Filling a Void in IT Professional Development: Understanding Higher Education

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Overview

When considering information technology (IT) staff development, we in higher education often focus on technical skills needed to refresh knowledge or learn new operating systems, applications, sophisticated relational databases, security patches, and the myriad of technologies that change almost daily. Or we strive to develop IT staff members’ so-called “soft skills” such as influencing without authority, dealing with difficult people, or delivering effective presentations. Whether technical or managerial, most staff training is tied to individual performance plans or an institution-wide staff development initiative. Missing from many IT staff training plans is an ongoing program that provides staff members with skills to meet the IT challenges affecting higher education and society as a whole.

A review of IT training and development literature points to the fact that enhancing leadership skills is an overlooked area even when well-intentioned (and funded) chief information officers (CIOs) have instituted solid professional development programs. Leadership training is, according to CIO Magazine, gravely underemphasized.¹ This gap may be the result of a common business practice of promoting people with highly honed technical competencies to managerial positions, often with ill-fated results. Or it may be because IT is still in its infancy and “most companies view the CIO as the single source for decision making and strategy development, so the second tier of IT leadership doesn’t always get the exposure necessary to develop their leadership skills,” according to Dell CIO Randy Mott.²

This research bulletin contends that there is another void in IT professional development specific to higher education: how to imbue an understanding of how higher education’s history, organizational structure, governance, and practices impact IT. In its most general sense, the challenge is to educate IT professionals about the customers they serve and the institutional environment in which they operate. It is also about understanding the unique language, principles, and practices of higher education.

The Research Framework

Why the need for IT staff to understand the language of higher education? The research reveals the convergence of three literature streams.

The first focus is organizational. There is a dichotomy between the way higher education works and traditionally accepted best practices for information technology. The organizational construct of higher education is based largely on a need for fluidity and non-standardization, resulting from shared governance, the contractual nature of tenure, and a mission to expand knowledge. Together, these elements make the higher education environment very different from that of a hierarchical corporation. On the other hand, the very nature of information technology begs for standards. It is more economical to support a uniform, predictable IT infrastructure than a diverse infrastructure. An IT environment with a broad mix of applications, hardware, systems, business practices, and policies escalates, geometrically, the overall cost and skill level
required for support. The result of this dichotomy might be friction between IT staff and the academic community they serve. Robin Conant described a common complaint regarding IT staff in higher education—non-responsiveness to both academic and business considerations exacerbated by difficulty communicating with outside constituencies. On our campus, small but significant imbroglios have often erupted between the community and IT when planned outages conflict with research grant deadlines, when academic software isn’t installed instantaneously, or even when e-mail quota increases are denied.

The second focus is budgetary. Typically, as an institution grows its IT infrastructure, costs escalate faster than cost recovery mechanisms can be established. This is especially problematic at a time when overall budgets are shrinking and IT is not yet considered by many senior administrators to be a serious cost of doing business. Duderstadt bluntly delineated this point: “Yet all too often, university leaders, governing boards, and even faculties ignore the rapid evolution of … technology, treating it more as science fiction than as representing serious institutional challenges and opportunities.” The result has been, in a down economy, budget cuts that CIOs are finding more and more difficult to absorb as society becomes permanently dependent on technology. One way to either reverse or at least stem the budget degradation is, as the EDUCAUSE executive briefing on IT funding and an article in EDUCAUSE Quarterly stated, to engage academic leadership and educate the community to validate technology expenditures. This need is further exacerbated by the discussion around Nicholas Carr’s controversial article, “IT Doesn’t Matter,” published in the Harvard Business Review. Carr’s thesis is essentially that, as information technology’s power and ubiquity have grown, its strategic importance has diminished. Jack McCredie’s counterargument to Carr’s assertions stated that “If a solid, reliable information technology infrastructure is required simply to be in the game and to compete, IT certainly matters a great deal.”

The third focus, which is the primary area of interest for this bulletin, relates to IT leadership continuity in terms of the aspirations and skills of IT staff members themselves. According to Katz et al., more than 25 percent of the 1,850 survey respondents, including senior-most IT leaders, expressed intentions to leave higher education in five years or less. Among respondents who are over 50 years old, that number jumps to 39 percent. They will vacate some 175 positions, and only 157 respondents indicated that they will be ready to apply for these positions within the next five years.

### Filling a Professional Development Void

Concerns about organization, budgets, leadership continuity, and customer relations combined to force Northeastern University to look at IT professional development requirements in a new light. After a series of awkward incidents precipitated by IT staff misunderstanding of the organizational structure of higher education, we decided to fill a void in Northeastern’s IT professional development offerings by launching Higher Ed 101, a half-day, fast-moving course that explains shared governance, delves into the
role of the president and provost, describes the interconnections between administrative and academic function, and ends with a graphic description of the demands the “new” student is making on the IT function and the very construct of higher education.

