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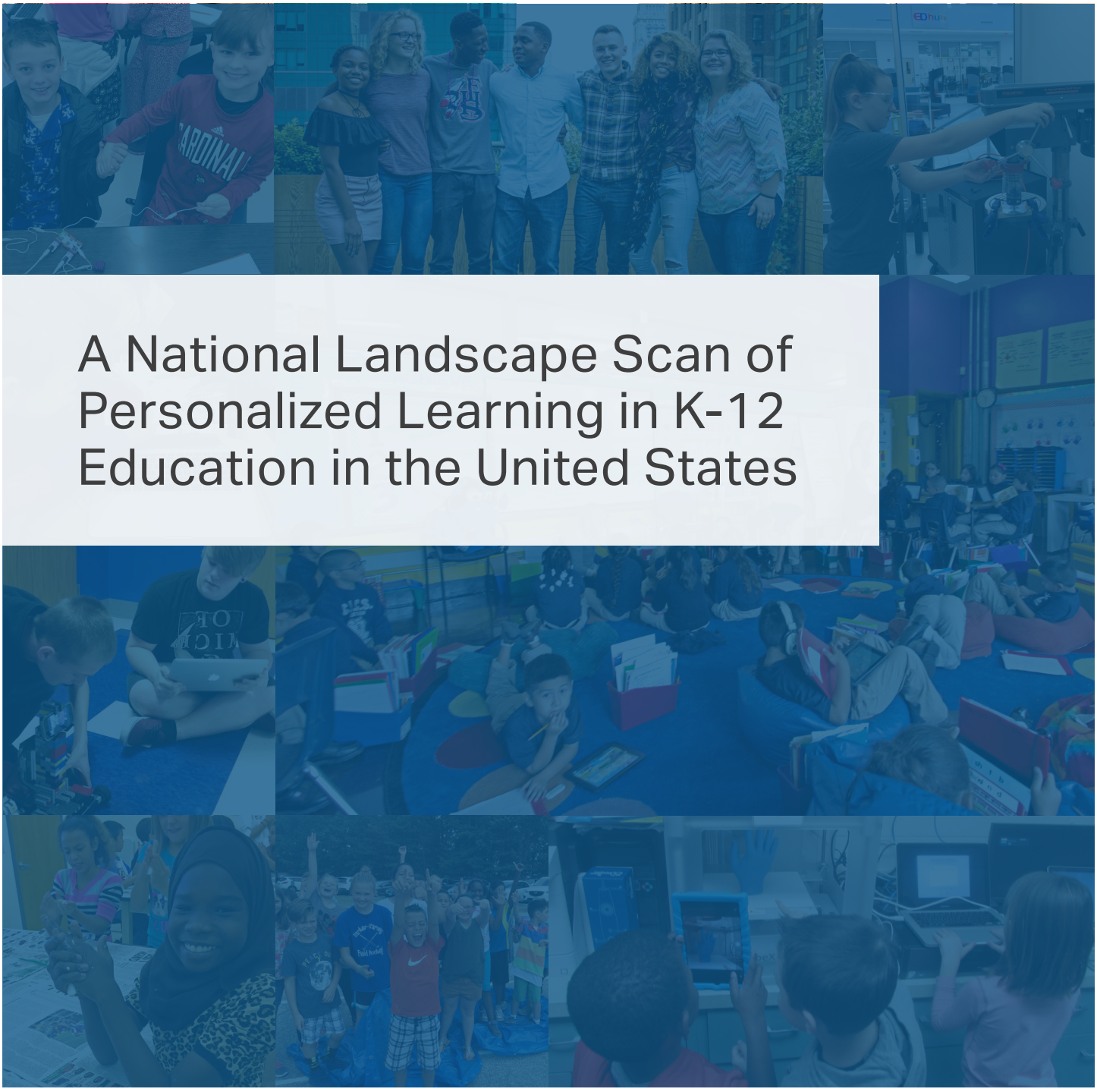

A National Landscape Scan of Personalized Learning in K-12 Education in the United States

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iNACOL drives the transformation of education systems and accelerates the advancement of breakthrough policies and practices to ensure high-quality learning for all. It is a national organization dedicated to sharing research, trends and promising practices and policies to advance personalized, competency-based education. Through this project, iNACOL provides an evidence-based sector analysis of personalized learning and a national landscape analysis.

This report is based on research funded by the Bill & Melinda Gates Foundation. The findings and conclusions contained within are those of the authors and do not necessarily reflect positions or policies of the Bill & Melinda Gates Foundation.

About LEAP Innovations:
LEAP Innovations is a national organization headquartered in Chicago that connects innovation and education to transform how students learn. LEAP works directly with educators and innovators to discover, pilot and scale personalized learning technologies and innovative practices. In just over four years, LEAP has worked directly with more than 125 schools across Chicago to implement personalized learning, from classroom-level innovation in the Pilot Network to whole-school transformation in Breakthrough Schools. LEAP's work is anchored by the LEAP Learning Framework, a suite of resources that educators across the country are using to define, design, and implement personalized learning models. Visit leapinnovations.org for more information.

About the Center on Reinventing Public Education:
CRPE is a research and policy analysis center at the University of Washington Bothell. Our mission is to reinvent the public education delivery model to prepare all American students to solve tomorrow's challenges. We develop, test, and support evidence-based, systemwide solutions to address the most urgent problems in K-12 public education. Since 1993, CRPE has been an objective and nonpartisan source of information and analysis for informed policy deliberation and debate. Our work is supported by multiple foundations, contracts, and the U.S. Department of Education.

About NORC at the University of Chicago:
NORC at the University of Chicago is an objective, non-partisan research institution that delivers reliable data and rigorous analysis to guide critical programmatic, business, and policy decisions. Since 1941, NORC has conducted groundbreaking studies, created and applied innovative methods and tools, and advanced principles of scientific integrity and collaboration. Today, government, corporate, and nonprofit clients around the world partner with NORC to transform increasingly complex information into useful knowledge.

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I. Introduction: Personalized Learning National Landscape Scan

K-12 education is at the beginning of what many hope will be a systemic transformation toward personalized learning. Across the nation, schools are experimenting with personalized learning to better meet each student's unique needs and ensure broader access to a world-class education.

Many of these experiments have been captured in individual case studies and other vivid narratives, but the field lacks a broad-based understanding of how personalized learning is emerging in classrooms across the United States. As a result, it is difficult to know the extent to which personalized learning is actually taking hold across the country. The lack of systematic data on personalized learning also makes it hard for advocates and others to identify the kinds of challenges policymakers and practitioners alike may need to address in the years ahead.

To better understand how personalized learning is playing out across the nation, iNACOL partnered with the Center on Reinventing Public Education (CRPE), NORC at the University of Chicago, and LEAP Innovations to conduct a national survey of teachers and students. This report summarizes what these teacher and student surveys revealed about how personalized learning is — and is not — taking hold nationwide.

II. What Is Personalized Learning?

Personalized learning takes on slightly different meanings across schools and organizations but most definitions converge around key elements embraced by iNACOL as "tailoring learning for each student's strengths, needs and interests — including enabling student voice and choice in what, how, when and where they learn — to provide flexibility and supports to ensure mastery of the highest standards possible."[1]

Personalized learning is an approach to a school's pedagogical strategy for optimizing supports for each student, drawing on research about learning, motivation and engagement. Schools that personalize learning call on students to be active co-constructors, making choices in how they learn, co-creating their learning experiences and pathways through learning, progressing through content as they demonstrate competence, and engaging in their communities outside the school. This stands in contrast to prior expectations that all students should progress along a set curriculum at roughly the same pace, and significantly advances more recent differentiation work by placing student agency at the center of the process.

Personalized learning may complement a "whole-child" approach, which is an effort to transition from narrowly defined academic achievement toward promoting the full development of all children. As students move from passive consumers to active, self-regulated learners, the hope is they will be supported by their schools to build knowledge and skills, engage in productive struggle, build habits of success and strengthen their social-emotional skills.

III. The Growth of Personalized Learning in Practice and Policy

New learning models and instructional approaches to personalize learning have emerged and taken root in schools across the United States. What was once a handful of innovators in a few locales has grown into thousands of classrooms and schools throughout the country. This expansion is fueled by both the energy of teachers who are embracing the personalized vision for learning and the emergence of supportive systems and policies.

The level of excitement for personalized learning in schools is high. Our organizations (iNACOL, CRPE, and LEAP) have seen it in the many schools we have visited in the last two years. Collectively, our organizations have visited more than 80 personalized learning schools located across urban, suburban and rural communities, and LEAP alone is currently working with more than 125 Chicago schools to implement personalized learning.[2] We have also seen the excitement at conferences and convenings. For example, the share of personalized learning-focused proposals to iNACOL's Annual Symposium has grown from 28 percent of all proposals in 2015 to 48 percent in 2017.
To determine the identification of personalized learning taking hold in districts and schools, we conducted qualitative research on the following: personalized learning initiatives at the state and local levels, grant-supported initiatives, and submissions by practitioners and educators for the iNACOL Symposium request for proposal process. Figures 1 and 2 detail the growth of the field over time.

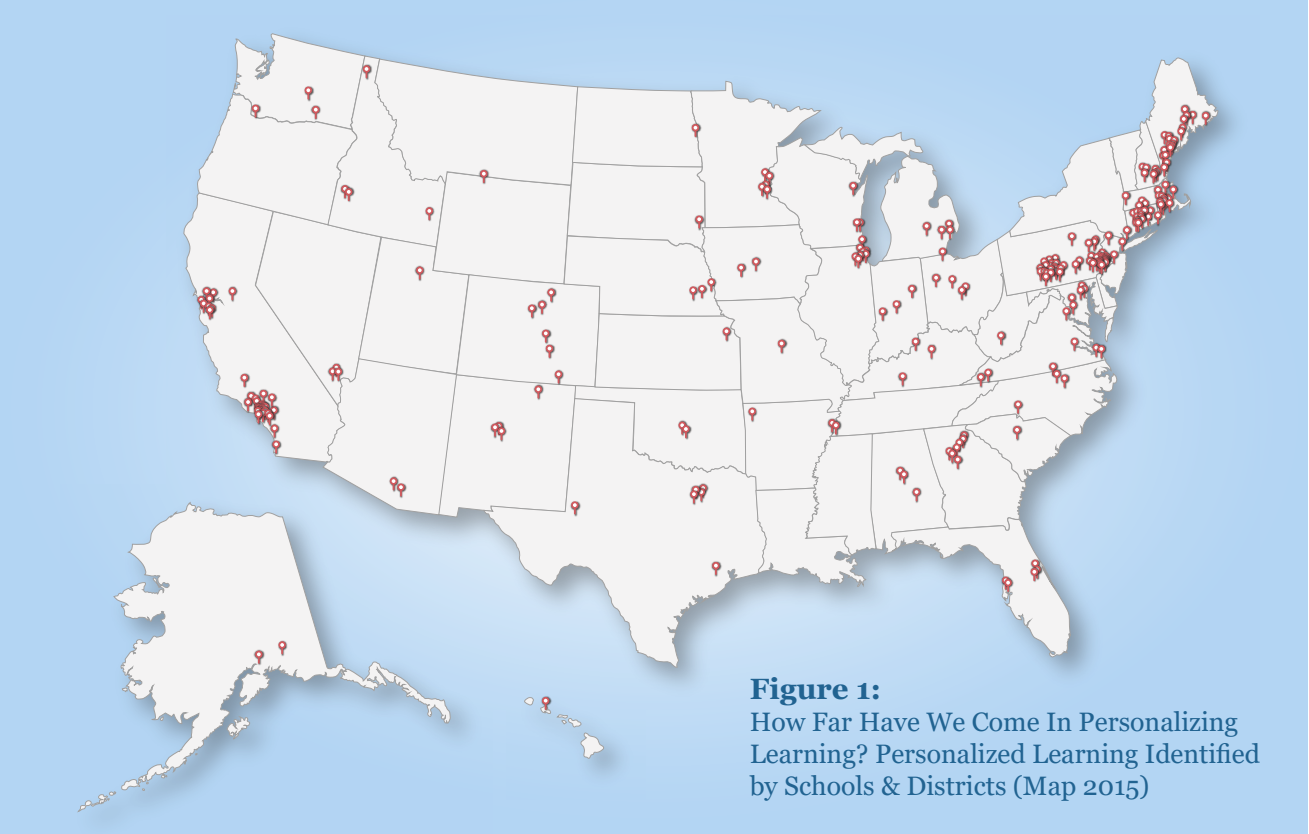


Figure 1:
How Far Have We Come In Personalizing Learning? Personalized Learning Identified by Schools & Districts (Map 2015)

