Data-Informed Change, One Decision at a Time

There is a surge in investment in business intelligence (BI) in higher education. Financial pressures continue to mount. Pressure to demonstrate student success also is rising in step with calls for documentation from accrediting bodies, states, parents, students and, more and more, the federal government. The "answer" for many institutions is more and better data. But is this enough? Isn't data the beginning, not the end?

Continuous improvement also has been a longstanding focus for many higher education institutions. A number of schools have gone as far as rigorously pursuing Baldrige awards and many institutions have well-entrenched improvement projects. Some institutions study models from industry and borrow what they think will work, for example members of CQIN (Continuous Quality Improvement Network). Major accrediting bodies place heavy emphasis on demonstrating improvement toward desired outcomes.

Do these two movements come together in a way that works? Are BI projects tied systematically to quality improvement initiatives? Or is there hope that having the "right" data will lead to the right outcomes in a straightforward way, ignoring the complexity of decision-making and culture at most institutions? Some centralized, "top-down" decisions seem more amenable to a simple process – maybe. However, a culture of data-informed change implies that everyone can participate in moving the needle toward desired outcomes.

Many now lament the lack of desired impact from their BI investments.   This can lead to a repetitive cycle of looking for more and better data – along with investment in new tools – and a repeat of the disappointment.   New BI technologies can, in fact, be helpful. However, one needs to be sure that the search for the "right" tool is driven by a need for it and not from a failure to use available data within a culture of data-informed improvement.

This data "lust" takes many forms. Perhaps better visualization is the answer, or a data warehouse, or a data warehouse combined with better visualization. The pretty pictures are indeed pretty – and can cut the time to insight. However, if one realizes that more and better data alone is not sufficient, it should be possible to make better decisions regarding what tools are needed. The desire to avoid "people" issues and the potential conflicts those entail can potentially fuel huge investments in "magic" new solutions.

Ensuring that data is used to drive improvement requires a thoughtful joining of information and quality improvement. It also requires that everyone who can impact an area is involved. In the distributed decision-making matrix of higher education, the number of people involved can be quite large.

A Culture of Performance

A culture of performance requires both information and the coordinated action of many people toward agreed-upon goals. This means joining BI initiatives tightly with planning and continuous improvement.

The right data must be made available to the right people at the right time – and in a way that enables them to act on it effectively.   Perhaps in addition to "Big Data" we also need to think about "little data" -

that is, data specific to a purpose and provided to an individual or small group of individual decision-makers at the point of impact. "Big Data" does bring the promise of greatly improved insight. However, many positive changes are the result of a series of individual local decisions.

Siloed data needs to be pulled together to provide a decision-maker with each of the data elements needed to make a decision, even when they come from different systems. This can be accomplished to a greater or lesser degree, and in a number of ways, by using BI tools. However, even with a very mature and holistic BI solution, there is often critical data that resides outside its reach. This is especially true in the area of academic outcomes. The key learning outcome data for a particular area might reside on a local spreadsheet. In addition, different parts of the institution may use different BI systems.

A faculty or staff member who is trying to act on information needs it in context. They need to know why they are seeing the data and what desired outcome it relates to. Data that is not tied to outcomes has no purpose. In addition, goals need to be in a context. Goals at one level should be related to goals at another level. Furthermore, alignment across areas cannot be achieved unless all the goals and their interconnections are clear and visible.

Why in the world did we make that decision anyway? is a frequent question, especially when something is not going well. *Who made the decision? What data did they use? What were they thinking anyway?* The ability to easily answer these questions can help you achieve a culture of improvement. In fact, this is foundational to achieving institutional learning that goes beyond loosely coupled, individual learning. It protects against losing insights over time or due to personnel turnover.

The foundational questions do not end with, *What is the data?*   Rather, they begin with that question and then proceed to *What did we see in the data? What did we do about it? How did that work out? Did we learn and adjust through each cycle of improvement? Did we pull in new data as needed? Did we change hypotheses when indicated?*

The Challenge of Actually Changing

Improvement means change. Change of any kind, even improvement, can be challenging. Joining BI to planning and improvement is a powerful intervention. If everyone can participate in data-informed improvement, the effects will, in fact, be quite profound. Achieving a sustainable culture of data-informed improvement requires facing the human factors head-on and in an ongoing way. Are there intractable disincentives to change in an area? Are there structural issues that impede progress, but are deemed not discussable? Are there hard truths and hard decisions being avoided?

Successful data-informed change requires data tied to planning and quality improvement, and an approach that removes cultural barriers to successful participation by everyone.

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This opinion piece was written by David F. Raney, M.D., a former academic administrator who is currently the CEO of Nuventive, a company focused on joining BI with planning and continuous improvement. He also is a board-certified child psychiatrist with a longstanding professional interest in why and how people act.