



The Future of Personalized Learning for Students with Disabilities

Personalized learning models can give each student differentiated learning experiences based on their needs, interests, and strengths—including students with disabilities. State boards of education that seek to support their state and local schools' efforts to design technology-powered personalized learning environments should ensure that the needs of students with disabilities are neither dismissed nor overlooked.

Sixty percent of students with disabilities spend 80 percent or more of their day in general education classrooms.¹ Personalized, competency-based learning provides a powerful strategy to allow those students to be integrated into general

education classes and to receive supports and interventions without being singled out or stigmatized, thus improving their educational outcomes (see box 1).

As part of this approach, learner profiles capture skills, gaps, strengths, weaknesses, interests, and aspirations of each student, and personal learning paths match diverse learning experiences to individual needs, goals, and objectives.² In addition, blended and online tools can be incorporated to personalize learning in the least restrictive, most tailored way for students with disabilities.

If state policymakers, school and district leaders, course designers, instructors, and program managers are not intentional

States that are building room for personalized learning into their education systems should ask how new policies address the needs of students with disabilities.

by Maria Worthen

Box 1. What Is Personalized, Competency-Based Education?

iNACOL's field-tested definition of **personalized learning** is this: "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."

Personalized learning can pinpoint specific gaps in student learning, identify where a student is on his or her learning pathway, and provide the appropriate interventions to support students at just the right time. It stands in stark contrast to a traditional one-size-fits-all approach in which learning is not differentiated and students are expected to progress through the same curriculum at the same pace.

Personalized learning is a model for learning replete with variety and choice. It always involves a relationship between teacher and student, as well as a strong sense of community within the class as a whole. Students make decisions about the direction of their learning. Teachers discover students' prior knowledge and experiences and meet students where they are. They develop learning communities that celebrate the individuality and contributions of each student.

Competency-based education is a systemic framework for learning that creates the ideal conditions for personalized learning. Competency education allows students to learn at a flexible pace—anytime and everywhere—and move to the next learning standards when they are ready.

In 2011, 100 innovators developed a working definition of competency education that includes five essential 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; and
- learning outcomes emphasize competencies that include application and creation of knowledge, along with the development of important skills and dispositions.

^a S. Patrick et al., "Mean What You Say: Defining and Integrated Personalized, Blended and Competency Education," (Vienna, VA: iNACOL), October 2013, <http://www.inacol.org/resource/mean-what-you-say-defining-and-integrating-personalized-blended-and-competency-education/>.

^b C. Sturgis et al., "It's Not a Matter of Time: Highlights from the 2011 Competency-Based Learning Summit," (Vienna, VA: iNACOL, July 2011), <http://www.inacol.org/resource/ts-not-a-matter-of-time-highlights-from-the-2011-competency-based-summit/>.

about designing personalized learning experiences for students with disabilities, they risk excluding them. Federal law protects the rights of students with disabilities to access a free, public education. These laws do not provide for proactive enforcement but rather rely on complaints and lawsuits for compliance. Proactive state and local implementation of learner-centric environments will do a better job than courts can in ensuring access and equity for all students.

Policies to Build Competency-Based Systems

In competency-based systems, students move from one standard or level to the next after demonstrating mastery of a concept or competency. This model inherently gives students flexibility to move on when ready, take more time on difficult concepts, and accelerate in areas where they excel. However, flexible pace should never mean leaving students to their own devices, allowing them to fall further and further behind. A crucial element of competency-based education is timely, differentiated supports to ensure that all students are staying on track for college and careers. Such systems require educators to continually monitor student pace, track performance, and customize curriculum.

To better enable competency-based systems, policies should make room for schools and districts to base credit hours on demonstrated mastery rather than seat time, award proficiency-based diplomas, align systems of assessments, and provide targeted supports and interventions.

