

# Glossary of Personalized Learning

## What is Personalized Learning?

Personalized learning refers to an educational process that tailors the academic goals and curriculum to meet the interests of learners. Instruction is both paced and differentiated for students, based upon their individual preferred modes of learning, abilities and preferences. Many recognized organizations affiliated with digital learning have offered definitions for personalized learning and related terms. The following selections from definitions of personalized learning provide a broad perspective on the concept.

- **LEAP Innovations** (Learning Exponentially. Advancing Potential.) defines personalized learning as learning — anytime, anywhere — that is focused on, paced for, and led by the learner and designed around each individual learner’s needs, strengths, interests and goals.
- **Future Ready Schools** defines personalized learning as a student-centered approach designed to help all students develop a set of skills collectively known as the deeper learning competencies. These skills include thinking critically, using knowledge and information to solve complex problems, working collaboratively, communicating effectively, learning how to learn, and developing academic mindsets.
- **Great Schools Partnership** says that personalized learning, or personalization, refers to a diverse variety of educational programs, learning experiences, instructional approaches and academic-support strategies that are intended to address the distinct learning needs, interests, aspirations or cultural backgrounds of individual students.
- **iNACOL** (International Association for K-12 Online Learning) 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.
- **ISTE** (International Society for Technology in Education) says personalized learning is tailored to the preferences and interests of various learners. It also notes that instruction is paced to a student’s unique needs. Academic goals, curriculum and content — as well as method and pace — can all conceivably vary in a personalized learning environment.
- **The U.S. Department of Education** Office of Education Technology defines personalized learning as a student experience in which the pace of learning and the instructional approach are optimized for the needs of the student. Standards-aligned learning objectives, instructional approaches and instructional content (and its sequencing) may all vary based on learner needs and interests. Learning activities are meaningful and relevant to learners, driven by their interests and past performance, and are often self-initiated or self-directed.

In *Students at the Center, Personalized Learning With Habits of Mind*, Ben Kallick and Allison Zmuda sum up personalized learning’s purpose and vision. They define it as a progressively student-driven model of education that empowers students to pursue aspirations, investigate problems, design solutions, chase curiosities, and create performances. They incorporate four habits-of-mind concepts for students: voice, co-creation, social construction and self-discovery.

## Learning Strategies Often Used in Conjunction With Personalized Learning

**Adaptive Learning:** According to EdSurge, adaptive learning is an education technology, often coupled with adaptive content, that can respond to a student’s interactions in real time by automatically modifying the presentation of material in response to student performance. When a student gets something wrong, the system responds with feedback that’s based on that student’s specific mistake. The tools provide the student with materials to review the relevant skill. They also break down skills into smaller pieces for students, without changing the overall sequence of skills. Correct responses allow students with prior knowledge to advance more quickly.

**Blended Learning:** The federal Every Student Succeeds Act of 2015 defines blended learning as a formal education program that leverages both technology-based and face-to-face instructional approaches – those that include an element of online or digital learning and combine supervised learning time and student-led learning with all the elements connected – to provide an integrated learning experience that provides students with some control over time, path or pace.

**Competency-Based Learning:** A RAND Corporation study defined competency-based learning as a personalized learning strategy that includes periodic assessment of each student's progress towards clearly defined competencies or skill sets. This assessment occurs "on demand" when a student is ready to demonstrate competency. It may take a variety of forms: projects, presentations, or more traditional tests and quizzes. Students may advance through the content at their individual pace and earn course credit (if applicable) as soon as they demonstrate adequate competency.

**Differentiated Learning:** ISTE defines differentiated learning as a type of learning in which the method of instruction is customized to meet the learning needs, preferences and goals of individual students. The overarching academic goals for groups of students are the same, yet teachers have the latitude to use whatever resources and approaches they see fit to connect with a particular student or use practices that have proven successful for similar students.

**Flipped Classroom:** This is the common vernacular for a type of blended learning that interchanges the classroom lecture with hands-on practice, or what would typically be called *homework*. Horn and Staker point out that students consume online lessons or lectures independently, whether at home or during a homework period on campus. Time in classrooms, previously reserved for teacher instruction, is instead spent on hands-on activities and practice, with teachers providing assistance as needed.

**Individualized Learning:** Horn and Staker also define individualized learning as instruction calibrated to meet the unique pace of various students. The academic goals, in this case, remain the same for a group of students, but individual students can progress through the curriculum at different speeds, based on their own particular learning needs.

**Project-Based Learning:** Buck Institute for Education defines project-based learning as a teaching method extending over a period of time during which students seek solutions to complex questions, problems or challenges, either as a team or individually. The intent is to inspire students to work toward deeper understanding of the subjects through sustained inquiry. Project-based learning can take place online and offline and gives students voice and choice in defining their projects.

## General Terms

**Digital Learning:** The RAND Corporation defined digital instruction as any instructional practice that uses technology to strengthen a student's learning. This may include interactive learning resources; digital learning content, software or simulations that engage students in academic content; access to online databases and other primary source documents; the use of data and information to personalize learning and provide targeted supplementary instruction; online and computer-based assessments; and hybrid or blended learning.

