

Making Data Work for Personalized Learning: Lessons Learned



This brief outlines how state education agencies can create the necessary conditions for those closest to students to use data to personalize learning.

You Need Data to Personalize Learning

Personalized learning means shaping instruction to meet students' individual needs. While there are many ways it can look in practice, personalized learning requires school and district leaders, teachers, students, and parents to use data to support all students on their path to success.

State education agencies (SEAs) across the country are prioritizing personalized learning as a means to boost student outcomes; 39 states [referenced “personalized learning”](#) in their plans to implement the federal Every Student Succeeds Act (ESSA). Some states have launched initiatives or adopted new policies to spur innovation and encourage districts to transform schools and classrooms to deliver personalized learning experiences.

No vision of personalized learning can be realized without support for data use. State strategies to create student-centered classrooms require critical policy conditions that allow those closest to students to access and use timely, safeguarded data to make decisions.

This paper outlines steps SEAs can take to ensure the effective use of data to achieve their personalized learning goals. These recommendations are based on lessons learned from Rhode Island, South Carolina, and Vermont—states that have taken steps to support districts' efforts to deliver a quality personalized learning experience for all students. Drawing insights from interviews with state leaders and local practitioners, case studies, and document reviews, this paper offers considerations for how SEAs can support the ability of those closest to students to use data to support student success in student-centered classrooms.

“In Rhode Island, personalized learning is not defined as one model or another but by how a school supports the unique needs of children in the classroom.”

—Steve Osborn, chief for innovation, Rhode Island Department of Education

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Common Characteristics of States' Personalized Learning Efforts

As states look to personalized learning, they must be intentional about policies to support effective data use. State leaders in Rhode Island, South Carolina, and Vermont have spent years committed to supporting districts' ability to provide personalized learning for all students. Though each state has a unique context and approach, all three share key characteristics that require new supports for data use. Let's take a closer look at each characteristic and its data implications.

New data practices. *State leaders have identified common practices that characterize personalized learning environments, which require new uses of data.*

While no state prescribes one specific model of personalized learning, each has identified basic practices that characterize personalized learning environments—some of which are consistent across states. These practices have implications for data use. They include the following:

- **Provide individualized learning experiences.** Teachers, parents, and students need to know where students are in their learning and which instructional strategies and supports will best serve their unique needs, skills, and interests to get them where they need to go.
- **Give students more ownership over their learning.** Ensuring that students have a voice in their learning requires them to be able to access data about their performance over time and follow their progress toward learning goals.
- **Provide tailored pathways to success.** Students should have opportunities and flexibility to pursue the best path to success for them. Sometimes this path might include mastery-based progression, which means that students advance based on whether they've mastered certain skills, rather than how much time they've spent in class. Teachers need a clear understanding of what each student knows and still needs to learn so they can make instructional decisions that enable the student to work on a skill or concept until the student has mastered it.

To implement these practices, teachers must have access to a range of information about how students have performed over time, and they must have the time and training to track student progress and act on this data in real time.

Varied implementation. *Practice varies greatly by district, and implementation is difficult to track and evaluate.*

There is no one way to personalize learning, and district leaders play an important role in leading implementation that aligns with the state's vision while accounting for the district's unique circumstances. Personalized learning practice can vary by district and by school. Tracking implementation and evaluating the effectiveness of personalized learning practices in such a diverse landscape can be a challenge for SEAs. As they spearhead major changes, school and district leaders need support to build evidence about which practices are working the best for their students and to be able to use this information to continuously improve.

New tools. *Personalized learning is not about technology, but schools are using a variety of digital tools to support data use.*

In their efforts to implement personalized learning, district and school leaders, and sometimes educators themselves, look to service providers for support on various activities that require the collection of student data, from content delivery to assessment. Teachers often use digital tools in the course of their efforts to tailor instruction, including to collect, store, and analyze data that informs real-time decisionmaking about what support each student needs. To ensure that these tools can support the safe, effective use of student data, data infrastructure and policies that govern data use and privacy must account for the new ways service providers are used to support teaching and learning.

How Can SEAs Support the Use of Data for Personalized Learning?

As they pursue strategies to promote personalized learning, state leaders have a critical role to play to ensure that those closest to students can access and use data to inform instruction and continuous improvement.

