

Personalized Learning: The Journey to Student-Centered Instruction

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Definitions

Personalization

The learner and teacher collaborate to drive learning and determine needs, plan, and learning design.

Differentiation

The teacher drives instruction and adjusts learning design for groups of students.

Individualization

The teacher drives and accommodates learning design for an individual learner.

Adaptive Software

Technology that creates a learning environment in which the materials delivered are based on student input.

Teacher-Directed

The teacher is largely in control of the goal, pace, and design of instruction.

Student-Centered

The student has significant choice in the goal, pace, and design of instruction.

Overview

Personalized Learning is more than an EdTech trend; it's been around for as long as learners have been learning. Dedicated teachers throughout the ages have recognized that customizing the learning environment to meet the needs of students is an impactful and important practice. The challenge arises when teachers have more than a few students in their classrooms. It is difficult to scale custom learning environments in classrooms with a wide range of needs and interests. Even when students are grouped into age cohorts, their ability-levels aren't similar enough to effectively meet the unique needs and interests of each student.

This age-old challenge is why technology is so important to the personalized learning discussion. Technology extends the ability of a teacher to more directly engage learners on an individual basis. Deploying technology doesn't ensure that the learning environment will be student-centered, but it can be a key enabler when it is part of a well-implemented plan.

The journey from traditional, teacher-directed, whole class instruction to student-centered, personalized learning is different for every educator. This paper will discuss the steps along that journey, ways to support change, and the benefits for students and educators.

Why Personalized Learning?

We must prepare today's students for tomorrow's world, and we can't do that with yesterday's learning models.

Today's students live in a climate of constant input, including sound, video, written and visual information, and social media interactions. The fast-paced, visual, responsive environments they experience incline students to expect rich, interactive learning environments as well. Students want to engage with learning content that interests them, and they yearn for some control over what and how they learn.

Tomorrow's world will be changing faster than ever, but one thing we can reliably predict is that persistent, self-directed, life-long learners will be best positioned to prosper.

Definitions (continued)

Competency-Based Learning

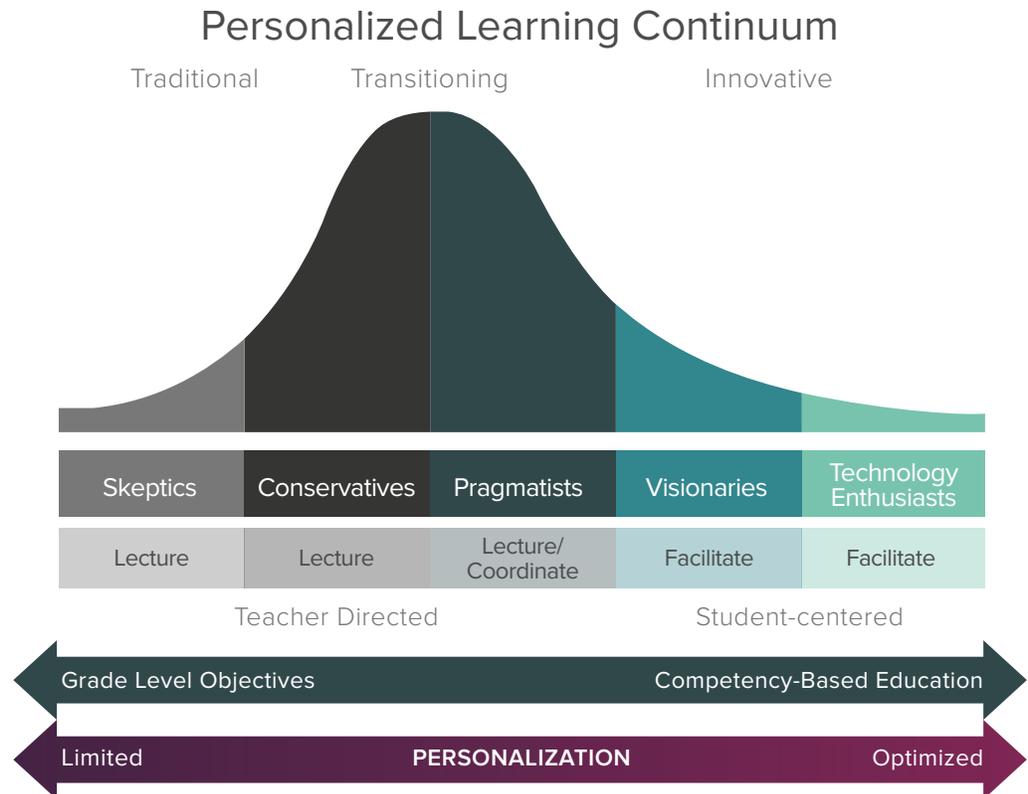
Students demonstrate that they have gained understanding and skills to progress. The learning environment is designed to build proficiency, and students may take several different approaches to gain the appropriate level of understanding and skills. (Also known as mastery learning or proficiency-based learning.)

