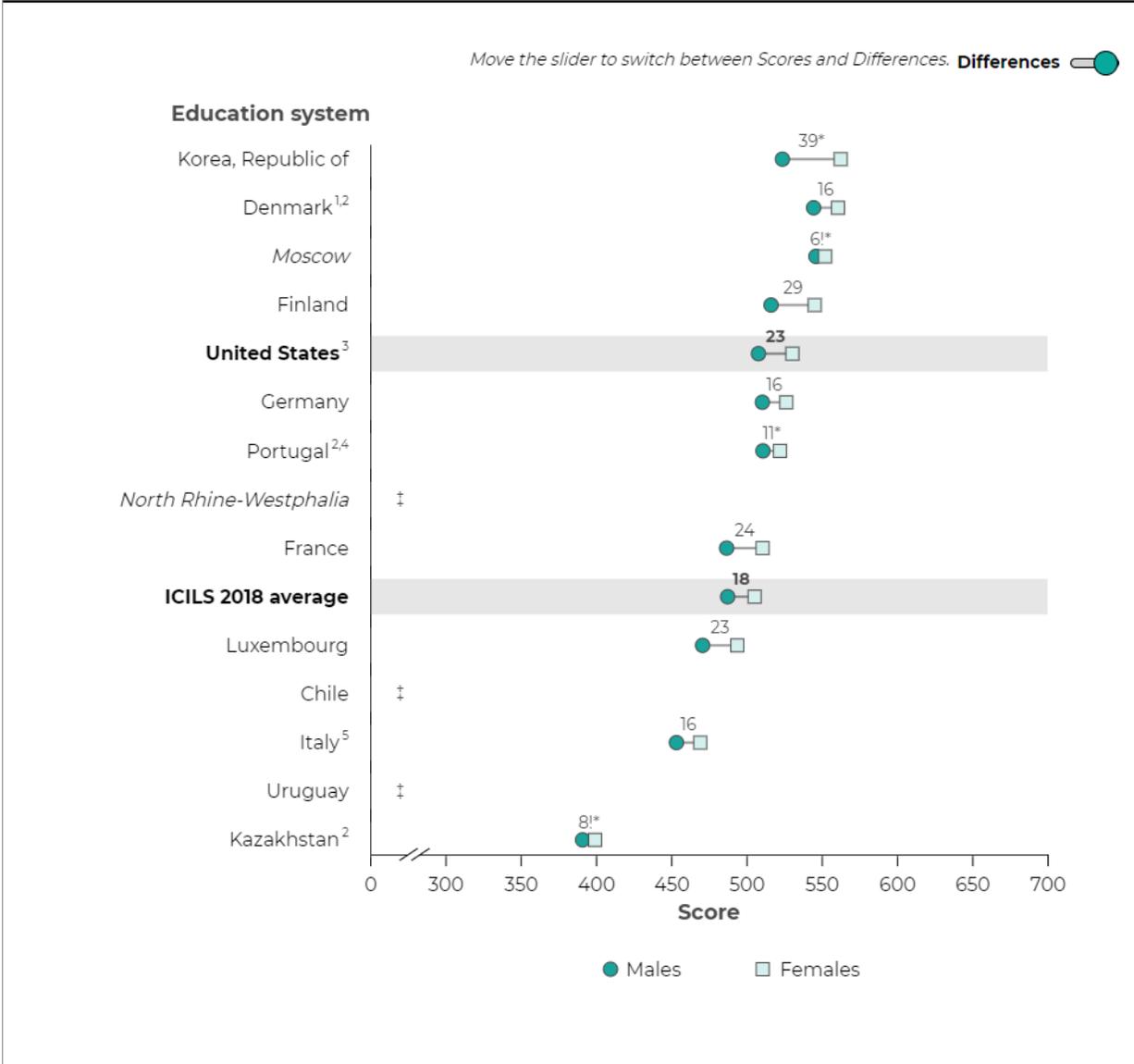
See figures on the following pages.

Figure 5. Average CIL scores of 8th-grade male and female students and differences in average CIL scores of males and females, by education system: 2018



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² National Defined Population covers 90 to 95 percent of National Target Population.
³ Did not meet the guidelines for a sample participation rate of 85 percent and not included in the international average.
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⁵ Data collected at the beginning of the school year.
 NOTE: CIL = Computer and information literacy. The ICILS CIL scale ranges from 100 to 700. The ICILS 2018 average is the average of all participating education systems meeting international technical standards, with each education system weighted equally. Education systems are ordered by their average scores of female students, from largest to smallest. Italics indicate the benchmarking participants.
 SOURCE: International Association for the Evaluation of Educational Achievement (IEA), The International Computer and Information Literacy Study (ICILS), 2018.

Figure 5. Average CIL scores of 8th-grade male and female students and differences in average CIL scores of males and females, by education system: 2018



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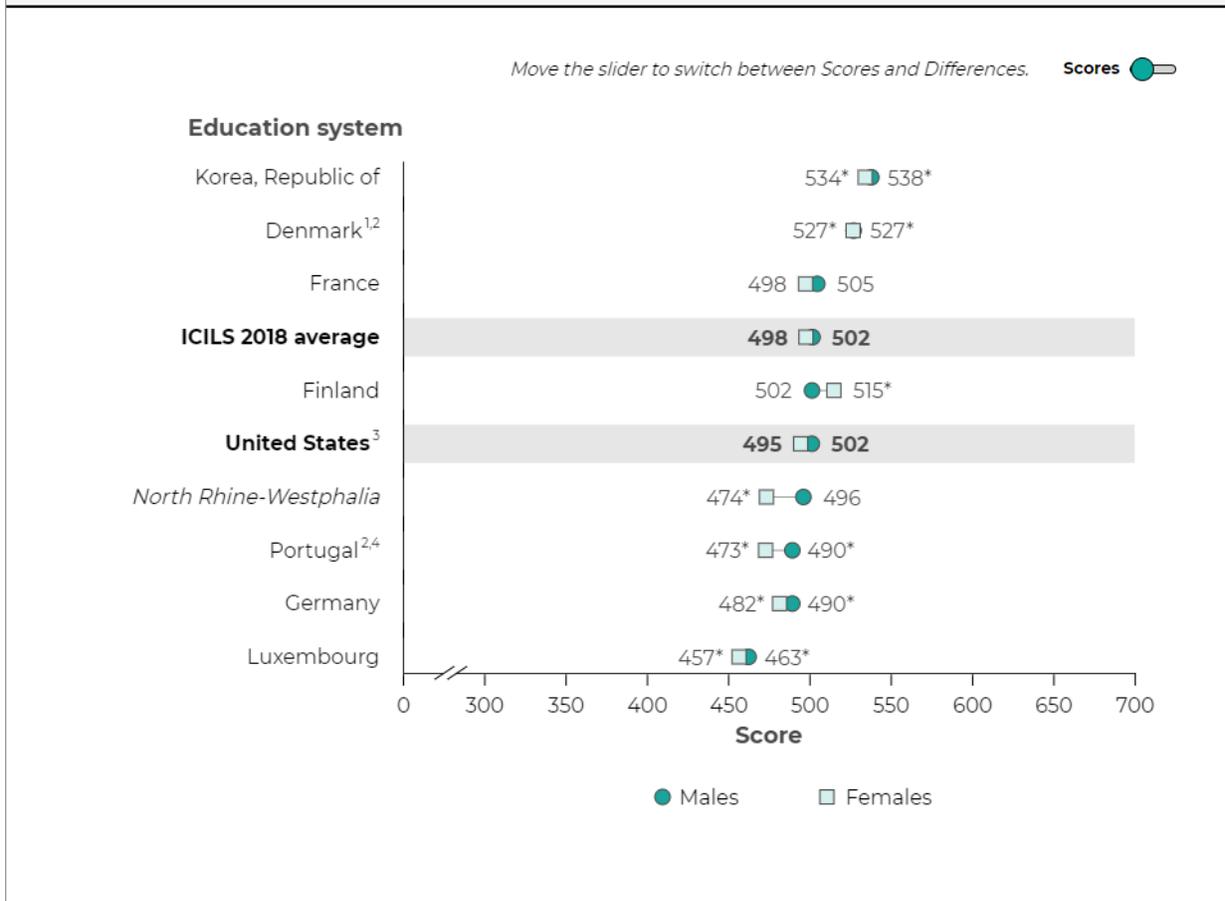
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COMPUTATIONAL THINKING

In the United States, male students on average scored higher in CT than female students. The male-female score gap in the United States was not significantly different from the ICILS 2018 average gender gap.

- In the United States, male students on average scored higher in CT than female students. Average CT scores of both male and female students in the United States were not significantly different from the ICILS 2018 averages for male and female students, respectively.
- Male students in the Republic of Korea and Denmark on average scored higher in CT than male students in the United States; female students in the Republic of Korea, Denmark, and Finland on average scored higher than female students in the United States.
- North Rhine-Westphalia and Portugal had larger male-female score gaps in CT than did the United States. In only one country, Finland, did female students outperform male students in CT.