The Data Quality Campaign's (DQC) **Four Policy Priorities to Make Data Work for Students** provide a set of recommendations to help states enact policies that are critical to ensuring that data is used to support student learning. SEAs focused on supporting school and district efforts to personalize learning can take the following first steps:

1. CREATE ONGOING SUPPORT FOR TEACHER DATA LITERACY

Teachers must have the data literacy skills to create tailored interventions and strategies to support all students on their path to success. Yet many teachers are not getting the training they need to develop these skills: according to DQC's 2019 poll of teachers, only 17 percent report learning how to use data in their preservice teacher training program, and 45 percent report they that taught themselves to use data on the job.

"If you are truly going to personalize learning for students, you have got to take the data you get every week and every day about students and start to use that to inform what their next day is going to look like."

—Lauren McCauley, personalized learning education associate,
South Carolina Department of Education

✔ Ensure that teachers have on-the-job support for new data literacy skills related to personalized learning.

School and state leaders are responsible for making sure that teachers have the skills to effectively use data in the classroom. SEAs committed to advancing personalized learning should promote, support, and incentivize quality, ongoing professional development that helps teachers develop the data literacy skills they need to deliver personalized instruction. This effort includes supporting school leaders in offering teachers feedback on how they can improve and understanding what additional support teachers need to excel at this critical skill.

LEARN MORE:

- See DQC's brief on [educator data literacy](#).
- Review findings from [DQC's annual poll](#) of teachers' perspectives on data use.

SPOTLIGHT: SUPPORTING TEACHERS TO PERSONALIZE LEARNING IN SOUTH CAROLINA



South Carolina's [new teacher evaluation rubric](#) includes personalized learning and data use practices, an indication that effective teaching requires data literacy. Principals review this data as part of the teacher evaluation system so they are able to track and help teachers improve these practices. The South Carolina Department of Education also provides a variety of professional learning opportunities to support teachers and leaders as they adopt new personalized learning practices. This professional learning includes instructional coaching networks, through which leaders can learn strategies for helping teachers shift their pedagogy to support personalized learning.

2. ENSURE THAT TEACHERS HAVE THE DATA THEY NEED, WHEN THEY NEED IT

Timely, relevant data should flow seamlessly and securely between platforms used to support personalized learning, enabling teachers, students, and parents to access in one place all the data they need to understand student progress. Digital tools have many benefits for supporting instruction, and districts and schools are using various service providers to collect, store, and analyze data. But these platforms have different methods for defining, collecting, and displaying data, posing challenges of practice such as teachers having to navigate through multiple screens and logins to get the data they need.

“Strong personalized learning can’t happen without strong technological infrastructure to support it. . . . If educators have to use multiple software programs, single sign-on and data interoperability must be strongly considered.”

—Rose Muller, director of technology, Bristol Warren Regional School District, RI

✔ Champion interoperability strategies to support the flow of data within and between schools and platforms.

Interoperability is the seamless, secure, and controlled exchange of data between applications. SEAs can encourage and promote best practices for data interoperability, or they can create or adopt a common language and set of processes for data collection and sharing that allow data to move between platforms. This work is more than just a technical exercise. It requires understanding the personalized learning data needs of schools and districts and determining the state role that makes the most sense for each state’s unique circumstances and vision for personalized learning.

LEARN MORE:

- Sign the [Project Unicorn pledge](#) and review the [interoperability rubric](#).

SPOTLIGHT: SUPPORTING INTEROPERABILITY IN RHODE ISLAND

The Rhode Island Department of Education (RIDE) is taking steps to support data interoperability for districts as part of the agency’s continued efforts to promote innovation that leads to quality personalized learning experiences for all students. Leaders at RIDE are working to create technical infrastructure that could allow seamless data sharing between platforms, which districts could opt to use. As Chief for Innovation Steve Osborn says, “As we have more and more data at the fingertips of our educators, having interoperable data is important. . . . [I]f we do it right, schools should be able to use whatever platform they want to use.”



3. PRIORITIZE PRIVACY AND BUILD TRUST IN DATA USE

Safeguarding student data is critical to effective data use and personalized learning efforts. As teachers and students use new tools in new ways to support learning, it is important for states to have strong data privacy and security practices that are up to date to reflect the ways student data is used to support personalized learning.