Blended Learning

A mix of technology and face-to-face instruction. It combines brick-and-mortar classroom learning with online learning, and students have some control over the time, pace, and place of their learning.

Continuum of Personalized Learning

Learning environments can be distributed along a continuum of experiences, from traditional to innovative. A variety of characteristics roughly describe classrooms along this continuum. Characteristics include whether the classroom is teacher-directed or student-centered, the level of personalization, the role of the teacher, the level at which technology is integrated, and whether the classroom is driven by grade-level objectives or competency-based education. A specific combination of characteristics can indicate the relative position along the traditional-to-innovative continuum.



A traditional classroom often features a learning environment in which the teacher makes all instructional decisions and primarily uses lecture to deliver content. The goal in such classrooms is to ensure that all students experience instruction around all grade-level objectives. The timing of instruction is usually highly influenced by pacing charts. Technology is rarely or never used, and personalization for individual students is limited.

An innovative classroom will provide a learning environment in which the student has significant input about the goals, pace, and design of instruction. The teacher acts as a facilitator and coach, helping the student make choices about the learning environment. Because the learning is based on unique student needs, the focus is on competency-based learning: Students work on material until they gain an appropriate level of understanding or skill rather than moving forward based on a pacing chart. Instructional technology is used daily as a tool to allow learners to access material for their specific needs.

Don't Make a Leap, Build a Bridge

Once an educator makes increased personalization the goal, the next step is to plot a path from his or her classroom's current point on the Personalized Learning Continuum to the goal position. While some teachers may be able to leap directly from where they are to a more personalized position, the path that provides the most sustainable success is a gradual one with a variety of supports. Reaching the goal destination on this path may take several years.

Developing Hallmarks of a Personalized Learning Environment

EdTech leaders who are journeying on the bridge from tradition to innovation will need to develop new capacities that are the hallmarks of a personalized learning environment. The first hallmark is a rich network of professional development and supports for teachers. The second is collaboration between teachers and students around the development of learning design. Next is the transition to competency-based education and frequent and rich use of data. Hallmark four is characterized by a technology infrastructure and hallmark five involves the ability of educators to use technology in increasingly transformative ways described by the SAMR (Substitution, Augmentation, Modification and Redefinition) model. The final hallmark of a personalized learning environment is expanding the variety of implementation models.

Hallmark 1: A Rich Network of Professional Development and Supports for Teachers

Just as students have unique learning goals, so do teachers. They can benefit from experiencing personalized learning for themselves and their students. Creating a professional learning network with a diversity of teacher-learners and flexible grouping is a good precedent to developing student-centered learning environments. Educators can benefit from in-person professional development, online courses about personalized learning, program-embedded professional development, onsite discussion groups, resource lists, Twitter educator communities, and more. Without access to a variety of skilled experts and time to interact and problem-solve, the movement from traditional to innovative classrooms can get stalled.

Hallmark 2: Collaboration Between Teachers and Students Around Learning Design

Traditional teachers use their expertise to make choices about the types of learning environments students experience. This may result in amazing experiences, but it does not involve students nor prepare them to be persistent learners who can create goals and plot paths to meet those goals. Teachers who are optimizing personalized learning will value the process of mentoring students to choose appropriate goals, evaluate which experiences will help them achieve those goals, and iterate based on data showing growth toward the goals.

