By Barbara Bray and Kathleen McClaskey

A STEP-BY-STEP GUIDE TO

PERSONALIZE LEARNING

We know that every learner is unique and that one-size-fits-all instruction does not work for most.

But how do you create a classroom environment that gives each learner voice and choice?

The co-founders of Personalize Learning, LLC, offer a detailed six-step approach.

Over the past 100—or even 1,000—years, learners haven't changed much. They have always learned in their own unique and variable ways. What has changed is technology, and it continues to evolve at a breakneck pace. Even five years ago, learners didn't have the access to information right at their fingertips that they do today. Now, perhaps for the first time, we have the ability to meet learners where they are, to teach them all in the ways that they learn best, and to facilitate optimal learning experiences for everyone, anytime and anywhere. And we have no time to waste.

What Is Personalized Learning?

Personalized learning is a buzz phrase that educators use as an alternative to "one-size-fits-all" instruction. But many are confused about what personalized learning really means, as it's often used in conjunction with the terms *differentiation* and *individualization.*

The U.S. Department of Education defined all three terms in the 2010 Education Technology Plan (1.usa.gov/14AnJbu):

Personalization. Instruction is paced to *learning needs,* tailored to *learning preferences,* and tailored to the *specific interests of different learners.*

Differentiation. Instruction is tailored to the *learning preferences* of different learners.

Individualization. Instruction is paced to the *learning needs* of different learners.

These definitions focus mostly on instruction—not on the learner—which motivated us to create this chart comparing the terms as they relate to teacher and learner roles:

Personalization vs. Differentiation vs. Individualization

Personalization	Differentiation	Individualization
The learner:	The teacher:	The teacher:
Drives his or her own learning	Provides instruction to groups of learners	Provides instruction to an individual learner
Connects learning with interests, passions, and aspirations	Adjusts to learning needs of groups of learners	Accommodates learning needs of the individual learner
Develops the skills to select and use appropriate technology and resources to support learning	Selects technology and resources to support the learning needs of groups of learners	Selects technology and resources to support the learning needs of the individual learner
Demonstrates master of content in a competency-based model	Monitors learning based on Carnegie unit (seat time) and grade level	Monitors learning based on Carnegie unit (seat time) and grade level
Employs assessment *as* learning	Employs assessment *for* learning	Employs assessment *of* learning
Becomes a self-directed learner who monitors progress and reflects on learning based on mastery of content and skills	Uses data and assessments to provide ongoing feedback for groups and individual learners to advance learning	Uses data and assessments to confirm progress and report what the individual learner has learned

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Start with the Learner

Each learner is unique and learns in different ways. Personalized learning is built on the idea that the learner:

- Knows how he or she learns best
- Self-directs and self-regulates his or her learning
- Designs his or her own learning path
- Has a voice and choice about his or her learning
- Is a co-designer of curriculum and learning environment
- Has flexible learning anytime and anywhere
- Has high-quality teachers who are partners in learning
- Uses a competency-based model to demonstrate mastery
- Is motivated and engaged in the learning process

With personalized learning, anyone can be a learner. The term *student* implies someone in a class being taught by a teacher. *Learners*, in contrast, drive their learning from anywhere at anytime.

Where Technology Fits In

Technology plays different roles in individualization, differentiation, and personalization:

Personalization. Learners have access to a set of technologies to support their own learning.

Differentiation. The teacher adapts instruction and chooses technology to support groups of learners.

Individualization. The teacher selects technology for each student's individual education plan (IEP).

Personalized learning is not the same as adaptive curriculum, where technology drives the learning based on data using algorithms of performance, such as number of clicks. It is also not just about giving each learner his or her own device. The technology is there to support—not drive—the learning.

The focus of personalized learning is not on the technology but on the learner's motivation, engagement, and voice. And, according to researchers Eric Toshalis and Michael Nakkula, in their paper "Motivation, Engagement, and Student Voice" (bit.ly/11QAuva), if learners have a voice in how they learn, they will be motivated to engage in the learning process.

> "Personalized learning, by whatever name, is a central design principle for a transformed education system."
>
> —*John Bordeaux, Organizational Knowledge Design (jbordeaux.com/all-learning-is-personalized)*

The Stages of Personalized Learning Environments

Learning environments should be able to flex to fit how each learner learns best. But it takes a process over time to achieve this flexibility. Traditional teaching with direct instruction is ingrained in our system. This is what most teachers were taught. That's why moving to any of the stages takes time and vision. Here is a condensed version of the stages of personalized learning environments (PLEs).

Before you attempt to transform learning and teaching with a PLE, consider where you and your learners are now and then decide which stage is a feasible goal for your classroom, school, or district. Keep in mind that roles change for teachers and learners in all three stages.