Figure 6. Average CT scores of 8th-grade male and female students and differences in average CT scores of males and females, by education system: 2018



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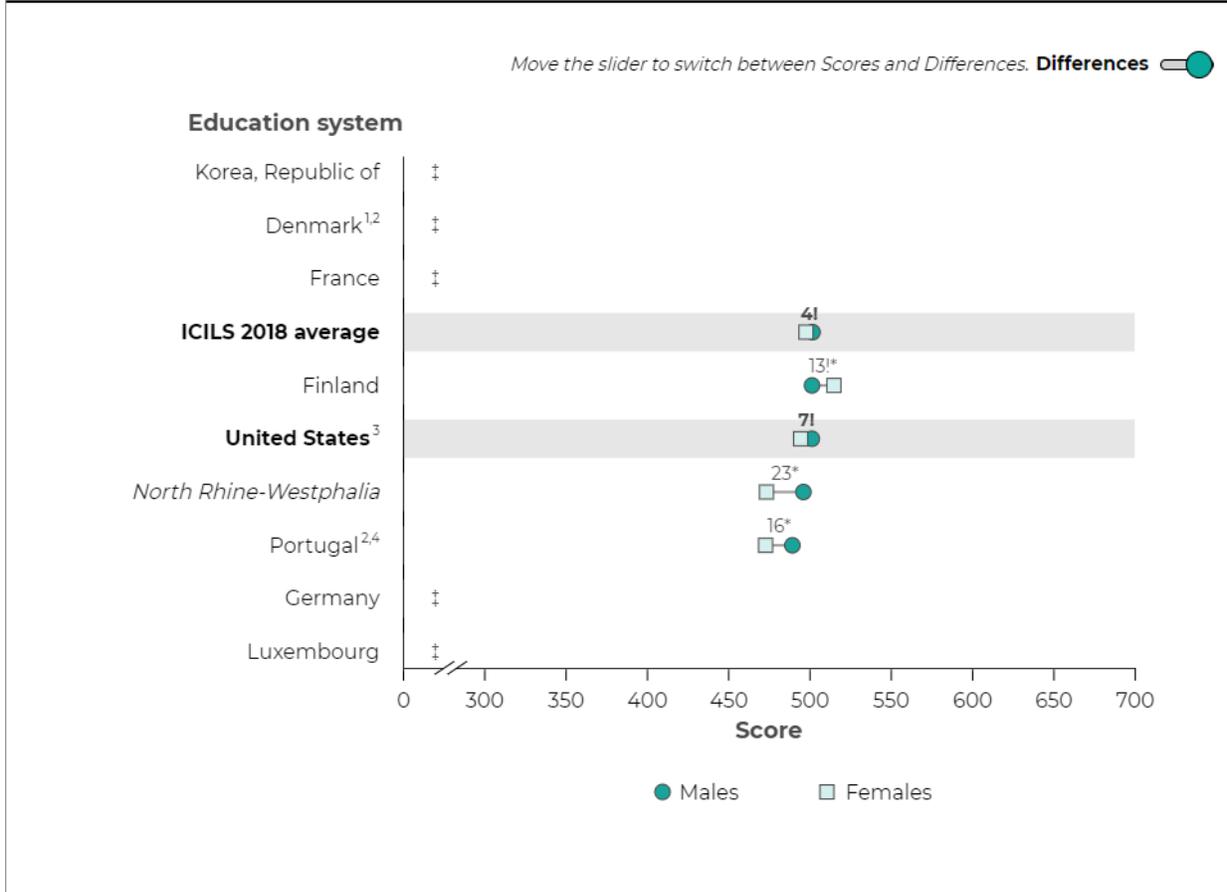
³ Did not meet the guidelines for a sample participation rate of 85 percent and not included in the international average.

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NOTE: CT = Computational thinking. The ICILS CT scale ranges from 100 to 700. The ICILS 2018 average is the average of all participating education systems meeting international technical standards, with each education system weighted equally. Education systems are ordered by their average scores of male students, from largest to smallest. Italics indicate the benchmarking participants.

SOURCE: International Association for the Evaluation of Educational Achievement (IEA), The International Computer and Information Literacy Study (ICILS), 2018.

Figure 6. Average CT scores of 8th-grade male and female students and differences in average CT scores of males and females, by education system: 2018



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SOURCE: International Association for the Evaluation of Educational Achievement (IEA), The International Computer and Information Literacy Study (ICILS), 2018.

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How does the number of computers at home relate to student performance in CIL and CT in participating education systems?

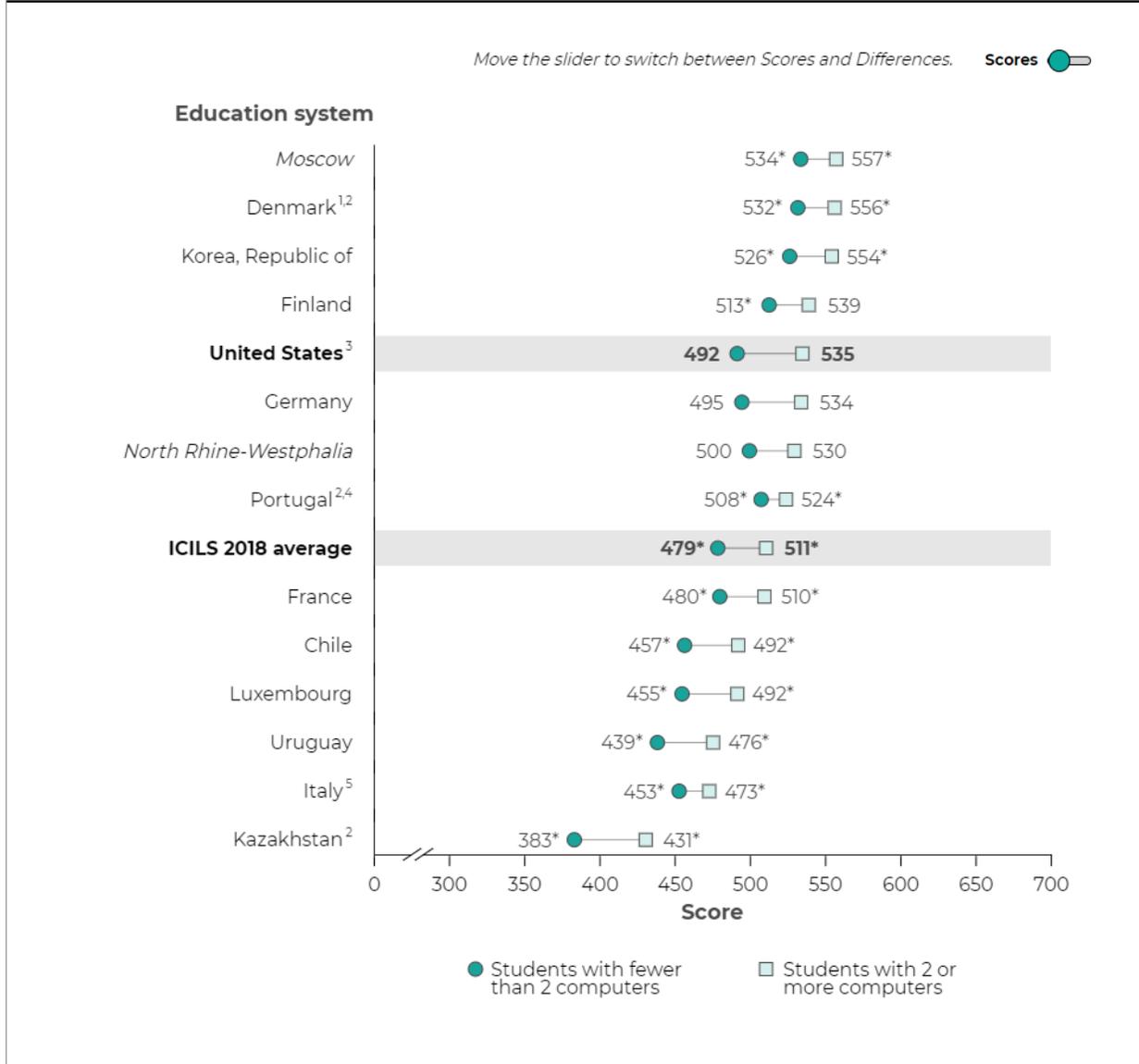
COMPUTER AND INFORMATION LITERACY

In the United States, students with 2 or more computers at home on average scored higher in CIL than students with fewer computers. The score gap between the two groups of students in the United States was higher than the ICILS 2018 average score gap between the two groups.

- In the United States, students with 2 or more computers at home on average scored higher in CIL than students with fewer computers. On average, both groups of U.S. students performed better in CIL than their respective international peers on average.
- For students with 2 or more computers at home, average scores in CIL were higher for students in Moscow, Denmark, and the Republic of Korea than in the United States.
- For students with fewer than 2 computers at home, average scores in CIL were higher for students in Moscow, Denmark, the Republic of Korea, Finland, and Portugal than in the United States.
- Figure 7 also shows the average CIL score gap between students with 2 or more computers at home and students with fewer computers at home. The United States had a larger score gap than the ICILS 2018 average score gap between the two groups. Eight out of 13 other participating education systems had smaller score gaps than the United States.

See figures on the following pages.