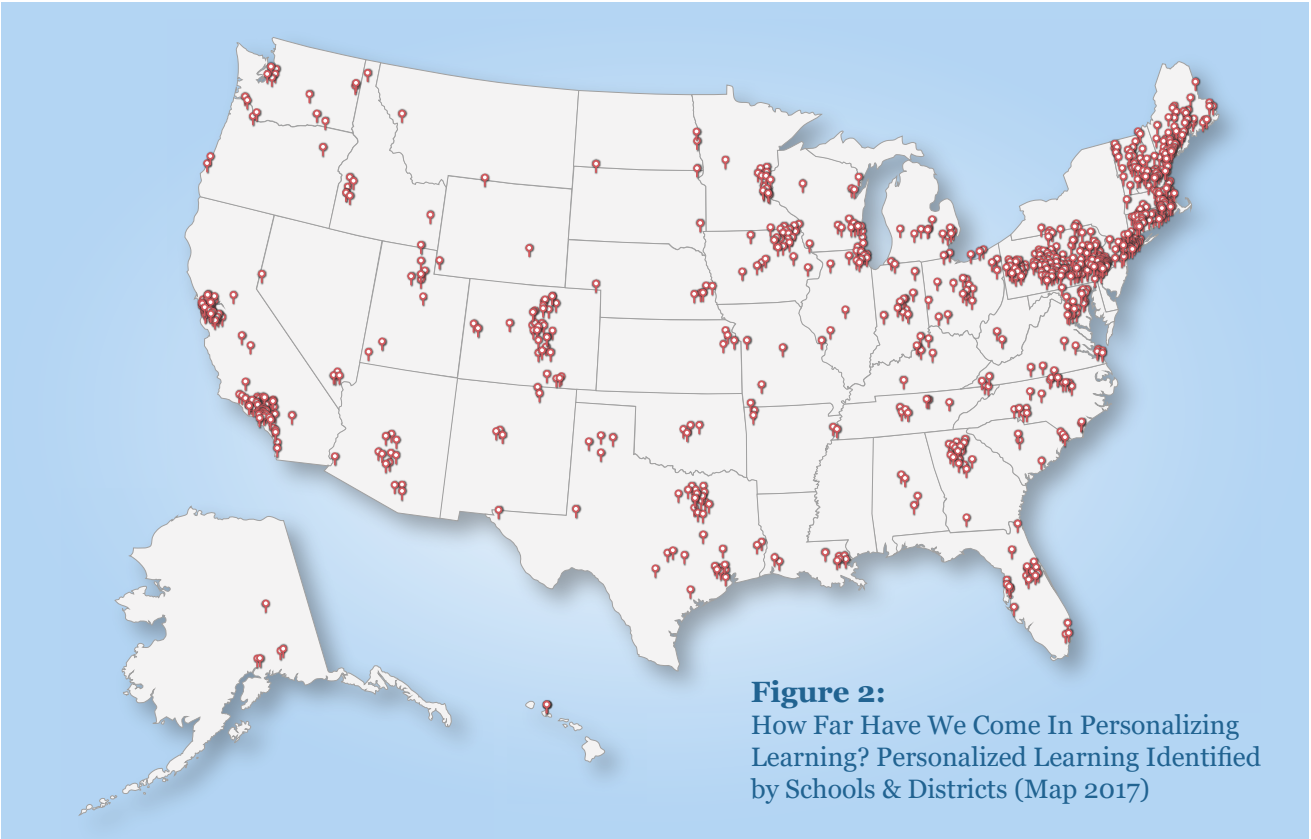


Figure 2:
How Far Have We Come In Personalizing Learning? Personalized Learning Identified by Schools & Districts (Map 2017)

As interest and engagement in personalized learning has grown, so too has the ecosystem of support and policy. Our review of the 2017 Symposium proposal submissions, along with a series of 12 in-depth interviews with leading educators, reveals four supporting practices that are helping to grow and scale personalized learning models:

- Professional learning communities
- Learner profiles informed by academic and behavioral data collection processes
- Learner agency as reflected by the use of learning progressions
- Integrated student support services.

Personalized learning is also now encouraged and supported by federal and state policy. The Every Student Succeeds Act (ESSA), enacted in December 2015, gives states and localities flexibility to redefine student success, to create innovative assessment pilots, and to work with communities on redesigning education systems to be more flexible, responsive and connected to the real world.[3] (See pull out box on "Opportunities to Advance Personalized Learning in the Every Student Succeeds Act" for more detail.) In the states, personalized learning appears in state regulations in Rhode Island, New Hampshire and Vermont. (See pull out box on "Personalized Learning in State Regulations" for more detail.) Other states have made important progress on competency-based learning — a central element of the foundation for personalized learning. Pilot programs in places like Ohio,[4] Idaho,[5] Utah,[6] Florida,[7] Illinois[8] and Nevada[9] offer an entry point for school leaders and educators to design new personalized learning models that ensure every student progresses through competency-based pathways.

OPPORTUNITIES TO ADVANCE PERSONALIZED LEARNING IN THE EVERY STUDENT SUCCEEDS ACT (ESSA)

ESSA explicitly allows schools to use federal funding to support personalized learning in the following provisions.

- Under ESSA Sec. 1003A on "Direct Student Services," states may reserve up to 3 percent of their Title I, Part A grant to distribute grants to local education agencies that can include "components of a personalized learning approach, which may include high-quality academic tutoring."
- ESSA Title IV, Sec. 4106(d) on "Student Support and Academic Enrichment," requires that local educational agencies receiving grant funding of at least $30,000 to conduct a comprehensive needs assessment and examine the needs for "access to personalized learning experiences supported by technology and professional development for the effective use of data and technology." Furthermore, a portion of the program's funds must be used to increasing effective use of technology to improve academic achievement, academic growth and digital literacy of students. Such activities include increasing capacity for educators to create blended learning and personalized learning strategies.

In addition, ESSA includes new opportunities that could be leveraged to support experimentation and innovation, such as:

- Allowing states to create statewide systems of assessments that better align to student centered learning with the possibility to measure individual student growth, include performance tasks, assess when ready with multiple assessments over time, and provide adaptive assessments that measure student knowledge and skills below, at and above grade level.
- For states that wish to pilot new systems of assessments in a subset of districts and schools before scaling statewide, ESSA provides in Section 1204 a new *Innovative Accountability and Assessment Demonstration Authority*. Initially, up to seven states may be approved to participate in this pilot program.
- There is an opportunity for states to rethink accountability models for continuous improvement, with multiple measures that could align to a new, more comprehensive definition of success, and unprecedented transparency to inform school transformation and encourage reciprocal accountability.
- In eliminating No Child Left Behind's "Highly Qualified Teacher" provision, ESSA provides a chance for states to engage with stakeholders to define the educator and leader knowledge and skills necessary for supporting student success in personalized learning models.

PERSONALIZED LEARNING IN STATE REGULATIONS

- **Rhode Island** state regulations 204-RICR-20-00-06 require all middle and high schools to implement strategies for creating personalized learning environments. Middle and high school educators must participate in at least 15 hours of professional development annually focused on the state's priority areas, including graduation by proficiency and personalization. All middle and high schools must provide common planning time to teachers focused on the state's priority areas, including graduation by proficiency and personalization.
- For almost two decades, **New Hampshire** has consistently and steadily supported systemwide transformation from traditional, one-size-fits-all education to personalized, competency-based approaches. New Hampshire adopted a rule change in 2008, Section Ed 306.27, which allows districts to create their own competencies and required high schools base academic credit on demonstrations of mastery. Districts building competency-based models could create opportunities for students to move at a flexible, personalized pace to progress and demonstrate their learning and provide access to anytime, anywhere learning opportunities.
- **Vermont** has pursued one of the most comprehensive statewide policy approaches to personalized learning. Vermont state law, Act 77, requires school districts to offer flexible pathways to students and create Personalized Learning Plans for every student in grades 7-12 that enable students to take advantage of these flexible pathways. Vermont's Education Quality Standards (EQS) require supervisory unions and districts to implement proficiency-based graduation requirements, create balanced systems of assessments, participate in a collaborative continuous improvement process and develop educator and school leader capacity for personalized learning.

IV. Taking Stock of the Progress

The excitement about personalized learning is real. We also know from our school visits and meetings, however, that shining examples and exemplars belie the reality that most schools and districts are only dipping their toe into personalized learning. Schools are trying out new models, but they may only happen in a handful of classrooms. Although teachers may be excited, they struggle to translate the ideas of personalized learning into their day-to-day practice. This mix of excitement and variability makes now an opportune time to take a look across the field at classrooms and schools and ask:

- How far have we come in personalizing learning?
- How comfortable are teachers in allowing students to shape their own pathways through learning?
- How often do students feel their learning reflects and responds to their talents, interests and needs?

V. A National Scan of Personalized Learning: The Voices of Teachers and Students

Beginning in May 2017, iNACOL, the Center on Reinventing Public Education (CRPE), LEAP Innovations and NORC partnered to administer to teachers and students a series of questions from the LEAP Personalized Learning Surveys for Teachers and Students™ probing the extent to which their classrooms reflected the core elements of the LEAP Learning Framework™. The LEAP Learning Framework was developed alongside leading experts, school leaders and teachers to provide educators with a clear definition of personalized learning and the strategies to put it into practice. Closely tied to iNACOL's definition of personalized learning, the LEAP Learning Framework features the following foundational principles:[10]

- **Learner Connected**™ - Learning transcends location in relevant and valued ways, connected to families, educators, communities and networks.
- **Learner Focused**™ - Empower learners to understand their needs, strengths, interests and approaches to learning.
- **Learner Demonstrated**™ - Enable learners to progress at their own pace based on demonstrated competencies.
- **Learner Led**™ - Entrust learners to take ownership of their learning.

The LEAP Personalized Learning Surveys are designed to capture three of these four foundational principles and provide integrated scales on the first three elements — Learner Focused, Learner Demonstrated and Learner Led. All survey questions are designed so that any teacher or student, whether they were familiar with personalized learning or the LEAP Learning Framework or not, can answer the questions. For example, one question that intended to capture an aspect of a Learner Demonstrated

environment reads: ***How frequently can students demonstrate proficiency anytime during a unit to demonstrate their mastery of the concepts/skills?*** As a result, the surveys provide a picture of the extent to which the classroom surveyed displays important behaviors and practices associated with personalized learning.

Methodology and Sample(s)

The analysis that follows examines a national sample of teachers and students intended to reflect the patterns of practice across our nation's schools. In addition, we also surveyed teachers in regions and schools that have made explicit investments in personalized learning.

The national teacher sample includes more than 3,600 teachers whose contact information was available via a national list of likely teachers. This national sample reflects teachers and classrooms across the country and not just those involved in explicit efforts to personalize learning. Within the national sample, we oversampled teachers in six regions that have recently made explicit investments in personalized learning. These regions include California, Colorado, New England, Ohio, Texas and Wisconsin.

The national student sample includes more than 1,100 students drawn from NORC's AmeriSpeak panel who completed the student survey. NORC contacted students through their parents and required their parents' permission to complete the survey.

NORC computed statistical weights for teachers and students. These weights are applied to all analyses reported below.

In addition to the national samples, CRPE and LEAP partnered to administer the LEAP Personalized Learning Surveys at schools exploring personalized learning as part of the Bill & Melinda Gates Foundation's Next Generation Learning Challenge Regional Fund Initiative (NGLC) and the Next Generation Systems Initiatives (NGSI). These grant programs provided school districts or regional partners with funding to seed and scale personalized learning in local schools. In the winter of the 2016-17 school year, NGLC and NGSI schools with explicit efforts to either pilot or adopt personalized learning approaches were asked to participate in the LEAP Personalized Learning Teacher Survey. Schools from 10 of the 12 NGLC and NGSI grantees participated, though the number of schools from each varied.

In total, 908 teachers from 38 schools participated. This sample includes schools with a wide range of levels of engagement (in terms of the number of participating teachers) and depth of engagement (in terms of the length of engagement). However, all participating schools have had some explicit exposure to the core elements of personalized learning and are being supported in some way to shift their practice toward personalized learning. Results from this sample compared with the national sample are provided below.