Hallmark 3: Competency-Based Education (CBE) and Frequent and Rich Use of Data

Once an educator places high priority on personalized learning environments, the conflict between what students are supposed to learn versus what students are ready to learn quickly becomes obvious. Typical grade-level objective pacing charts may not align with how long it takes certain students to learn. This is especially true for subjects that depend heavily on prior knowledge and foundational material, such as math.

While teachers can make some decisions about how to deal with this conflict at the classroom level (i.e., providing quick foundational instruction when students are not ready for grade-level material), leaders need to consider how personalization will impact grade-level goals and pacing. To more effectively design the learning environment, educators and learners need data about which proficiencies students already have and how they are growing towards goals. To this end, educators should have access to a variety of data sources, Professional Development on what the data means, and ongoing conversations with colleagues about best practices for using the available data.

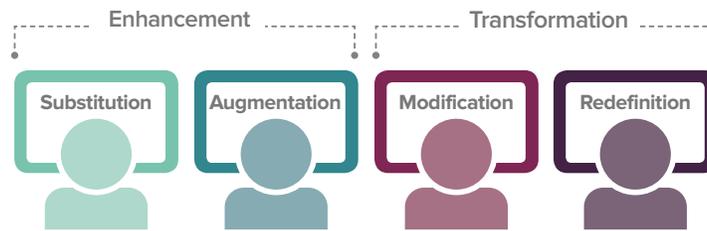
Hallmark 4: Technology Infrastructure

For the greatest possibility of success, leaders should ensure that the logistics of implementing technology solutions are addressed. Most leaders consider Internet accessibility, bandwidth, and quantity and quality of devices, but it's also important to consider how to support teachers in a timely manner when technology goes awry—and it WILL go awry. Not every student needs a device, but every teacher needs timely tech support. There are a variety of ways to provide the support, including formal tech support, an onsite, tech-savvy teacher, student helpers, etc. Whatever form support takes, it must ensure that when a tech-cautious teacher has issues, those issues are quickly resolved so the teacher does not give up.

It's helpful for teachers to have access to a broad variety of technology tools. A system that describes use and quality of the tools is helpful. Developing this system within teachers' professional learning networks is a great way for teachers to support each other in finding the best tools for learning goals.

Hallmark 5: Use Technology in Transformative Ways

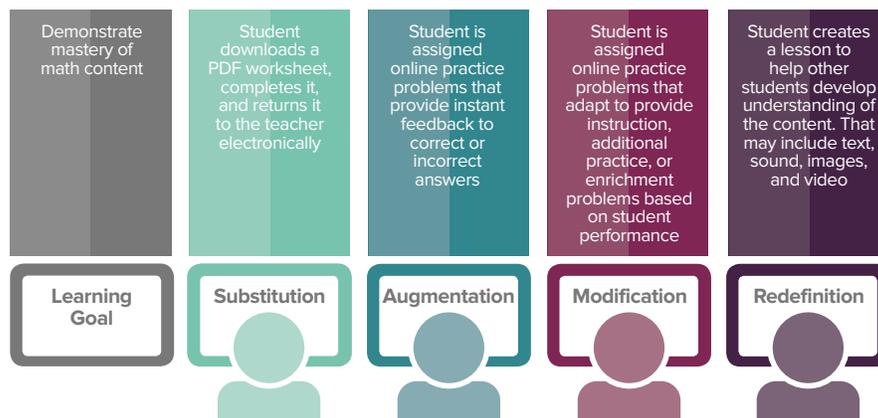
The presence of technology in a school or classroom is no guarantee that it will offer a more engaging and personalized experience to students. Analyzing and planning technology use through the lens of the SAMR model (shown below) can improve the chances for transformation.