State policymakers can also create innovation zones, such as the Kentucky Districts of Innovation and the Colorado Innovation Schools,³ and pilots such as the Ohio Competency-Based Education Pilot.⁴ Innovation zones exempt select districts and traditional public schools from certain administrative regulations and statutory provisions to enable them to develop new learning models.⁵ A successful pilot program will include sharing and scaling best practices in other localities. Ultimately, effective strategies demonstrated in state pilot efforts can be shared statewide and increase understanding of the power of student-centered learning.

When planning for innovation zones and pilots, state and local leaders should include stakeholders that represent the interests of

students with disabilities to ensure that their needs are not overlooked.

New Opportunities for States under ESSA

The passage of the Every Student Succeeds Act (ESSA) provides a historic opportunity for states to redesign K-12 education systems to support competency-based, personalized learning. As state policymakers rise to this challenge, the diverse needs of students with disabilities should be considered at every step. ESSA provides three fundamental opportunities that support a shift to personalized learning: redesigned systems of assessments, accountability, and education preparation and licensure.

Redesign assessment around student-centered learning. ESSA allows states to design more innovative systems of assessments. States may include assessments in these systems that

- measure individual student growth,
- use adaptive test items outside of a student's grade level,
- are administered multiple times throughout the year, with interim results combined into a summative score, and
- incorporate multiple assessment types.

States wishing to pilot innovative assessments with a subset of districts, or with district flexibility around the items incorporated into assessments can apply to participate in ESSA's Innovative Assessment Pilot. New Hampshire has already launched its own Performance Assessment for Competency Education (PACE) system, which some states are examining as a potential model for assessment system pilots. A number of breakthrough assessment models are being developed and piloted in districts across the country through the Assessment for Learning project.⁶ As states develop systems of assessments with multiple measures of student learning, leaders should ensure that these new assessments provide access to the appropriate accommodations for students with disabilities.

Rethink accountability. ESSA presents an opportunity to redesign K-12 accountability systems to support student-centered learning. It moves away from No Child Left Behind's narrow definition of success as a single test score and

opens up space for states to engage stakeholders in a conversation about what success looks like in a multiple measures accountability system. Accountability can be reframed as a tool to drive continuous improvement, flagging for districts in real time when students and schools need support and driving resources where they are most needed.

State policymakers should ensure these new accountability systems measure student outcomes and growth of students with disabilities throughout the school year and motivate ongoing improvement of student learning outcomes. State board members should engage diverse stakeholders, including disability advocates, in conversations about accountability measures that define success in their states.

Modernize educator and leadership development and licensure. A highly trained, engaged educator workforce will be the single most important driver of a successful personalized, competency-based education system. Educators and leaders will take on new roles as they work individually and collectively to design customized pathways to graduation for every student. Many educators will require new skills to adapt instruction in this way. Thus significant changes to preservice preparation, professional development, and evaluation frameworks will need to follow.

Until recently, federal teacher requirements focused almost exclusively on input-based requirements like NCLB's now-defunct Highly Qualified Teacher (HQT). HQT provisions were repealed with the passage of ESSA—an important first step. It will be up to the states to lead the critical next step: shifting the focus to demonstrated educator competencies as the basis for credentialing on demonstrated outcomes, rather than on time-based inputs.

State policymakers should ensure that preservice preparation, professional development, and evaluation frameworks give educators, course designers, and administrators the supports and resources they need to understand and meet the diverse, unique needs of students with disabilities and apply best practices.

Preservice teacher preparation programs must strengthen future educators' abilities and skills to work with students with disabilities in personalized learning environments. State-level policymakers might consider offering badges

Box 2. Lessons from Texas

The Texas Virtual School Network (TxVSN) provides Texas's public school students with expanded course offerings across learning environments from diverse, accountable providers. The Texas Education Agency oversees the TxVSN, which is operated by Education Service Center (ESC) Region 10. As part of TxVSN's quality review, course providers must align coursework to state curriculum standards, meet the iNACOL National Standards for Quality Online Courses, and meet accessibility standards. These requirements are embedded in state law.

