



Deeper and personalized learning

Elements brief

Introduction

Increasingly, schools are moving to instructional models defined by deeper or personalized learning. But as educators, we know how challenging those transformations can be, particularly for a single teacher working with a group of 20 or more learners. As we contemplate the promise of deeper and personalized learning, we have come to believe two things: 1) There is more power in combining these approaches than in implementing either by itself; 2) Deeper and personalized learning is more achievable if instruction is guided by teams of educators with distributed expertise.

But what do we mean by deeper and personalized learning?

Deeper learning

Deeper learning is an umbrella term for a family of instructional approaches that helps all students build skills required for success in life (e.g., collaboration, creative problem-solving) and asks them to apply their understanding of complex academic content in authentic, often interdisciplinary ways that connect to their identities (National Research Council, 2012; Bitter, C. & Loney, E., 2015; Noguera, P., et. al., 2015; Huberman, M., et. al., 2014). Students in deeper learning environments also have intentional opportunities to develop dispositions like self-direction, persistence, motivation and curiosity (Stecher, B.M. & Hamilton, L.S., 2014; Farrington, C., 2013).



Deeper learning is an umbrella term for a family of instructional approaches that helps all students build skills required for success in life ... and asks them to apply their understanding of complex academic content in authentic, often interdisciplinary ways that connect to their identities."

Assessment in deeper learning environments often looks different from assessment in traditional settings. Students demonstrate their learning in performance-based, real-world ways. Assessments, depending on their context, may look like portfolios, simulations, performances, writing or presentations for authentic audiences. Educators who embrace a deeper learning approach may not entirely abandon more traditional assessments like quizzes and tests, but we might expect to see these more traditional methods of assessment used predominantly for formative purposes.

Personalized learning

There is no single, universally agreed-upon definition of personalized learning (Pane, et al., 2017). That said, the Aurora Institute's definition succinctly and powerfully incorporates many ideas common to various definitions:

Personalized learning is "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 at the highest standards possible." (Slocum, N., 2016)

To personalize learning, schools may embrace flexible scheduling systems, wherein teachers map out a variety of learning opportunities each day and students can select how to spend their time given their personal learning goals (Bill & Melinda Gates Foundation, 2014). Teachers also work intentionally with students to build self-awareness and self-direction so students are better able to succeed in these learning environments that more closely resemble the way most jobs operate. The physical space tends to be more flexible; educators and students can arrange and rearrange the space to match different learning experiences. Finally, when students achieve mastery of content, they can move on in their learning paths, which in turn helps them build self-regulation (Heller, R. & Wolfe, R.E., 2015).

“ Personalized learning is “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 at the highest standards possible.”

Natalie Slocum
Strategic Partnerships Director
Aurora Institute

Deeper and personalized learning, together

Either deeper or personalized learning would be an appealing alternative to the narrow, often decontextualized academic lessons that are delivered to the “average” student in most American classrooms today. However, we believe that when deeper and personalized learning approaches are combined, radically better outcomes for students and educators are possible.

Without deeper learning, personalization, at its worst, can look like a checklist of superficial work to be completed. Yet without personalization, deeper learning, at its worst, can under-deliver the critical knowledge and skills students must master to go deeply into authentic projects and succeed in higher education and the world beyond. When deeper and personalized learning are combined, students can experience the agency and choice that come with competency-based, personalized learning, while also engaging in the relevant, authentic tasks of deeper learning that help students build impressive academic, intrapersonal and interpersonal skills.

Learner-centered, personalized approaches (the “how”) are the path to deeper learning competencies (the “what”) on the way to readiness for lifelong learning, meaningful work and civic participation (the ultimate “why”) for each and every student (Jobs for the Future & the Council of Chief State School Officers, 2017).

What do deeper and personalized learning look like in Next Education Workforce models?

Transitioning from a teacher-centered, more traditional model of instruction to a deeper and personalized model is bound to present challenges. The goal of deepening and personalizing learning for all students is more achievable when undertaken by a team of educators with distributed expertise.

Tasks associated with both deeper and personalized learning—analyzing student learning data, designing assessments, developing content area expertise, connecting with experts in the community—can be shared among the team of educators. Effective educator teams make it possible to create powerful shared experiences

for students, while also meeting the individual needs and interests of each student. When given enough collaborative-planning time, educators should find a deeper and personalized approach is an exciting way of teaching.

As schools move to Next Education Workforce models, a number of shifts will be required with respect to deeper and personalized learning, summarized in the chart below.

