

What Students Need to Thrive in a Data- and AI-Driven World: Perspectives from Parents and Educators

By Grady Deacon, Kara Conroy, and Hannah Weissman

AI's influence on our society is seemingly growing every day. It's changing how we learn, work, and problem solve at a rapid pace. There's a lot we don't know about it and its capabilities. It's also increasingly difficult for the general public and policymakers to discern just *how* and *where* AI tools will matter against the backdrop of technology companies advertising its ever-greater promise.

The good news is, we have an opportunity to step back and think about what we *can* control and durably rely on in the school curriculum as AI is further integrated into every aspect of our lives. We have the ability to help schools prioritize critical thinking, academic foundations, and data literacy skills to set kids up for success in this brave new world. AI is fueled by data—and the quality, output, and usefulness of any AI tool is entirely determined by the data you feed it. That reality is never changing. We want students to discern, responsibly deploy, and build on top of AI tools when appropriate—not just consume them, uninformed of what's driving these tools underneath.

We have heard parents and teachers ask for this approach anecdotally across the field—and now we have the data to back it up. Mathematica and Data Science 4 Everyone created this survey to hear from those who are closest to the next generations: parents and educators. The findings are clear: the majority of the more than 1,300 parents, teachers, school leaders, and state and local education officials surveyed believe data education is increasingly important for students to master in this AI-driven world. The majority also told us that they think all students should be data literate before graduating high school, and that data literacy should be integrated across multiple subjects in K-12 education.

This survey shows us that parents and educators recognize the need to collectively work to create more opportunities for all students to build the durable skills required to navigate this data-driven world with confidence. Now it's up to all of us to make that happen.

— Zarek Drozda, Executive Director of Data Science 4 Everyone

“Data literacy is one of the most crucial skillsets we can teach our kids. If they're able to analyze data and think critically, they can make informed decisions and effectively problem-solve.”

— Emily Oster, Founder and CEO of [ParentData](#), and New York Times best-selling author

Artificial intelligence (AI) and data-driven technologies are becoming integral to students’ educational experiences and everyday lives (Schwartz & Diliberti, 2025; Sidoti et al., 2025). As schools consider how to prepare students for a rapidly changing technological landscape, educators, parents, and policymakers are striving to identify what knowledge and skills students need to navigate a world shaped by data and AI. Regarding students’ professional futures, labor-market analyses signal that data-related competencies are becoming increasingly valuable across occupations and industries (Salerno & Steemers, 2024).

In the meantime, students are not waiting. They are already engaging with AI tools for schoolwork, often in ways evolving faster than school policies and instructional practices can keep up (NCES, 2024a; Schwartz & Diliberti, 2025; Sidoti et al., 2025). As students use AI more and more, schools have to grapple with how to help them evaluate information, reason with data, and use emerging technologies responsibly.

To better understand what parents and educators think about these issues, Mathematica and Data Science 4 Everyone surveyed parents, teachers, school administrators, and state and local education agency staff between February and March 2026.

Findings at a glance

Among those parents and educators surveyed...

88%
agree that **all students**
should be data literate before
graduating high school.

76%
agree that **AI has made data**
education more important
than ever.

But **only 58%** agree that
schools provide sufficient
opportunities to develop
data skills.

Who took this survey

The sample includes 1,333 respondents, of which:

74% 
are parents of at
least one current
pre-K–12 student

40% 
are pre-K–12
teachers

3% 
are school
administrators

3% 
are staff of state
or local education
agencies

Some respondents fall into multiple respondent categories (for example, they are a parent and a K–12 teacher). Approximately 95 percent of the people in the sample live in one of the following three states:

47% 
Tennessee

24% 
Louisiana

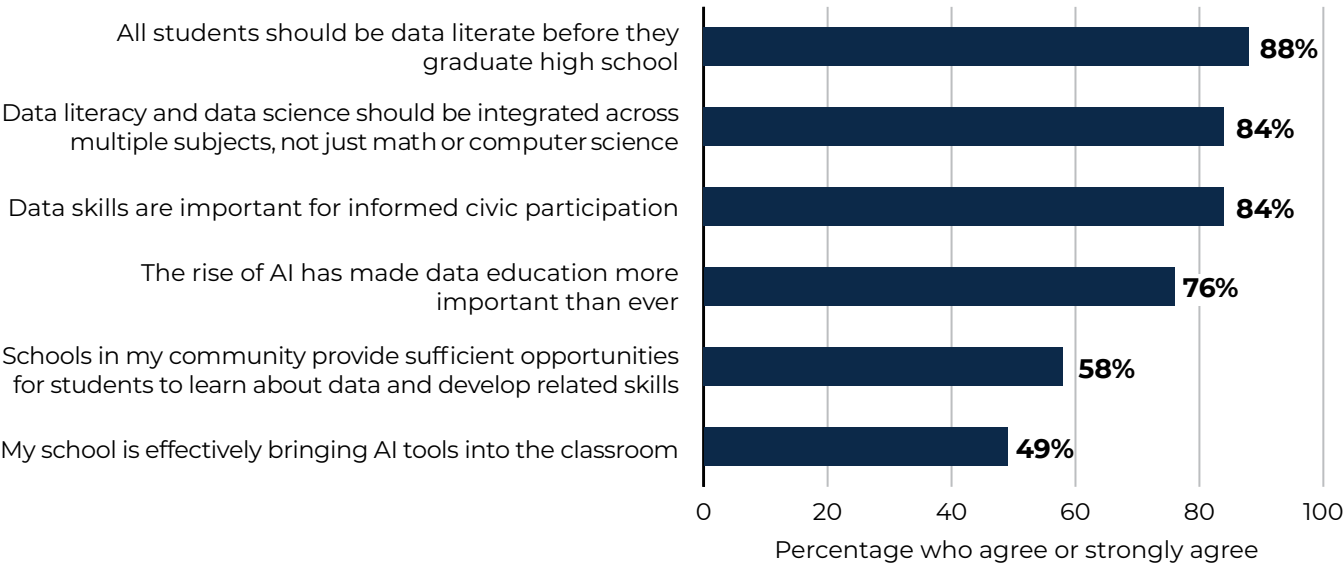
24% 
Colorado

Although it is not nationally representative, the sample includes respondents from three states with different student demographics and educational outcomes. Findings should be interpreted as a snapshot of parent and educator perspectives rather than national estimates. Findings by state are available in the appendix.

Finding 1: Parents and educators see data literacy as essential, but opportunities for students lag

Most parents and educators (88 percent) said that students should be data literate before they graduate high school, and 76 percent agreed that the rise of AI has made data education more important than ever. Yet only 58 percent of respondents agreed that schools in their community provide sufficient opportunities to learn about data and develop data-related skills, and just under half (49 percent) believed that their school is effectively bringing AI tools into the classroom. Stakeholders also indicated that data-related learning should extend beyond traditional STEM courses, with 84 percent of respondents agreeing that data literacy and data science should be integrated into subjects other than math or computer science. The same share (84 percent) agreed that data skills are important for informed civic participation, such as understanding news, policy, or elections.

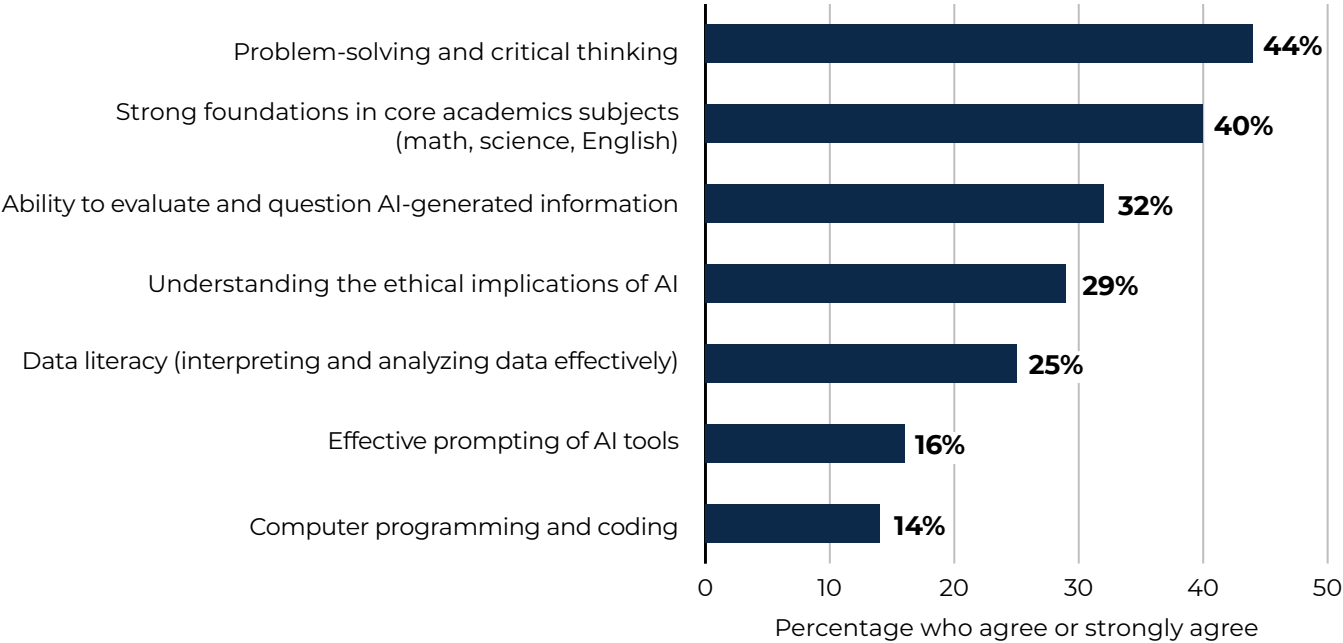
Exhibit 1. Perceptions on the importance and availability of data literacy opportunities in education