The iNACOL standards call for courses to comply with federal law and “meet universal design principles, Section 508 standards and W3C guidelines to ensure access for all students.” To ensure compliance, ESC Region 10 developed accessibility standards with detailed guidance and resources for meeting the iNACOL standards.

These accessibility standards inform each course review, conducted by two Texas-certified content area teachers. If there are any points of disagreement, the teachers meet to come to a consensus. After the teachers have reached a decision, the course is either approved, or TxVSN gives the course provider a report summarizing why the course did not meet the standards. Providers have 60 days to make modifications and resubmit the course for review. For more information, visit <http://www.txvsn.org>.

With disabilities, multiple pathways mean new possibilities for the least restrictive learning environment.

or micro-credentials to incentivize educators to seek higher-level training and reach more advanced competencies related to personalizing learning for students with disabilities.

Blended Learning, Online Learning, and Digital Content

Multiple, flexible pathways for learning create distinct, rigorous paths for students to gain the real-world skills and experiences they need to be successful after high school. These pathways encompass learning outside traditional classrooms: after-school programs, apprenticeships, community service, internships, independent study, online courses, performing arts, private instruction, and career and technical and college-level coursework. For students with disabilities, multiple pathways mean new possibilities for the least restrictive learning environment. Leaders and educators should ensure that each is accessible for every learner, with appropriate accommodations for students with disabilities.

Blended and online learning tools support these personalized pathways by offering flexible pacing, differentiated instruction, immediate interventions, and anytime, everywhere learning. These tools enable personalized learning at scale, foster student-centered instructional approaches, and facilitate student co-design with their teachers of how to meet their learning goals.

While the possibilities are significant, it is up to policymakers and educators to ensure that the

needs of students with disabilities are addressed with these tools.

State policymakers should demand that online learning opportunities are of high quality and rigor and are fully accessible to all. Through the adoption of high-quality, rigorous, outcomes-based performance metrics, districts, schools and programs can advance quality and quality assurance. State policymakers should adopt nationally recognized quality standards—such as the National Standards for Quality Online Courses from the International Association for K-12 Online Learning, or iNACOL⁷—and they should establish a statewide process to review courses, with detailed criteria for meeting the legal requirements for students with disabilities and the national standards.⁸ Texas has done so through its Virtual School Network (box 2).

According to the US Department of Education's Office for Civil Rights (OCR), which is responsible for monitoring and enforcement of federal civil rights legislation in educational institutions, “Those with a disability are able to acquire the same information and engage in the same interactions—and within the same time frame—as those without disabilities.” Policymakers should ensure districts and schools are meeting this requirement in the design and implementation of all digital content. For example, digital educational content requires the careful use of color to protect the needs of students with color blindness, and all video materials need to be captioned to level the playing field for students with auditory

impairments or auditory processing issues. It is not sufficient for a district, school, or program to wait until they have a student with a disability to make the content accessible. All open content must be accessible to students with disabilities.

Education leaders should ensure that digital content for blended and online programs is designed in accordance with Universal Design for Learning (UDL), a set of principles for curriculum development that gives all individuals equal opportunities to learn. UDL provides a blueprint for creating instructional goals, methods, materials, and assessments that work for everyone. Three primary principles guide UDL: provide multiple means of representation, provide multiple means of action and expression, and provide multiple means of engagement. The National Center for Learning Disabilities recommends aligning UDL with multitiered systems of supports (MTSS) in order to fully meet students' needs in personalized learning environments.

Policymakers should ensure that their states implement procurement guidelines to align new software, hardware, and technology to accessibility requirements and the UDL framework. They and other stakeholders should encourage vendors to create technology that is not retrofitted for students with disabilities as an afterthought but is intentionally accessible by design and meets federal and state accessibility requirements, including Section 508 of the Rehabilitation Act.

