Recruiting Instructional Technology Specialists for Faculty Development

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Colleges and universities face challenges when recruiting instructional technology (IT) specialists to assist faculty with instructional development, course and curricular redesign, and teaching innovations. Lack of clear standards for IT skills and knowledge impedes the effective recruitment of IT specialists for faculty development in higher education institutions. This article discusses the work of an IT specialist, analyzes the key IT skills and knowledge from IT position descriptions, and explains a search process that the Center for Research on Learning and Teaching (CRLT) at the University of Michigan uses to recruit qualified IT specialists and faculty developers.

Instructional technology (IT) has become an integral part of teaching and faculty development. As more college instructors integrate technology into teaching, higher education institutions must respond by improving their support for faculty. IT specialists can help faculty effectively integrate technology into teaching and other professional activities. However, college and universities often find it difficult to recruit qualified IT specialists to work with faculty on instructional development, course and curricular design, teaching initiatives, and pedagogical innovations (Strauss, 2000; West, 1998). Although U.S. colleges and universities offer degrees and certificate programs for technology specialists, instructional technologists, curriculum developers, and media specialists to work in K-12 education settings, very few institutions prepare graduates for an IT specialist role in higher education faculty development. Without well-defined credentials, there is not a clear standard for the knowledge and skills needed to hire a qualified IT specialist.

Who can best support the faculty and institution's efforts to integrate technology into teaching? What key skills and knowledge should an IT specialist have? How can colleges and universities recruit qualified IT specialists for faculty development? In this article, we will examine the work of an IT specialist, identify key skills and knowledge for this profession, and describe the method the Center for Research on Learning and Teaching (CRLT) at the University of Michigan uses to recruit qualified instructional specialists or consultants for faculty development in higher education.

The Work of IT Specialists for Faculty Development

Many people view instructional technology (IT) as the use of audiovisual equipment and computer hardware and software, such as films, videos, overhead projectors, computers, and PowerPoint. Others view it as a process of design and implementation. What does IT really encompass?

The use of technology in teaching and training first started in the early twentieth century. During the Second World War, the mass training needs of the U.S. military led to the development of innovative methods of instruction through new technologies, such as the overhead projector, radios, and film (Seattler, 1968). The study of these instructional aids and their impact on instruction led to the development of a field now known as instructional technology.

The President's Commission on Instructional Technology (1970, p. 19) defines IT in two ways: 1) "the media born of the communications revolution, which can be used for instructional purposes alongside the teacher, textbook, and blackboard," and 2) "a systematic way of designing, carrying out, and evaluating the total process of learning and teaching in terms of specific objectives, based on research in human learning and communications, and employing a combination of human and nonhuman resources to bring about more effective instruction."

IT is a complex field that concerns both the processes of learning and teaching and the products that support these activities. Instruction, the design of learning environments, the assessment of student learning, and technology tools are some of the topics under the IT umbrella. As a field, IT relates to many other disciplines such as information science and technology, computer science and technology, education, psychology, sociology, and business management.

Due to the complexity of the field, institutions use a number of different titles to describe the IT profession. When browsing through IT-related job ads in publications such as the *Chronicle of Higher Education*, one may find position titles such as instructional designer, media specialist, media consultant, instructional technologist, and IT specialist. Some jobs focus more on one particular aspect of the field. Instructional designers in industry or corporations, for example, concentrate on designing instructional and training materials, while a media specialist, in a K-12 environment or a higher education

institution, primarily provides support for instruction in the local setting. However, the work of an IT specialist for faculty development in higher education concerns every aspect of IT, from the use of equipment to the application of techniques and strategies derived from research in solving instructional problems. A college or university IT specialist has responsibilities that are as diverse and complex as those of faculty developers.

Degrees and Certificates in the Field

Few institutions offer programs that are targeted to students who wish to become IT specialists in higher education faculty development. A search of the 2005 *Peterson's* graduate program guide identifies 242 institutions that offer certificates or post-graduate degrees in educational media or instructional technology. However, most of these are K-12 oriented, and only 34 offer a doctorate described by the institution as preparing students for a career in a higher education context. Most likely, only a subset of these 34, such as Indiana University, Bloomington, allows students to concentrate in IT for faculty development.