Finding 2: Parents and educators prioritize critical thinking and core academic skills over narrow technical skills

The survey asked parents and educators to consider a set of seven skills related to students’ AI readiness and rank them from most to least important. Respondents ranked problem-solving and critical thinking and strong foundations in core academic subjects such as math, science, and English (44 and 40 percent of respondents, respectively) in their top two choices most frequently. Computer programming (14 percent of respondents) and effective prompting of AI tools (16 percent of respondents) were seldom ranked as highly important (Exhibit 2).

Exhibit 2. The most important skills for students to be AI ready



Note: Respondents were asked to rank these seven skills from most to least important. This graph depicts the percentage of respondents ranking each skill as the first or second most important skill in their response.

Implications for K–12 education

These findings have four key implications for educators, school and district leaders, and policymakers who want students to have the skills they need to navigate a data- and AI-driven society.

Expand opportunities for students to develop data and AI-related competencies. Although respondents saw data literacy as important, many reported that schools do not currently provide sufficient opportunities for students to develop these skills or bring AI into the classroom effectively. This gap points to the need for continued investment in curriculum, instructional resources, and professional learning that support educators in integrating data and AI-related competencies into teaching and learning. Importantly, the findings suggest that AI education should extend beyond tool exposure to include the academic skills to question outputs and understand basic mechanics of how AI models operate.

Prioritize durable skills in an evolving technological landscape. Respondents prioritized critical thinking, problem-solving, and strong foundations in core academic subjects over narrower technical skills such as coding or prompting AI tools. One possible explanation is that these competencies are viewed as more durable in a rapidly changing technological environment. Although specific AI tools and techniques will continue to evolve, critical thinking, problem solving, and the ability to evaluate information remain relevant across technologies, contexts, and careers. These findings suggest that parents and educators may place particular value on educational experiences that help students develop transferable skills they can apply as technologies continue to change.

Integrate data literacy across subjects. Respondents overwhelmingly supported schools integrating data literacy and data science across subjects beyond mathematics and computer science. This suggests opportunities and willingness to embed data use, evidence evaluation, and interpretation of information into existing coursework in science, social studies, English language arts, and other disciplines.

Connect data literacy to civic participation. Respondents saw data literacy as important not only for college and career readiness but also for informed civic participation. As students navigate increasingly complex information environments, opportunities to evaluate evidence, interpret data, and assess competing claims will become increasingly important components of civic readiness.

Conclusion

As AI technologies evolve, education systems are likely to continue struggling with questions about how best to prepare students for increasingly complex digital, information, and civic environments. These findings provide a snapshot of parents' and educators' current perceptions and may help inform ongoing discussions about how schools can prepare students to adapt to emerging technologies, evaluate evidence thoughtfully, and make informed decisions for themselves and their communities.

For readers interested in learning more, Exhibit 3 highlights other resources on data and AI education, including competency frameworks, public opinion research, analysis of workforce trends, and guidance for related education research.

Critical thinking doesn't develop in isolation

Students need opportunities to practice critical thinking in the context of a data- and AI-driven society. Data literacy and data science can help build a quantitative critical thinking toolkit by providing students with opportunities to practice interpreting patterns, evaluating claims, recognizing uncertainty or bias, and assessing information produced by AI.

Similarly, foundational computer science concepts can help students understand how AI systems generate outputs, in which ways those outputs may be limited, and why human judgment remains essential when using AI tools.

Viewed together, data literacy, data science, and computer science can help students develop many of the durable competencies that respondents prioritized, including critical thinking, problem solving, strong foundations in core academic subjects, and the ability to evaluate and question AI-generated information.