Download the complete chart at www.personalizelearning.com/p/toolkit.html.

Stage One
Teacher-Centered with Learner Voice and Choice

The teacher:

- Understands how each learner learns best and makes instructional decisions based on strengths, challenges, and interests
- Redesigns classroom environment and universally designs lessons and projects that encourage learner voice and choice
- Thoughtfully integrates technology into the curriculum to instruct all learners based on how they learn best

Stage Two
Learner-Centered with Teacher and Learners as Co-Designers

The teacher and learners:

- Decide on the skills and strategies for how they access information and express what they know
- Co-design lessons and projects to include learner voice and choice
- Know how to choose and use the appropriate tools to support learning
- Are transitioning to a competency-based system where learners begin to demonstrate mastery of learning

Changing Roles

To transform learning, all stakeholders—teachers, learners, parents, and community—share the vision of how they will personalize learning for everyone, because every learner matters. Personalized learning happens only when learners are able to own their learning. Of course, by necessity, this changes both the teacher's and the student's role.

Teachers. Instead of delivering knowledge, teachers become partners with their learners. This partnership entails two major changes:

- Teachers involve their learners in building learning environments designed to engage them.
- Teachers add their learners as co-designers in lesson design.

Learners. Learners first understand how they learn best. Then they acquire the skills to choose and use the tools that work best for their learning qualities. When they combine these skills and tools with strategies that support their learning, they will be able to self-direct and own their learning.

For example, if learners have trouble writing down their ideas, they can use a speech-to-text app, such as Dragon Dictation. If they have difficulty taking notes, they can use Notability or Evernote, which have audio. And if learners tend to fidget or have trouble sitting still, they can walk off some of their energy in a pacing area in the back of the room.

The benefit of this approach is that when learners have a voice and choice in *how* they learn, they are more motivated to learn.

Stage Three

Learner-Driven with Teacher as Partner in Learning

Learners:

- Drive their learning based on their interests, aspirations, and questions

- Learn at their own pace where they monitor progress with a constant feedback loop

- Design flexible projects that allow them to use their own voices and choose the best ways to demonstrate mastery in competency-based learning

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Six Steps to Personalize Learning

These six steps are a process that can help teachers move to a Stage One PLE with lessons that include learner voice and choice.

Step One: Understand Who Your Learners Are and How They Learn Best

Teachers can determine each learner's needs by using Universal Design for Learning (UDL) principles (see "Universal Design for Learning," page 17) to understand the learner's strengths, challenges, aptitudes, interests, talents, and aspirations. UDL has often been connected to special education, but it is a framework that applies to all learners who have variability in their learning.

UDL was originally designed for teachers to better understand their learners. But learners can also use UDL principles, with simplified language, to understand who they are as learners and how they learn best. For them, we use the following terms:

Access = multiple means of representation
Engage = multiple means of engagement
Express = multiple means of expression and action

To design their personal learner profiles, learners determine:

• How they prefer or need to *access* and process information
• How they like to *engage* with the content
• How they prefer to *express* what they know and understand

UDL helps teachers understand all the learners in their classroom. And once the learners understand how to use UDL principles to discover how they learn best, they will be able to drive and own their learning.

To grasp how this all works in a classroom, consider Jared, who is a third grader. The teachers helped Jared design this Personal Learner Profile based on how he accesses information, engages with content, and expresses what he knows.

Jared's Personal Learner Profile

	Strengths, Interests	Challenges
Access	Good spatial ability, can interpret graphs and charts, likes music	Difficult time focusing on the text, trouble organizing and taking notes
Engage	Comfortable with Google Docs and the internet, likes to come up with new ideas	Frustrated when writing ideas down on paper, cannot sequence what is happening in a story
Express	Artistic ability, likes to draw, likes taking pictures and building things	Not able to write or speak descriptively, does not know how to formulate a good question

Jared's learning preferences and needs are related to his learner qualities, which are his strengths, interests, and challenges. For instance, he prefers information in visual form. Because of his challenges, he needs images or screen captures that walk him through step-by-step instructions. He prefers to have music playing in the background while he studies or reads.

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Step Two: Design a Stage One Personalized Learning Environment

In a Stage One PLE, the teacher introduces learner voice and choice.

Teacher	Learner
Knows how the learner learns best	Establishes learning goals with teacher
Applies UDL principles to lessons	Creates a personal learning plan
Redesigns learning environment	Chooses how to access content
Integrates technology	Has a voice expressing knowledge
Designs assessment strategies	Selects the way to engage with content

To begin redesigning the learning environment to support how your learners learn best, choose four diverse learners from your class and assess their learner qualities. You can then set up multiple learning zones based on these qualities to provide all of your learners with choices in how to learn and express what they know and understand.