Figure 7. Average CIL scores of 8th-grade students and differences in average scores, by student-reported number of computers at home and education system: 2018



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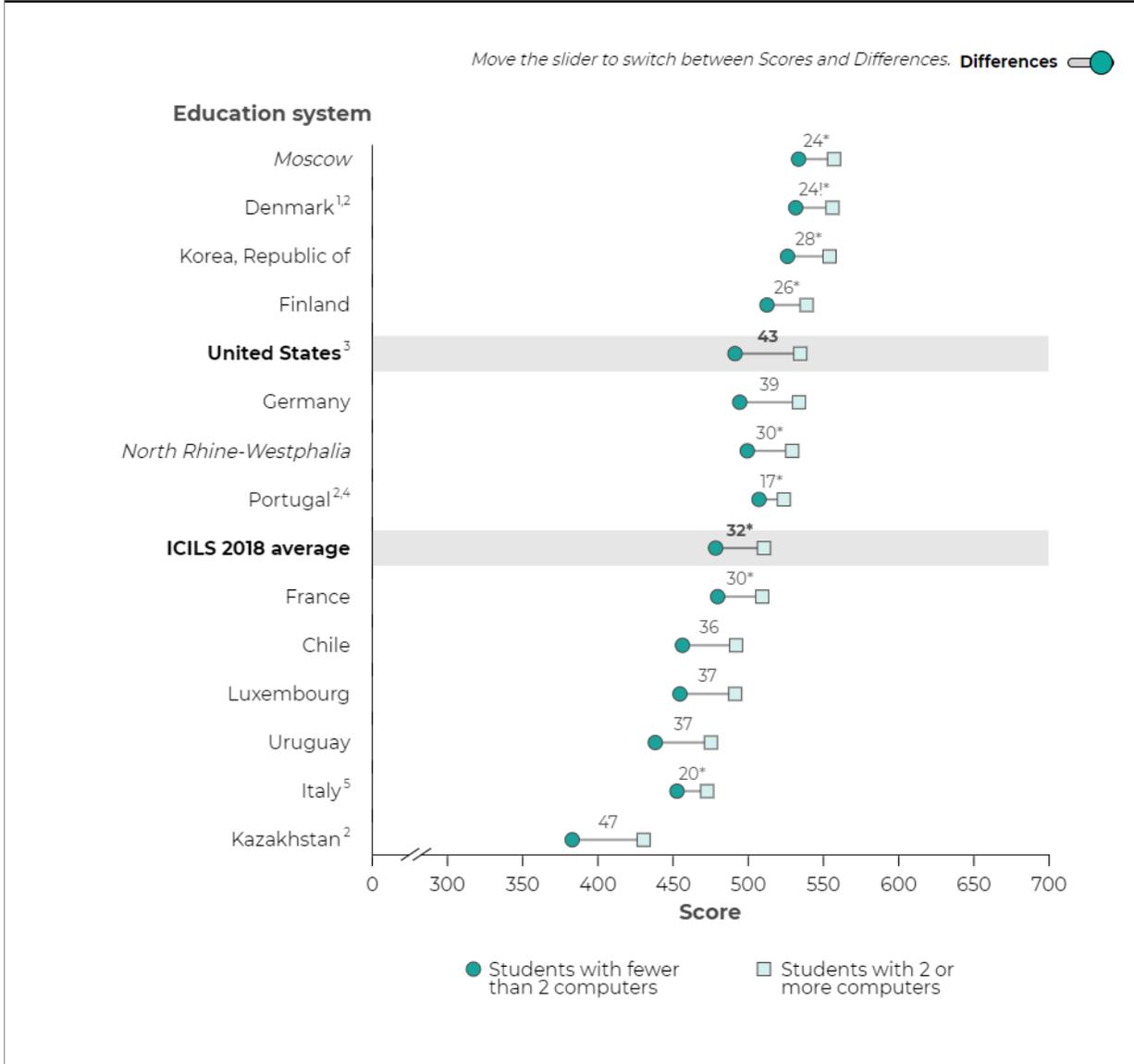
⁴ Nearly met guidelines for sample participation rates after replacement schools were included.

⁵ Data collected at the beginning of the school year.

NOTE: CIL = Computer and information literacy. The ICILS CIL scale ranges from 100 to 700. The number of computers at home includes desktop and laptop computers. Students with fewer than 2 computers include students reporting having "none" or "one" computer. Students with 2 or more computers include students reporting having "two" or "three or more" computers. The ICILS 2018 average is the average of all participating education systems meeting international technical standards, with each education system weighted equally. Education systems are ordered by their average scores of students with 2 or more computers at home, from largest to smallest. Italics indicate the benchmarking participants.

SOURCE: International Association for the Evaluation of Educational Achievement (IEA), The International Computer and Information Literacy Study (ICILS), 2018.

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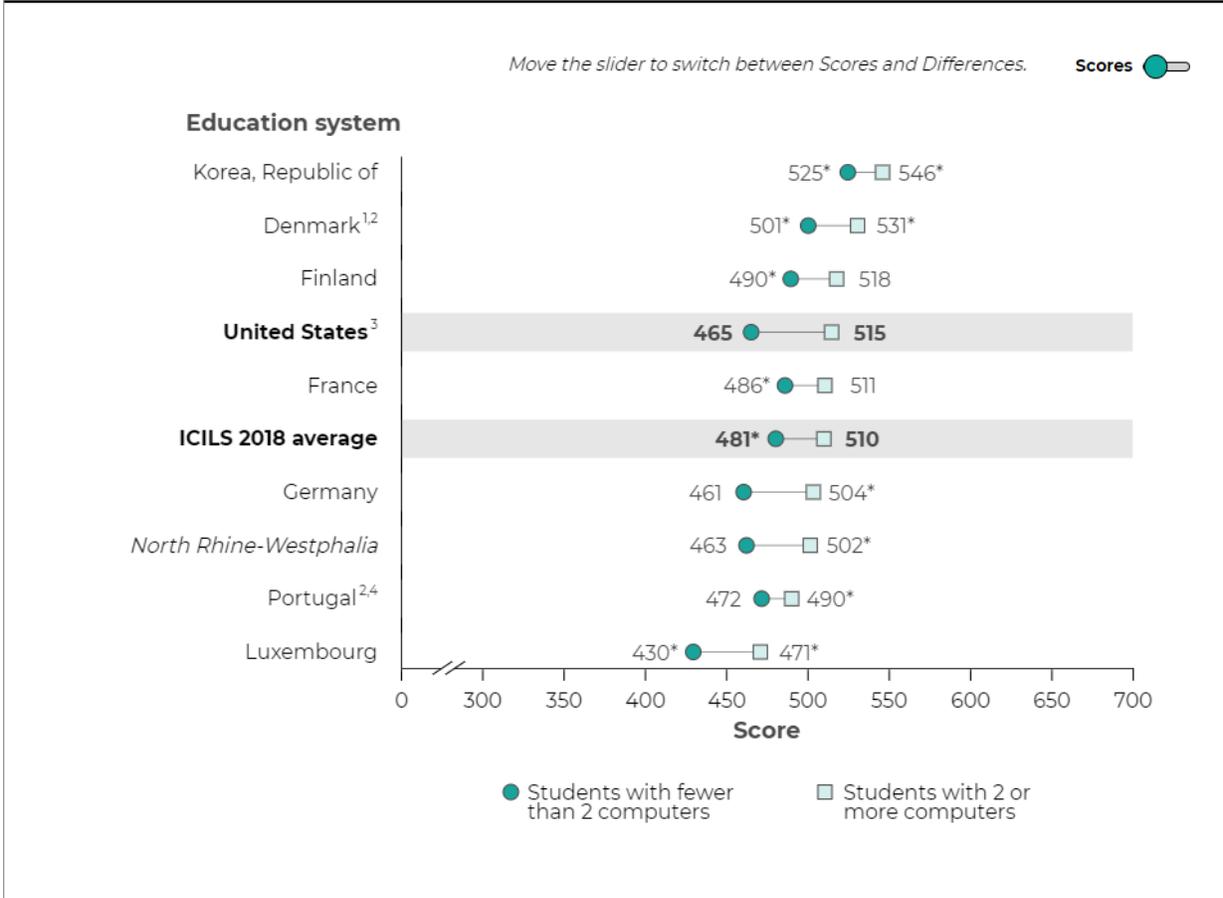
COMPUTATIONAL THINKING

In the United States, students with 2 or more computers at home on average scored higher in CT than students with fewer computers. The score gap between the two groups of students in the United States was higher than the ICILS 2018 average score gap between the two groups.

- In the United States, students with 2 or more computers at home on average scored higher in CT than students with fewer computers. The average score of U.S. students with fewer than 2 computers at home was lower than the ICILS 2018 average, while the average score of U.S. students with 2 or more computers at home was not significantly different from the ICILS 2018 average.
- For students with 2 or more computers at home, average scores in CT were higher for students in the Republic of Korea and Denmark than in the United States.
- For students with fewer than 2 computers at home, average scores in CT were higher for students in the Republic of Korea, Denmark, Finland, and France than in the United States.
- The United States had a larger score gap in CT between students with 2 or more computers at home and students with fewer computers at home than the ICILS 2018 average score gap between the two groups. Five out of eight other participating education systems had smaller score gaps than the United States, and no education system had a larger score gap.

See figures on the following pages.

Figure 8. Average CT scores of 8th-grade students and differences in average scores, by student-reported number of computers at home and education system: 2018