It is in the best interests of all learners for states, districts, schools, and programs to meet legal accessibility requirements and go beyond them to implement best practices for accessibility. Equally important as new technologies emerge is ensuring that all instructional content is proactively developed for accessibility. Trying to make existing digital content and courses accessible is considerably more difficult than ensuring accessibility from the beginning. All programs should create only accessible digital materials and create a plan for making inaccessible content accessible.

Open educational resources (OER) are learning materials that are licensed so as to permit educators to freely share, access, and collaborate in order to customize and personalize instruction. Because OER can be repurposed and customized to meet the needs of all students,

states and districts can leverage OER to improve the accessibility of digital learning materials. Policymakers can enable the use of high-quality OER by supporting the development, evaluation, and infrastructure needed for educators to access and customize standards-aligned instructional materials and assessments. They should ensure that quality rubrics for OER include accessibility criteria. For example, Washington State provides support and opportunities for districts to collaborate to effectively use OER.⁹

Conclusion

Personalized, competency-based learning can close achievement gaps for students with disabilities and truly prepare them for success in college and the new economy. States can leverage ESSA to transform K-12 education to this end. As states redesign systems of assessments, rethink next generation accountability systems, and build educator capacity, states need to ensure they are considering the needs all learners, including those with disabilities.

The issues of access and equity have implications for every blended and online learning program. Blended and online learning hold promise for better meeting the needs of students with disabilities with personalization and adaptive learning. However, new learning models must be designed with all learners in mind to realize this promise. State policymakers can play an important, active role in ensuring access and equity for all students, including students with disabilities.

Resources

As part of its policy advocacy work, iNACOL provides policymaker technical assistance and education to catalyze the transformation of K-12 education toward powerful, learner-centered, personalized learning. We annually publish the iNACOL State Policy Frameworks, with concrete, actionable recommendations for lawmakers wishing to enact policies that support this shift, and recently published. Promising State Policies for Personalized Learning, with examples from law, statute, and guidance in leading states. Additional insights on how the policies described here can be implemented to aid students with disabilities can be found in iNACOL's Access and Equity for All Learners in

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digital textbooks and new learning apps could also spur greater educational achievement. No matter what technology a state adopts, “it’s not about advancing tech, it’s about advancing a teaching and learning strategy that is really going to promote deeper learning,” says Becker. Policymakers will want to monitor technological advancements and obtain input from educators to see whether the technology in question is a tool that works for them. ■

¹“Virtual Reality 101,” Cnet, <http://www.cnet.com/special-reports/vr101/>.

²John Gaudiosi, “How This Med School Is Using Virtual Reality to Teach Students,” *Fortune* (October 16, 2015), <http://fortune.com/2015/10/16/western-university-is-using-virtual-reality-to-teach/>.

³Veronica S. Pantelidis, “Reasons to Use Virtual Reality in Education and Training Courses and a Model to Determine When to Use Virtual Reality,” *Themes in Science and Technology Education* 2, vol. 1-2 (2009): 59–70, <http://earthlab.uoi.gr/theste/index.php/theste/issue/view/9>.

⁴Hannes Kaufmann et al., “Construct3D: A Virtual Reality Application for Mathematics and Geometry Education,” *Education and Information Technologies* 5, no. 23 (2000), <http://link.springer.com/article/10.1023/A:1012049406877>; Daren T Nicholson, et al., “Can Virtual Reality Improve Anatomy Education? A Randomised Controlled Study of a Computer-Generated Three-Dimensional Anatomical Ear Model,” *Medical Education* 40, no. 11 (November 2006): 1081–87, <http://www.ncbi.nlm.nih.gov/pubmed/17054617>.

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controversial of all, revamping teacher evaluation systems.