Our IT staff members are similar in demographics to the data reported by Katz et al. Some have been with the university for many, many years enjoying the lifestyle higher education affords, and others were hired during or after the dot-com boom, also a growth period in our IT unit. Most of our newcomers came from industry and did not have experience at other colleges or universities.

As the World Wide Web, wireless, spam, and security attacks have become a part of the daily university work and social interaction ebb and flow, IT at Northeastern has become more “visible” to the community at large. Planned outages, once ignored by faculty and administration alike, now have to be carefully timed (usually in the early-morning hours) so as not to disrupt some segment of the university. Use of the content management system, once limited to a cadre of professors willing to engage with technology and teaching, is now almost de rigueur in several academic units putting pressure on network connectivity, computing lab maintenance, and classroom response metrics.

Senior Northeastern IT management noticed that not all these academic pressures were well-understood by the staff, especially when the pressures collided with IT best practice expectations (such as the need for planned outages). Our sense was that there was a void in staff understanding of the very culture of higher education and how this differed from the corporate culture. This difference in cultures, specifics on shared governance, and organizational structure became the governing factor in the development of “Higher Ed 101,” which we subtitled “One of These Things Is Not Like the Other,” a professional development course required of nearly all Northeastern IT staff. The curriculum we designed can readily be adopted by other institutions.

Highlights of the Curriculum

Each class consists of 20 to 25 individuals. Our goal was to create a high level of energy in the class and to make the content relevant—and fun—from each participant’s perspective. Some of the participants were used to being able to duck under the cover, as one person said, by “not ever having to meet directly with anyone outside of IT.”

For the efficacy of the curriculum and the learning objectives, we began with a pilot program, handpicking the attendees and requesting feedback from each. The pilot group included individuals who were happy to be in higher education and some, frankly, who were not. Based on their feedback, we reduced the delivery time from two mornings to one (approximately 8:30 a.m. to 1:00 p.m.) and eliminated the homework assignment. In the pilot feedback, participants suggested that we add a section on student life, which we did.

As of the release of this research bulletin, more than 40 staff members have taken the course. We are delivering a session every six weeks. The Information Services (IS) senior management chooses the participants for each class. At the end of each session,
we send out an e-mail asking for open-ended feedback. We find that the open-ended approach gives us much more information to make necessary adjustments to the class.

**History, Organization, and Student View**

The curriculum has three sections: a short history of higher education; the organization of Northeastern University (this section is easily modified to any institution’s organizational chart); and the student view. Table 1 shows each of the three sections of the curriculum and its objective.

<table>
<thead>
<tr>
<th>Section</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>History of Higher Education</td>
<td>Emphasis on shared governance, academic freedom, and tenure to show the difference between higher education and most corporate structures</td>
</tr>
<tr>
<td>Organization of the University</td>
<td>Identification of main areas in a university/college (academic, student, fundraising, administrative) and which technologies are used by each group</td>
</tr>
<tr>
<td>The Student View</td>
<td>To underscore how students use technology and what their expectations are</td>
</tr>
</tbody>
</table>

**History of Higher Education**

The course begins with a very short lecture on the history of higher education by explaining that a debate continues, almost a millennium later, about whether higher education began in Bologna or at the Sorbonne in Paris. Sharing this trivia emphasizes that much of higher education is built on debate, differences of opinion, and the continuous quest for knowledge. This historical overview puts the university in the context of the medieval world and how knowledge was held by a very few and had to be protected, resulting in academic specialization and non-standardization. This segment then introduces the three primary principles differentiating higher education from the corporate structure—shared governance, academic freedom, and tenure and promotion.

We explain shared governance by emphasizing academic specialization and delineating how shared governance serves the “greater good”—the mission of higher education. We explain how faculty can deliver a vote of no confidence (and give examples of how they have). Academic freedom is explained by reading directly from the American Association of University Professors (AAUP) *1940 Statement of Principles on Academic Freedom and Tenure*. To make this concept relevant, we outline how academic freedom is intertwined with non-standardization of technology (Apple, Unix, and so forth). We also describe how issues such as distance learning are caught up in intellectual property rights and academic freedom.

“Is Getting Tenure Contagious?” is the title of the last point. First, we outline the tenure process. Then we explain the autonomy faculty enjoy after receiving tenure. Finally, we define how tenure relates to academic freedom and why it is important to the creation and dissemination of knowledge. This brings together the three principles of shared
governance, academic freedom, and tenure and promotion, and offers another chance to explain why standardization is so difficult in any facet of a university.