Exhibit 3. Resources for further reading

Resource	Competency frameworks	Public opinion polling	Workforce demand	Guidance for researchers
Report on Data and Computing in K-12 Education, Foundational Competencies : This report argues that data, computing, and AI are foundational literacies that all students need to navigate modern society. It identifies seven core competencies and recommends integrating data and computing concepts across K–12 subjects and grade levels to support civic participation, future careers, and lifelong learning.	✓			
K-12 Data Literacy and Data Science Model Learning Progressions : These learning progressions provide a framework for developing data literacy, foundational data science skills, and introductory AI concepts across K–12 education. The framework emphasizes critical inquiry, ethical data use, problem solving, and using data to understand real-world issues and participate in civic life.	✓			
Empowering Learners for the Age of AI: An AI Literacy Framework for Primary and Secondary Education : This framework identifies the knowledge and skills students need to engage critically and responsibly with AI. It emphasizes evaluating AI-generated information, solving problems with AI, understanding AI's societal impacts, and applying ethical reasoning and critical thinking when using AI tools.	✓			
Data Science is for Everyone: The New Landscape for Data Science Skills and a National Imperative for Investing in the Nation's Workforce : This report analyzes labor market trends and finds growing demand for data-related skills across a wide range of occupations. It highlights the importance of competencies such as data interpretation, statistical reasoning, problem solving, and communicating using data for workforce success.	✓		✓	
Survey insights on the current and future demand for employees with data science skills , from the Math Matter Study: The Value of Math in Work and Life : Based on a nationally representative survey of managers, this report examines the importance of data science skills in today's workforce. Findings suggest that employers increasingly value skills such as analyzing data, interpreting evidence, and making data-informed decisions and identified gaps in current workforce preparation.		✓	✓	
Future-Focused Measures for High School Math: A Measures Guide : This guide provides researchers, funders, and education leaders with tools for measuring outcomes associated with modernized high school math, statistics, and data science programs. In addition to cataloging existing measures, the guide presents a conceptual framework that connects modern math learning to competencies in data literacy, civic reasoning, and AI literacy. The guide can support efforts to better understand whether and how modernized math experiences are associated with students' ability to evaluate information, reason with data, make informed decisions, and navigate an increasingly data- and AI-driven world.	✓			✓

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Sample & Methods Appendix

Mathematica and Data Science 4 Everyone (DS4E), with support from the Gates Foundation, fielded two surveys between February and March 2026. These surveys were designed to capture education stakeholders’ perceptions of data science and artificial intelligence in their schools, districts, or states. Mathematica and DS4E fielded two surveys:

- 1. One designed for K–12 parents, teachers, and school administrators, who were recruited and surveyed via [Centiment’s](#) online market research platform. Centiment recruited respondents in three states (Colorado, Louisiana, and Tennessee) at DS4E’s direction because of DS4E’s ongoing work in these states.
- 2. One designed for local education agency and state education agency staff, who completed their survey through a Mathematica-hosted platform. Respondents were identified via DS4E’s policy partner network and state education agency contacts across all 50 states and Washington, DC.

Results were pooled across the two surveys with nearly identical question sets. Differences between the surveys were limited primarily to respondent background questions and minor wording adjustments reflecting respondents’ roles and contexts (for example, references to “my school” versus “my state or district”).

Survey responses were initially analyzed by respondent type (for example, parents, teachers, administrators, and agency staff). Because patterns of responses were largely consistent across groups, findings are presented in the aggregate throughout this brief.

Although the survey is not nationally representative, the three states this sample focused on encompass diverse student populations and educational contexts. Across measures such as race and ethnicity, academic achievement, and graduation rates, Colorado, Louisiana, and Tennessee span a range of characteristics that mirror national ones (Exhibit A.1).

Exhibit A.1. State and national school and student demographic characteristics

Characteristic	Colorado	Louisiana	Tennessee	National
Student race/ethnicity				
White	51%	42%	59%	45%
Hispanic	35%	11%	14%	29%
Black	5%	42%	21%	15%
Asian	3%	2%	2%	5%
Two or more races	5%	4%	5%	5%
Assessment scores				
NAEP 4th-grade reading	221	216	215	214
NAEP 4th-grade math	239	235	240	237
NAEP 8th-grade reading	265	257	259	257
NAEP 8th-grade math	278	267	276	272
Graduation rate				
4-year adjusted cohort graduation rate	82%	83%	90%	87%

Source: NCES Digest State Dashboard, May 2024. NCES (2024b); NCES (2024c).
NAEP = National Assessment of Educational Progress.

This publication was prepared for the Gates Foundation. The findings and conclusions within are those of the authors and do not necessarily reflect positions or policies of the Gates Foundation.