Here are some suggestions for environmental solutions for specific learner qualities.

Learner Qualities	Learning Environment
Fidgeting and having trouble sitting still	Area to pace or stand with high desks
Prefers working on projects	Tables grouped for collaborative work
Cannot sequence what is happening in story	Teacher area with interactive whiteboard
Likes to draw with technology	Multimedia computers with stylus or tablets
Prefers to work alone and reflect on task	Individual space for private journaling

Kevin McLaughlin, a primary teacher at Old Mill Primary School in Leicestershire, England, divided his classroom into five zones to enable learners to approach and respond to concepts on their own terms. This is how he laid out his learning environment.

Universal Design for Learning

The Center for Applied Special Technology (www.cast.org) created the Universal Design for Learning (UDL) framework to reflect the fact that each learner is unique and has variability in learning styles. In recent years, neuroscience has confirmed this approach by proving that individuals bring a huge variety of skills, needs, and interests to the act of learning.

To accommodate the wide range of learning differences, the UDL framework guides the development of flexible learning environments that provide multiple means of:

- **Representation** to give learners different ways to acquire information. This supports the "what" of learning—how we gather facts and categorize what we see, hear, and read.

- **Engagement** to tap into learners' interests, challenge them at their levels, and motivate them to learn. This supports the "why" of learning—how learners get engaged and stay motivated.

- **Expression and action** to give learners alternative ways to demonstrate what they know. This supports the "how" of learning—how we plan and perform tasks and how we organize and express our ideas.

❶ Discussion and Thinking Zone. Learners participate in whole-class discussions and talk about their learning.

❷ Discovery Zone. Learners investigate and solve problems and collaborate on projects.

❸ Show-Off Zone. Learners write, present, and share their work.

❹ Repeat Level. Learners come here when they need help, advice, and explanations.

❺ Creation Zone. Learners write, edit, develop, and refine their content presentations.

Learn More

5 W's of Personalized Learning (What, Who, Where, Why, Wow) E-Course: bit.ly/TchrcR

10 Predictions for Personalized Learning for 2013: bit.ly/ZQfeKF

Center for Applied Special Technology (CAST): www.cast.org

"Innovating learning requires innovating the classroom too," Steps in Teaching and Learning, Kevin McLaughlin, January 15, 2012: www.ictsteps.com

Personalize Learning, LLC: www.personalizelearning.com

"Rethinking Classroom Assessment with Purpose in Mind," Western and Northern Canadian Protocol for Collaboration in Education: www.edu.gov.mb.ca/k12/assess/wncp

"Students at the Center: Motivation, Engagement and Student Voice" by Eric Toshalis and Michael J. Nakkula, 2012: studentsatthecenter.org

UDL 2.0 Guidelines: www.udlcenter.org/aboutudl/udlguidelines

Step Three: Develop a Universally Designed Lesson

UDL provides a lesson blueprint for creating instructional goals, methods, materials, and assessments that work for everyone. This is not a single, one-size-fits-all solution but rather a series of flexible approaches that can be universally designed to meet the needs of every learner.

If you are going to transform learning so learners have a voice and a choice, you involve them in unpacking and how they meet standards, including the Common Core State Standards and the NETS for Students. When learners co-design their learning strategies, they become better prepared for college and the workforce because they are more engaged in the learning process and can continue to use these skills throughout their life.

In a traditional classroom, to meet the Common Core Reading Literature standard for Key Ideas and Details, third graders read or listen to the same text in the same way and are usually asked to respond in the same way as everyone else in the class.

Third Grade Literature: Key Ideas and Details

(ELA-RL.3.1). Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.

"Many children struggle in schools ... because the way they are being taught is in the way that is incompatible with the way they learn."

—Peter Senge, Center for Organizational Learning, MIT Sloan School of Management

In a Stage One PLE, third graders are more involved in how they learn as they unpack ELA 3.1 with their teacher, who asks them questions that encourage discussion, such as:

- What are the most important events that happened in the story? How do you know?
- Can you tell how the character is feeling in this part of the story?
- How does this character affect what happens in the beginning or at the end of the story?
- What lesson is this story teaching you?

For instance, imagine that the third graders are attempting to demonstrate understanding of the moral of *Miss Rumphius* by Barbara Cooney. This beautiful picture book tells of the life of the author's great aunt Alice, now called the Lupine Lady. When she was little, Alice told her grandfather that she wanted to do as he did—go to far-away places and live in a house by the sea. He told her that she must also do something to make the world more beautiful.