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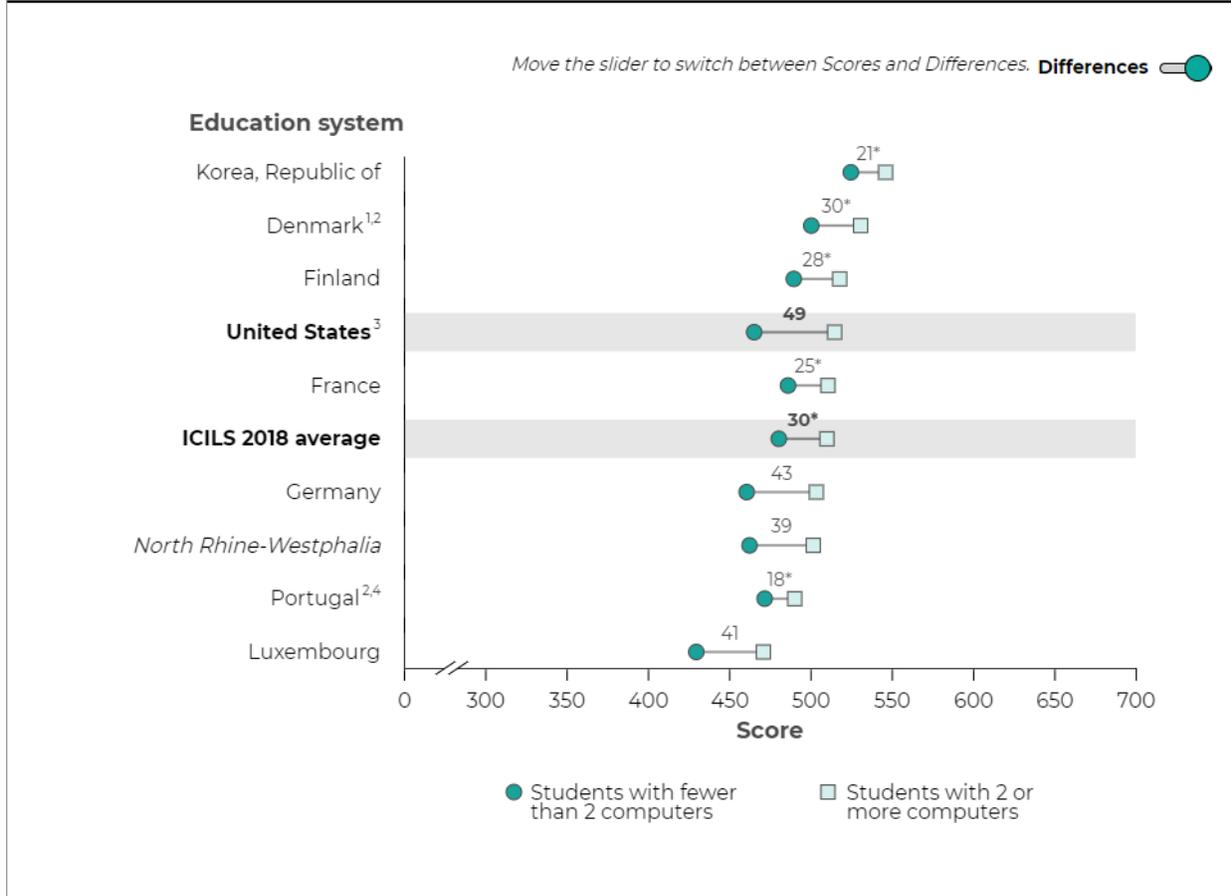
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U.S. Student Achievement by Demographics

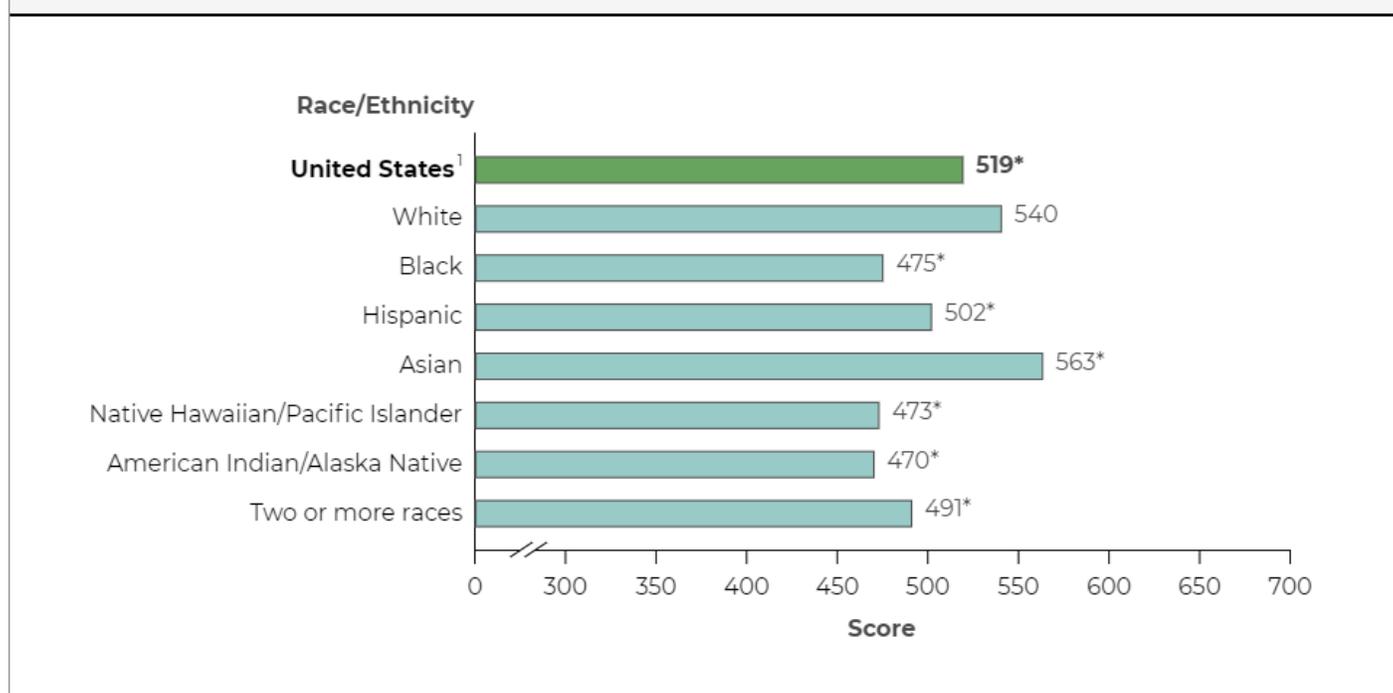
How does the performance of U.S. 8th-grade students in CIL and CT compare by race/ethnicity?

COMPUTER AND INFORMATION LITERACY

In the United States, White students had lower average scores in CIL than Asian students, but higher average scores than Black, Hispanic, Native Hawaiian/Pacific Islander, American Indian/Alaska Native, and students of Two or more races.

- In the United States, White students had an average score of 540 in CIL, higher than the U.S. average (519).
- Asian students had a higher average CIL score (563) than White students.
- Black, Hispanic, Native Hawaiian/Pacific Islander, American Indian/Alaska Native, and students of Two or more races had lower average CIL scores (475, 502, 473, 470, and 491, respectively) than White students.

Figure 9. Average CIL scores of U.S. 8th-grade students, by race/ethnicity: 2018



* $p < .05$. Significantly different from the White estimate at the .05 level of statistical significance.

¹ Did not meet the guidelines for a sample participation rate of 85 percent and not included in the international average.

NOTE: CIL = Computer and information literacy. The ICILS CIL scale ranges from 100 to 700. Black includes African American and Hispanic includes Latino. Racial categories exclude Hispanic origin.

SOURCE: International Association for the Evaluation of Educational Achievement (IEA), The International Computer and Information Literacy Study (ICILS), 2018.

For More Information

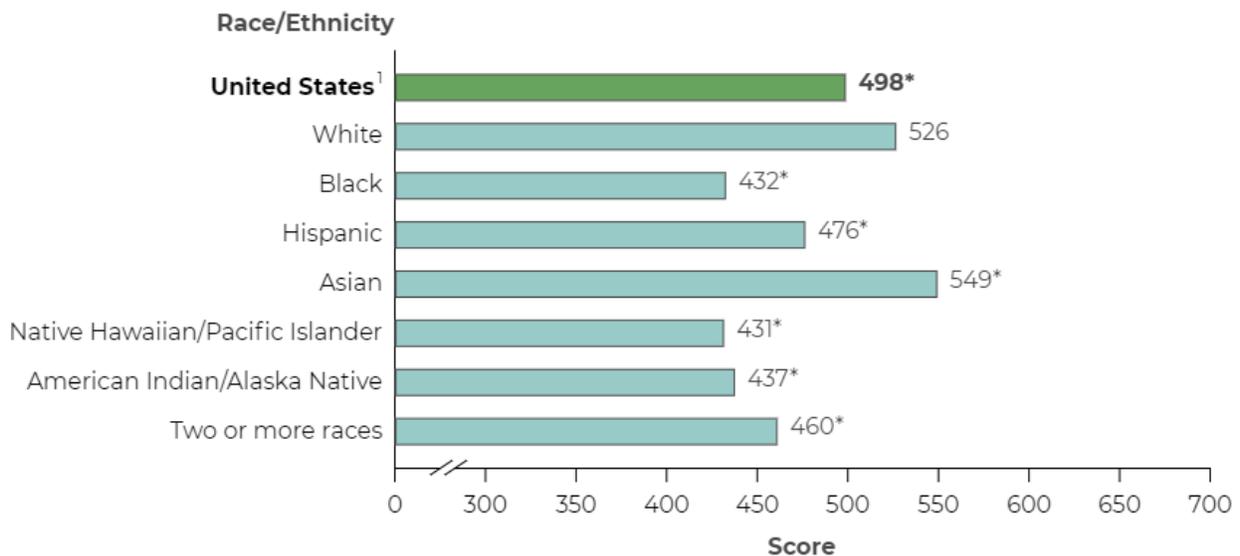
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COMPUTATIONAL THINKING

In the United States, White students had lower average CT scores than Asian students, but higher average CT scores than Black, Hispanic, Native Hawaiian/Pacific Islander, American Indian/Alaska Native, and students of Two or more races

- In the United States, White students had an average score of 526 in CT, higher than the U.S. average (498).
- Asian students had a higher average CT score (549) than White students.
- Black, Hispanic, Native Hawaiian/Pacific Islander, American Indian/Alaska Native, and students of Two or more races had lower average CT scores (432, 476, 431, 437, and 460, respectively) than White students.

Figure 10. Average CT scores of U.S. 8th-grade students, by race/ethnicity: 2018



* $p < .05$. Significantly different from the White estimate at the .05 level of statistical significance.

¹ Did not meet the guidelines for a sample participation rate of 85 percent and not included in the international average.

NOTE: CT = Computational thinking. The ICILS CT scale ranges from 100 to 700. Black includes African American and Hispanic includes Latino. Racial categories exclude Hispanic origin.

SOURCE: International Association for the Evaluation of Educational Achievement (IEA), The International Computer and Information Literacy Study (ICILS), 2018.