State-level findings exhibits: Colorado

Mathematica and Data Science 4 Everyone surveyed pre-K–12 teachers, school administrators, state and local education agency staff, and parents with at least one pre-K–12 student between February and March 2026 to better understand what parents and educators think about data- and AI-literacy in K–12 education. The sample included 1,333 respondents, of which 24 percent were from Colorado (315 respondents).

Exhibit 1.A. Perceptions on the importance and availability of data literacy opportunities in education in Colorado

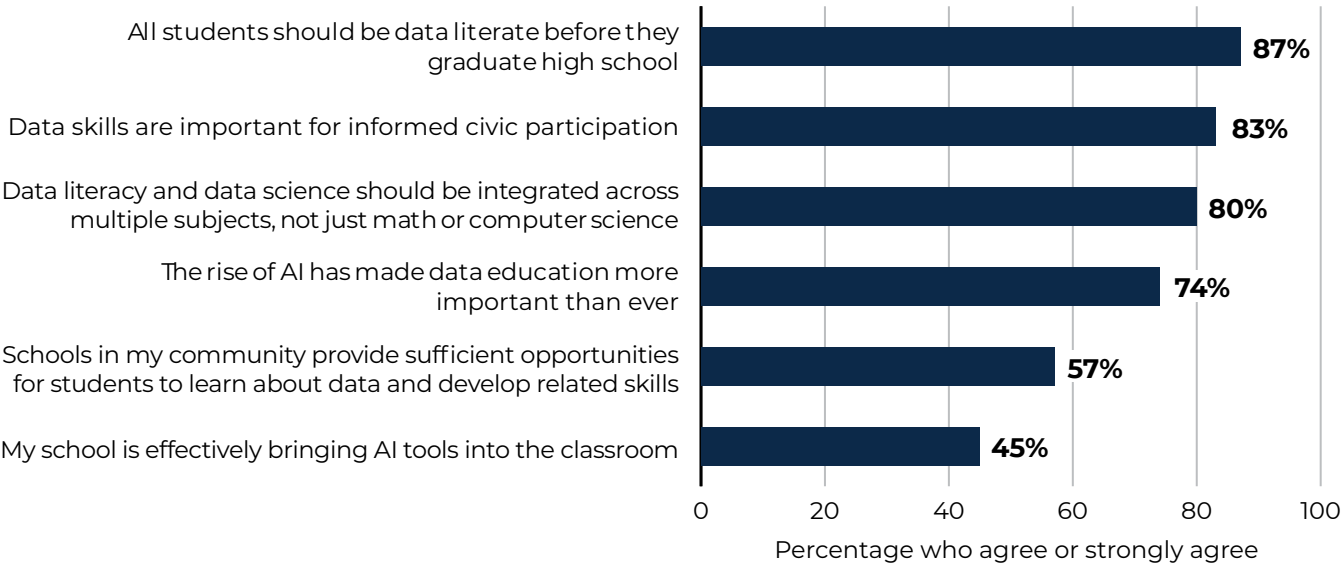
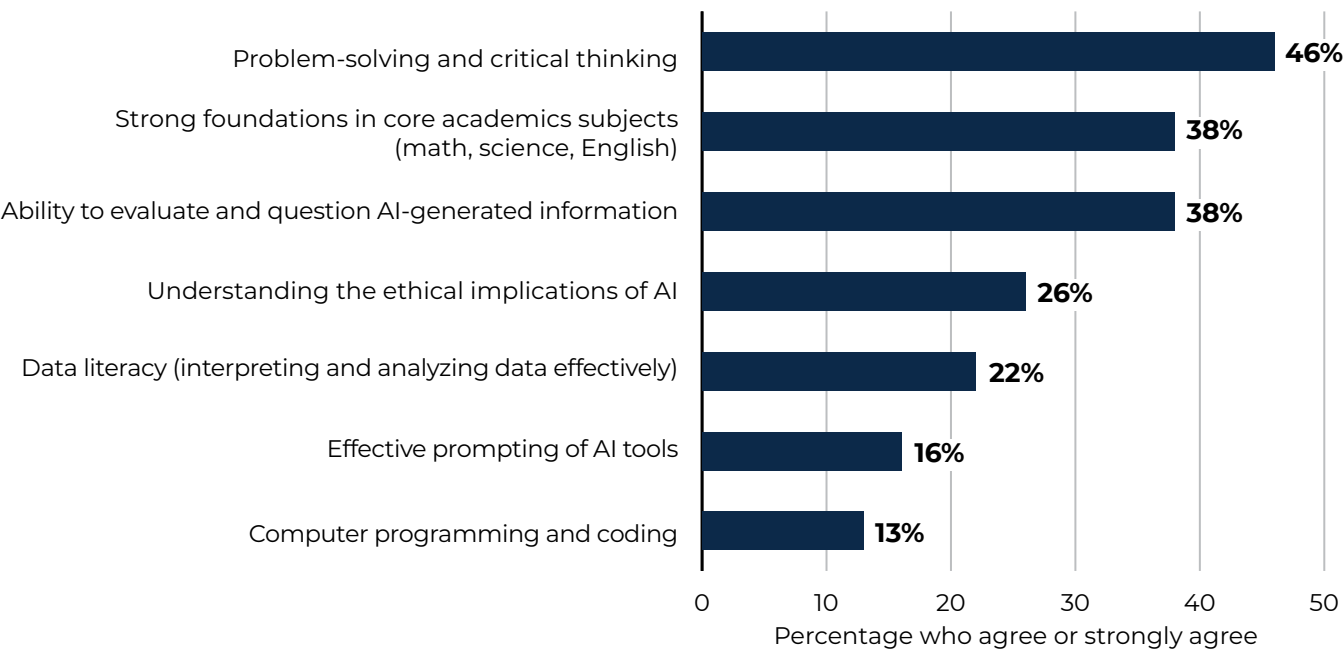


