

How Curriculum Can Be Enhanced by Learning Analytics

Using learning analytics can improve and enhance curriculum and support learning redesign that is intentionally aligned to essential standards critical for students' success.

District leaders, administrators, and educators are constantly seeking innovative ways to modify instructional strategies, transform professional learning opportunities, and provide ongoing, formative feedback to better improve curriculum and learning redesign. Learning analytics can be used as a metacognitive tool to better reflect on curriculum redesign as well as to establish clear expectations that measure student outcomes.

Metacognition can be used to help educators better understand data to examine their own performance and the performance of students including:

- Evaluation and decision-making regarding effectiveness of curriculum and learning activities;
- Design of learning activities to align to and go more in-depth with standards;
- Students' learning process and resources and tools for support; and,
- Students' progress toward and success with meeting standards.



“ When learning analytics indicate that teachers should no longer deliver a predetermined knowledge or predefined curriculum, teachers have to analyze, collate, and respond to complex data about real learners and make decisions about how to organize learning and teaching.”

— Learning Analytics: Learning to Think and Make Decisions



The Potential of Learning Analytics

There are several reasons to use learning analytics to enhance curriculum design. According to **Learning Analytics: Learning to Think and Make Decisions**, learning analytics:

- Provide evidence of students' learning performance and behavior;
- Bring awareness to existing problems or challenges in learning and teaching;
- Assist in analyzing the situation;
- Support questioning and reflecting upon teaching practices to improve learning; and,
- Provide evidence to make interventions or adjust the curriculum and learning design.

Attributes to consider when designing or redesigning and implementing curriculum

- Curriculum should be interactive, inspirational, innovative, and have impact on all stakeholders. Educators and students are more likely to feel empowered by a curriculum that targets their unique needs through interactive and authentic learning experiences. Learning analytics helps to identify students' learning challenges and identify opportunities for appropriate curriculum redesign and revision.
- Leverage different kinds of data to effectively differentiate and personalize the learning experience of students. Creating learner profiles helps decision-makers determine how to support learner variability as well as identify how the curriculum supports a variety of learning modalities.
- Review student work. Analyze student achievement data, reflecting, adjusting, and improving upon instructional practices. The redesign process also includes making sure all students have access to high-quality content that fits their educational needs with provided support for students who need extra help to achieve academic goals.

“ Learning analytics stimulates metacognitive processes and allows teachers as reflective professionals to recognize learners' behavior, understand their thinking capacities and willingness to engage in the course, and so on, and, based on this information, make real-time adjustments to their course curriculum.”

— Learning Analytics: Learning to Think and Make Decisions

When designing and implementing curriculum, leverage different kinds of data to effectively differentiate and personalize the learning experience of students. It should be obvious that students' cultures and identities are appreciated and valued through respect for their language, word choice, recognition, choice of activities, and engagement. Including students in the planning process and using learner profiles provides students more agency. Creating learner profiles also helps decision-makers determine how to support learner variability and identify how the curriculum supports a variety of learning modalities.



Curriculum redesign involves reviewing student work, analyzing student achievement data, reflecting, adjusting, and improving upon instructional practices. The redesign process also includes making sure all students have access to high-quality content that fits their educational needs with provided support for students who need extra help to achieve academic goals. In any redesign—whether it's curriculum or the use of different technologies—the learner should always be at the center of the process.

“ Learning analytics stimulates metacognitive processes and allows teachers as reflective professionals to recognize learners' behavior, understand their thinking capacities and willingness to engage in the course, and so on, and, based on this information, make real-time adjustments to their course curriculum.”

— [Research Matters / How Student Progress Monitoring Improves Instruction](#)

Progress monitoring

Learning analytics allows curriculum to be redesigned or adapted to better monitor student progression. Curriculum should be flexible enough to make quick actionable changes. Progress monitoring helps quickly and efficiently adapt curriculum to meet the needs of students. Robust data often informs strategies for educators and allows them to better support their students as well as be proactive in what is needed.

An important component of progress monitoring is collecting data to drive classroom instruction, intervention, curriculum design, and practice.

This includes:

- Establishing weekly goals for students;
- Deciding what digital tools to use to assess students' progress; and,
- Establishing a classroom culture of progress monitoring.