**Disruptive Innovation:** Bower and Christensen define disruptive innovation as one that creates a new market and value network and that eventually disrupts existing markets and networks. It eventually displaces established market leaders and alliances. Some digital learning practices are said to be *disrupting* established learning modes.

**Formative Assessment:** The Glossary of Education Reform defines formative assessment as a variety of methods that teachers use to conduct intermediate evaluations of student comprehension, learning needs and academic progress during a lesson, unit or course. The results help teachers identify concepts that students have not yet mastered, skills they have not fully acquired, or learning standards they have not yet achieved, so they can adjust lessons, instructional techniques and academic support for the students. The general goal is to collect detailed information to use to improve instruction and student learning.

**Heterogeneous Grouping:** ISTE defines this kind of grouping (which is also known as mixed-ability grouping) as a personalized learning strategy in which students of various ability levels are enrolled in the same course or program. It promotes students learning from each other.

**Personal Learning Plan or Path:** These paths (also called Learner Profiles) are often developed in consultation with teachers, counselors, and parents or guardians. The plans, according to ISTE, call for students to describe academic, college and career goals so that students can map out the educational decisions needed to achieve their goals. For teachers, they provide ongoing and deep insights into the individual strengths, needs, motivations, progress and long-range goals that inform learning. The plans may include a portfolio of cumulative academic work and accomplishments. They can then be facilitated through proprietary online platforms that vary in scope and content.

### Personalized Learning Technologies and Practices

**Adaptive Scaffolding:** Researchers at North Carolina State University defined adaptive scaffolding as a series of emerging pedagogical strategies, like an intelligent tutoring system, which can be used in game-based learning environments. Included among adaptive scaffolding strategies are adaptive task selection based upon students' problem-solving performance and adaptive hint generation.

**Computerized Adaptive Testing:** Also called tailored testing, Grist defined this form of computer-based testing. It presents questions of varying degrees of difficulty during testing, depending on the examinee's responses, to efficiently identify the examinee's competence level. They are distinct from "fixed-item" paper-and-pencil tests, in which all students answer all the same questions.

**Cognitive Scaffolding:** Fernandez defined this term as the ability of automated learning systems to create cognitive paths of assessment, from lowest to highest, based on demonstrated cognitive abilities.

**Intelligent Tutoring System (ITS):** Also known as Adaptive Tutoring System. The Army Research Laboratory defined these kinds of systems as a hybridization of Computer Based Instruction and Artificial Intelligence. Intelligent Tutoring Systems provide personalized instruction and feedback for learners. ITS has proven effective in promoting individual learning in static, simple, well-defined domains, such as mathematics.

**Learning Management System (LMS):** Also called Virtual Learning Environment. TechTarget defines these systems as software applications or web-based technologies used to plan, implement and assess a specific learning process. Typically, these systems provide an instructor with a way to create and deliver content, monitor student participation, and assess student performance. They may also provide students with the ability to use interactive features such as threaded discussions, video conferencing, and discussion forums. Some allow for adaptive release of content, so that students can only progress to the next topic or unit after mastering the current one.

**Learning Relationship System:** Eduventures defines this type of system as an integrated system of applications that unites various tools and technologies to achieve the look, feel and functionality of an LMS. In short, it is many systems rolled into one. It combines learning modules and assessment features with a robust records management system and predictive analytics. This approach not only offers a central and scalable repository for learning, but it also integrates student records, tracks student progress, and maps student learning to curriculum outcomes and career objectives.

### State and Federal Policy

**Student Support and Academic Enrichment Grants:** This new program was established by ESSA to increase access to "personalized, rigorous learning experiences supported by technology." It supports schools in rural and remote areas to expand access to high-quality digital learning opportunities and "build(s) capacity for principals, [and] other school... administrators to support teachers in using data and technology to improve instruction and personalize learning." In developing grants, the local education agencies that were to be served by its funding had to provide their state-level agency a full needs assessment so the state proposal could consider needs for improvement of (1) access to, and opportunities for, a well-rounded education for all students; (2) school conditions that create healthy and safe school learning environments; and (3) access to personalized learning experiences supported by technology and professional development for the effective use of data and technology.

**E-Rate:** Officially known as the universal service Schools and Libraries Program. This federal program discounts the cost of broadband up to 90 percent to help eligible schools and libraries in the United States obtain affordable telecommunications and internet access. Discounts for support depend on the level of poverty and the urban/rural status of the population served.

**Innovation Zones:** Also called Districts of Innovation or Strategic Waivers School Systems, these areas or systems describe school districts that have approval from their state education agency for greater academic and/or budgetary autonomy. They may have submitted an innovation plan and established a contract between the district and the state. Certain states, such as Georgia, Texas and West Virginia, have associated grant programs that helps fund the various innovations awardees seek to adopt. Districts have requested partnerships with local colleges, pursuit of enhanced prekindergarten, and other innovations with the following exemptions: uniform school start date, minimum minutes of instruction, class size ratios, student attendance rules, student discipline provisions, teacher contracts and teacher appraisal systems.

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