Though the items for the National Personalized Learning Scan are based on the LEAP Personalized Learning Surveys, the national instruments and their administration differed in important ways. First, the full LEAP survey includes several items that do not relate directly to the three components of the Framework. To make the national survey shorter, we eliminated all items that do not fall into one of the three Framework components for which scales are generated. Second, the National Scan was conducted in late spring for teachers and over the summer for students. LEAP typically offers surveys during the fall and spring terms. Though we made no changes to the teacher items, student items were re-written to be retrospective. In addition, students were not asked to comment on their experience in a specific teacher's class but instead on their experience in either their math or language arts class. Third, the LEAP surveys are typically administered through schools with multiple teachers and students per school completing them. The National Scan, however, was administered at the individual level. Teachers and students responding to the National Scan are unlikely to be from the same school or even city.

The implications of these differences cannot be fully known, but a few considerations are worth noting. First, an aspect of the Learner Focused component of the Framework is the degree to which teachers feel they know and understand the needs, interests and motivations of their students. Teachers responding at the end of the year will have had more time to build these relationships than teachers responding during the fall or winter. This issue is a particular concern when comparing the NGLC/NGSI sample with the national sample. Second, asking students to reflect on experiences in their prior school year as opposed to commenting on their current school year may distort their responses, though it is unclear in what direction.

The following discussion provides a descriptive account of the survey data. For individual survey items, we report the weighted frequencies for individual items. When comparisons are made across sample groups, we note when differences are significant at a 95 percent confidence level.

VI. How Are U.S. Teachers and Students Engaging in Personalized Learning?

The decades-long effort to increase academic standards reinforced with assessment has left its imprint on classrooms across the country. Over the last 20 years, educators developed their capacity to deliver on standards, track students' progress on the standards and address learning gaps with data-driven instruction and focused acceleration. Providing personalized pacing, marking progress through competency, and allowing students to shape their own learning never fully disappeared but took a decided back seat as teachers took on increasing demands to show students meeting standards.[11]

Before diving into responses on individual survey questions, we consider aggregate scales reflecting three central components of the LEAP Learning Framework: Learner Demonstrated, Learner Focused and Learner Led. These scales show the extent to which each survey respondent's answers reflect the implementation of underlying principles of each of the framework components. The scaled scores range from 200 to 300.[12] Based on the judgments of an expert panel of instructors, a standard set of cut points was defined within the scales indicating the level of progression achieved toward LEAP's vision of personalization for each component. The categories correspond with response patterns that the expert panel would expect from teachers in which:

- personalization is just starting to show (emerging personalization),
- personalization is apparent but not a consistent presence (moderate (low) and moderate (high) personalization), and
- personalization is consistently present in the classroom (high personalization).

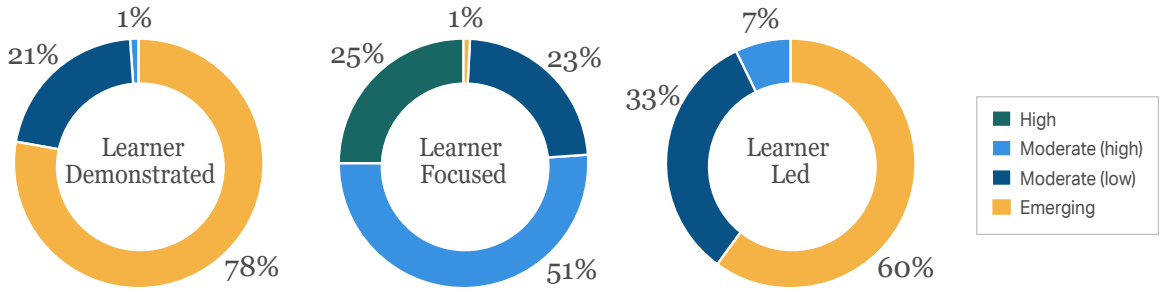
It is important to remember that these judgments are based on the expectations and understanding of personalized practice by the expert panel at that time. As we stand early in this effort, these judgments are sure to be honed and refined over time.

The National Scan shows how deep the imprint of standards and assessment reform was pressed. Looking across the three personalized learning components in the LEAP Learning Framework in Figure 3, we see that teachers across the country create classrooms that are Learner Focused. That is, teachers are creating environments in which they come to know their students individually and students have the opportunity to understand themselves as individuals and as learners. Based on teachers' responses from the National Personalized Learning Scan, nearly 70 percent of teachers are providing moderate-to-high levels of Learner Focused environments in their classrooms.[13]

When it comes to creating classroom environments that allow students to demonstrate their learning in their own way and at their own pace and classroom environments in which students are shaping what and how they learn, however, United States classrooms are well behind. Nearly 80 percent of elementary and middle school classrooms across the country show few measurable signs that students can proceed through content at their own pace (Learner Demonstrated) and slightly more than 60 percent of classrooms show few measurable signs that students are enabled to take ownership of their learning so that it can dynamically adjust to their skills, curiosity and goals (Learner Led) (See Figure 3).[14]

Figure 3.
To what extent are the nation's classrooms personalized?
The LEAP Learning Framework in Teachers' Survey Responses

Elementary/Middle School



Though these overarching results offer a sobering outlook on the reach of personalization in our nation's classrooms, there are interesting nuances within these scales that offer insights into where personalized learning might be finding a foothold and the foundations upon which this effort might advance.

1. **Most teachers understand their students as learners and use this knowledge to shape students' learning experiences.**

The survey responses from both teachers and students suggest that most teachers are getting to know their students as learners — that is, identifying academic strengths, weaknesses and interests. The old stereotype of teachers spending nearly all of their time at the chalkboard in front of a class delivering content is not reflected in the survey responses. Teachers commonly report that they dedicate instructional time for one-on-one or small group discussions with their students. Ninety-one percent of teachers say they meet some or all of their students one-on-one with 45 percent saying they meet with all of their students one-on-one. Eighty-three percent of teachers say they take the time to work with students in small groups.

Given this use of time, it is not surprising that these teachers frequently feel they understand their students' academic needs. More than 50 percent of teachers report that they understand the learning challenges and strengths of at least three-fourths of their students, as shown in Figure 4. Students alike report that their teachers understand their learning needs, with 50 percent agreeing that their teachers knew how he or she learned best and his or her interests.

Bar graphs should be interpreted as the percent of responses that fell into each response category. For example, in Figure 4, about 2% of elementary teachers responded that they know "Very few or none" of their students' strengths. Another 20% of elementary teachers knew "Fewer than half" of their students' strengths, and 28% knew "Half to three quarters" of their students strengths. Most teachers, about 33%, said they knew "More than three-quarters" of their students' strengths, while only about 17% knew "All students'" strengths

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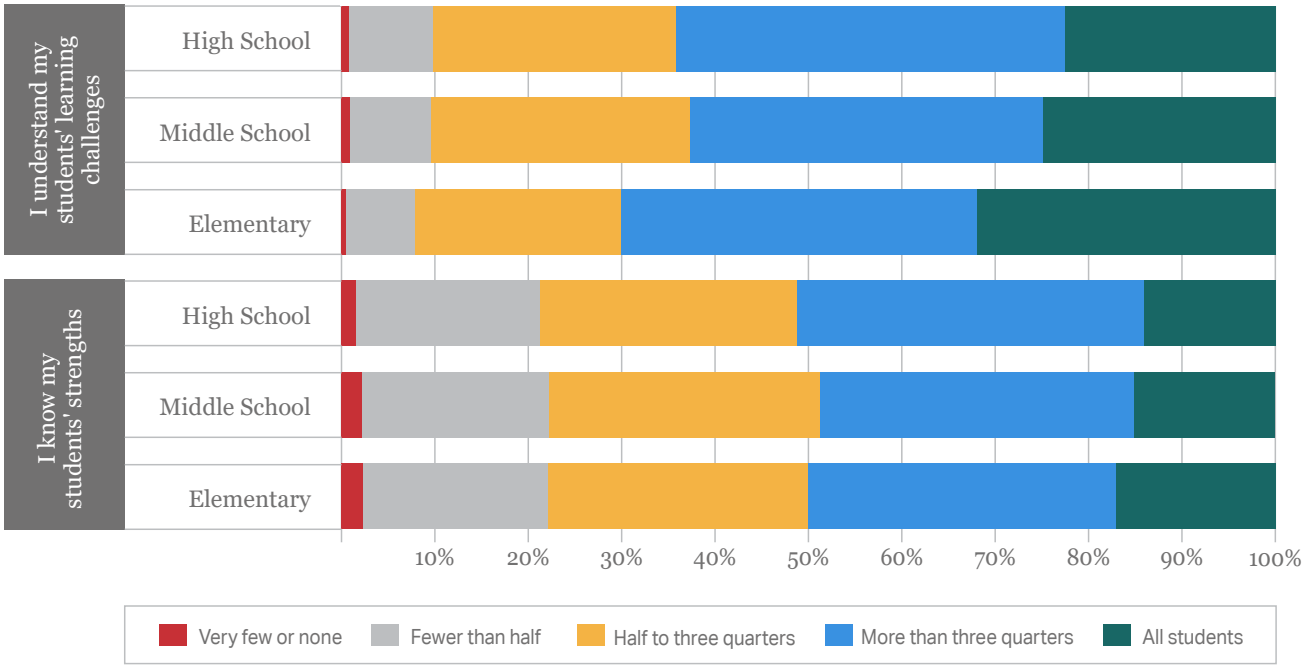
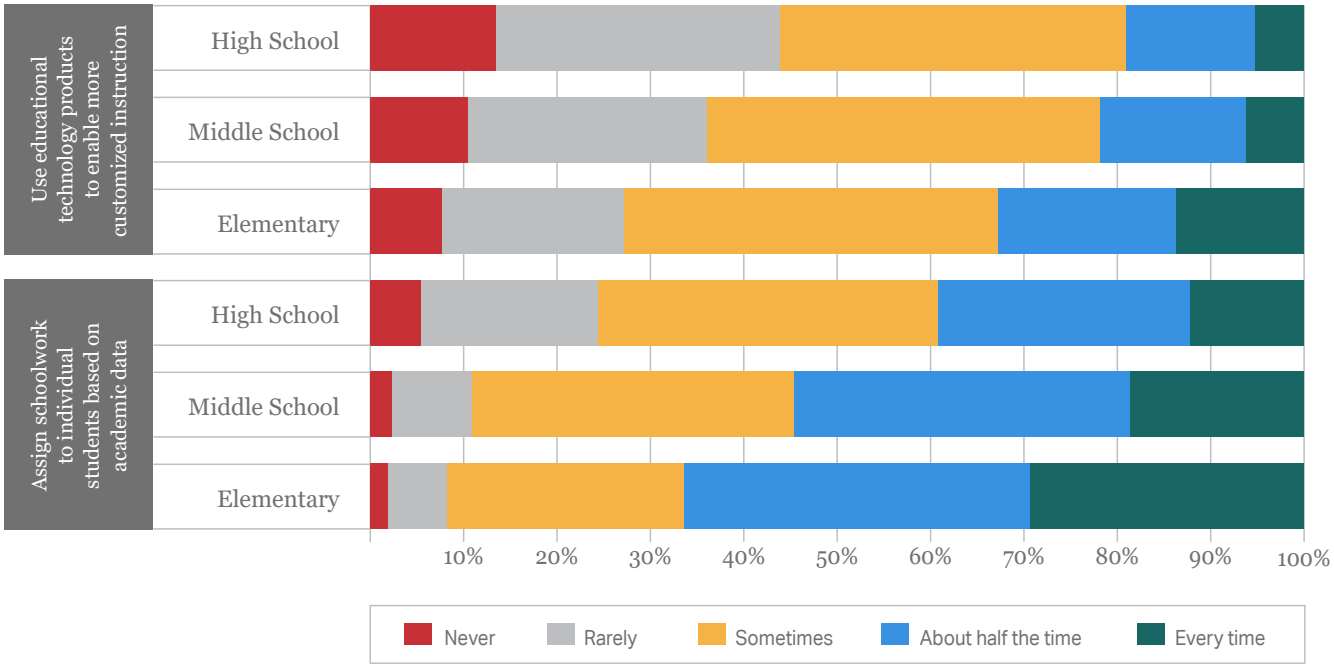
Figure 4. Teacher understanding of student strengths and challenges



Elementary and middle school teachers commonly report making use of their knowledge of students in their instructional practice, as shown in Figure 5. Sixty-seven percent of elementary teachers and 54 percent of middle school teachers report assigning work to students based on assessment data at least half the time they are assigning work to students. Notably, high school teachers were much less likely to report that academic performance data helped to guide their instruction.