The teacher reads the book to the whole class and then makes it accessible to them in several different formats, such as:

- On eBookBrowse (ebookbrowse.com/miss-rumphius-pdf-d14743889)
- As a video on YouTube (www.youtube.comwatch?v= DrjPzbuxLJU)
- As a podcast
- In other publishing formats, such as SpeakSelection (for iOS6), a text-to-speech tool for readers who need to hear the story as they read along

She then facilitates discussions about the lesson the book teaches with the learners. The children decide that the moral of the story is that people can make the world more beautiful.

In this Stage One lesson, the teacher identifies these NETS•S to address:

Ia. **Creativity and Innovation:** Apply existing knowledge to generate new ideas, products, or processes.

IIa. **Communication and Collaboration:** Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media.

She then facilitates brainstorming with the learners on how they can meet these standards, including:

- Types of products they can create
- Strategies for working together with other learners in the classroom
- Media and resources available for this lesson

Step Four: Facilitate Driving and Supporting Questions
The teacher asks learners to come up with even more questions. They decide on:

- Is there a right or wrong way to make the world more beautiful?
- Does making something more beautiful make it better?
- Can you make a person more beautiful?
- Does being beautiful make a person better?

The class then prioritizes the questions and eventually chooses one as their driving question: *Does making something more beautiful make it better?*

Learners then work in pairs to develop supporting questions. The teacher pairs Jared with Susan because he has difficulty focusing on the text and trouble organizing notes, and Susan's strengths include being able to stay on a topic and to prioritize and organize elements in a story. Susan guides their brainstorming as Jared types in a Google Doc, which is part of the Class Learning Toolkit available to all learners.

Susan and Jared prioritize the questions and choose *What can we do to make the world more beautiful?* as the driving question for their project. They also come up with these supporting questions:

- What are some places that need to be cleaned up?
- Why do people throw trash out of their car windows?
- Why is the school throwing away paper and plastic instead of recycling it?

Jared and Susan go to the Discussion and Thinking Zone to think about trash and recyclables. Based on their driving question, they decide on a learning goal of designing a school recycling center.

Step Five: Choose Tools, Resources, and Strategies for Learning and Teaching
In a PLE, each learner has access to a Personal Learning Backpack that includes a device and a set of tools he or she can use to support any task, assignment, or project. Learners compile their own backpacks, with their teacher's help, based on how they learn best as well as the resources and tools available to them. Once the learner understands how to choose and use the appropriate tools for any task, independent access and self-direction become the foundation of their PLE.

A Personal Learning Backpack can also include websites and a mobile device with a customized set of apps to support the learner for:

- **Reading:** Good Reader, Voice Dream, SpeakSelection
- **Brainstorming:** Popplet, SimpleMind, IdeaSketch, Inspiration
- **Writing:** Storykit, Dragon Dictation, Book Creator
- **Collaborating:** Skype, Screenchomp, GoDocs
- **Organizing:** DropBox, iHomework, Toodledoo
- **Note-taking:** Notability, Audio Note, Evernote
- **Researching:** Dragon Go, Qwiki, WolframAlpha
- **Presenting:** Prezi, iMovie, Keynote, Educreations

Because Jared has a problem with focusing on text and writing and speaking descriptively, Susan found SpeakSelection in the accessibility section of the iPad to help Jared read through the articles about recycling. He then saves his notes to Notability from his searches on SweetSearch. Jared then reviews his notes in the Repeat Level. With Susan's help, he organizes their thoughts using IdeaSketch. Finally, the pair plans and designs a recycling center for their school using SketchUp in the Creation Zone.

Step Six: Use Assessment as Learning
By this point, the teacher transitions his or her role to a facilitator who guides learners to become more self-directed so they can set their own goals, monitor their own progress, and reflect on their learning.

Assessment as learning is a process of developing and supporting metacognition for learners. When learners are actively engaged and critical assessors of their learning, they make sense of information, relate it to prior knowledge, and use it for new learning. This is the regulatory process in metacognition. It occurs when learners monitor their own learning and use the feedback from this monitoring to make adjustments, adaptations, and even major changes in what they understand. It requires that teachers help learners develop, practice, and become comfortable with reflection and with a critical analysis of their own learning.

As they design the recycling center, Susan and Jared reflect in their blog on KidsBlog and invite feedback from others. Jared enjoys using technology, so he captures images of trash around the school and recycling centers online and uses DropBox to upload them to the blog. As he collects these as evidence to justify building a recycling center, he writes a reflection on the process. He and Susan compile all the evidence and reflections in a proposal for the recycling center that they present to their class using Prezi.

Susan and Jared became partners in learning with their teacher, which means they were more involved in lesson design and choosing the appropriate tools to support their learning. And as a result, they became more engaged in the lesson and more motivated to learn.

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