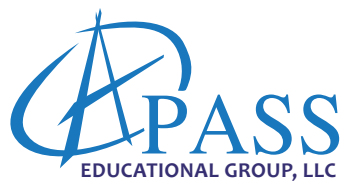




Supporting Personalized Learning With Adaptive Learning Tools

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Personalized learning does not mean to let go, give up control of everything, and hope for the best. It doesn't mean that every kid has to make something, invent something, or be creative for every assignment. It doesn't mean we have to integrate more technology so that we can reach every kid. It doesn't mean that teachers should just facilitate or guide and otherwise get out of the way. There will never be just one role for all of us to fit all of the time. Because personalized learning means to personalize, which means to teach the kids we have right here, right now.

—Pernille Ripp, author of *Passionate Learners: Giving Our Classrooms Back to Our Students*

Personalized learning has rightly become an educational ideal that teachers strive to realize. Students have different educational needs and desires, skills, and knowledge. It's up to the teacher to help all students use their unique abilities to learn about the world in ways that are best suited to them.

Challenges for Teachers

One of the primary challenges for teachers in 21st-century classrooms is to promote personalized learning while keeping the whole

group moving toward prescribed learning objectives. This is a tall order for teachers—not only do they have to be subject matter experts and organizational geniuses, but they also have to put time and effort into increasing student participation in their own education. Ripp (2015) lists five tenets of personalized learning that she urges teachers to keep in mind when planning curriculum that supports personalized learning:

- Student voice—listening to students to learn how they are feeling about learning
- Student choice—letting students choose where and how they learn, and how they demonstrate mastery
- Student planning—allowing students to participate in planning how to reach learning goals
- Student reflection—asking students to think about their learning, express their thoughts, and figure out where they need to improve
- Student action—showing students that they can have an effect on their world through their words and actions

Facilitating students' agency often requires teachers to change how they support their students. For example, they might engage individual students in conversation about how they work best—with pen and paper, on a tablet, or by making a movie? Students' preferences can then be slotted into the flow of the curriculum so that students can feel comfortable in their work environment.

Personalization requires a flexible mindset. Students are not going to achieve mastery all at the same time. Teachers (and the school calendar) set the overall timeline for the class, but it may be up to the students to schedule when and how they will demonstrate their new knowledge and skills.

Personalization also requires a different way of talking. Teachers may not always be the final word on a topic—the encyclopedia of last resort. Instead, teachers change their language to help students figure things out themselves. It might be answering a question with another question, or asking a student to explain an answer rather than simply affirming the answer. This supports students by giving them the confidence to reflect, give input, provide solutions, and even teach others what they know (Ripp, 2014).

Adaptive Learning Tools

As the needs of an ever-more diverse student population expand, an increasing number of schools have been turning to adaptive learning tools as a way to overcome personnel and financial constraints in implementing a personalized learning model. These learning tools are educational technologies that respond to a student's interactions in real time with individualized support. They collect information about individual students' behaviors by tracking how they answer questions. Depending on the data collected and the algorithm applied, they can independently change students' learning experiences to better suit their needs.

Using such digital tools does not by itself transform a classroom into a personalized

learning center. Education is much more than just clicking through screens, no matter how sophisticated the software may be. To prepare for higher education, careers, and lifelong learning, students must learn how to interact with others and use their knowledge and skills to operate in real-life situations. This requires empowering input from teachers, students, and others. Thus, adaptive learning technology is just one of a battery of techniques teachers should use to engage students in rigorous, self-directed learning. It has its place in the classroom, but does not replace the human element.

One of the potential benefits of adaptive learning tools is that students can work on what they need when they need it. This allows them to get the most out of their time with the tool, and frees them to spend more time in class in more meaningful interactions with teachers and peers. The ability to collect real-time data and use it to automatically respond to a student's needs is what maximizes the potential for learning while using adaptive tools.

There are dozens of such tools now available to schools, in a wide variety of subjects. The largest concentration of such tools falls into K-12 reading, language arts, and math—some are for assessment only, some are for teaching content, and others combine several purposes.

For example, Triumph's Waggle offers Common Core-aligned instruction in math and English for grades 2-8. It uses algorithms and content that meets students where they are in their learning and helps them engage in building knowledge, perseverance, and skill.

Waggle uses the infrastructure and algorithms developed by Knewton, another leader in adaptive learning. Knewton's adaptive learning platform draws on research into psychometrics, item response theory, cognitive learning theory, and intelligent tutoring systems. Not only does Knewton's system measure student understanding of every concept, but it defines the relationship between those concepts to provide a framework for student learning.

How do adaptive learning tools work? They can have *adaptive content*, *adaptive assessments*, or *adaptive sequences*.

- **Adaptive Content.** Tools with adaptive content look at a student's specific answer, and then interact with the student in real time. These tools respond to student errors by providing corrective feedback, hints, additional learning resources, and scaffolded support.
- **Adaptive Assessment.** These tools change the questions students see based on their responses to previous questions. The difficulty of questions increases as students answer correctly. If students struggle, the questions get easier.
- **Adaptive Sequences.** These tools continuously collect and analyze student data to automatically change what a student sees next; the tool may change the order of skills a student addresses or the type of content the student encounters. They often use algorithms and predictive analytics to make sequence changes. As students interact with the content—either

by answering questions, clicking on hints, or using virtual manipulatives—the tool saves this information. When students complete assignments, the tool analyzes their performance and learning behaviors, and then matches them to a new set of skills.

There are many features that are essential to effective digital tools for students. Pedagogy, breadth and depth of content, accuracy of assessment, and data analysis are very important, but so are student engagement and motivation. Content that is visually appealing or interactive is more likely to keep students engaged. And tools that allow students to set their own pace are more likely to lead to greater motivation and achievement.

Conclusion

Although adaptive learning technology is improving by leaps and bounds, it is still only one segment of a holistic learning experience. Teachers remain the key to creating engaged, imaginative, questioning learners. The data that the adaptive tools provide allow teachers to make adjustments to learning so that students can make the best use of all the resources available to them.

Mike Crowley, assistant director of the International School of Brussels, expresses why adaptive learning tools remain supplemental elements in the classroom (Crowley, 2016): "The best learning has always been personal. It requires, at its centre, relationships and collaboration, individuality and personal rapport. In the right context, technology and data can amplify this experience."

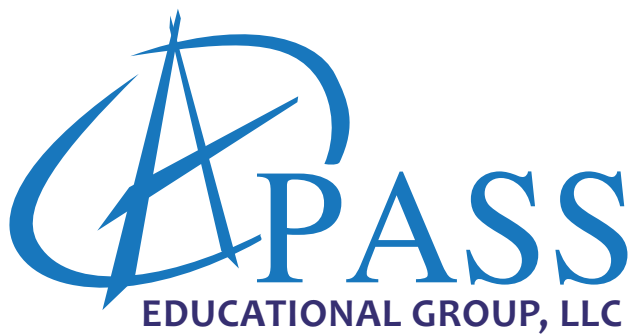
References

Crowley, M. (2016). The dystopian future of schools. <https://medium.com/synapse/the-impersonal-future-of-schools-42831e9520e5#.3pralc5jb>

Pearson EdSurge Staff (2015). Report: Decoding Adaptive. <https://www.edsurge.com/research/special-reports/adaptive-learning/definition>

Ripp, P. (2014). Six changes toward personalized learning. <https://pernillesripp.com/2014/10/31/6-changes-toward-personalized-learning/>

Ripp, P. (2015). The five tenets of personalized learning. <https://pernillesripp.com/2015/12/29/the-five-tenets-of-personalized-learning/>



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