Participant reaction to this section is, at first, mixed. It is the beginning of the course; it is early in the morning; and many of the participants wonder why they need to be there. Despite this initial reaction, however, the historical perspective is critical to clarifying the differentiating points between the corporate and higher education sectors. Feedback several days after the end of each session showed a marked change in the value of this section, with most participants acknowledging they had no prior knowledge of the history of higher education and could now begin to see how the differences in structure affected their own work.

**Organizational Structure**

The history section segues into the organizational structure by focusing on the roles and responsibilities of departments and the senior administrators and vice presidents. Most of the participants cannot name the senior administrators, nor do they often know the job function. Without an understanding of how the university actually runs, it is very difficult—if not impossible—to understand how a given technology (or a change in that technology) actually works in context.

To address this point, we assign participants to teams and provide them with a large board on which is printed Northeastern’s senior administration organizational chart. Then we hand out “graduation caps” representing randomly selected departments. Participants are instructed to pin the graduation cap on the board under the correct senior manager’s title. After all of the caps are on the board, we review the correct and incorrect placements. Next, the teams are asked to use Post-it notes to write down every IT system that is used in a particular area and post the notes on the board under the appropriate senior manager. Once completed, the participants have a visual display of the technology footprint for the university, can see their own impact on the daily operations, and can better understand how a change in one area can impact another department or constituency on campus.

Often participants in IT positions who did not have daily direct customer contact struggled to understand why they needed to know who is who and what those in other departments do. We used this opportunity to emphasize the rationale for the course, which was not only to explain the inner workings of higher education but also to expand each staff member’s knowledge of overlapping systems and responsibilities to enable them to make better decisions regarding technology-related issues.

The most significant learning occurs when we ask each team to work with vignettes that thinly disguise actual campus situations. It is here that we can see the knowledge we have presented transfer to the participants. The vignettes vary from "students" requesting wireless access on campus immediately to the “chief financial officer” reviewing duplicate costs of academic software. The relevancy of the vignette brings comments from the participants such as “Oh, I am working on that,” or “This looks familiar.” We also write new vignettes as more current issues emerge. Figure 1 is an actual vignette handed to the participants.
The SGA is requesting that, as soon as possible—preferably by next month—all of the university become a wireless campus. Many of us have laptops that are configured for wireless. The cybercafés are always crowded. The result is that we cannot receive or send our instant messages when we are on campus or in class.

Our competition is all wireless. Many of us come from homes where we were the ones who set up our own wireless network. If this university is not wireless, it will drive current students away and reduce the number of students who will be considering applying.

Our next meeting is next week, and we would like you to attend and give us a status report.

**Assignment:** Please write out as many implications as you can think of that relate to this university becoming an entirely wireless campus. What are the opportunities and the constraints? What constituencies will be most affected and how? What is the impact to our department? How would you lead this effort?

The learning objectives highlight the importance of maintaining a high level of sensitivity to the community due to varying perspectives. Once again, the individual IT staff member’s role in the success of the various constituencies and departments is clearly illustrated. Without an understanding of the organization and the pressures facing the faculty, staff, and students, IT could easily make less than favorable decisions.

**The Student View**

The course concludes with the student experience. The objective here is for IS staff to understand how engrained technology has become in our students’ lives. The section begins with an overview of the various student populations (residential, distance learners, graduate, part time, and so forth) that IS must support and the unique technology needs that each constituency may have. Then the participants take a quiz (see Figure 2).
Figure 2: How Much Do You Know About Our Students?14

<table>
<thead>
<tr>
<th>Question*</th>
<th>Discussion Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>What percentage of NU students own their own computers?</td>
<td>What IS services does this impact?</td>
</tr>
<tr>
<td>A: 75%</td>
<td>B: 82%</td>
</tr>
<tr>
<td>What percentage of NU students have a laptop computer?</td>
<td>How is supporting a laptop different from supporting a desktop?</td>
</tr>
<tr>
<td>A: 23%</td>
<td>B: 44%</td>
</tr>
<tr>
<td>What percentage of NU students have a Mac?</td>
<td>Does 6% merit us supporting Macs?</td>
</tr>
<tr>
<td>A: 1%</td>
<td>B: 3%</td>
</tr>
<tr>
<td>What percentage of students use myNEU portal?</td>
<td>How many students are impacted by a one-hour outage of myNEU?</td>
</tr>
<tr>
<td>A: 55%</td>
<td>B: 65%</td>
</tr>
</tbody>
</table>

* The correct answer for each question is in bold.