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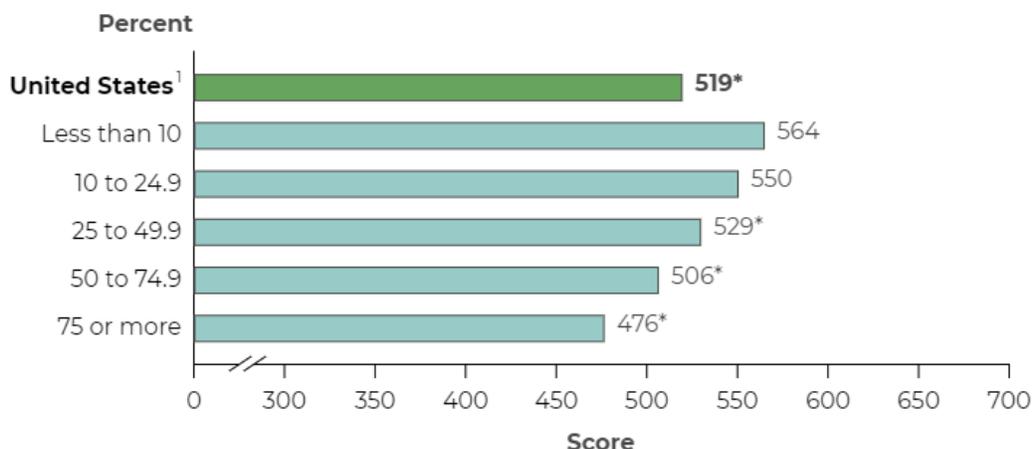
How does the performance of U.S. 8th-grade students in CIL and CT compare by the percentage of students in public school eligible for free or reduced-price lunch?

COMPUTER AND INFORMATION LITERACY

The average CIL score of U.S. students in public schools with less than 10 percent of students eligible for free or reduced-price lunch (FRPL) was higher than that of students in schools with at least 25 percent of students eligible but not significantly different from that of students in schools with 10 to less than 25 percent of students eligible.

- In the United States, students in public schools with less than 10 percent of students eligible for FRPL had an average score of 564 in CIL, higher than the U.S. average (519).
- There was no significant difference in average CIL scores between students in public schools with less than 10 percent of students eligible for FRPL and students in public schools with 10 to less than 25 percent of students eligible.
- Students in public schools with 25 percent or more of students eligible for FRPL had lower average CIL scores than students in public schools with less than 10 percent of students eligible: 529 in schools with 25 to less than 50 percent of students eligible, 506 in schools with 50 to less than 75 percent of students eligible, and 476 in schools with 75 percent or more of students eligible.

Figure 11. Average CIL scores of U.S. 8th-grade students, by percentage of students in public school eligible for free or reduced-price lunch: 2018



* $p < .05$. Significantly different from the estimate for schools with less than 10% of students eligible for free or reduced-priced lunch at the .05 level of statistical significance.

¹ Did not meet the guidelines for a sample participation rate of 85 percent and not included in the international average.

NOTE: CIL = Computer and information literacy. The ICILS CIL scale ranges from 100 to 700. Data on free or reduced-price lunch are for public schools only. SOURCE: International Association for the Evaluation of Educational Achievement (IEA), The International Computer and Information Literacy Study (ICILS), 2018.

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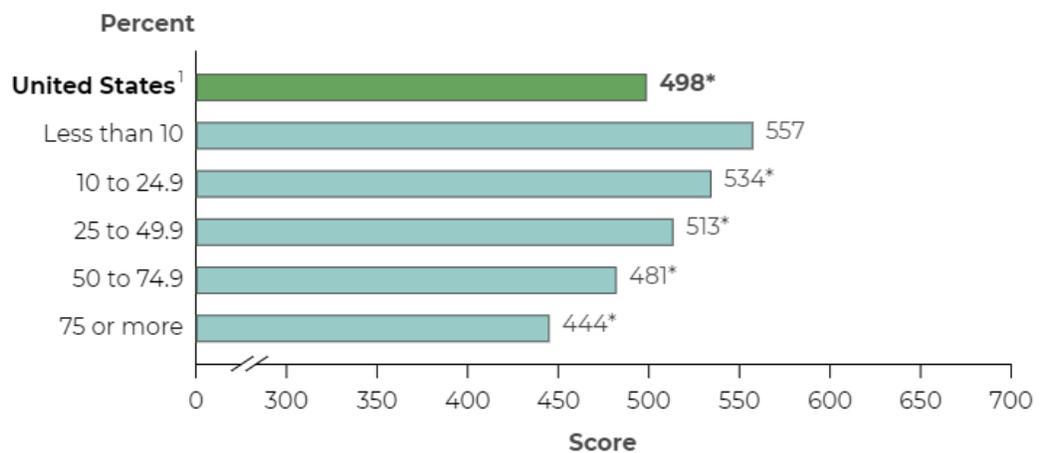
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COMPUTATIONAL THINKING

U.S. students in public schools with less than 10 percent of students eligible for free or reduced-price lunch (FRPL) had a higher average CT score than students in schools with higher percentages of students eligible for FRPL.

- In the United States, students in public schools with less than 10 percent of students eligible for FRPL had an average score of 557 in CT, higher than the U.S. average (498).
- Students in public schools with 10 percent or more of students eligible for FRPL had lower average CT scores than students in public schools with less than 10 percent of students eligible: 534 in schools with 10 to less than 25 percent of students eligible, 513 in schools with 25 to less than 50 percent of students eligible, 481 in schools with 50 to less than 75 percent of students eligible, and 444 in schools with 75 or more percent of students eligible.

Figure 12. Average CT scores of U.S. 8th-grade students, by percentage of students in public school eligible for free or reduced-price lunch: 2018



* $p < .05$. Significantly different from the estimate for schools with less than 10% of students eligible for free or reduced-priced lunch at the .05 level of statistical significance.

¹ Did not meet the guidelines for a sample participation rate of 85 percent and not included in the international average.

NOTE: CT = Computational thinking. The ICILS CT scale ranges from 100 to 700. Data on free or reduced-price lunch are for public schools only.

SOURCE: International Association for the Evaluation of Educational Achievement (IEA), The International Computer and Information Literacy Study (ICILS), 2018.

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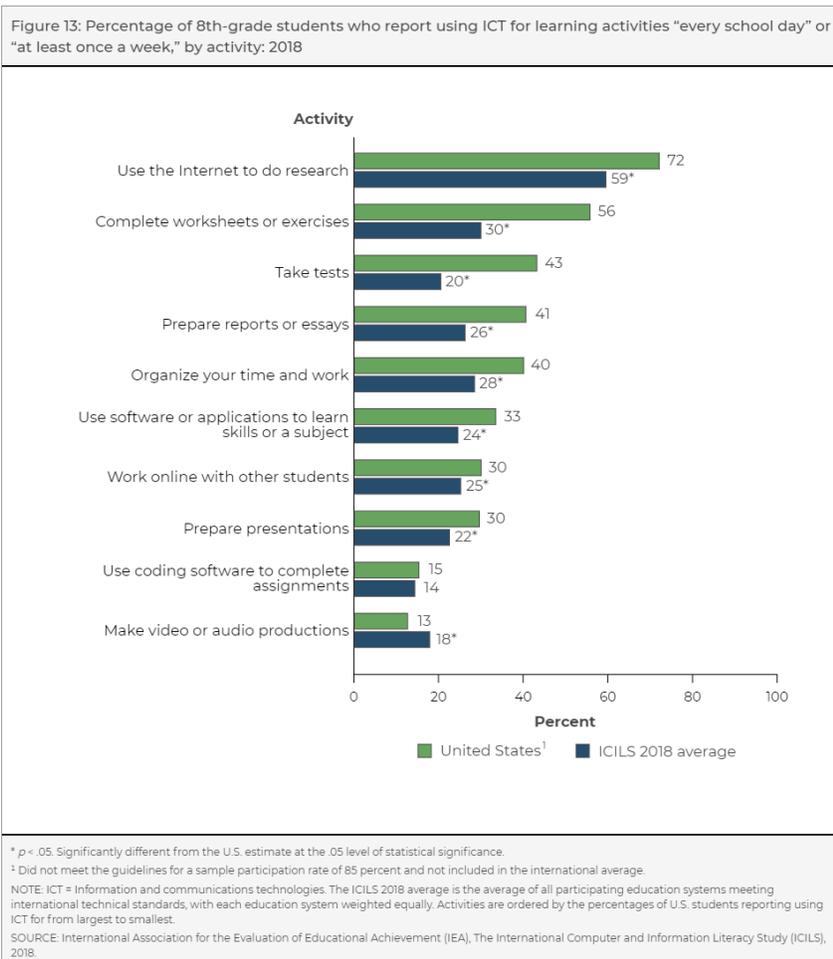
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Student Computer Use

How often do U.S. 8th-grade students use ICT for learning activities?

Seventy-two percent of 8th-grade students in the United States reported using the Internet to do research using ICT every school day or at least once a week. The learning activities reported least frequently by students were using coding software to complete assignments and making video or audio productions.

- Seventy-two percent of 8th-grade students in the United States reported using the Internet to do research and 56 percent reported completing worksheets or exercises using ICT every school day or at least once a week.
- Using coding software to complete assignments (15 percent) and making video or audio productions (13 percent) every school day or at least once a week were reported the least frequently by 8th-grade students in the United States.
- Higher percentages of 8th-grade students in the United States reported using ICT for a variety of learning activities every school day or at least once a week than the ICILS 2018 average, except for the two least frequently reported ICT activities: using coding software to complete assignments and making video or audio productions.



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Who teachers U.S. 8th-grade students how to do ICT activities?

Sixty-seven percent of U.S. 8th-grade students reported learning how to create or edit digital presentations from their teachers and 65 percent reported teaching themselves how to find information on the Internet. Compared with the ICILS 2018 averages, lower percentages of U.S. 8th-grade students reported learning how to do five out of six ICT activities from their family.