Figure 5. Level of individualized work students receive



2. Teachers, especially in high schools, express less familiarity with students' communities and non-academic interests, and many students do not see their experiences reflected in their school work.

When talking with teachers in schools implementing personalized learning, CRPE researchers asked them the difference between differentiation and personalization. Their response: when learning is personalized, it is not only tailored to students' individual learning levels and needs, but reflects their interests, personalities, experiences and the world around them. In theory, this would create more diverse and enriching instruction for students, with increased student achievement as a benefit, but also more demanding expectations for teachers than just understanding students as learners. Indeed, responses from most students and a large percentage of teachers in our national survey suggest that teachers could do more to understand students as more than learners.

Research on brain development and the learning sciences indicates that the quality and depth of student learning are enhanced when learning experiences align with students' interests, fostering meaningful connections to the learning material.[15] Though at least half of teachers at all levels reported that they knew the outside interests and motivation to learn for at least 75 percent of their students, only 40 percent of students agree that their teacher knows what activities they like to do outside school, as shown in Figure 6. It should be noted that this gap likely reflects somewhat different expectations between teachers and students in what it means to "know" students' interests. Cognitive interviews with teachers and students conducted by LEAP show that teachers interpreted the questions on understanding students as "expressing an interest in learning about" their students' interests. Whereas students expected teachers to actually "know" their interests before they responded that teachers understood their motivations and interests. That is, students placed a higher bar for knowing their interests than the teachers did when responding to the question. This difference may explain the gap in response.

Getting to know students' lives outside of school seems particularly tough for high school teachers. Seventy-two percent of elementary teachers reported knowing the family life for at least three-fourths of their students and nearly 69 percent of elementary teachers reported knowing at least three-fourths of their students' community, as shown in Figure 7. But high school teachers, who typically teach more than 100 students at a time, reported far lower rates of familiarity with their students' families and communities. (Middle school teachers were only slightly more familiar than their high school counterparts.)

Figure 6. Teacher understanding of student interests and motivations

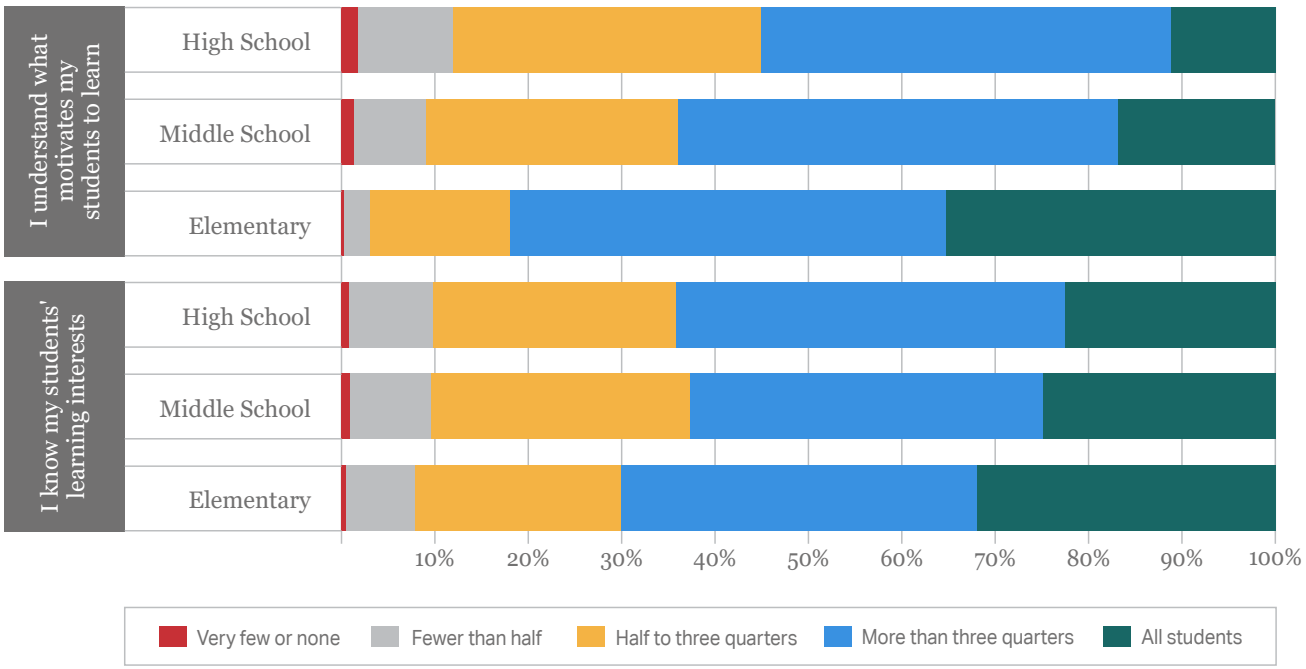
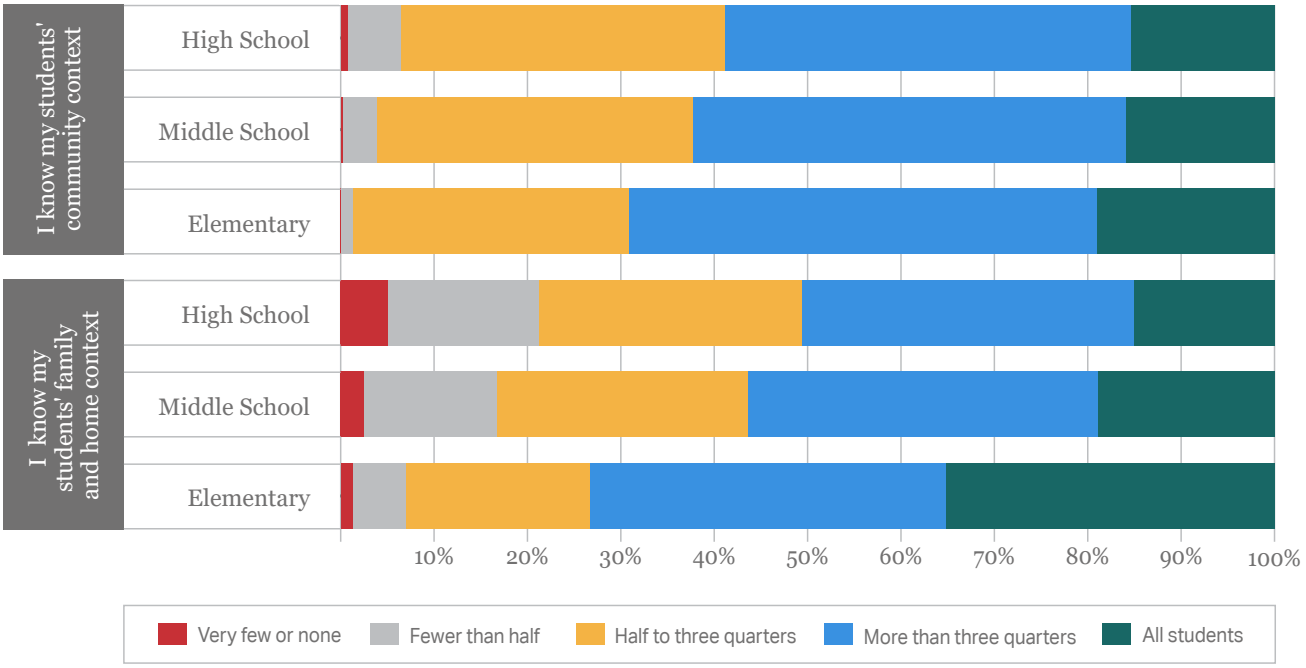


Figure 7. Teacher understanding of students' life experience outside of school



When it comes to helping students recognize the relevance of their school work to the world in which they live, the results are mixed. Fifty-five percent of surveyed elementary students strongly or mostly agreed that their teacher connected what they were learning to the world outside the classroom, as shown in Figure 8. Only about 40 percent of middle and 35 percent of high school students felt the same way. Teachers, however, more commonly felt they brought students' interests and the outside world into learning. More than 60 percent of teachers reported that they incorporated students' interests at least half the time, and 83 percent reported that they helped students draw connections to the outside world at least half the time.

Figure 8. Student perception of teacher's use of interests and connections to broader world

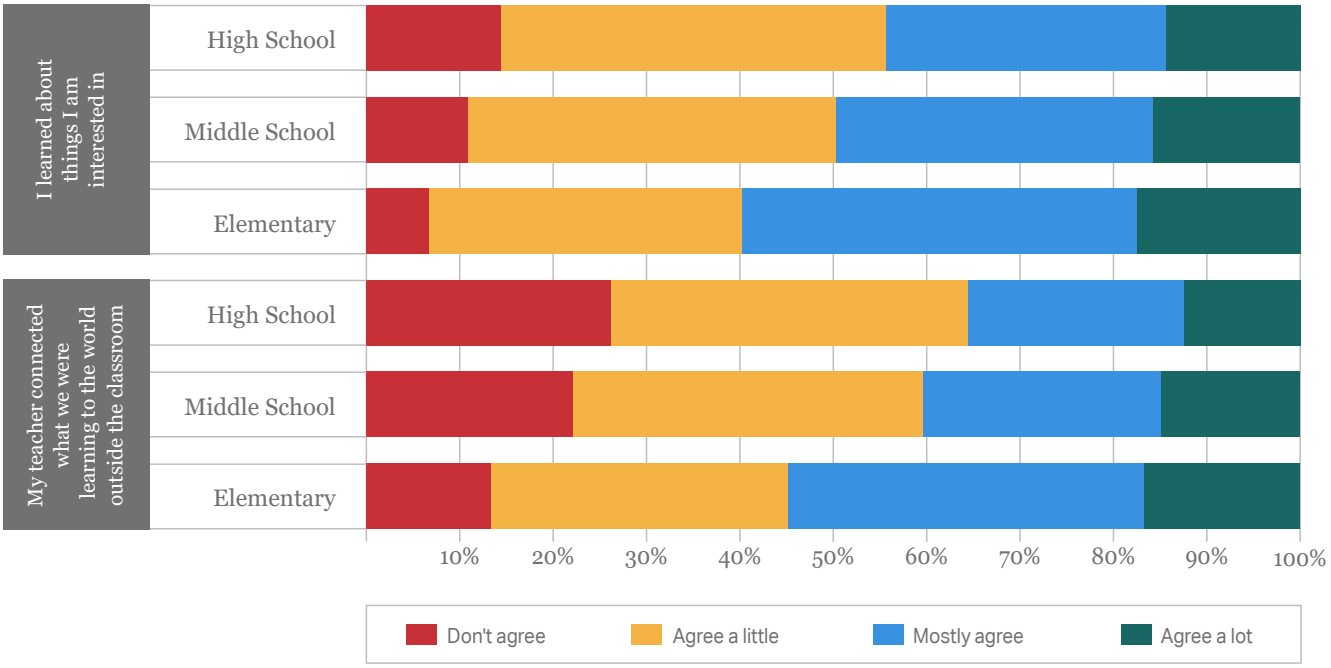
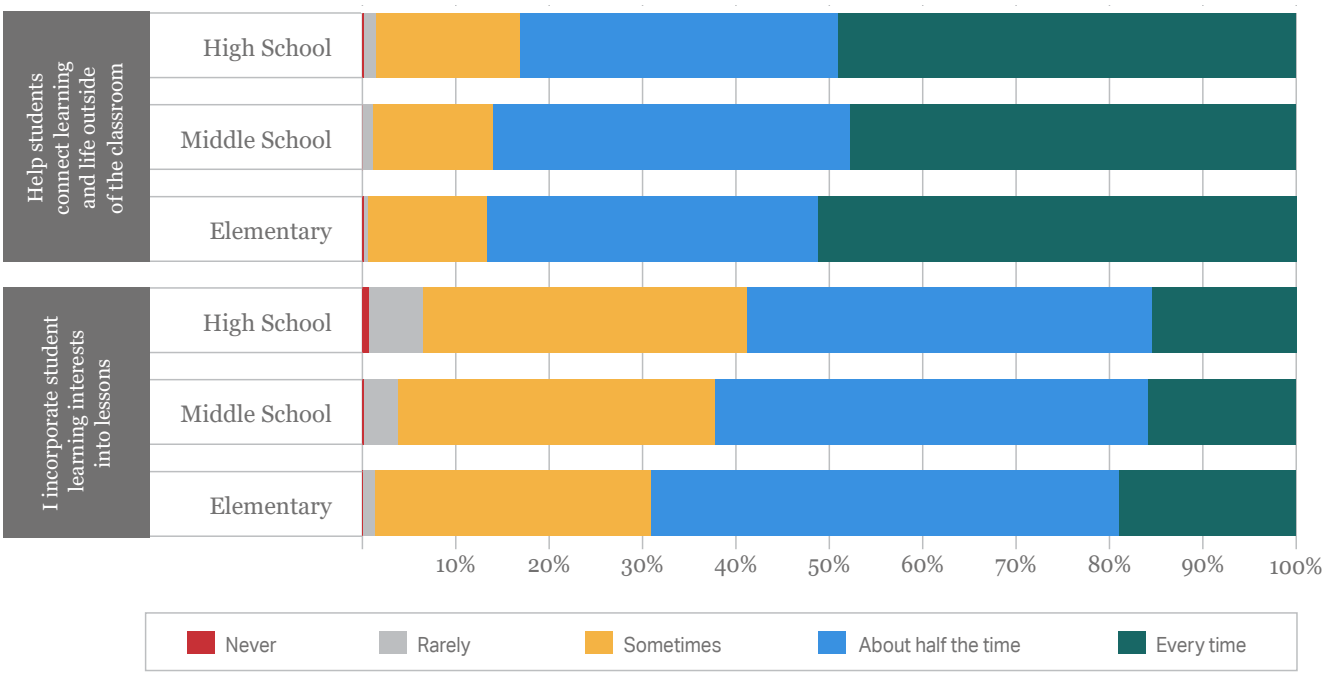