We then provide a humorous but not at all far-fetched overview of a day in the life of a full-time residential undergraduate student. As participants follow the student, they see how students use technology in their residence halls, in the classroom, as a social tool, and as a primary means of communicating. Participants are asked to track the number of times this student uses all forms of technology in the day. The objective is to understand how pervasive technology is in the student experience and to begin to think about how any disruption in the level of service that IS provides will impact their lives.

Summary

Not all the Northeastern staff members have taken the course and, because this is a single case history, more research is necessary before a strong conclusion can be reached. However, we have some preliminary feedback. At the conclusion of each class, we asked participants to tell us what aspects they found most valuable and how we can improve the class in the future.

- “The first test made me realize how much my vision is restricted to the departments I work with and not the university as a whole.”
- “I think early on in the class that you should have more focus on the WIFM [what’s in it for me?] aspect so that everyone becomes keenly aware that, even though they don’t service these customers directly, they are their [IS’s] customers.”
- “The part about the student’s life was informative and really got to the point of how technology impacts our lives as well as students’.”

Is our premise working? The vast majority of the feedback was positive and, in the main, met with our expected learning objectives. The quotes above are actual excerpts from feedback received from participants in the class.
What It Means to Higher Education

The information technology “industry” is very young, by higher education standards. While some IT professionals earn advanced academic degrees from the institutions in which they work, others come to higher education from roles in industry, government, or the military. These latter individuals often have little opportunity to assimilate the culture of higher education. As a result, they can be perceived as not understanding the key concerns of their customers. For true alignment between IT and the broadest missions of higher education, those who provide IT services must fully understand the priorities and concerns of all members of the academy. “Higher Ed 101: One of These Things Is Not Like the Other” is one approach to achieving this alignment. Following are some of the intended results of the program. We believe these will benefit institutions that are similar, as well as dissimilar, to Northeastern University.

- **Value of IT.** As IT becomes a ubiquitous commodity and as IT budgets are shaved, there is a need to show the value of IT. This program assists IT staff in understanding how their jobs connect to the greater institution to minimize “awkward” situations that cost money and time.

- **Problem solving.** Greater understanding of the complexity of higher education gives IT staff an expanded viewpoint so that they can begin to solve problems with the end user in mind rather than only from an IT perspective.

- **Enhanced awareness.** Sensitivity to the complexities of higher education’s organizational structure helps avoid potential conflicts. The curriculum examined, from as many different perspectives as possible, how information technology helps and sometimes hinders the day-to-day workings of higher education generally and Northeastern specifically.

- **Vocabulary.** The course offered participants familiarity with and understanding of the vocabulary of commonly used higher education terminology, both helping them understand the constituencies they work with and giving them the language to be better understood.

- **Societal pressures.** The course also expanded many participants’ understanding of the societal pressures affecting higher education generally and our university specifically, as well as the role information technology may play as these pressures continue to mount.

### Key Questions to Ask

- What is the content of any leadership development programs (if any) on your campus?

- Do professional development programs go beyond soft skills and into aligning leadership style and business acumen?
• Is IT being asked to shoulder more of the requirements from the research community without comprehensive information about how researchers go about their work and what kind of support they really need?

• Do IT staff understand the tension between IT best practices and the requirements for academic flexibility?

• Is the help desk receiving complaints that could have been avoided (such as planned outages to the network and e-mail) if IT had been more sensitive to the process needed by the academic constituency?

Where to Learn More


Endnotes


2. Ibid., p. 2

3. This point was made at a roundtable discussion moderated by A. Dolan entitled “Staff Development and Reskilling: Keeping Up with Technology and Organizational Change” at the 1999 EDUCAUSE Annual Conference, October 27, 1999, in Long Beach, Calif.,<http://www.educause.edu/conference/e99/ci_rndtable.html#staff_dev>.


11. Our CIO and IS senior staff agreed to make attendance measurable components of all performance plans.

12. AAUP 1940 Statement of Principles on Academic Freedom and Tenure: “Institutions of higher education are conducted for the common good and not to further the interest of either the individual teacher or the institution as a whole. The common good depends upon the free search for truth and its free exposition.” For the complete text, see <http://www.aaup.org/statements/Redbook/1940stat.htm>.

13. We struggled with how to explain the difference between a corporate chief executive officer or chief operating officer and a university president or provost. We found the best way to show the difference was to read real job descriptions from the Chronicle of Higher Education or EDUCAUSE job postings, and then open up a discussion surrounding the varying requirements for executive-level positions in both academic and corporate environments.

14. The quiz questions came from data gathered as part of the university’s student opinion survey service, NUPulse, conducted by Northeastern’s Office of Institutional Research and Planning during the fall 2002 quarter; 403 undergraduate students were surveyed via telephone about their opinions of the services IS provides.

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