- Compared with the ICILS 2018 averages, lower percentages of U.S. 8th-grade students reported learning how to do five out of six ICT activities from their family, including creating or editing digital documents or presentations, changing settings on an ICT device, finding information on the Internet, and using programs and files in a computer network.
- Sixty-seven percent of U.S. 8th-grade students reported learning how to create or edit digital presentations from their teachers, which was higher than the ICILS 2018 average.
- Sixty-five percent of U.S. 8th-grade students reported teaching themselves how to find information on the Internet, which was lower than the ICILS 2018 average.
- Fifty-five percent of U.S. 8th-grade students reported teaching themselves to communicate over the Internet, which was not significantly different from the ICILS 2018 average.

Figure 14. Percentage of 8th-grade students reporting who taught them how to do ICT activities, by activity: 2018

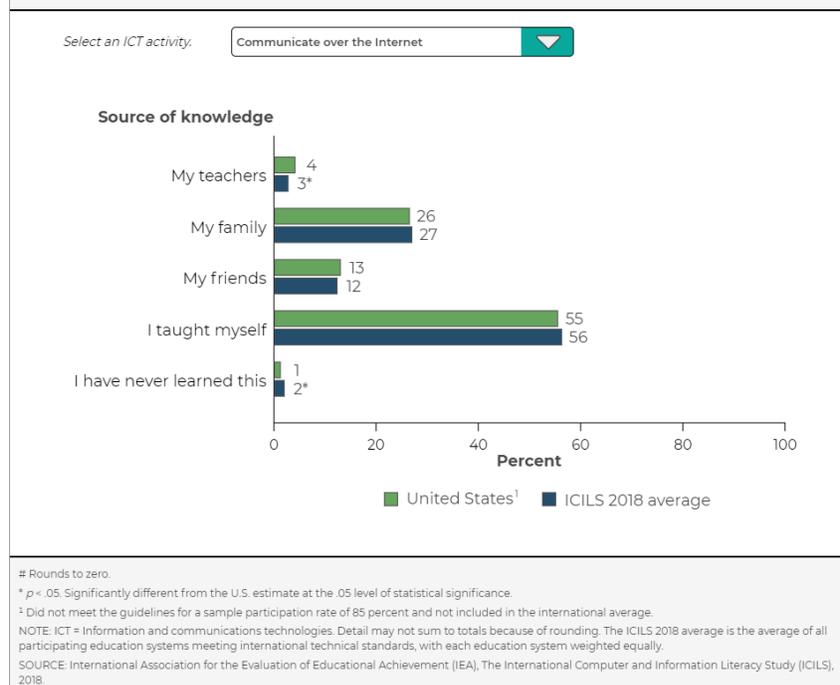


Figure 14. Percentage of 8th-grade students reporting who taught them how to do ICT activities, by activity: 2018

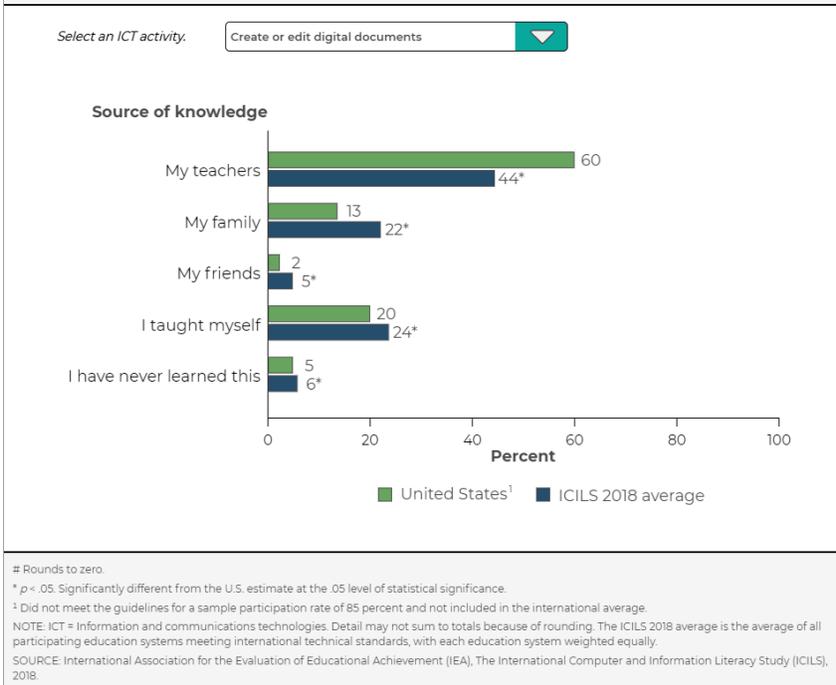


Figure 14. Percentage of 8th-grade students reporting who taught them how to do ICT activities, by activity: 2018

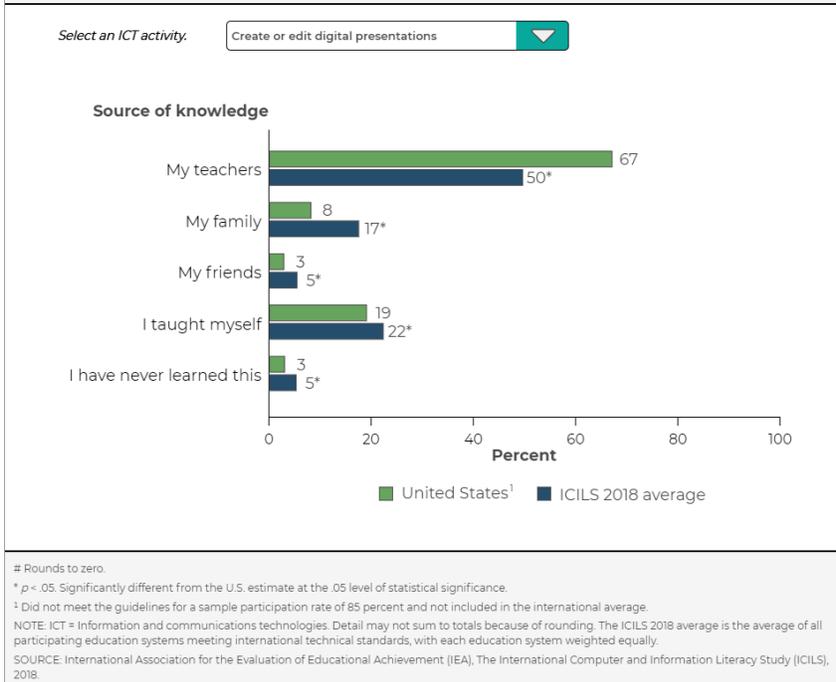


Figure 14. Percentage of 8th-grade students reporting who taught them how to do ICT activities, by activity: 2018

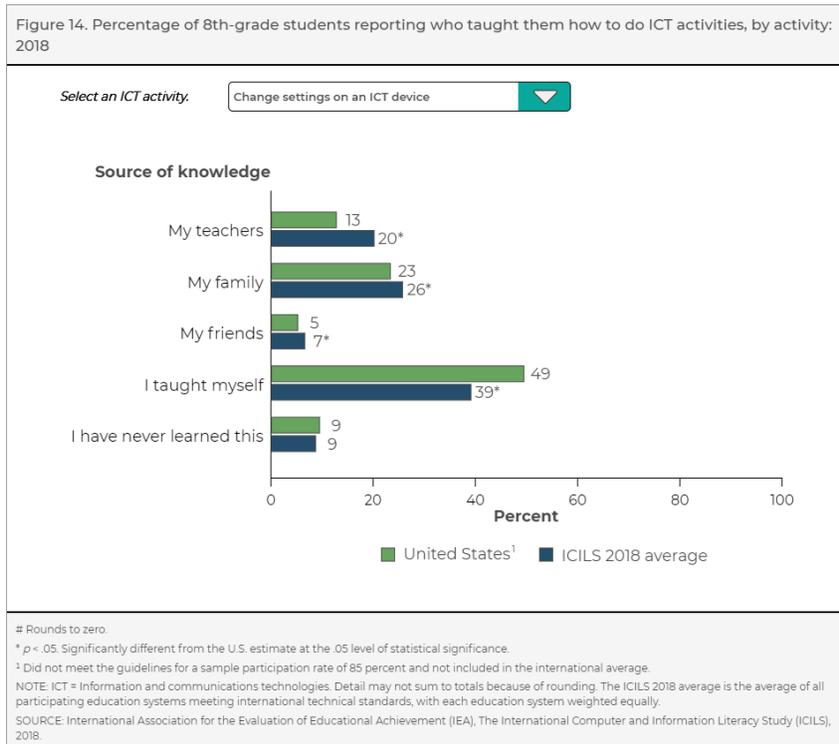
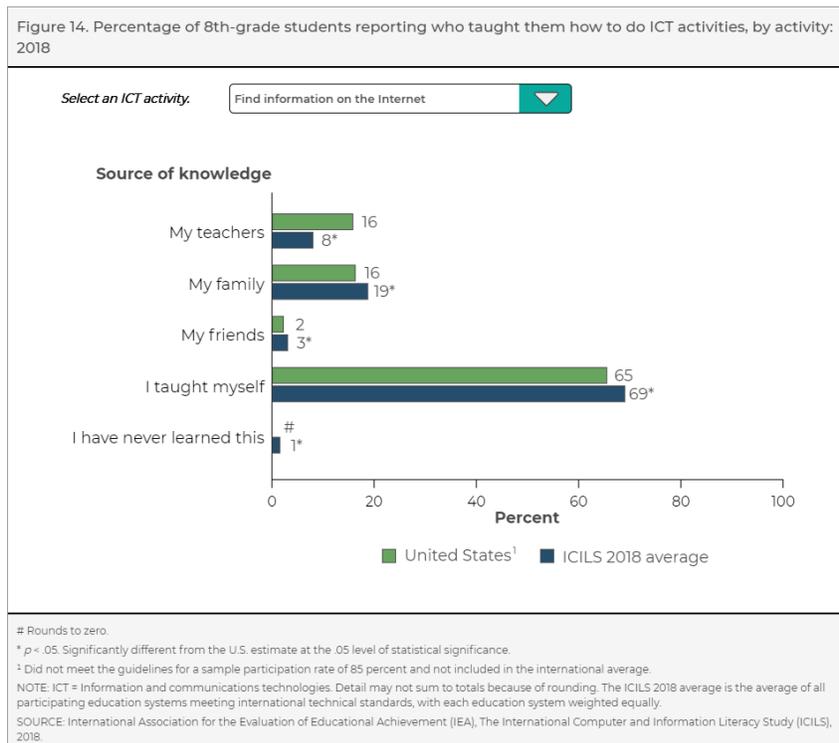
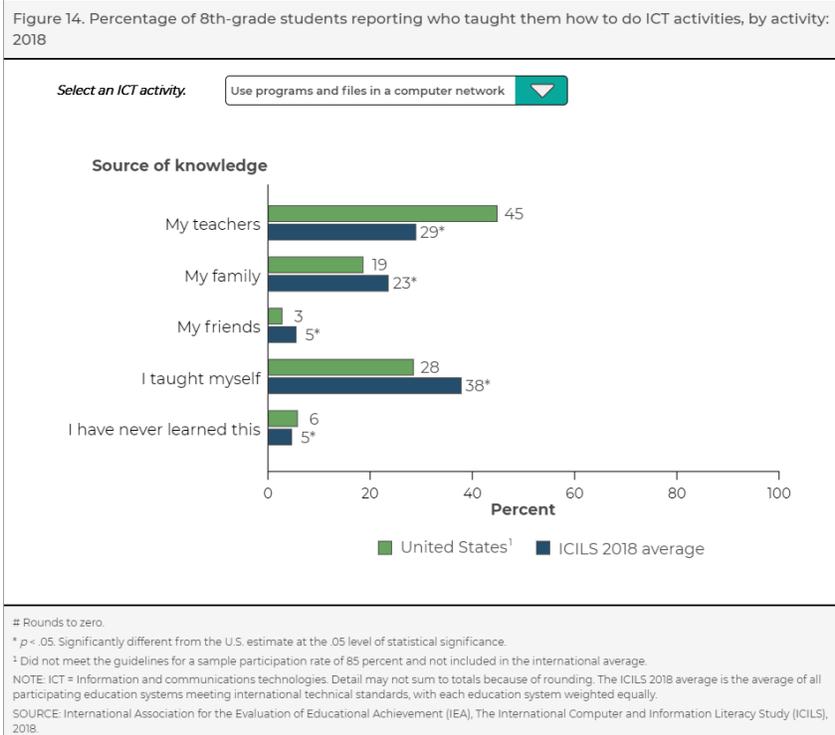