Figure 9. Teachers' reported use of student interests and connections to broader world

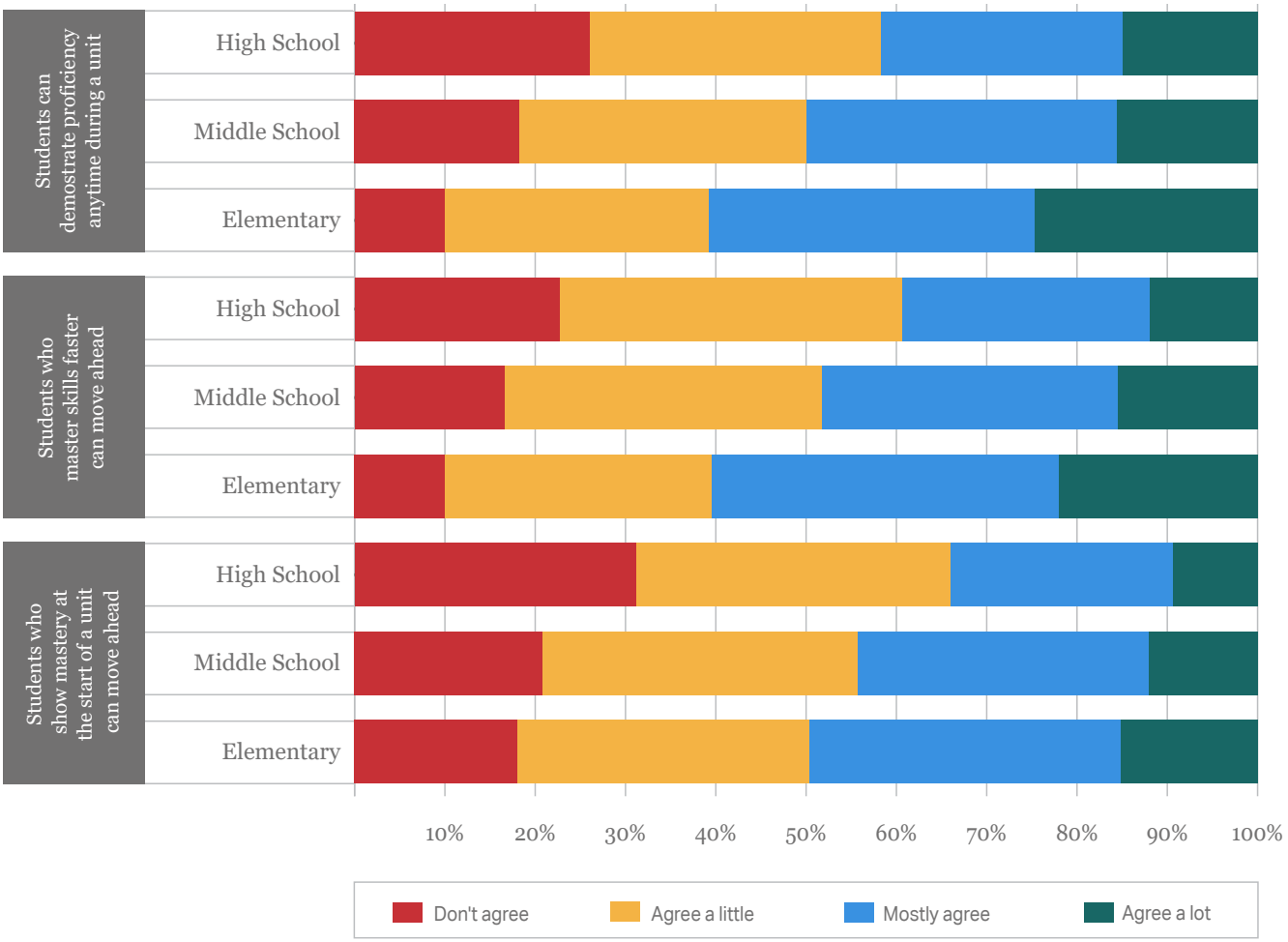


3. Most teachers are reluctant to give students control of pacing, content and learning activities.

In personalized learning, students are expected to collaborate with their teachers to set the pace for their progress and shape what and how they learn. However, giving students more control over pace, content and learning activities is among the toughest transitions for teachers engaged in personalized learning. In interviews, teachers told us that the pressure to meet learning standards, worries about classroom management and uncertainty about students' self-direction make the idea of turning control over to students very risky. This natural reluctance to cede control is reflected in the National Personalized Learning Scan.

By and large, the unit structure (content divided into units that close with a test or an assessment) still governs pacing in most classrooms, although there might be some flexibility within units. Only 20 percent of students reported that their teachers would let them skip a topic if they could show they understand it and only about 30 percent of students reported that they would be allowed to move ahead of other students if they showed they understood the topic. Among teachers across all levels, as illustrated in Figure 10, less than half said students who show mastery at the start of a unit could move ahead in the curriculum. During a unit, more than 50 percent of elementary teachers report allowing students to demonstrate proficiency any time and a similar percentage report that they would allow students who master skills faster to move ahead of other students. High school teachers, however, are more reluctant to flex pacing. Slightly more than 30 percent of teachers allow students to demonstrate mastery on units they have already learned and move ahead to the next unit when ready. In our survey, only about 40 percent of high school teachers give students the opportunity to test out of a unit any time or advance if they show mastery faster than other students. (Again, the percent of middle school teachers flexing pacing in the above mentioned ways fall between the high school and elementary teachers.)

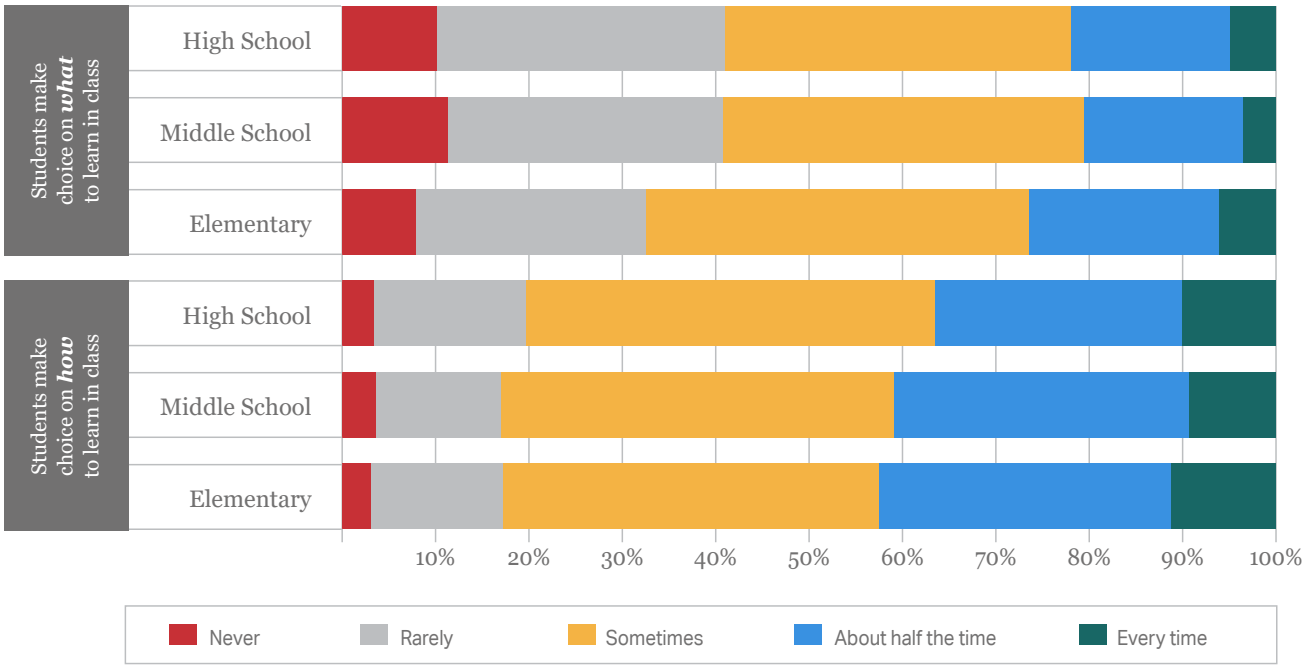
Figure 10. The extent to which teachers report allowing students to move at their own pace



Few students or teachers report that students can regularly determine what or how they learn. About 50 percent of students say that they can decide on their learning activities "sometimes." Less than 15 percent of students, however, report being able to do so at least half the time the class meets. An even higher percent of students actually report never being able to decide on their learning activities.

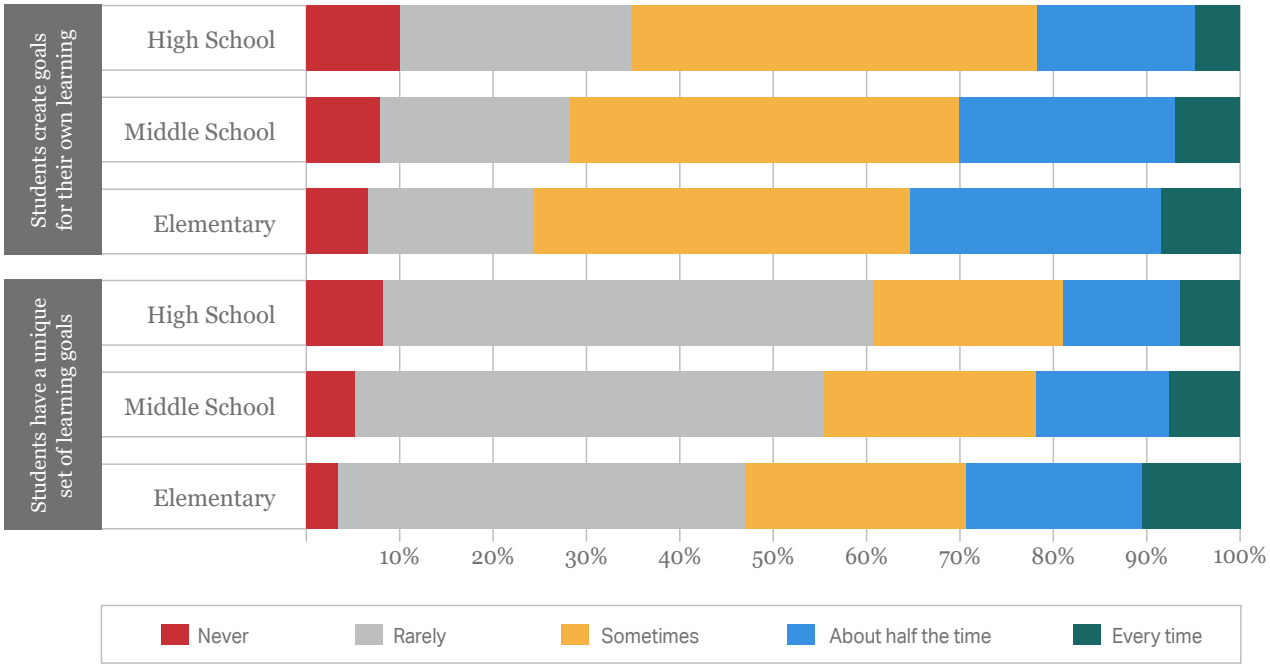
Teachers also report that they tend to maintain control over how and what students learn. As shown in Figure 11, between 36 and 42 percent of teachers allow students to decide their learning activities at least half the time and only between 22 and 27 percent say they allow students to decide what they will learn at least half the time.

