Center on Innovations in Learning

Wise Ways®

Indicator: All teachers use online curricula whose goals are measureable and clearly state what students will know or do at the end of instruction. (A7)

Explanation: Online curricula make personalized learning practices feasible at scale and have been shown to improve a wide variety of educational outcomes. All online curricula should be aligned with standards with clear and measureable goals and objectives; student progress should be reflected within students' learning profiles and the path towards attaining mastery should be flexible to allow for student ownership of learning. Online curriculum providers should provide clearly stated goals and objectives, and should provide evidence that their curriculum positively impacts student learning. Additionally, educational professionals should be equipped with the skills to critically evaluate online curricula for its adherence to standards, evidence of measureable objectives, and student learning impact.

Questions: How should standards, goals, and objectives be reflected in online curricula within personalized learning systems? How can educators ensure that online curricula are effective and aligned with standards, goals, and objectives?

Learner-centered, or personalized learning refers to "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" (Patrick, Kennedy, & Powell, 2013, p. 4). The student is actively involved with the teacher in co-constructing their individualized learning pathway, and the location, time, and pace of learning may vary from student to student (Redding, 2016). Technology makes personalized learning approaches possible at scale and can assist in all areas of teaching and learning, including student data and assessment, curriculum selection and alignment to standards, and instruction and learning (Wolf, 2010; Redding, 2014). A good deal of research evidence has supported the use of technologies to increase student achievement (e.g., Tamin, Bernard, Borokhovski, Abrami, & Schmid, 2011). Recent preliminary research also suggests that personalized learning practices that incorporate technology and online curricula, when implemented with fidelity, may result in positive and large student achievement gains, particularly for students behind academically (Pane, Steiner, Baird, & Hamilton, 2015).

How Should Standards, Goals and Objectives Be Reflected in Online Curricula within Personalized Learning Systems?

Education standards are "the building blocks that provide a frame of what a student needs to know and do to be successful" (Patrick, et al., 2013, p. 27). These standards, whether they are local, state, or national (e.g., Common Core State Standards, CCSS), should be reflected within students' personal learning profiles and show how and when the student learns and demonstrates mastery within each standard across the K–12 progression (Patrick, et al., 2013). How students attain mastery of standards is flexible within personalized learning models, with technology allowing access to increased content resources that provide students with multiple pathways to proficiency. Objectives within standards must clearly state what students should know and be able to do to attain proficiency (e.g., "Cite several pieces of textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the

text," (ELA Reading Informational Text Standard Grade 7, CCSS). Accompanying assessment rubrics to measure progress towards goals and objectives must be clear and meaningful to students and teachers (Patrick, et al., 2013).

Standards provide a clear target of learning expectations, but also offer expanded learning opportunities and allow for creativity by teachers, local leaders, and other education professionals as to how standards are taught. This enhanced creativity enables educational professionals to select curricula that are aligned with standards, goals and objectives, and that meet the learning needs of the student population they serve.

How Can Educators Ensure That Online Curricula Are Effective and Aligned With Standards, Goals, and Objectives?

The marketplace of learning technologies and online curricula continues to grow rapidly and the content, quality, implementation and context of theses resources vary widely (Vega, 2015). Teachers and other educational leaders are faced with the task of selecting online curricula and technologies that have been proven effective for promoting student learning and are aligned with national, state, or local standards. As Worthen & Patrick (2015) argue:

> With the growth of new learning models comes the need to improve quality assurance systems across K-12 education to ensure that only high-quality, proven providers serve students. It is important to promote educational innovation while focusing on quality assurance by analyzing both the relationship between inputs of quality, such as reviewing courses and curricula for alignment with state standards, and the impact of programs on multiple outcome measures of student learning… States should demand that all providers report the data they use to evaluate program outcomes and student success. Given that blended and online learning modalities have unprecedented capabilities to collect data on teaching and learning, states should require transparent reporting on outcomes-based performance metrics. (pps. 8-9)