Exhibit 2.A. The most important skills for students to be AI-ready in Colorado



Note: Respondents were asked to rank these seven skills from most to least important. This graph depicts the percentage of respondents ranking each skill as the first or second most important skill in their response.

State-level findings exhibits: Tennessee

Mathematica and Data Science 4 Everyone surveyed pre-K–12 teachers, school administrators, state and local education agency staff, and parents with at least one pre-K–12 student between February and March 2026 to better understand what parents and educators think about data- and AI-literacy in K–12 education. The sample includes 1,333 respondents, of which 47% are from Tennessee (632 respondents).

Exhibit 1.B. Perceptions on the importance and availability of data literacy opportunities in education in Tennessee

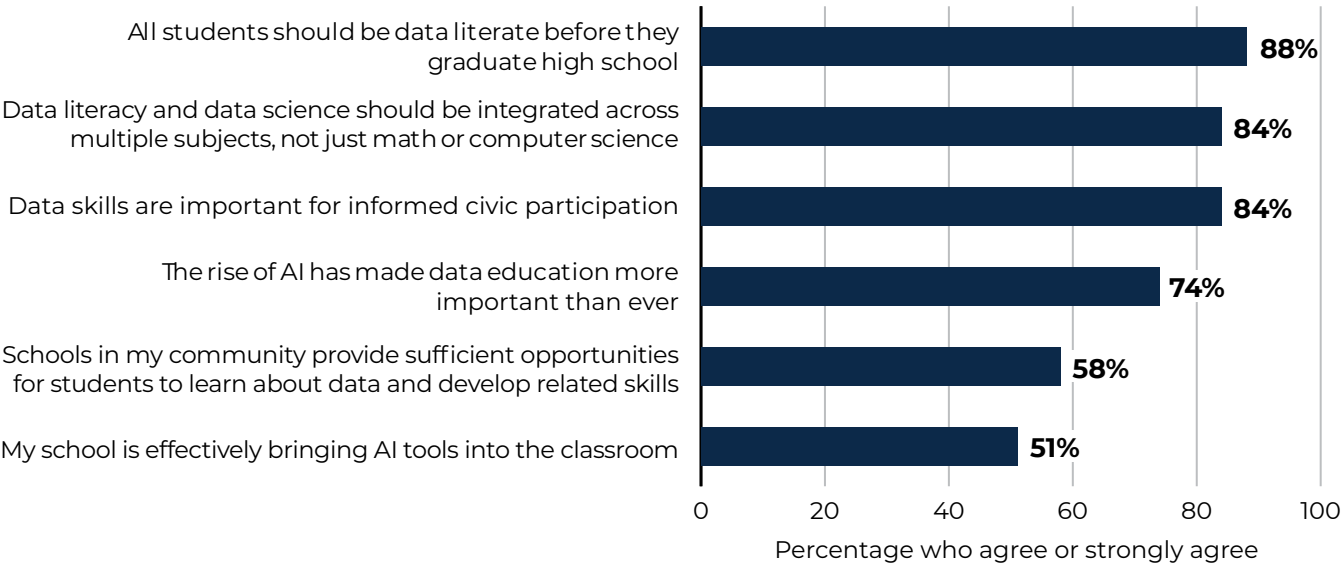
