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K-12 BLUEPRINT

A planning resource for personalizing learning

toolkits

Getting Started With Adaptive Learning

It can be difficult for a single teacher to personalize learning for every student in the classroom. With the increasing classroom access to tablets, laptops, and desktop computers has come a wide assortment of software promising to help teachers with this daunting task.

Some educational software claims to be "adaptive," a word that has come to mean many different things. Simply stated, adaptive learning software adjusts the learning content or assessment items it presents to each student based on observations made of student performance.

Adaptive learning systems are designed to provide students with an appropriate level of challenge, as well as the right amount of support. The optimal learning zone lies between the student's comfort zone and the frustration zone. Too little challenge, and the student will quickly lose interest. Too much challenge, and the student will become frustrated and more likely to give up.

To determine the appropriate level of challenge, adaptive learning systems may employ one of several methods. One type of adaptive learning method is called "single point adaptivity." In this model, a student's performance is evaluated at one point in time in order to determine the level of instruction or material he or she receives from that point on. Another method is called "continuous adaptive learning," in which a student receives recommendations of learning material based on performance data collected in real-time.

Adaptive learning software shares much in common with traditional private tutoring. The software can provide supplemental instruction and coaching to students on a one-on-one basis. It can quiz a student, identify areas of weakness, and provide tips to help him or her to remember key concepts. Highly adaptive learning software can help students to get unstuck on a particular step in solving a math problem. Perhaps most useful to teachers, adaptive learning software can pinpoint exactly what students are doing well and where they might need extra help and support.

Personalizing Instruction With Adaptive Learning Systems

When considering ways to utilize adaptive learning software to personalize instruction in a classroom, it is a good idea to lay out a structure and schedule. Some portion of the school day needs to be set aside for students to use the adaptive learning software. This is known as "blended learning." Blended learning is an arrangement in which a student learns part of the time through computer-based delivery of content and skills practice. While the student is using the software or online service, he or she has control over the pacing and sequence of the learning.

It is important for teachers that they understand how adaptive learning software works before implementing it in their classroom. Understanding how the software works enables a teacher to identify which teaching functions the software can fulfill and which it can't. Adaptive learning systems can empower teachers to do their jobs better and give students richer educational experiences. They are not intended as full replacements for teacher-led classes, but they can support a shift in the role of the teacher in the classroom. The teacher's role can shift from providing whole group instruction to supporting students as they work on their individual learning paths.

Features of Adaptive Learning Systems

Adaptive learning systems have a variety of features that make them valuable educational tools for both students and teachers.

One feature of even the most basic level of adaptive learning software is instant feedback. Students are less likely to lose focus if feedback is immediate and

personalized, something that can be difficult for a classroom teacher to provide.

Adaptive learning courses often include game elements such as progression bars, badges, and unlockable achievements. This type of gamification can motivate learners as they tackle new concepts and rewards them for effort and sustained attention.

Many adaptive learning systems provide dashboards to teachers and administrators that report data on where students are struggling. The instructor can use this precise understanding of a student's particular weaknesses to direct their coaching and intervention. These dashboards provide two more benefits: discovering classroom trends and helping teachers more effectively group students by performance, goals, and skills.

Questions to Ask When Considering an Adaptive Learning System

To recognize the value of adaptive technologies, here are some questions to ask:

1. What is the degree of adaptation provided by the software?
2. How fine-grained is the adaptation?
3. Does it offer many learning paths, or only a few?
4. Is the pacing set by the software, or does the student largely determine the pace?
5. How rigorous is the curriculum?
6. What is the quality of the instructional content and assessment tasks?
7. Does the software apply multiple methods to help students develop skills and understanding, or only provide practice problems?
8. How engaged are students using the software?
9. Do students feel a sense of ownership of their learning experience?
10. Do the choices and personalized challenges appeal to everyone in the class, or only a narrow cross-section of the students?
11. What kind of data does the software report to teachers?
12. What is the quality of the reporting?
13. How helpful is the data in supporting a teacher's goals (e.g. differentiating instruction, grouping students, and providing appropriate interventions and one-on-one assistance)?
14. Does the software offer age-appropriate learning environments?
15. Is the learning environment highly motivating?
16. How frequently does the software provide opportunities for independent critical thinking?
17. What is the feedback like?
18. Does the software respond in real-time with useful feedback and scaffolding that supports a student's development of conceptual understanding and procedural fluency?
19. Does the software provide access for English Language Learners?

A Few Adaptive Learning Demos to Explore

http://www.waggleprac tice.com/

https://www.aleks.com/

http://www.ck12.org/assessment/ui/browse/index.html