Figure 14. Percentage of 8th-grade students reporting who taught them how to do ICT activities, by activity: 2018





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Teacher Computer Use

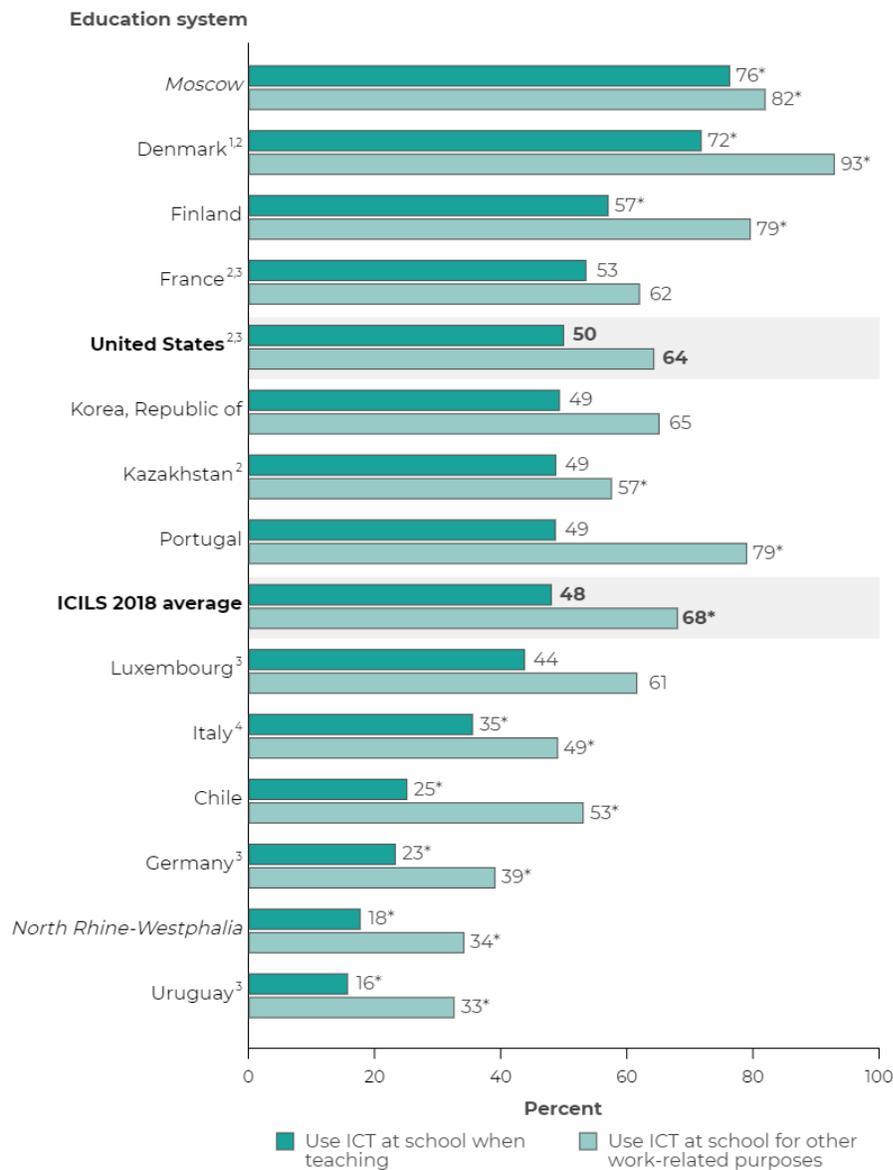
How often do 8th-grade teachers use ICT at school?

Fifty percent of U.S. 8th-grade teachers reported using ICT when teaching and about 64 percent reported using ICT for other work-related purposes every day at school.

- Fifty percent of U.S. 8th-grade teachers reported using ICT when teaching every day at school, which was not significantly different from the ICILS 2018 average (48 percent). About 64 percent of U.S. 8th-grade teachers reported using ICT for other work-related purposes every day at school, which was lower than the ICILS 2018 average (68 percent).
- Higher percentages of 8th-grade teachers in Moscow (76 percent), Denmark (72 percent), and Finland (57 percent) reporting using ICT when teaching every day at school than U.S. teachers.
- Higher percentages of 8th-grade teachers in Denmark (93 percent), Moscow (82 percent), Finland (79 percent), and Portugal (79 percent) reporting using ICT for other work-related purposes every day at school than U.S. teachers.

See figure on the next page.

Figure 15. Percentage of 8th-grade teachers who report using ICT at school every day when teaching and for other work-related purposes, by education system: 2018



* $p < .05$. Significantly different from the U.S. estimate at the .05 level of statistical significance.

¹ Met guidelines for sample participation rates only after replacement schools were included.

² National Defined Population covers 90 to 95 percent of National Target Population.

³ Did not meet the guidelines for a sample participation rate of 85 percent and not included in the international average.

⁴ Data collected at the beginning of the school year.

NOTE: ICT = Information and communications technologies. The ICILS 2018 average is the average of all participating education systems meeting international technical standards, with each education system weighted equally. Education systems are ordered by their percentages of teachers reporting using ICT at school when teaching from largest to smallest. Italics indicate the benchmarking participants.

SOURCE: International Association for the Evaluation of Educational Achievement (IEA), The International Computer and Information Literacy Study (ICILS), 2018.