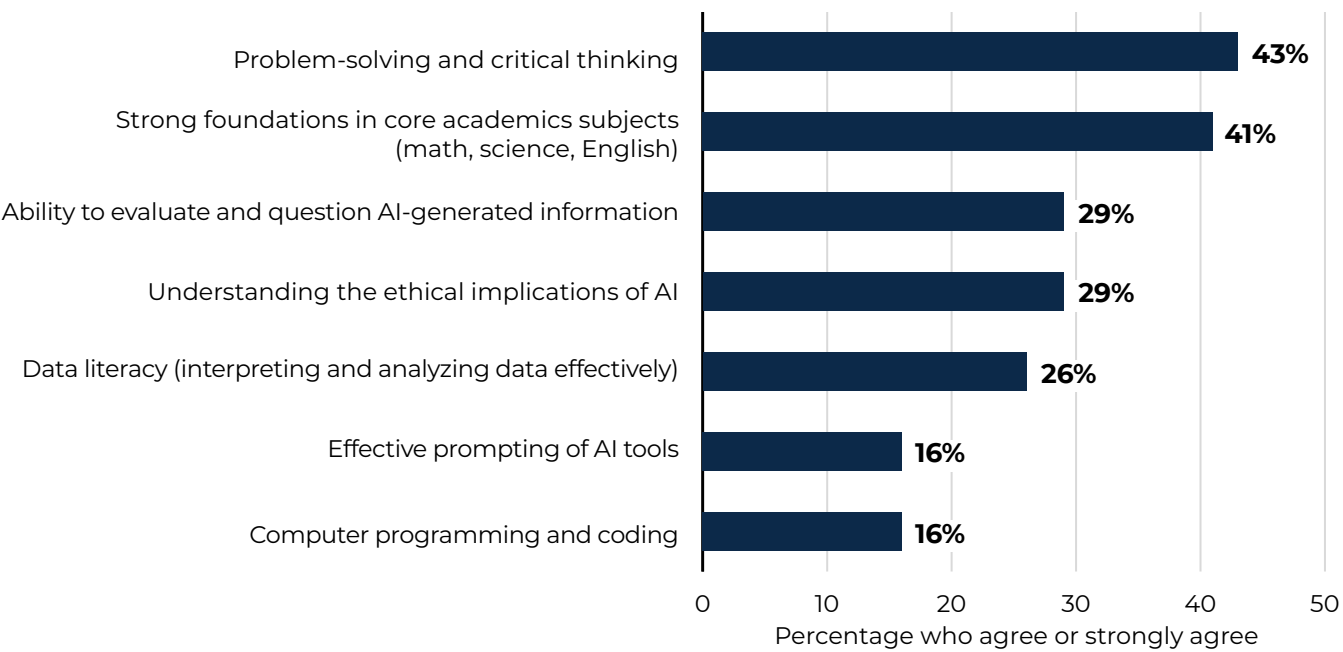


Exhibit 2.B. The most important skills for students to be AI-ready in Tennessee



Note: Respondents were asked to rank these seven skills from most to least important. This graph depicts the percentage of respondents ranking each skill as the first or second most important skill in their response.

State-level findings exhibits: Louisiana

Mathematica and Data Science 4 Everyone surveyed pre-K–12 teachers, school administrators, state and local education agency staff, and parents with at least one pre-K–12 student between February and March 2026 to better understand what parents and educators think about data- and AI-literacy in K–12 education. The sample included 1,333 respondents, of which 24% were from Louisiana (322 respondents).

Exhibit 1.C. Perceptions on the importance and availability of data literacy opportunities in education in Louisiana