✔ Support districts in updating their data privacy policies and practices to reflect personalized learning.

Almost every state has passed a new data privacy law in the past two years. SEAs must clarify how updates to statewide privacy policies affect districts and support districts in updating their own policies and practices to reflect new data practices related to personalized learning. SEAs can provide districts with privacy and security best practices and model policies. They also can offer guidance for making decisions about selecting service providers that adhere to data security standards and have strong privacy policies.

✔ Communicate clearly about how student data is used and protected in personalized learning environments—and support district and school leaders in doing the same.

Personalized learning requires using student data in ways that may be new to everyone—including parents. Clearly communicating to parents and community members the value of using student information to tailor students' learning experiences and explaining how the data is kept safe are critical. Clear communication is the only way to build trust in data use and be sure that data can be used effectively to support student learning.

“Data privacy is intentionally embedded in everything we do.”

—Stephanie DiStasio, director of personalized learning, South Carolina Department of Education

LEARN MORE:

- View DQC’s [infographic and animated video](#), “You Need Data to Personalize Learning,” to see how data makes personalized learning possible.
- Encourage district leaders to consult the Future Ready [Data and Privacy Framework](#), which includes guidance and resources to help districts create a sound foundation for data privacy and security in personalized learning environments.
- Encourage districts to apply for the [Trusted Learning Environment](#) seal, which distinguishes districts that have taken strong, measurable steps to ensure the privacy of student data.

SPOTLIGHT: SAFEGUARDING DATA IN RHODE ISLAND’S BRISTOL WARREN REGIONAL SCHOOL DISTRICT



Bristol Warren Regional School District has spent years working to create personalized learning experiences for its students. Along the way, district staff have taken steps to strengthen the district’s capacity to safeguard student data. Their efforts have included disseminating materials to help school staff understand their role in keeping data safe and collaborating with other districts to explore strategies to ensure that service provider contracts adhere to privacy and security best practices.

4. SUPPORT DISTRICT AND SCHOOL LEADERS' USE OF DATA FOR CONTINUOUS IMPROVEMENT

State and district leaders need to understand the effectiveness of personalized learning strategies—and the necessary conditions for success—and use this information to inform continuous improvement and efforts to scale personalized learning practices. Despite a wealth of platforms to support data collection and analysis, most district and school leaders don't have the capacity to conduct sophisticated analyses to evaluate the impact and effectiveness of their personalized learning efforts on their own. School and district leaders need support to understand how to act on data and how to use it to start conversations about what changes are needed.

✔ Support school and district leaders in using data to drive continuous improvement conversations.

SEAs can support school and district leaders by promoting, supporting, and incentivizing professional development opportunities that incorporate the data literacy skills they need to lead personalized learning transformations.

✔ Explore research partnerships that can help districts generate and share evidence of what's working.

SEAs are well positioned to help district and school leaders build capacity to create and share such evidence. As a start, SEAs can consider opportunities to form research-practice partnerships in which SEAs, local education agencies, and other stakeholders can share data with trained and engaged experts and discover the best models and best practices of personalized learning.

“We need evidence to understand how well the personalization strategies are working—not only the achievement. Depending on one's definition of personalized learning, variability in the implementation of practice is a unique challenge.”

—Lisa Foehr, chief, Division of Teaching and Learning, RIDE

LEARN MORE:

- Review DQC's brief on how state policymakers can support [administrator data literacy](#).
- See DQC resources related to effective state partnerships with researchers:
 - [Roadmap for Effective Data Use and Research Partnerships between State Education Agencies and Education Researchers](#), a brief with specific guidance for SEAs on how to create effective research partnerships;
 - [Improving Education Outcomes by Building Data-Driven Relationships](#), a checklist of items for education leaders and researchers to discuss when embarking on a partnership; and
 - [State Support Helps Districts Use Evidence Locally to Improve Education](#), a case study with guidance for how state leaders can create a culture of evidence-based continuous improvement in districts and schools.

SPOTLIGHT: HELPING LEADERS USE DATA TO EVALUATE IMPLEMENTATION OF PERSONALIZED LEARNING PRACTICES IN VERMONT



The Vermont Agency of Education creates coordinated opportunities to help leaders across the state use data to understand their own progress. For example, the agency has partnered with the American Institutes for Research to train district leaders on a [tool to help them evaluate themselves](#) on the quality of implementation of competency-based learning strategies.