Shifts: Traditional to Next Education Workforce models

	Traditional one-teacher, one-classroom models	Next Education Workforce team-based models
Instructional practices	Teacher-centered, direct instruction	Project-based, inquiry, competency-based
Student progress	Students progress based on seat time	Students progress based on evidence of mastery
Student outcomes	Typically narrow, focusing on easily measured academic content	Broader, including academic, intrapersonal and interpersonal
Focus of assessment	Inflexible summative assessments delivered on a schedule	Formative assessment and tailored performance-based assessments
Instructional delivery	Heavy on teacher-centered, whole-group delivery	Students self-direct learning paths and paces; educators are guides
Learning space configuration	Inflexible, difficult to reconfigure for differing learning tasks	Flexes in response to learning task and student learning preference
Schedule	Class periods determined by bell schedule with little flexibility	Educator teams build schedules aligned with learning goals

What evidence is there that deeper and personalized learning is associated with positive outcomes?

Deeper learning

Cognitive science provides the foundation for research on deeper learning. Specifically, it indicates that students learn more effectively when they see how things are connected to one another, when they are fully engaged, and when lessons are connected to their interests and passions (National Research Council, 2012). Inquiry practices, such as project-based, design-based and problem-based learning encourage active learning and problem-solving (Darling-Hammond, et al., 2019). Intra- and interpersonal skills like self-regulation, setting goals, and taking ownership of learning are connected to increased likelihood of success after high school (Conley, 2011).

The Hewlett Foundation, American Institute for Research, and Jobs for the Future have found positive outcomes associated with students experiencing deeper learning models and, 1) scoring higher in math and English on international assessments; 2) the likelihood of graduation; and, 3) the likelihood of enrolling in college (Bill & Melinda Gates Foundation, 2014; Heller, R. & Wolfe, R.E., 2015).

Personalized learning

In their study of 23 schools receiving Bill & Melinda Gates Foundation funding to personalize learning for students, RAND researchers found that two-thirds of participating schools posted statistically significant, positive academic gains in mathematics and reading (Bill & Melinda Gates Foundation, 2014). These same researchers found, “many positive developments in the schools’ environments, including positive perceptions among teachers about professional development, working conditions and access to and use of technology that were conducive to implementing personalized learning practices.”

Friedlaender and colleagues also found that students in their study of student-centered schools significantly outpaced comparative peers in mathematics and ELA as measured by the California Star Test and the California High School Exit Exams (2014). They go on to suggest that personalization is associated with both higher graduation rates and college persistence rates that exceed state and national averages.

Deeper and personalized learning

Research suggests that both deeper and personalized learning are associated with positive outcomes for students, teachers and schools. Most of the research, however, has taken place in schools that have primarily implemented only one of these approaches rather than the two together. We are working with school partners and researchers to build out a robust research agenda around the Next Education Workforce and specifically, the associations between deeper and personalized learning and outcomes for students and educators.

How might deeper and personalized learning be catalysts for educational equity?

We borrow Elena Aguilar’s definition of equity as it appears in *Deeper Learning Means Educational Equity in Urban Schools* (2013):

“ Every child gets what they need in our schools—every child, regardless of where they come from, what they look like, who their parents are, what their temperament is, or what they show up knowing or not knowing. Every child gets what they need every day to develop the knowledge and skills to be ready for college or a career.”

Evidence suggests that deeper and personalized learning is associated with positive outcomes for students (Bill & Melinda Gates Foundation, 2014; Chi & Wylie, 2014; Heller & Wolfe, 2015). However, access to deeper and personalized learning is not always equitable (Williams, W., Adrien, R., Murthy, C. & Pietryka, D., 2015; Venezia & Kirst, 2005; Oakes, 2005; Pew Research Center, 2021; Perrin & Atske, 2021). Specifically:

- Access to deeper and personalized learning relies on access to experienced educators, but lower-income students and students of color are less likely to have access to experienced teachers (Williams, Adrien, Murth & Pietryka, 2015);
- For deeper learning, students need the opportunity to grapple with authentic problems and build collaboration skills and leadership skills by working with peers to solve them, but we know that low-income students and students of color are often relegated to less demanding courses (Venezia & Kirst, 2005; Oakes, 2005) and given the kind of rule-following tasks that mirror factory work (Mehta, 2014); and
- Access to technology is important for scaling personalized learning, but there exist disparities in access to use of technology associated with race, socio-economic status, education, geography (e.g., rural vs. urban) (Pew Research Center, 2021) and disability status (Perrin & Atske, 2021).

Next Education Workforce models are not a panacea for inequitable access to deeper and personalized learning opportunities. But, by adopting team-based models with distributed expertise, schools can move the needle with respect to issues of differential access in the shorter-term, even while we simultaneously work to make the systemic and policy changes necessary to attain greater educational equity in the longer-term.

Specifically, schools might intentionally design educator teams with an eye toward:

- Ensuring at least one member of each educator team has expertise in deeper and personalized approaches.
- Ensuring at least one member of each educator team has a deep understanding of how best to leverage existing technology and secure new technology to scale personalized learning.