There are four levels in the SAMR model: Substitution, Augmentation, Modification, and Redefinition. **Substitution** describes a situation in which technology is used as a direct replacement for a task normally done without technology. There is no real functional change. **Augmentation** occurs where employing technology is more effective than executing the task without technology. The learning experience is still similar to what it might be if the task were completed without technology. These two levels of the SAMR model enhance the experience. The next two levels of the SAMR model transform the learning experience. **Modification** introduces a significant, functional redesign of the learning task, meaning the task really isn't possible without the technology. Last, **Redefinition** allows for the creation of new learning tasks, inconceivable without technology.

Educators may debate how a given tool or task fits into the SAMR model, and that discussion often informs continuous improvement. At best, the value of SAMR is in helping teachers define student learning goals and plan how to employ rich, engaging, and valuable technologies to reach those goals in ways that were previously impossible.

Morphing Math Tasks Using the SAMR Model



Hallmark 6: Expanding the Variety of Implementation Models

There are myriad ways to structure learning environments. Many are variations on a handful of models. These include Homework, Rotations, Flipped Classrooms, Menu and Flex models.¹

- *Homework* assignments can take a variety of directions. One example is to simply have students use adaptive software that allows them to work on a learning continuum, at their own pace, until they master the material. This can be a way for teachers to include personalized learning without changing traditional classroom practice. Often teachers discover the value of personalized learning when they see students shine and grow who may not in traditional instruction. Teachers also gain insights from the data gathered when students are working within their personal learning zone.



Homework

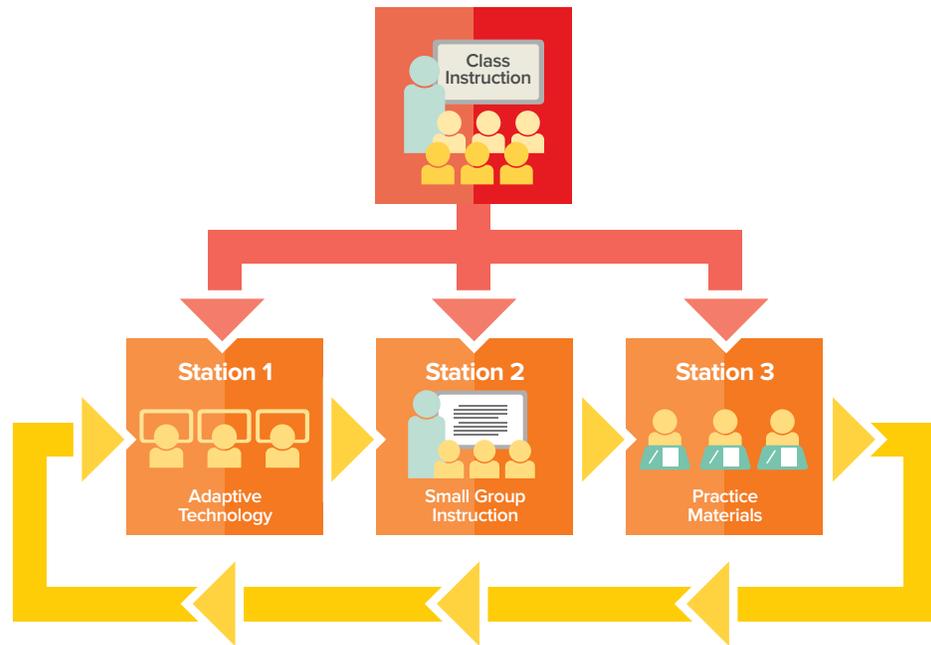
- *Rotation* models can take many forms, including:
 - *Lab Rotations* that allow students to utilize computer carts for a class period or part of a class period. The EdTech specialist or the classroom teacher is responsible for the learning environment. In either case, students experience personalization through adaptive software that provides different experiences to each student based on their specific needs. They may also receive differing assignments based on choices made by the teacher and/or students. This is usually an easy step along the path to personalization, because the teacher doesn't have to change what happens in the regular classroom. A computer lab often has an EdTech specialist who can deal with tech issues, addressing the fears of tech-cautious teachers. In the best case, the EdTech specialist can help the classroom teacher gain tech problem-solving skills. Finally, the classroom teacher can easily observe the benefits of technology and personalized learning. A lab rotation model can inspire a classroom teacher to take more steps across the bridge to personalization.