³See, for example, D.K. Aladjem et al., “Models Matter: The Final Report of the National Longitudinal Evaluation of Comprehensive School Reform,” (Washington, DC: American Institutes for Research, 2006); D.K. Aladjem et al., “Achieving Dramatic School Improvement: An Exploratory Study,” (Washington, DC: US Department of Education, 2010); G.D. Borman et al., “Comprehensive School Reform and Student Achievement: A Meta-Analysis,” *Review of Educational Research* 73, no. 2 (2003): 125–230; A. Kurki et al., “Implementation: Measuring and Explaining the Fidelity of CSR Implementation,” *Journal for Education of Students Placed at Risk* 11, no. 3/4 (2006): 255–278; McLaughlin, 2005 D.B. Tyack, “The One Best System: A History of American Urban Education,” (Cambridge, MA: Harvard University Press, 1974); Y. Zhang et al., “The Implementation of Comprehensive School Reform and Its Impact on Increases in Student Achievement,” *Journal of Education for Students Placed at Risk* 11, no. 3/4 (2006): 309–29.

⁴This evidence vacuum presents a considerable risk to states and districts. The educational intervention landscape is filled with vendors ready to provide “proven” and “aligned” interventions. Avoiding unscrupulous vendors will remain a constant for states. Equally unfortunate would be the temptation to ignore weak or missing research and create strategies, policies, and interventions without any regard for prior experience and evaluation.

⁵M.W. McLaughlin, “The Rand Change Agent Study Revisited: Macro Perspectives and Micro Realities,”

Educational Researcher 19, no. 9 (1990): 11–16.

⁶K. Zeiser et al., “Graduation Advantage Persists for Students in Deeper Learning Network High Schools Updated Findings from the Study of Deeper Learning: Opportunities and Outcomes,” (Washington, DC: American Institutes for Research, 2016), <http://www.air.org/sites/default/files/downloads/report/Graduation-Advantage-Persists-Deeper-Learning-Report-March-2016-rev.pdf>.

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Blended and Online Education and the National Center for Learning Disabilities’ Personalized Learning: Policy & Practice Recommendations for Meeting the Needs of Students with Disabilities. ■

¹National Center for Learning Disabilities, “Personalized Learning: Policy & Practice Recommendations for Meeting the Needs of Students with Disabilities” (Washington, DC, 2015).

²A personalized learning plan is not the same thing as an Individualized Education Program, which is required by the Individuals with Disabilities Education Act. IEPs are written statements for each child with a disability that must include information on the student’s academic progress, address how the child will be integrated into and supported in the general classroom, and describe any special instructional needs, services, or accommodations. Although personalized learning plans and IEPs share a focus on the needs of each child, the IEP is designed to ensure that a student who is eligible for special education services receives them and that accommodations and supports level the playing field with their peers and allow them to participate in the general education classroom.

³S. Patrick and S. Gentz, “Innovation Zones: Creating Policy Flexibility for Personalized Learning” (Vienna, VA: iNACOL, March 2016).

⁴S. Patrick et al., *Promising State Policies for Personalized Learning* (Vienna, VA: iNACOL, May 2016).

⁵This allows districts and regular public schools flexibility similar to that provided charter schools, though that flexibility will vary depending on the state. For example, Colorado’s Schools of Innovation policy allows traditional public schools some flexibility around budgeting and curriculum, but local collective bargaining still applies, and teachers have to vote annually to remain as a school of innovation.

⁶The grant-funded project is part of the Next Generation Learning Challenges initiative, founded by Educause in partnership with several other organizations, including iNACOL. See <http://nextgenlearning.org/assessment-learning-project>.

⁷See iNACOL, National Standards for Quality Online Courses (v2), (October 2011), <http://www.inacol.org/resource/inacol-national-standards-for-quality-online-courses-v2/>.

⁸R. Rose, *Access and Equity for All Learners in Blended and Online Education*, (Vienna, VA: iNACOL, October 2014).

⁹TJ Bliss, *OER State Policy in K-12 Education: Benefits, Strategies, and Recommendations for Open Access, Open Sharing* (Vienna, VA: iNACOL, June 2013); Council of Chief State School Officers, “OER in Washington State: Identify, Review, Connect,” (Washington, DC: CCSSO, n.d.), http://www.ccsso.org/Resources/Programs/OER_Washington.html.