



No More Flying Blind: Using Data-Driven Decision-Making to Guide Student Learning

By Ferdi Serim

Although schools often appear to lack navigational instruments to guide them in promoting 21st century learning, the typical educational enterprise has access to large quantities of data on which to base decisions.

Relevant databases include:

- Back-office enterprise systems focusing on accounting/purchasing, payroll, and human resources;
- Transportation and food service software;
- Library automation systems;
- Student health software;
- Special education management software;
- Student information systems that track such data as attendance, grades and family information;
- Learning management systems.

In a perfect world, all of these databases would be integrated into seamless, compatible and easy-to-use tools that allow us to answer questions about how investments of time, money and talent are contributing to the bottom line of enhanced student performance. However, this is often not the case. We find ourselves in the predicament that the cost of scrapping everything they have is too high.

The best response is to inventory what we have and make the most of every opportunity to gather data required to make data-based

operational decisions. In the process, it is often possible to discover ways to free up time or resources desperately needed to support student learning. The holy grail of information management is to put in place systems and procedures that gather pertinent data regarding performance of all parts of the system, and provide analysis that informs decision-makers about how they can do more with less.

Focusing on the Learning

For data-driven help geared specifically to student learning, many districts are turning to technology-based tools commonly known as “Learning Management” or “Curriculum Management” systems. These systems vary greatly in their approach, their targeted audience, and the terminology they use to describe their offerings. But what they have in common is that they gather data about student progress while offering direct instruction, assessment and remediation which allows for comparisons and trend analysis as well as tracking of individual students’ progress.

Effective learning management systems allow teachers to pose and receive answers to a variety of significant questions:

- Did students learn the targeted standards?
- Who did this lesson reach? Do I need to rethink it?
- Do students remember what they studied last semester?
- Are some students ready to move on to the next lesson?

- Do some students meet their learning goals more consistently when they share their progress with the rest of the class?
- Over time, which lessons seem the most effective for the largest number of students and what can I learn from that?
- What learning opportunities are being provided to students and how does that appear to be impacting achievement?
- For which students are current practices working? For which students must other approaches be tried?
- For which students is there a large discrepancy between their performance on and off tests? What sorts of test-taking skills can we teach those for whom the test seems to be the problem?

Professional development that assists educators in learning how to analyze the data available to them is key to the success of a curriculum management tool. Here again, key questions can help guide the planning process:

- How do we grow the abilities of teachers and students to harness these systems to guide their next steps in learning and teaching?
- How do we learn to see patterns that can inform our choices about curriculum and instruction?
- What information do we track and how do we use it to improve?
- How do we determine when and how to analyze the data?
- How do we share this information with our teachers so they can use it to improve?
- Which students are at risk across the board?
- Which teachers are most effective? What materials do they use? What training have they taken?
- How can we facilitate the sharing of ideas so that teachers who experience success in a particular area can help others meet similar Challenges?
- What is the relationship of dollars spent to student achievement?
- What other information is available to guide classroom decisions based on student performance?

Keeping Our Eyes on the Prize

Data-driven decision-making in education, as in other areas, involves four stages:

1. Setting goals;
2. Planning implementation;
3. Monitoring progress;
4. Analyzing results.

It is a recursive process, more like a journey than a destination. The results from stages three and four are used to shape future goals and implementation plans, which in turn are monitored and analyzed.

While information is vital to navigating today's educational waters, it is important not to get swept up in data collection at the expense of good pedagogy. Combining intuition and experience with data analysis allows educators to arrive at true "data-informed" decision-making which supports the crucial goal: aligning practice with research in order to improve student achievement.

Finally, the best learning management systems offer tools for communicating with parents, administrators and other stakeholders. The foundational concept is making the right data available, to the people who need it, by their preferred method, at the right time.

Benefiting from the Tests

Unless the feedback we receive from mandated testing is put to good use in shaping student learning, we will have missed the point entirely. It is important for districts to find the right tools that allow them to analyze the results in a meaningful way. Among the questions that need to be asked as we analyze student performance data:

- What are the strengths and weaknesses of each of the students? What is their educational history? Are there learning style or family issues that affect their performance?

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