Lab Rotation

¹ Learn about these models and others in more detail at the Blended Learning Universe—or BLU—a comprehensive online hub curated by the Clayton Christensen Institute at <http://www.blendedlearning.org/models/#ala> (you may have to join for free to access the learning model part of the site).

- **Classroom Rotations** are familiar to most elementary school teachers. One version of class rotations involves the teacher spending some time with the whole class, and then sending students to different stations to complete tasks such as (1) using adaptive technology, (2) participating in small group instruction, and (3) completing practice material based on whole class instruction. Stations one and two are personalized to student needs. All students rotate through the stations, but the experience they have depends on their individual needs or small group needs.



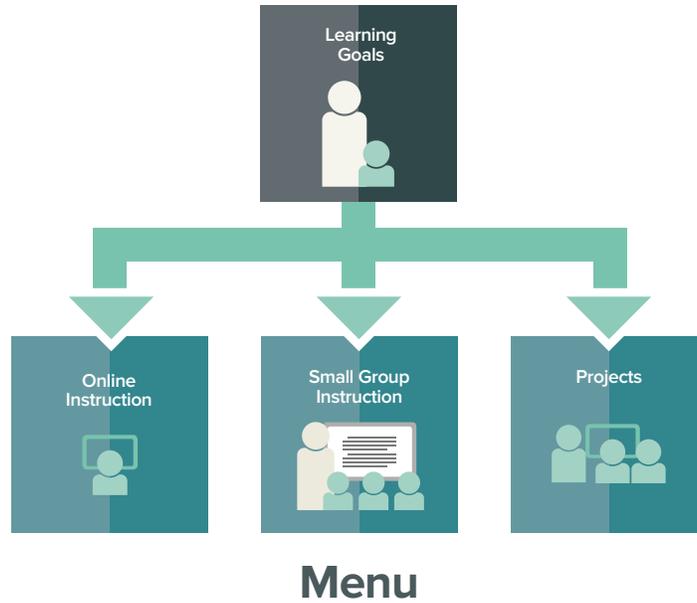
Classroom Rotation

- A **Flipped Classroom** asks students to access introductory content on their own, often as homework. Students can all view the same video or use a menu of resources to accomplish the overview. When students return to the classroom, they spend time on interactive, often high-order thinking activities based on their understanding of the material. This can precede a whole-class discussion/debate, small group work, or project-based learning that challenges their understanding of the material.

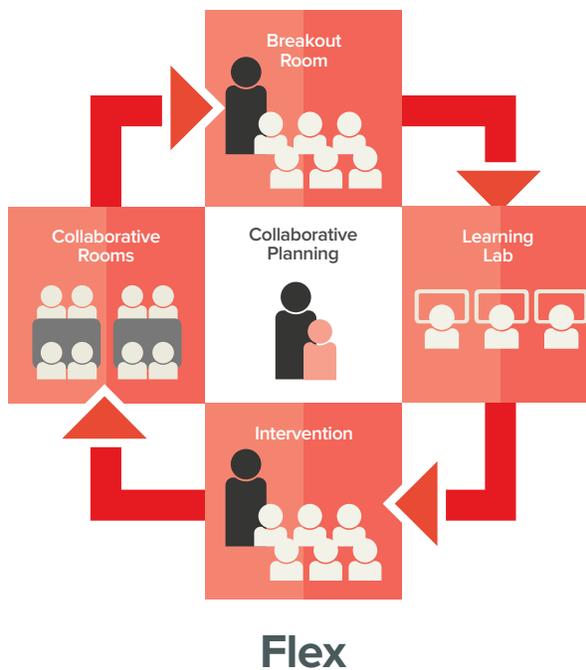


Flipped Classroom

- The *Menu* model calls for a variety of learning options, many offered through technology. The teacher and the students set learning goals and choose relevant activities from a menu to help reach those goals.



- The *Flex* model has online learning as its backbone, allowing each student to work with his or her teacher to create goals and construct learning experiences to meet them. The teacher often serves as a consultant on learning plans and works with individuals or small groups as needed.