Figure 11. How often teachers allow students to choose what and how they learn



In addition, students do not routinely shape their own learning goals or have their own unique set of learning goals. About 32 percent of students say they set their learning goals at least half the time the class meets. Between 22 and 36 percent of teachers, as found in Figure 12, say that students set their own learning goals at least half the time they meet for class. Only between 19 and 29 percent of teachers report that most or all of their students have unique learning goals. Similar to other queries, high school teachers report lower uses of learning goals than teachers at other levels of schooling.

Figure 12. How often teachers personalize and allow students to shape learning goals



4. The student experience with personalized learning generally doesn't appear to vary by race, ethnicity, or socioeconomic background.

Recently, researchers and advocates have raised concerns that low-income or students of color have less access to non-traditional learning models like personalized learning. Whether due to cultural traditions about what schools should look like or structural concerns such as the drive for test results in schools serving a high concentration of students falling below grade level, critics have worried that some students are being left out of these instructional innovations.[16] However, the survey reveals some encouraging signs.

Among the students we surveyed, we found only two statistically significant differences in the learning experience by race, ethnicity or the socioeconomic status of students' families. First, white students were less likely than black or Hispanic students to say that they shaped their own learning goals at least half the time, as shown in Figure 13. Second, black students were less likely to say that their teachers connected their content to the outside world, as shown in Figure14. We saw no significant differences by parents' education, which we use as a proxy for the socioeconomic status of students' families.

Figure 13. Students report setting their own learning goal

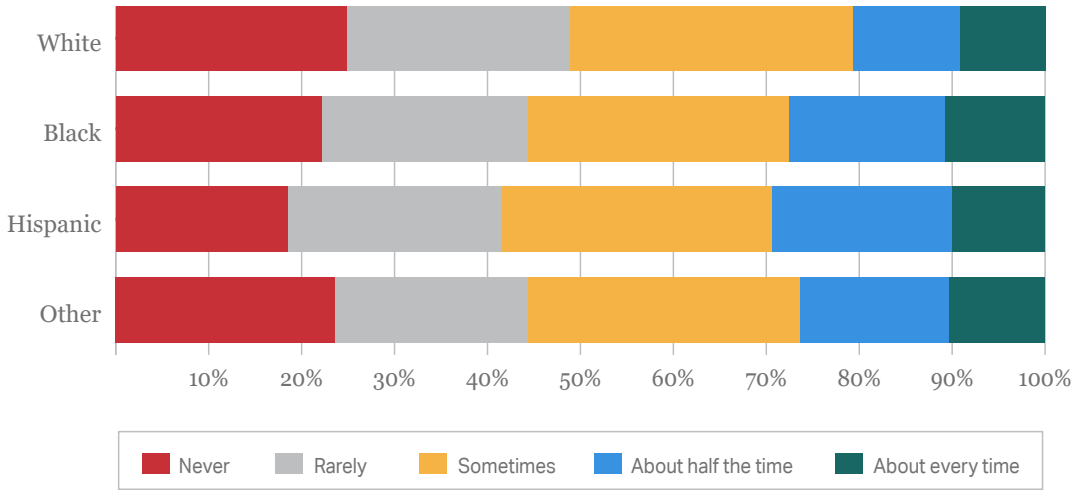
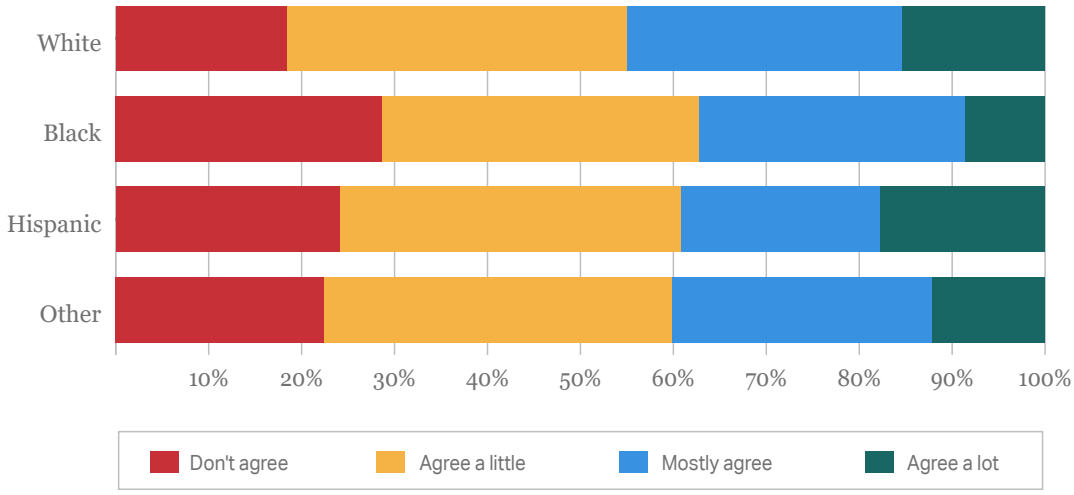


Figure 14. Students report that teachers connect learning to the outside world



Importantly, our survey examines students' learning experiences nationally and can only confirm if students' learning experiences typically incorporate personalized learning in ways that vary systematically with students' race, ethnicity, or socioeconomic status. Nationally, however, only a fraction of schools are pursuing personalized learning or other non-traditional models with considerable intent, and we don't know if their student populations broadly mirror schools in general. It is still possible that minority and low-income students are under-represented in the subset of schools pursuing personalized learning. Although this analysis cannot tell us if low income and minority students are under-represented among personalized learning schools, this question of equal access is a significant concern in our organizations and for other national leaders. A serious and thorough examination of equitable access should be a priority for future research.

VII. Looking Forward: What Are the Opportunities to Support Personalized Learning?

The discussion to this point shows that many central elements of a personalized learning environment are still only emerging on the national landscape. The national scan, however, offers a few points of light that could be leveraged to support a shift toward more personalized learning.

Technology and data seem widely available across classrooms, especially in high schools. Technology tools, which can facilitate independent pacing, differentiation to support students working at different levels or with different challenges, assessment and content delivery, appear widely available across classrooms, particularly high schools. Sixty percent of middle and high school teachers report that students have access to one-to-one devices (such as laptops or tablets) in their classrooms. The rate is lower in elementary schools but still as high as 52 percent.

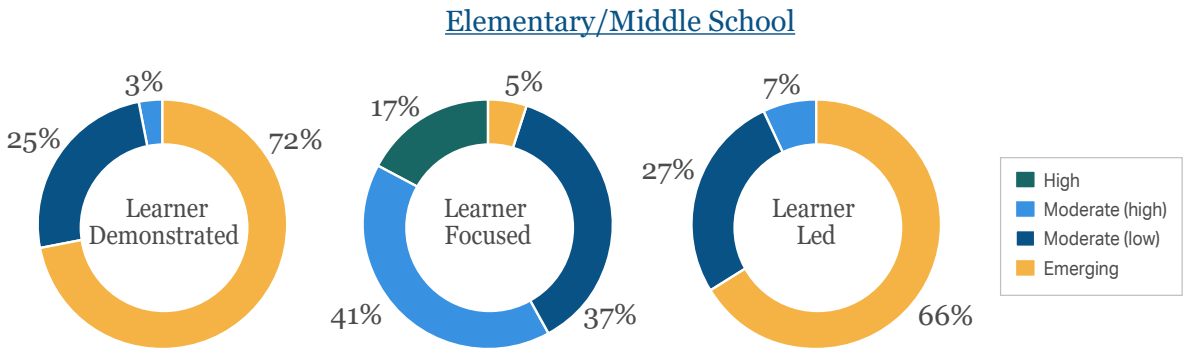
Teachers also reported that they use technology to support differentiation and access to learning content. Forty-six and 36 percent of elementary and middle school teachers, respectively, use software to differentiate instruction at least half the time. High school teachers are less likely to use software to differentiate instruction but more than 50 percent report that their class material is available to students online, opening up opportunities for anytime, anywhere learning.

Teachers in "NextGen" schools are more likely to give students control over their pacing and learning. Since 2015, schools in six districts and six other areas supported by regional partners have sought and tested new school, classroom and instructional models to personalize learning.[17] Teachers in these "NextGen" schools had access to a range of support from their central offices, regional partners, consultants and national networks to learn about and implement strategies to do so. The NextGen schools differ in their approaches to personalized learning. For example, some schools reconfigured their school schedule to provide students with large blocks of flexible time that students use by their own design. Some schools incorporated technology stations into classic station rotation models. Others restructured

classes and staff to allow for flexible grouping across grade levels. Still, others advanced teachers' capacity to deliver content through complex student-directed projects. Despite the different approaches, in interviews, participating teachers across the initiative expressed a shared, underlying interest in providing for tailored learning experiences that students had some hand in shaping.

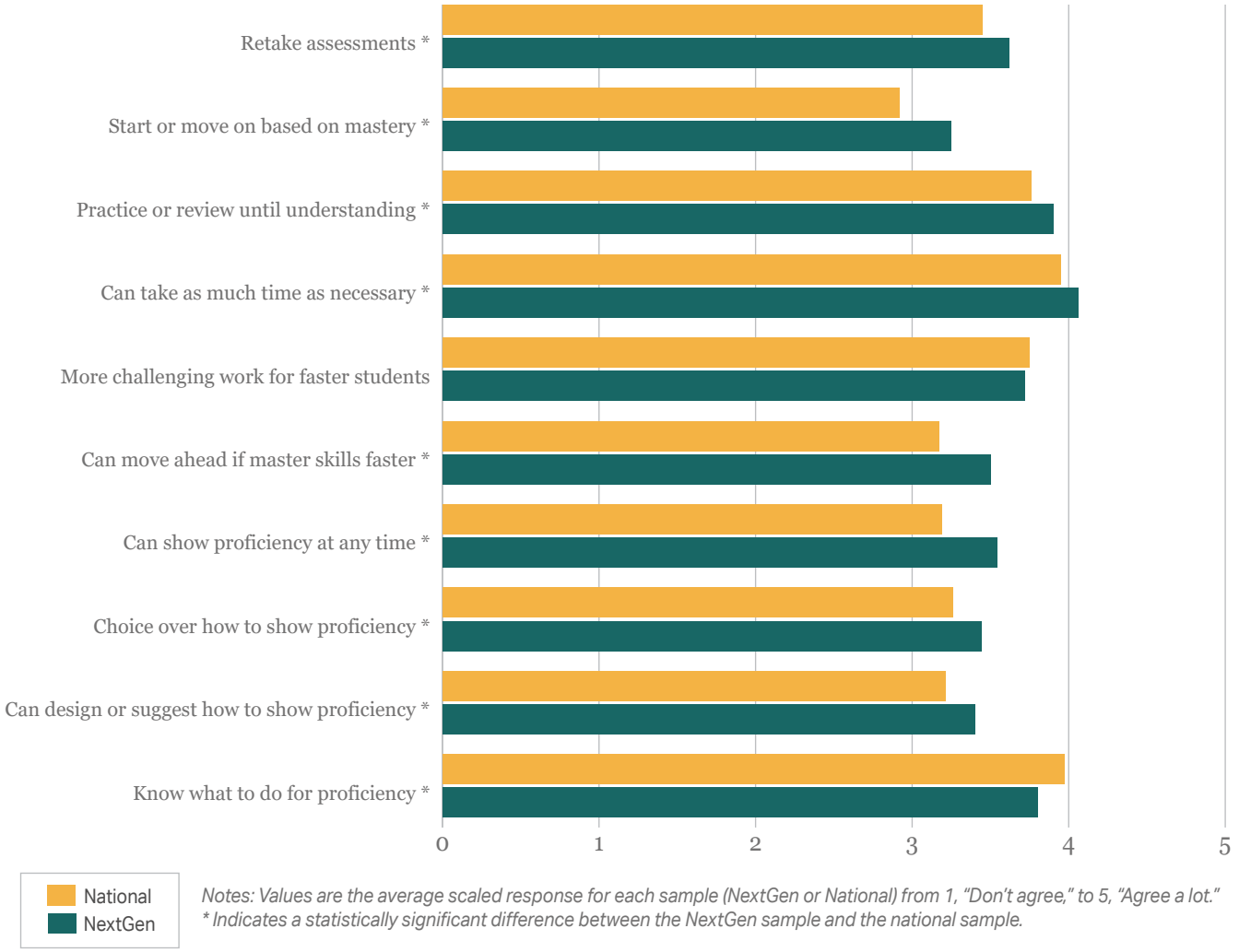
As such, we might expect that these schools have more commitment or intention than the average school in our national sample; indeed many of them define or market themselves explicitly as personalized learning schools. But are teachers in NextGen schools more likely to incorporate LEAP's Learning Framework components into their practice? An earlier survey by RAND suggests that teacher practice in schools explicitly seeking to personalize learning differs very little from the typical classroom teacher in the country. Though the RAND survey was designed to capture a vision of personalized learning that drew more heavily on technology than our National Personalized Learning Scan, and the national sample was drawn by a different methodology, we too found that the national sample and NextGen sample reported comparably on several items. When considering the aggregate scales on the three LEAP Learning Framework components, the NextGen elementary and middle schools included in our study do not appear markedly different from schools nationwide, except for appearing to focus less on student interests and background (Learner Focused). (See Figure 15.)