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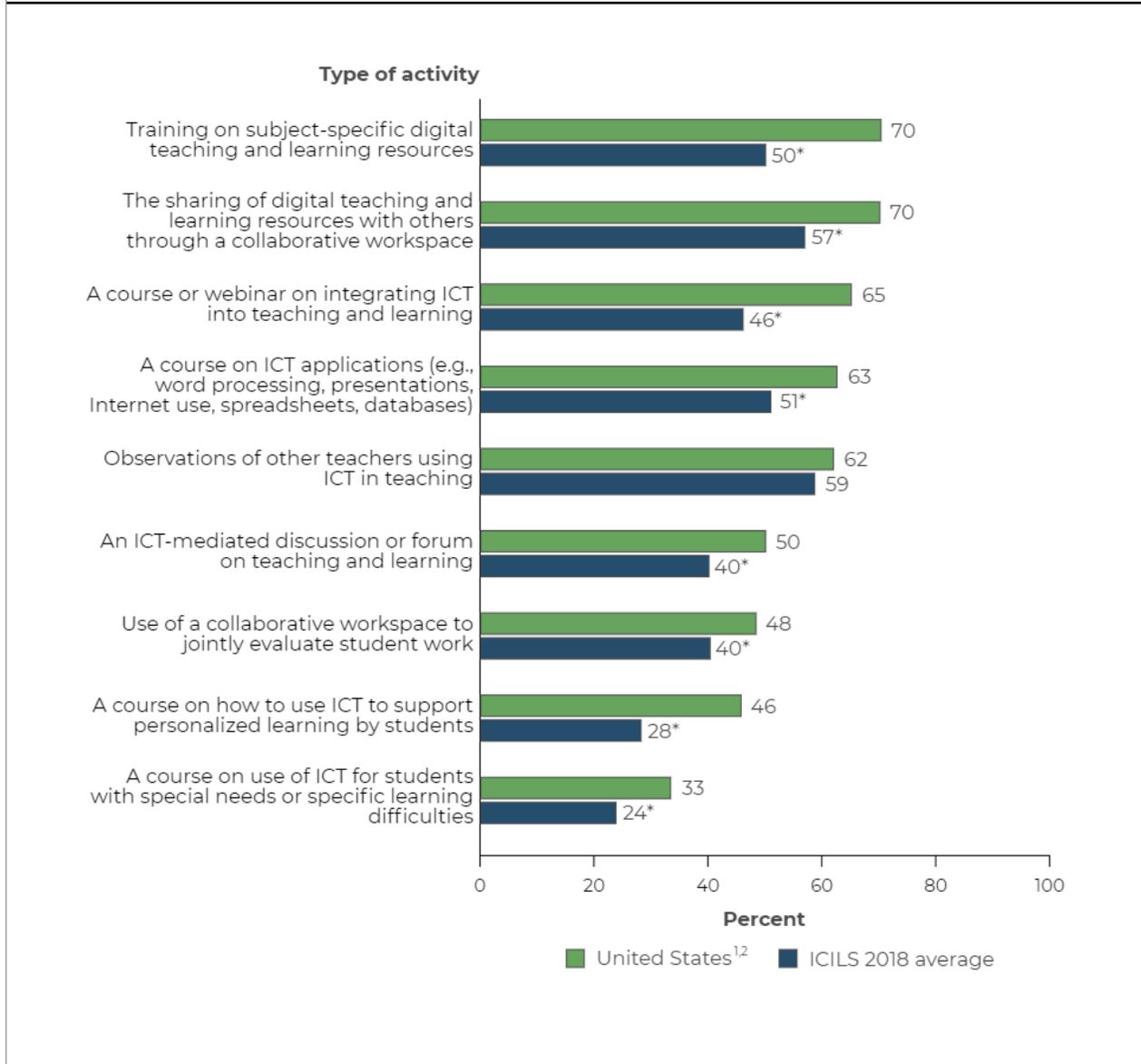
What types of professional learning activities do U.S. 8th-grade teachers participate in?

Receiving training on subject-specific digital teaching and learning resources and the sharing of digital teaching and learning resources were the two learning activities reported most frequently by U.S. teachers. Taking a course on the use of ICT for students with special needs or specific learning difficulties was the learning activity reported least frequently by U.S. teachers.

- Compared with the ICILS 2018 averages, higher percentages of U.S. 8th-grade teachers reported participating at least once in eight out of nine professional learning activities. The exception was observations of other teachers using ICT in teaching.
- Seventy percent of U.S. 8th-grade teachers reported participating at least once in training on subject-specific digital teaching and learning resources and on the sharing of digital teaching and learning resources with others through a collaborative workspace.
- Forty-six percent of U.S. 8th-grade teachers took a course on how to use ICT to support personalized learning.
- The professional learning activity that 8th-grade teachers in the United States reported participating in least frequently was a course on the use of ICT for students with special needs or specific learning difficulties (33 percent).

See figure on the next page.

Figure 16. Percentage of 8th-grade teachers who report participating in professional learning activities at least once, by type of activity: 2018



* $p < .05$. Significantly different from the U.S. estimate at the .05 level of statistical significance.

¹ Did not meet the guidelines for a sample participation rate of 85 percent and not included in the international average.

² National Defined Population covers 90 to 95 percent of National Target Population.

NOTE: ICT = Information and communications technologies. Percentage of teachers reporting participating in professional learning activities includes those who participated "once only" or "more than one" in the past two years. The ICILS 2018 average is the average of all participating education systems meeting international technical standards, with each education system weighted equally. Professional learning activities are ordered by the percentages of U.S. teachers reporting participation in them, from largest to smallest.

SOURCE: International Association for the Evaluation of Educational Achievement (IEA), The International Computer and Information Literacy Study (ICILS), 2018.

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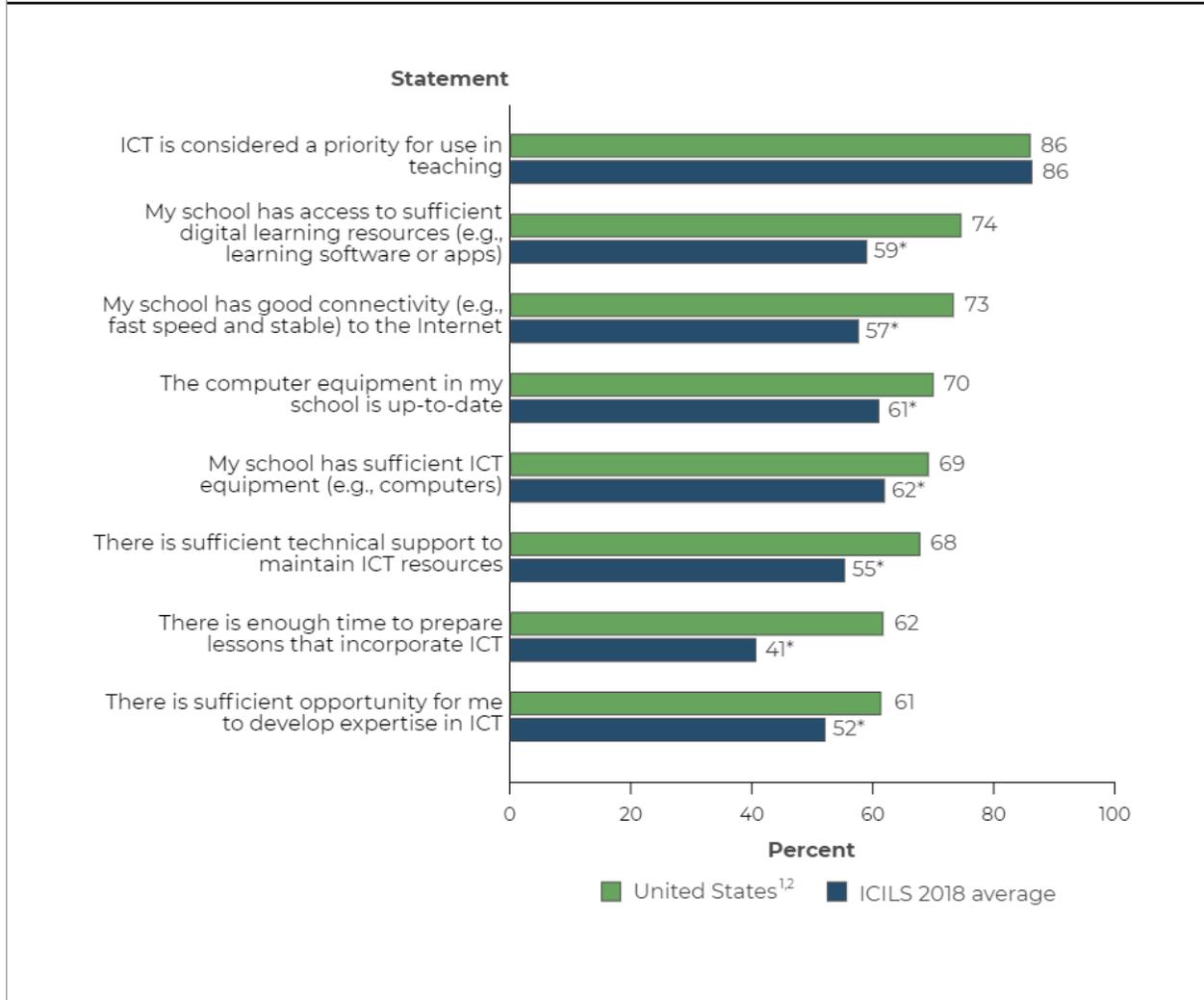
What are U.S. 8th-grade teachers' perceptions of using ICT in teaching at their school?

Eighty-six percent of U.S. 8th-grade teachers strongly agreed or agreed that ICT was considered a priority for use in teaching at their schools. About three-quarters of U.S. teachers strongly agreed or agreed that their schools had access to sufficient digital learning resources and had good connectivity to the Internet.

- Eighty-six percent of U.S. 8th-grade teachers strongly agreed or agreed that ICT was considered a priority for use in teaching at their schools, which was not significantly different from the ICILS 2018 average.
- While about three-quarters of U.S. 8th-grade teachers strongly agreed or agreed that their schools had access to sufficient digital learning resources (74 percent) and had good connectivity to the Internet (73 percent), smaller percentages strongly agreed or agreed that there was enough time to prepare lessons that incorporate ICT (62 percent) or sufficient opportunity for them to develop expertise in ICT (61 percent).
- Compared with the ICILS 2018 averages, higher percentages of U.S. 8th-grade teachers strongly agreed or agreed about seven of the eight different statements about using ICT in teaching at their schools, including sufficiency of digital learning resources, ICT equipment, technical support, time to prepare lessons and professional development, as well as the quality of the Internet connection and computer equipment.

See figure on the next page.

Figure 17. Percentage of 8th-grade teachers who reported that they “strongly agree” or “agree” about using ICT in teaching at school, by statement: 2018



* $p < .05$. Significantly different from the U.S. estimate at the .05 level of statistical significance.

¹ Did not meet the guidelines for a sample participation rate of 85 percent and not included in the international average.

² National Defined Population covers 90 to 95 percent of National Target Population.

NOTE: ICT = Information and communications technologies. The ICILS 2018 average is the average of all participating education systems meeting international technical standards, with each education system weighted equally. Statements are ordered by the percentages of U.S. teachers reporting “strongly agree” or “agree” from largest to smallest.

SOURCE: International Association for the Evaluation of Educational Achievement (IEA), The International Computer and Information Literacy Study (ICILS), 2018.

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