Hallmark 6: A Rich Network of Professional Development and Supports for Teachers

Just as students have unique learning goals, so do teachers. They can benefit from experiencing personalized learning for themselves and their students. Creating a professional learning network with a diversity of teacher-learners and flexible grouping is a good precedent to developing student-centered learning environments. Educators can benefit from in-person professional development, online courses about personalized learning, program-embedded professional development, onsite discussion groups, resource lists, Twitter educator communities, and more. Without access to a variety of skilled experts and time to interact and problem-solve, the movement from traditional to innovative classrooms can stall.

An Exemplar: Rio School District, Oxnard, California

The superintendent and other leaders in the Rio School District decided that personalized learning could meet their instructional needs. Key challenges included addressing technical and instructional needs in their classrooms while providing personalized, engaging, differentiated, and cost-effective professional development to principals and teachers at varying stages of buy-in and tech proficiency. The superintendent and district leaders initiated an in-depth Blended Learning Opportunity Analysis. The examination reviewed each school and its readiness to successfully implement Blended Learning strategies.

The Blended Learning Opportunity Analysis was used by consultants and leadership to create a plan for change (the bridge). The leadership worked first with principals by initiating leadership coaching sessions (in-person and online). This enabled school administrators to prepare and support teachers as they implemented blended instructional practices and student-centered classroom environments. The principals and leaders then created personalized learning environments for teachers and supported those teachers in moving towards more personalized learning environments for students. In the meantime, logistics for technology and tools were addressed.

Rio School District Transformation

Teachers in the district changed their teaching delivery, and their students began doing more inquiry-based learning. The physical setup of classrooms also changed to create better spaces for project-based learning. Teachers employed Google® Docs to engage students and increase student collaboration. Students demonstrated mastery by explaining their learning to other individual students, groups within the classroom, and/or to the whole class.

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Rio School District Results

As the result of “building a bridge” for teachers, Rio School District students increased test scores by 7% in ELA and 4% in Math. Oscar Hernandez, Assistant Superintendent, noted that these were “good increases.” In addition, 97.9% of teachers and administrators participated in online and in-person professional development for 245 school days. 160 teachers spent over 200 hours learning how to become 21st-century teachers and understanding the foundations of blended learning to create engaging learning environments for students. “I am telling you, we are rapidly moving up along the way!” says Hernandez. “I just hope that we can replicate the same gains next year.”

Rio School District Reflections

The leadership team believes implementing professional development and curriculum with fidelity was a key factor in their success. “We had a few non-negotiables, including our Professional Development Platform courses, which were implemented at varying levels for teachers at different schools,” says Hernandez. “In addition, we offered supplemental programs for student use.”

Concluding Thoughts

Change can be challenging for educators who face time constraints, scarce budgets and resources, multiple stakeholder communities, and continuously evolving initiatives. Building a bridge from existing practice to increased personalization, and purposefully taking each step to cross that bridge can assure classroom transformation and optimize each student’s opportunity for achievement.

Personalized Learning: The Journey to Student-Centered Instruction

About the Authors



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Janet Pittock is a Curriculum Director for McGraw-Hill Education with a deep, personal commitment to personalized technology solutions that inspire and engage each student. She has taught elementary school, preschool, special ed, and Algebra 1 and has overseen marketing, product management, and product development in mathematics, literacy, science, and early childhood at Redbird, Scholastic, Creative Publications, Think Through Learning, and Harcourt Achieve.

Janet has been fortunate to have learned from Marilyn Burns, Carole Greenes, and Skip Fennel through collaborating with them to publish books such as *Do The Math*, *Groundworks*, and *Connect*.



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For over 21 years, Cassandra has worked in education for government, non-profit, and for-profit agencies. Her work has included funding and managing county education programs, regional recruitment and implementation of tutoring programs, monitoring and quality assurance of educational services and the facilitation of diversity and anti-bias curriculum to school leaders and students. Cassandra was recently featured in “Voice from the Industry”, in *EdNet Insight* e-newsletter as the co-author of ‘*Personalized Learning: A Student-Centered Approach for Learning Success*’.