Figure 15.
To what extent are the NextGen classrooms personalized?
The LEAP Learning Framework in Teachers' Survey Responses



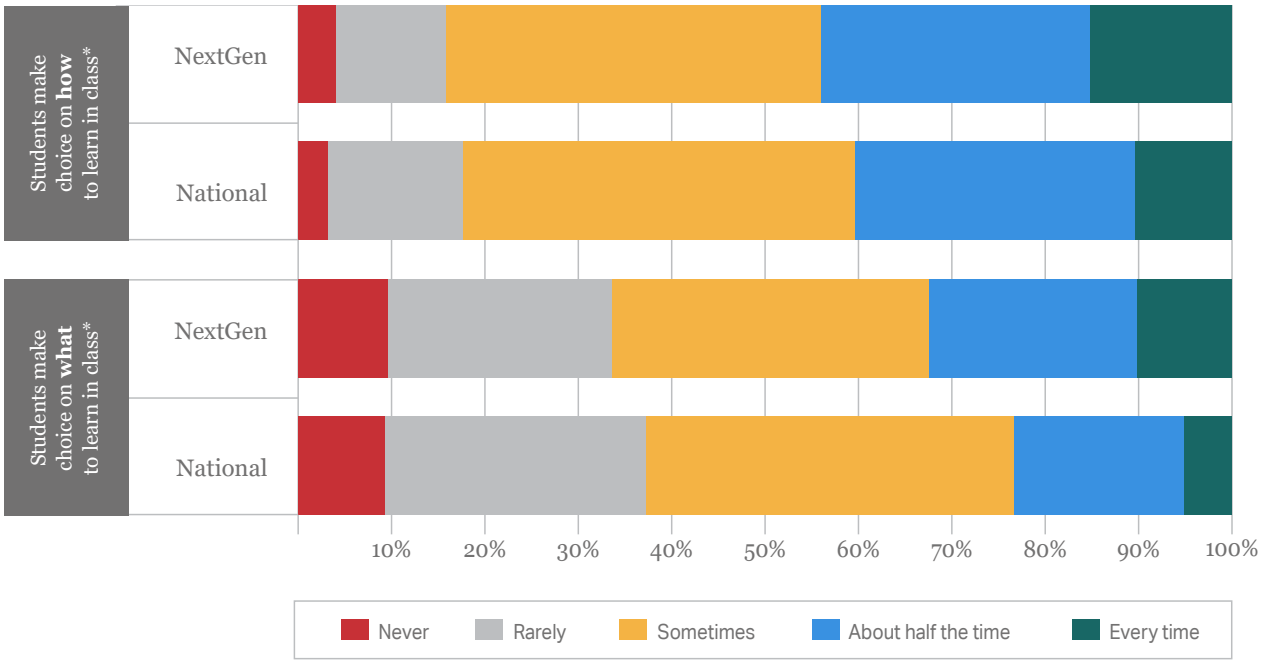
When we look at the items comprising these scales, however, we found compelling distinctions. Teachers in NextGen and national samples reported that students have access to performance data at least 50 percent of the time the class meets. The samples also report giving students opportunities to reflect on their work at similar frequencies. Teachers from NextGen schools were significantly more likely to report giving students more flexibility and control in their learning. As shown in Figure 16, these teachers report giving their students many opportunities to demonstrate their learning throughout units, allowing them to move ahead once they demonstrate their understanding of topics, and giving students more time to master topics if they need it. These differences are most pronounced among middle and high school teachers, who in the national sample are least likely to allow this kind of flexibility. Teachers in NextGen middle and high schools are also more likely to give their students more control over what and how they learn, as shown in Figure 17.

Figure 16. The extent to which NextGen and national sample teachers give students flexibility in pacing (all grade levels)



Notes: Values are the average scaled response for each sample (NextGen or National) from 1, "Don't agree," to 5, "Agree a lot."
** Indicates a statistically significant difference between the NextGen sample and the national sample.*

Figure 17. Comparing the extent to which students choose how and what they learn in NextGen schools and national sample (all grade levels)



** Indicates a statistically significant difference between the NextGen sample and the national sample.*

Surprisingly, NextGen teachers also report less familiarity with their students than their national peers. Personalized learning teachers reported weaker responses than their national peers in nearly every item probing the extent to which teachers spent time in one-on-one meetings discussing students interests, strengths and challenges; the number of students for whom they understand the child's home life, community and interests outside school; and the number of students for whom the teacher felt knowledgeable of the students' learning strengths, weaknesses, motivations and learning standards already met. This is true even when accounting for the grade span and the urbanicity of schools.

The consistency with which the teachers from NextGen schools under-reported their national peers is remarkable and begs the question why. There are a few plausible answers. First, the NextGen teachers responded to the survey several months before their national counterparts. These differences may simply reflect the fact that the NextGen sample had, at the point of survey, spent less classroom time with their students than the national sample. LEAP has found in prior survey administrations that some areas of greatest growth between fall and spring include those related to teacher knowledge of the student, including interests, strengths and

> ***Schools with teachers who are struggling to make connections with students explicitly seek personalized learning in an effort to remedy that concern.***

needs. Second, teachers in NextGen schools may have a higher than average set of expectations about what it means to know a child's learning needs, motivations, community and family (especially if they have been exposed to more training, examples, or planning time where they considered what this "looks like" at a personalized learning school). A third conclusion is that schools with teachers who are struggling to make connections with students explicitly seek personalized learning in an effort to remedy that concern.

Though the differences between the NextGen teachers and their national counterparts suggest a relationship between committing to personalized learning and changes in classroom practice, it is important to recognize that these surveys are a snapshot in time and can't tell us if practice in these personalized learning schools changed as a result of their engagement. Instead, these analyses show us that teachers at NextGen schools committing to personalized learning are more likely to routinely give students flexibility in their learning than is typical, though they also seem less likely to feel they understand their students' learning needs, personal background and interests.

VIII. Building Blocks for Personalized Learning

As we visited districts and schools, it was clear to us that many educators valued the goals of personalized learning, even while fully acknowledging the lift these goals require. Personalized learning aligns with "what it means to be a teacher" in profound ways; many educators linked their current aspirations to deliver personalized and connected curriculum to all of their students back to their original inspirations to become a teacher. These sentiments carried teachers forward, despite telling us that they were spending long hours reworking lessons, building up a new quiver of strategies and dissecting and rehashing both their failures and successes. But they remained motivated.

The landscape presented here shows that, nationally, most classrooms are far from personalized, flexible and student-centered. Nowhere is this more true than in our high schools where teaching loads, traditions and expectations for college preparation are all likely coming together to reinforce more traditional, teacher-driven teaching models. A national shift toward more personalized learning experiences will challenge educators, school leaders, districts and partners who come to the table. As much as policy and systems are creating space for personalized learning, we will have to do more to encourage teachers and school leaders to shift the culture in their schools toward personalizing, to take the risk of trying new strategies and to identify the supports needed to move schools beyond tinkering.

Teachers across the sample reported knowing students as learners, and students in large numbers reported being known as learners. The harder work on flexible pacing, competency-based progression and student-directed work is yet to be taken on fully.

This National Personalized Learning Scan, however, also reveals a few building blocks from which this movement could expand. Teachers across the sample reported knowing students as learners, and students in large numbers reported being known as learners. The harder work on flexible pacing, competency-based progression and student-directed work is yet to be taken on fully. Teachers in NextGen districts and regions are reporting more flexibility in pacing and giving students more opportunities to direct their learning. We'll be watching to see if these early explorers' efforts take hold systemically, and if they lead educators across the country toward new, more personalized instructional designs that better serve all students' and help reach their full potential. Teachers are also using data and group work to differentiate instruction to students' skills and to incorporate students' interests. Technology, which can be a valuable tool for teachers looking to maximize their students' time inside and outside school, is widely available. Increasing educator capacity to personalize instruction and creating learning environments toward greater student agency require building knowledge and skills to thrive and adapt (and learn how to navigate) in modern contexts. These are all important foundations from which teachers can explore and iterate to create more personalized learning environments.

Resources

Personalized Learning

- iNACOL — *Mean What You Say: Defining and Integrating Personalized, Blended and Competency Education*
- iNACOL — *What's Possible with Personalized Learning? An Overview of Personalized Learning for Schools, Families and Communities*
- iNACOL — *Student-Centered Learning: Functional Requirements for Integrated Systems to Optimize Learning*
- KnowledgeWorks — *The Shifting Paradigm of Teaching: Personalized Learning According to Teachers*
- LEAP Innovations — *LEAP Learning Framework for Personalized Learning*
- LEAP Innovations — *Personalized Learning(s) from the Field: A Report from the LEAP Innovations Pilot Network Cohort 2*
- LEAP Innovations and Afton Partners — *Sustaining Innovation and Preparing for Scale: Financial Sustainability Research and Analysis of Personalized Learning School Models*
- Next Generation Learning Challenges — *Introduction and Overview of the MyWays Student Success Series*
- RAND Corporation — *Designing Innovative High Schools: Implementation of the Opportunity by Design Initiative After Two Years*
- RAND Corporation — *Continued Progress: Promising Evidence on Personalized Learning*

Competency-Based Education

- Achieve — *The Role of Learning Progressions in Competency-Based Pathways*
- *Competency*Works — *What Is Competency Education?*
- *Competency*Works — *Quality and Equity by Design: Charting the Course for the Next Phase of Competency-Based Education*
- *Competency*Works — *In Search of Efficacy: Defining the Elements of Quality in a Competency-Based Education System*
- *Competency*Works — *Meeting Students Where They Are*
- *Competency*Works — *Implementing Competency Education in K-12 Systems: Insights from Local Leaders*
- *Competency*Works — *Maximizing Competency Education and Blended Learning: Insights from Experts*
- Great Schools Partnership — *Proficiency-Based Learning*
- Great Schools Partnership — *Research Evidence for Proficiency-Based Learning*
- Jobs for the Future — *The Past and the Promise: Today's Competency Education Movement*
- Springpoint — *Designing New School Models: A Practical Guide*

Equity

- *Competency*Works — *Designing for Equity: Leveraging Competency-Based Education to Ensure All Students Succeed*
- National Equity Project — Why Equity?
- Jobs for the Future — *Equity in Competency Education: Realizing the Potential, Overcoming the Obstacles*
- OECD — *Equity and Quality in Education: Supporting Disadvantaged Students and Schools*
- UNESCO — *Thematic Indicators to Monitor the Education 2030 Agenda: Technical Advisory Group Proposal*

State Policy to Support Personalized, Competency-Based Education

- American Institutes for Research — *Lifelong Learning Skills for College and Career Readiness: Considerations for Education Policy*
- iNACOL — *Current to Future State: Issues and Action Steps for State Policy to Support Personalized, Competency-Based Learning*
- iNACOL — *Fit for Purpose: Taking the Long View on Systems Change and Policy to Support Competency Education*
- iNACOL — *State Policy & K-12 Competency-Based Education*
- iNACOL — *Meeting The Every Student Succeeds Act's Promise: State Policy to Support Personalized Learning*
- iNACOL — *Promising State Policies for Personalized Learning*
- KnowledgeWorks — *A State Policy Framework for Scaling Personalized Learning*
- KnowledgeWorks — *A Visioning Toolkit for Better Assessments*
- National Conference of State Legislatures — *No Time to Lose: How to Build a World-Class Education System State by State*

Glossary

We find ourselves in a highly creative and visionary time of deconstruction and re-design. Terminology is changing, refining, and expanding. Identifying points of intersection lead us to deeper understanding of how concepts can be woven together. The innovations of practitioners lift our expectations and open new doors. Thus, we offer the following terminology to help us communicate with each other with the understanding that it is likely that many will use different terminology or assign different meaning.