The Work Is Never Done

State policies to advance and scale personalized learning must consider data use, and leaders must continuously adapt such policies to account for evolutions in practice and technology.

When students, parents, and teachers are empowered with access to timely, useful, safeguarded data, there are many ways to support students on their path to success. Data is a critical tool for customizing instruction, allowing students to own their learning, and providing flexible pathways to success. It is also central to helping leaders and practitioners understand what's working and pinpoint areas in need of improvement.

Personalized learning is still relatively new, and states still have much to learn and share about the best ways to support data use as the field evolves. One such next-generation challenge is finding quality measures for student competencies beyond reading and math, such as critical thinking or social-emotional skills.

SEAs have an ongoing responsibility to ensure that the systems, policy, and culture surrounding data use are continuously adjusted and adapted to support practice, especially when states are encouraging innovation and asking those closest to students to take on new data responsibilities. State leaders must make data work for students if they want to achieve their goals to give all students access to a high-quality personalized learning experience.

ADDITIONAL RESOURCE

The *Forum Guide to Personalized Learning Data* provides comprehensive instructions to support education agencies across the country that are implementing personalized learning.

Methodology

DQC spoke to leaders and officials from both local education agencies and SEAs in three states. These representatives are involved with personalized learning at either a structural level or an on-the-ground implementation level. All interviews were standardized and probed for understanding of the SEA or district approach to supporting personalized learning and the role data plays in those efforts. In addition to the interviews, DQC analyzed media reporting on personalized learning in each of these three states to help provide color to the findings of the interviews. We made our best determinations based on all of the sources to provide the recommendations found in this report.



The Data Quality Campaign is a nonprofit policy and advocacy organization leading the effort to bring every part of the education community together to empower educators, families, and policymakers with quality information to make decisions that ensure that students excel. For more information, go to www.dataqualitycampaign.org and follow us on [Facebook](#) and [Twitter](#) (@EdDataCampaign).

APPENDIX Background on States' Visions for Personalized Learning

BACKGROUND	CORE CHARACTERISTICS OF PERSONALIZED LEARNING*
<p>Rhode Island Advancing personalized learning has been a statewide effort in Rhode Island—the focus of a collaborative initiative of the governor’s Office of Innovation, RIDE, and private partners that was launched in 2016. Increasing access to personalized learning opportunities is also a priority of RIDE’s 2015 five-year strategic plan. To meet this goal, RIDE encourages districts to innovate in ways that work best for them and aims to elevate and share best practices.</p>	<p>The Rhode Island Statewide Personalized Learning Initiative worked with a group of stakeholders to develop a vision for personalized learning and define common components, which are the following:</p> <ul style="list-style-type: none"> • differentiated learning activities • learner profiles • mastery-based progression • ongoing formative assessment • flexible learning environments • student choice and agency • authentic applied learning • teacher facilitated • technology enabled
<p>South Carolina In 2016, the state superintendent of education, Molly M. Spearman, made a statewide commitment to advancing personalized learning in every district. South Carolina had already adopted the “Profile of the South Carolina Graduate,” outlining the knowledge, skills, and characteristics students graduating high school need to be adequately prepared for college and the workforce. Spearman saw personalized learning as a key strategy for meeting these goals.</p>	<p>The South Carolina Department of Education established an Office of Personalized Learning and worked with stakeholders across the state to develop a framework for personalized learning to guide districts in their implementation efforts. The framework has four components:</p> <ul style="list-style-type: none"> • student ownership • learner profiles • learning pathways • flexible learning environments
<p>Vermont In 2013, former Gov. Pete Shumlin signed Act 77 into law. This law required Vermont students to have access to flexible pathways to graduation and required all Vermont students in grades 7–12 to have a personalized learning plan that would allow students and educators to track student learning over time.</p>	<p>To meet the goals of Act 77, the Vermont Agency of Education has taken steps to guide and support districts in creating a personalized learning experience for all students, and it articulated a common definition and essential attributes of personalized learning:</p> <ul style="list-style-type: none"> • personal relationships • flexibility • learner profiles • proficiency-based progression • student agency

**No state prescribes a single model of personalized learning, but each has a general framework to guide district implementation.*