Many online curriculum providers are heeding the call for transparency as to how their materials align with standards and improve learning outcomes. For example, Khan Academy and the NROC (Network Resources Open College & Career) programs are open educational resources that link all online lessons/curricula with CCSS, and provide students with learning dashboards that identify gaps and show progress towards standards and learning goals (Watson & Murin, 2014). With the proliferation of online curricula, some education experts are also calling for empowering educators with the capacity to critically analyze available content for its adherence to standards, goals and objectives, as well as its impact on student learning. The recently released U.S. Department of Education's National Education Technology Plan (2016) points to the need to prepare teachers to select engaging and relevant digital learning content, and suggests that:

> Teacher-leaders with a broad understanding of their own educational technology needs, as well as those of students and colleagues, can design short pilot studies that impact a small number of students to ensure the chosen technology and the implementation approach have the desired outcomes. This allows schools to gain experience with and confidence in these technologies before committing entire schools or districts to purchase and use. (p. 27)

Rubrics are now available to assist educators with selecting online curricula that are standards-aligned with measureable goals and objectives, and demonstrate positive impacts to student learning. Achieve's EQuIP Project seeks to expand the availability of online CCSS-aligned lessons and units to all teachers, as well as build educator capacity to evaluate and enhance the quality of online instructional materials. Rubrics available ask teachers to consider the extent to which the lesson or curriculum unit "elicits direct, observable evidence of the degree to which a student can independently demonstrate the major targeted grade-level CCSS standards" (Achieve, 2016). Training modules provide teachers and professional learning communities with the skills needed for using the rubrics. Research is needed to assess the effectiveness of these approaches and their usefulness to educators.

References and Resources

Achieve (2016). *EQuIP rubric for lessons and units: ELA/literacy (Grades 3-5) and ELA (Grades 6-12)*. Retrieved from http://www.achieve.org/files/EQuIP-ELArubric-06-24-13-FINAL.pdf

Pane, J. F., Steiner, E. D., Baird, M. D., & Hamilton, L. S. (2015). *Continued progress: Promising evidence on personalized learning*. Santa Monica, CA: RAND Corporation. Retrieved from http://www.rand.org/pubs/research_reports/RR1365.html

Patrick, S., Kennedy, K., & Powell, A. (2013). *Mean what you say: Defining and integrating personalized, blended and competency education.* International Association for K-12 Online Learning. Retrieved from http://www.inacol.org/wp-content/uploads/2015/02/mean-what-you-say.pdf

Redding, S. (2014). *Personal competency: A framework for building students' capacity to learn*. Philadelphia, PA: Center on Innovations in Learning. Retrieved from http://www.centeril.org/publications/Personal_Competency_Framework.pdf

Redding, S. (2016). Competencies and personalized learning. In M. Murphy, S. Redding, & J. Twyman (Eds.), *Handbook on personalized learning for states, districts, and schools*. Retrieved from www.centeril.org

Tamin, R., Bernard, R., Borokhovski, E., Abrami, P., & Schmid, R. (2011). What forty years of research says about the impact of technology on learning: A second-order meta-analysis and validation study. *Review of Educational Research, 81*, 4-28.

U. S. Department of Education, Office of Educational Technology (2016). *2016 National Education Technology Plan: Future reading learning-reimagining the role of technology in education.* Retrieved from http://tech.ed.gov/files/2015/12/NETP16.pdf

Vega, V. (2015, December 1). *Technology integration research review.* Retrieved from Edutopia website: http://www.edutopia.org/technology-integration-research-learning-outcomes

Watson, J., & Murin, A. (2014). A history of K-12 online and blended instruction in the United States. In R. E. Ferdig & K. Kennedy (Eds.), *Handbook of research on K-12 online and blended learning.* Retrieved from http://press.etc.cmu.edu/files/Handbook-Blended-Learning_Ferdig-Kennedy-etal_web.pdf

Wolf, M. (2010). *Innovate to education: System [re]design for personalized learning. A report from the 2010 symposium.* Washington, DC: Software & Information Industry Association. Retrieved from http://www.ccsso.org/Documents/2010%20Symposium%20on%20Personalized%20Learning.pdf

Worthen, M., & Patrick, S. (2015, November). *The iNACOL state policy frameworks 2015: 5 critical issues to transform K-12 education.* Vienna, VA: International Association for K-12 Online Learning (iNACOL). Retrieved from http://www.inacol.org/wp-content/uploads/2015/11/iNACOL-State-Policy-Frameworks-2015.pdf