Because Next Education Workforce teams typically serve a single, larger roster of students, more learners will have access to experienced educators, the opportunity to grapple with authentic problems and purposeful technology integration.

References

Agular, E. (2013, January 28). *Deeper learning means educational equity in urban schools*. *Edutopia*. Retrieved from <https://www.edutopia.org/blog/deeper-learning-educational-equity-urban-school-elena-aguilar>

Bill & Melinda Gates Foundation. (November 2014). *Early progress: Interim research on personalized learning*. Retrieved online <https://usprogram.gatesfoundation.org/-/media/dataimport/resources/pdf/2016/12/42-early-progress-on-personalized-learning-full-report.pdf>

Bitter, C. & Loney, E. (Aug 2015). *Deeper learning improving outcomes for college, career, and civic life*. Washington, D.C.: American Institutes for Research. Retrieved online <https://www.air.org/sites/default/files/downloads/report/Deeper-Learning-EPC-Brief-August-2015.pdf>

Chi, M. T. H. & Wylie, R. (2014). *The ICAP framework: Linking cognitive engagement to active learning outcomes*, *Educational Psychologist*, 49:4, 219-243, DOI: 10.1080/00461520.2014.965823. Retrieved online https://education.asu.edu/sites/default/files/chivylie2014icap_2.pdf

Conley, D.T. (2011). *Building on the Common Core*. *Educational Leadership*, 68(6), 16–20. Retrieved online https://pdo.ascd.org/lmscourses/pd11oc135/media/literacy_ela_m1_reading_building_common_core.pdf

Darling-Hammond, L., Flook, L., Cook-Harvey, C., Barron, B., & Osher, D. (2019). *Implications for educational practice of the science of learning and development*, *Applied Developmental Science*, DOI: 10.1080/10888691.2018.1537791

Farrington, C. (2013). *Academic mindsets as a critical component of deeper learning*. University of Chicago: Consortium on Chicago School Research. Retrieved online https://www.hewlett.org/wp-content/uploads/2016/08/Academic_Mindsets_as_a_Critical_Component_of_Deeper_Learning_CAMILLE_FARRINGTON_April_20_2013.pdf

Friedlaender, D., Burns, D., Lewis-Charp, H., Cook-Harvey, C.M., Zheng, X., & Darling-Hammond, L. (2014). *Student-centered schools: Closing the opportunity gap*. Stanford, CA: Stanford Center for Opportunity Policy in Education. Retrieved online <https://edpolicy.stanford.edu/sites/default/files/scope-pub-student-centered-research-brief.pdf>

Heller, R. & Wolfe, R.E. (2015). *Effective schools for deeper learning: An exploratory study*. *Students at the Center: Deeper Learning Research Series*. Boston, MA: Jobs for the Future. Retrieved online <https://studentsatthecenterhub.org/resource/effective-schools-for-deeper-learning-an-exploratory-study/>

Huberman, M., Bitter, C., Anthony, J., & O'Day, J. (2014). *The shape of deeper learning: Strategies, structures, and cultures in deeper learning network high schools*. Washington, D.C.: American Institutes for Research. Retrieved online <https://www.air.org/resource/shape-deeper-learning-strategies-structures-and-cultures-deeper-learning-network-high>

Mehta, J. 2014. "Deeper Learning Has a Race Problem." *Learning Deeply Blog*, *Education Week*. Available at http://blogs.edweek.org/edweek/learning_deeply/2014/06/deeper_learning_has_a_race_problem.html

Oakes. (2005). *Keeping track : how schools structure inequality* (2nd ed.). Yale University Press.

Perrin, A. & Atske, S. (2021, September 10). *Americans with disabilities less likely than those without to own some digital devices*. Pew Research Center. Available at <https://www.pewresearch.org/fact-tank/2021/09/10/americans-with-disabilities-less-likely-than-those-without-to-own-some-digital-devices/>

Pew Research Center. (2021, April 7). *Internet/Broadband fact sheet*. Pew Research Center. Available at <https://www.pewresearch.org/internet/fact-sheet/internet-broadband/?menuitem=d5edf003-5858-4269-89c5-f2889ecf7951>

Venezia, A. & Kirst, M. 2005. "Inequitable Opportunities: How Current Education Systems and Policies Undermine the Chances for Student Persistence and Success in College." *Education Policy*. Vol 19. No. 2.

Williams, W., Adrien, R., Murthy, C. & Pietryka, D. (2015). *Equitable access to excellent educators: An analysis of states' educator equity plans*. U.S. Department of Education. Retrieved online <https://www2.ed.gov/programs/titleiparta/equitable/titleiiequityanalysis1031.pdf>