Competency-Based Education

Competency-based education,[18] also known as mastery-based, proficiency-based, or performance-based, is a school- or district-wide structure that replaces the traditional structure to create a system that is designed for students to be successful (as compared to sorted) and leads to continuous improvement. In 2011, 100 innovators in competency education came together for the first time to develop a working definition of high-quality competency education, which includes five elements:

- Students advance upon demonstrated mastery.
- Competencies include explicit, measurable, transferable learning objectives that empower students.
- Assessment is meaningful and a positive learning experience for students.
- Students receive timely, differentiated support based on their individual learning needs.
- Learning outcomes emphasize competencies that include application and creation of knowledge, along with the development of important skills and dispositions.

Curriculum

There are many definitions of curriculum in education. Internationally, the term curriculum or curriculum frameworks refers to the high-level knowledge and skills students are expected to learn and describe (i.e., competencies). The curriculum framework may include student learning objectives or learning standards.

In the United States, the term curriculum also refers to the resources that teachers use when designing instruction and assessment to support student learning, including: the course syllabi, units and lessons that teachers teach; the assignments and projects given to students; the materials (books, videos, presentations, activities) used in a course, module, or unit; and the assessments used to evaluate student learning and check for understanding.

iNACOL will use the term learning experiences to refer to the design of the learning process and the accompanying set of resources to support student learning.

Educational Equity

There are many definitions of equity in education. iNACOL will use the definition from the National Equity Project:[19]

Education equity means that each child receives what he or she needs to develop to his or her full academic and social potential. Working toward equity involves:

1. *Ensuring equally high outcomes for all participants in our educational system; removing the predictability for success or failures that currently correlates with any social or cultural factor;*
2. *Interrupting inequitable practices, examining biases, and creating inclusive multicultural school environments for adults and children; and*
3. *Discovering and cultivating the unique gifts, talents, and interests that every human possesses.*

Equality

Equality is related to the principles of fairness and justice. It refers to equal treatment and, in the past, has been used to refer to equal inputs. iNACOL uses the term equality as an aspirational goal of all students reaching their full potential.

Integrated Student Support Services

Integrated student support services refer to a wide variety of instructional methods, educational services or school resources provided to students to accelerate their learning process, meet learning standards and succeed in school.[20] In competency-based systems, students receive timely, differentiated support based on their individual learning needs. Understanding how to structure supports is important because learning in a competency-based environment means that students and adults are often on the edge of their comfort zone and competence — the learning edge. In the paper, *The Learning Edge: Supporting Student Success in a Competency-Based Learning Environment*,[21] you will learn how innovators are designing school culture, embedding supports and organizing resources to ensure students are progressing and on pace.

Learner Agency/Student Agency

Student agency or student ownership of their education refers to the skills and the level of autonomy that a student has to shape their learning experiences. Schools that want to develop student agency will need strategies to coach students in the lifelong learning skills (growth mindset, meta-cognition, social and emotional learning, and habits of work and learning) and to establish practices that allow students to have choice, voice, opportunity for co-design and the ability to shape their learning trajectories.

Learner Profile/Student Profile

Learner profiles document the ways a student best learns. Learner profiles typically include a broad range of data: demographic data, data about student interests, learning preferences, descriptions of the learning environment student prefer, inter- and intra-personal skills, existing competencies and those that need to be developed (in the personal, social-emotional, academic and career arenas). Profiles may initially be compiled as a student enrolls in a school, through diagnostic data, intake inventories, conferences with students and family members, analysis of previous school records, and school/classroom observation. Profiles are dynamic documents, that should change in both the short- and long-term: students' interests will change, they will become competent in new areas, etc. The profiles sets the stage by which students can begin to set goals and make plans to achieve them. It also provides adults with insight into ways they

might best support students in their efforts. In advanced competency-based models, learner profiles follow a student throughout their educational experience documenting evidence of student growth and mastery of competencies over time (adapted from reDesignu.org).[22]

Learning Resources

The materials explored during a course, module, unit, or activity: videos, images, audio, texts, presentations, etc.

Learning Experiences

The term learning experiences is used to convey the process and activities that students engage in to learn skills and knowledge. The term refers to the package of outcomes and targets, activities, resources, assessments, and pedagogical strategies that are associated with a course, module, or unit. In the United States, this is generally referred to as curriculum. (See definition of Curriculum.)

Learning Progression

Learning progressions are research-based approaches that map how students learn key concepts and skills, as described in Achieve's briefing, *The Role of Learning Progressions in Competency-Based Pathways*.[23]

Learning Sciences Research

The learning sciences are concerned with "the interdisciplinary empirical investigation of learning as it exists in real-world settings."[24] Core components of learning sciences research include:

- Research on thinking: including how the mind works to process, store, retrieve and perceive information;
- Research on learning processes: including how people use "constellations of memories, skills, perceptions, and ideas" to think and solve problems, and the role that different types of literacies play in learning; and
- Research on learning environments: including how people learn in different contexts other than a direct instruction environment with a core principle of creating learner-centered learning environments.[25]

Lifelong Learning Skills

In the paper Lifelong Learning Skills for College and Career Readiness: Considerations for Education Policy, the American Institutes for Research (AIR) describes lifelong learning skills as providing "the foundation for learning and working. They broadly support student thinking, self management, and social interaction, enabling the pursuit of education and career goals."[26] iNACOL uses the term to capture the skills that enable students to be successful in life, navigating new environments, and managing their own learning. This includes a growth mindset, habits of success, social and emotional skills, metacognitive skills and higher order/deeper learning competencies.

NextGen

This refers to the Next Generation Learning Challenge (NGLC)[27] and Next Generation Systems Initiative (NGSI) grantee schools tasked with creating innovative and personalized educations students. NGLCs are non-profit organizations that supported grant receiving schools in their geographic region while NGSIs are school districts that worked with their own grant-receiving schools. Schools, districts and non-profits applied for and received grants from the Bill & Melinda Gates Foundation over the course of several years as schools planned and implemented personalized learning.

Personalized Approach to Learning or Personalized Learning

iNACOL defines personalized learning as "tailoring learning for each student's strengths, needs and interests – including enabling student voice and choice in what, how, when and where they learn – to provide flexibility and supports to ensure mastery of the highest standards possible."[28] Personalized learning takes into account students' differing zones of proximal development with regards to academic and cognitive skills, as well as within the physical, emotional, metacognitive and other domains.

Personalized learning consultants Barbara Bray and Kathleen McClaskey explain in the Personalization vs. Differentiation vs. Individualization (PDI) Chart[29] that personalized learning is learner-centered, whereas the related approaches of differentiation and individualization are teacher-centered. Thus, teachers may use a personalized and differentiated approach to meet students where they are.

Professional Learning Community (PLC)

A professional learning community (PLC) is a group of educators who meet regularly, share expertise, and work collaboratively to improve teaching skills and the academic performance of students. Professional learning communities tend serve two broad purposes: (1) improving the skills and knowledge of educators through collaborative study, expertise exchange and professional dialogue, and (2) improving the educational aspirations, achievement, and attainment of students through stronger leadership and teaching. Professional learning communities often function as a form of action research — i.e., as a way to continually question, reevaluate, refine and improve teaching strategies and knowledge (adapted from edglossary.org).

Social and Emotional Learning

According to CASEL, "Social and emotional learning (SEL) is the process through which children and adults acquire and effectively apply the knowledge, attitudes and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships and make responsible decisions."[30] They focus on the development of five competencies: self-awareness, self-management, social awareness, relationship skills and responsible decision-making.

Student Learning Trajectories

iNACOL refers to trajectories as the unique personalized path each student travels to achieve learning goals on the way to graduation. Educators apply what is known about learning progressions toward helping students make progress on their trajectory.

Acknowledgments

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Endnotes

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2 These schools include the Breakthrough Schools Chicago program, a LEAP-led regional fund of the national Next Generation Learning Challenges.

3 Patrick, S., Worthen, M., Frost, D., & Gentz, S. (2016). *Meeting the Every Student Succeeds Act's promise: State policy to support personalized learning*. Vienna, VA: iNACOL. Retrieved from https://www.inacol.org/resource/meeting-the-every-student-succeeds-acts-promise-state-policy-to-support-personalized-learning/.

4 Ohio House Bill No. 64, 131st G.A. (2015). Retrieved from http://education.ohio.gov/getattachment/Topics/Other-Resources/Competency-Based-Education-Pilot/hb64_Competency-Based-Education.pdf.aspx.

5 Idaho House Bill 110, 63rd Legislature (2015). Retrieved from http://legislature.idaho.gov/sessioninfo/billbookmark/?yr=2015&bn=H0110.

6 Utah Senate Bill 143, Competency-Based Learning Amendments (2016). Retrieved from https://le.utah.gov/~2016/bills/static/SB0143.html.

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8 Illinois House Bill 5729, Postsecondary and Workforce Readiness Act (2016). Retrieved from http://www.ilga.gov/legislation/publicacts/99/PDF/099-0674.pdf.

9 Nevada AB 110 (2017). Retrieved from https://www.leg.state.nv.us/Session/79th2017/Reports/history.cfm?BillName=AB110.

10 *LEAP Learning Framework for Personalized Learning* (2017). LEAP Innovations. Retrieved from http://leaplearningframework.org/. Learner Focused, Learner Demonstrated, Learner Led and Learner Connected are trademarks of LEAP Innovations, used under license.

11 Marsh, J. A., Pane, J. F., & Hamilton, L. S. (2006). *Making sense of data-driven decision making in education: Evidence from recent RAND research*. Santa Monica, CA: RAND Corporation. Retrieved from https://www.rand.org/pubs/occasional_papers/OP170.html.

12 The 200 to 300 range was chosen to ensure that these scores would not be interpreted as percentile ranks.

13 LEAP Personalized Learning Survey scores are created by weighting and combining the responses to multiple items under a specific construct (e.g., Learner Led) using Rasch Methodology. These scores can be compared over time and across groups but standards are a way to interpret them independently. The standard-setting process is one in which experts use their knowledge of teacher practice, student experiences and the survey items themselves to recommend cut-scores associated with different levels of personalization.

14 On average schools that fell into the levels of "high" or "moderate (high)" on the Learner Demonstrated scale indicated the highest response category in 82 percent of that scale's questions. Schools considered "high" or "moderate (high)" on the Learner Focused scale responded in the highest response category for 85 percent of the questions in the scale. Only an average 50 percent of the questions in the highest response category on questions in the Learner Led scale resulted in schools being considered "moderate (high)."

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16 See Noguera, P., Darling-Hammond, L., & Friedlaender, D. (2015). *Equal opportunity for deeper Learning. Boston: Jobs for the Future*. Retrieved from http://www.jff.org/publications/equal-opportunity-deeper-learning. Mehta, J. (2014). Deeper learning has a race problem. *Education Week*. Retrieved from http://blogs.edweek.org/edweek/learning_deeply/2014/06/deeper_learning_has_a_race_problem.html.

17 Refer to Glossary on page 32 for a description of these two initiatives.

18 What Is Competency Education? *Competency*Works. Retrieved from https://www.competencyworks.org/about/competency-education/.

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