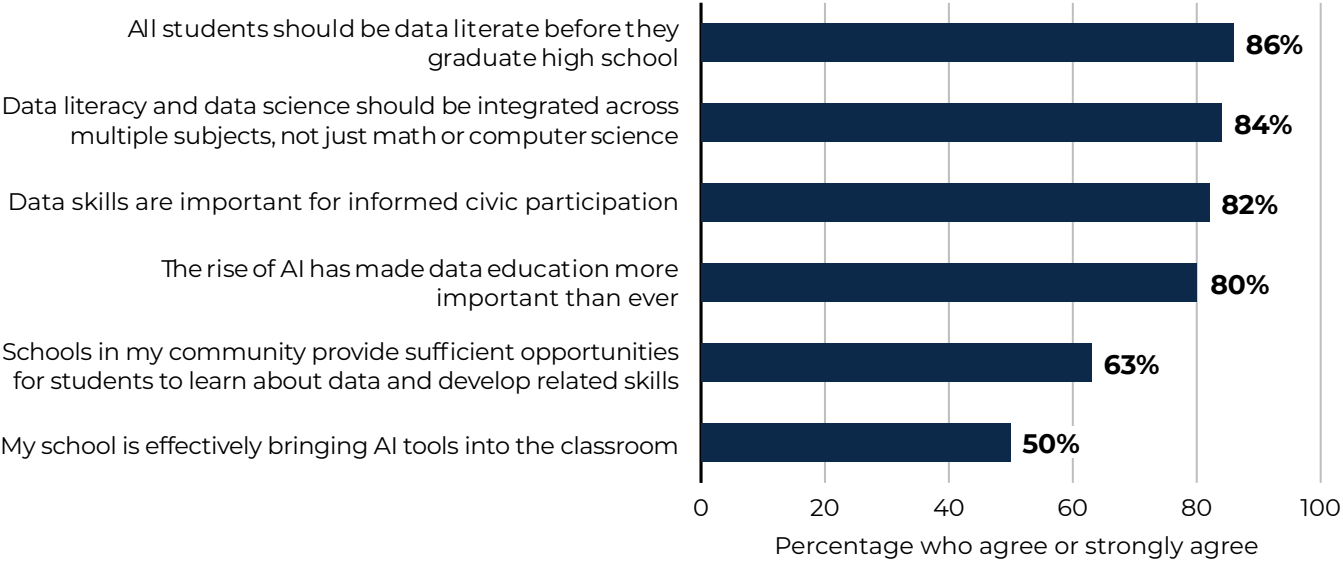
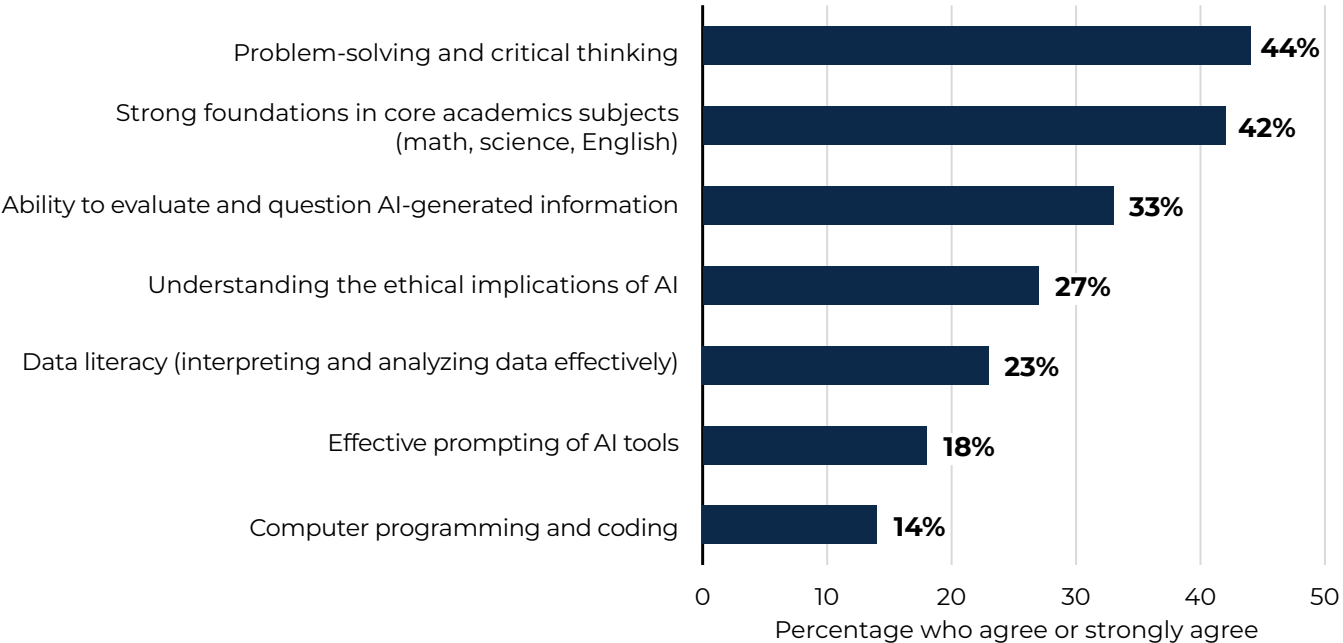


Exhibit 2.C. The most important skills for students to be AI-ready in Louisiana



Note: Respondents were asked to rank these seven skills from most to least important. This graph depicts the percentage of respondents ranking each skill as the first or second most important skill in their response.