

Choosing the Right Track for IT's Transformation of Teaching and Learning

These are heady times for education and technology: high-bandwidth networks are turning visions of new forms of instruction into realities. The "e-learning market" is heating up: studies by International Data Corporation, for example, project that the number of college students enrolled in distance education courses will triple by 2002, reaching more than two million. The promise of the new technologies, new modes of pedagogy, new markets for content, and new lucrative returns is seductive. It is inducing many of us at colleges and universities to cry out: "The train is leaving the station! Why aren't we on it?"

But do we know what track the train is on, where that train is headed? More important, do we want to go there? The answer to both these questions may well be "no." Leaving aside the issue of how realistic the market estimates are, we must still ask if this is where we want to go. Is this market for us? Is all the hoopla about IT's transformation of teaching and learning just so much hype? Are the predicted transformations ones that we *should* be seeking? In particular, when considering a specific IT initiative, we should always ask (and answer) the following three questions:

1. How well does it serve the institutional agenda?
2. Will it have a long-term impact?
3. Is it sustainable in the long run?

Many institutions may not have attempted to answer these questions. After all, between the persistent knocks on the door by potential partners and by

investors with promises of what will be, there is little opportunity to reflect on who we are as educational institutions today and what we want to be in the coming century. What do we value, and what do we do well with respect to teaching and learning?

Strategic Focus: Long-Term Value

IT suggests a rich palette of possibilities for educational explorations—transformations in content, clientele, pedagogy, and delivery, to name just a few. Although many of these possibilities are attractive, some provoke new tensions and others may be mutually exclusive. Thus institutions need to have a "strategic focus": *they should select a limited set of opportunities to explore and should pursue those opportunities in depth.* Institutions must identify specific targets of opportunity and need, particular areas of intrinsic value and potential uniqueness.

Yet the odds are stacked against doing the few rather than doing the many. Pursuing multiple initiatives and experiments is a more tempting and convenient course of action today. The "satisficing" route is an easy one to rationalize and justify, for several reasons:

Uncertainty. Our inability to accurately predict "the next big thing" prompts us to explore as many avenues as possible. We don't want to risk being left out of any hot trends.

Herd instinct. If peer schools think a particular innovation is worth pursuing, then we can ill afford to ignore it.

Public relations. Even if there is little

compelling evidence of the educational benefit of a particular technology, many believe that broad investments in technology provide colleges and universities with competitive advantages. The greater the number of technology efforts, the better will be the PR.

Politics. Funding a few, well-planned technology initiatives inevitably leaves many stakeholders out in the cold. To achieve at least the appearance of equity, we feel obliged to spread technology resources across the entire community. On a somewhat related note, we are loath to dampen faculty enthusiasm for

IT use just when it has perked up after all these years of promotion and evangelizing.

Optimism. Educational innovation at our institutions is essentially a cottage industry. Individual faculty and departments, not institutional edicts, are the real change-makers. By sprinkling technology resources broadly, rather than undertaking a few large-scale experiments, we believe we'll reap a better harvest of results.

This "shotgun" approach to future technology use is apt to be distracting, pointless, and far too expensive for most colleges and universities. Instead, the selection and support of a few, well-directed, large-scale initiatives could go a long way toward developing an institution's understanding of how IT applications will best complement, amplify, or transform traditional educational practice. Projects that are well-planned, well-funded, and carefully monitored could have more strategic value than

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dozens (or even hundreds) of small-scale seed projects.

Enterprise Orientation: Long-Term Impact

Whereas a strategic focus is concerned with large-scale, long-term value, an “enterprise orientation” is about large-scale, long-term impact. Sustainability is the key. The dimensions of sustainability include the following:

Educational sustainability. Are the pedagogical changes generated by new technology consistent with the evolution of curricular content? Will they survive turnover among faculty? Or will they evaporate in the face of the very next technological wave?

Technological sustainability. Can the fruits of a project be maintained over the long haul? Or will the underlying technology be too cumbersome to support? Is it expandable, interoperable, and standards-oriented?

Financial/institutional sustainability. Can the institution afford to support the changes over the long term? Or will the results of the project disappear as soon as the initial project budget is gone?

The history of educational technology innovation is rife with projects that either failed to meet expectations or vastly exceeded anticipated levels of investment, or both. A critical aspect of enterprise orientation is building an infrastructure that is sustainable in all senses of the term. Such an infrastructure must include leadership by key faculty members, appropriate underlying technology at every level (from the desktop, to the campus network, to Internet access), an adequate funding model, realistic cross-platform standards, viable policies (ones that enable information access, privacy, and intellectual property rights), and an organizational structure that promotes (rather than hinders) innovation.

Starting on—and Staying on—the Right Track

Even though due consideration of sustainability issues is vital, we must remember that focusing excessively on the “big picture” can produce paralysis. Institutions that become obsessive

about strategic planning, that seek to fund nothing but “sure things,” or that exclude experiments with any but the most impressive technological innovations are apt to find themselves mired in inertia. Such institutions will be unable to achieve even modest benefits of instructional technology, let alone exercise any leadership in this domain.

How do you provide the necessary environment for faculty to traverse the unfamiliar terrain of educational technology? For one thing, you do not have to get it all at the start, nor do you have to get it all *right* at the start. But getting something right first is useful. Establishing architectural directions and standards at the outset goes a long way toward balancing the resources needed for technology experiments and those required for production-level services. And agility is vital: you must be able to change directions easily, reassign staff, reallocate funding, or adopt new technologies as they appear.

Retaining a strategic focus and an enterprise orientation requires a disciplined approach to the investigation of opportunities for teaching and learning—not an easy task given the seduction of technologies and the press of markets. Staying on track requires assessment mechanisms that few institutions have even attempted to create.

Appropriate and effective uses of technology have the potential to catalyze the development of new insights in fields of study and new ways of teaching and learning. However, realizing the educational potential and effecting sustainable transformation will require a good look at the what, how, and why of our practices (strategic focus) and at systemic diffusion strategy (enterprise orientation). Without such deliberation, much of our effort will be squandered in chasing the illusion that technological innovation is inherently and universally beneficial to education. History clearly shows that this is not so. It's about time we admit this fact and get on the track to where we want to go.

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