Desired IT Skills and Knowledge for Faculty Development

What are the key skills and knowledge higher education institutions look for in an IT specialist? Using the *Chronicle of Higher Education* job listings and the listserv archives for the Professional and Organizational Development Network (POD) from January 1, 2003 to December 1, 2004, we found 26 advertisements for faculty development positions that involved a significant amount of IT work. Thirteen of the advertisements were for jobs in a research university setting, while seven applied to a master's college or university context, two to baccalaureate colleges, and four to associate's colleges. We analyzed the postings to examine the needed skills and knowledge described in the advertisement's description of the position's responsibilities, as well as the institution's requirements for a successful application.

An analysis of these postings finds that there are several key skills or background knowledge bases that are most sought by colleges and universities who wish to hire IT specialists. Here, we highlight the skills or knowledge listed in at least half of the advertisements.

Consultation with faculty or teaching assistants is the most frequently mentioned professional activity, found in nineteen of the advertisements. Often, IT specialists may consult with faculty on three key areas: use of instructional software, integrating

technology in teaching effectively, and evaluating the impact of technology on teaching and learning:

- *Coaching and consultation in instructional software.* The IT specialist provides individual coaching and consultation to those instructors who want to use institution-supported software programs such as graphics programs and the course management system. These instructors typically have limited technology skills and/or find that most technology workshops do not suit their learning needs. They desire individual coaching, that is, one-to-one hands-on training.

- *Consultation on teaching with technology.* The IT specialist with expertise in learning and communications assists faculty members to explore and examine ways of using technology in learning and teaching. This type of consultation often occurs with individuals or small groups of faculty in a department or college.

- *Evaluation of the impact of technology on learning and teaching.* As faculty members start using technology in classrooms, they need to gather student feedback on technology uses in teaching. The IT specialist with proper technology skills and knowledge of research in IT can help faculty members identify the right questions for investigating the impact of technology on teaching and learning. In many institutions, the investigation of technology use in classrooms is a collaborative effort for a number of units such as an office for evaluation, an office for instructional technology, and a teaching center.

The expertise needed to be an effective consultant is complex, involving affective and intellectual preparation, such as how to build trust with a client, knowledge of pedagogy and cognitive psychology, and counseling skills (Border, 1997).

Knowledge or experience in course or curriculum planning is described in seventeen of the postings. Course and curriculum design involves both a process of rethinking/reexamining course objectives, assignments, and student learning, as well as an exploration of assessment methods and technology tools. The IT specialist with expertise in instructional design and development can help faculty members and departments with course and curriculum (re)design and development projects.

Communication skills, either aural, oral, or written, are frequently called for, noted in fifteen of the positions. Because IT specialists must decode features of technology tools for instructors, summarize technology uses and trends in instruction for faculty and departments, and write about their work, strong communication skills are a necessity.

General knowledge or experience in IT was noted in fourteen job advertisements. Interestingly, calls for specific instructional technology experience occurred with less frequency. Experience with a particular course management software was the most frequently mentioned specialized skill (12 mentions), but other key items included knowledge of instructional technology products to make selection decisions for an institution (8), a background in online teaching (7), knowledge of a specific computer program or platform (6), and multimedia and web development experience (5).

With the advance of technology and change of student demographics, visual learning, distance, and e-learning have become attractive forms of instruction in higher educational institutions (American Federation of Teachers, 2001). Many professional schools and colleges offer courses to both on-campus and distance students. Faculty members who teach distance and e-learning courses need training in both technology and pedagogy, and many instructors who teach traditional courses also seek to add a visual component to keep students' attention and distribute reading and assignment materials through the course management system.

Teamwork and collaboration skills are requested in fourteen position descriptions. The organizational development role of IT specialists, or collaboration with support units on campus, is another key area of responsibility. The IT specialist often works with staff from other central and college/school/department support units to provide faculty with instructional support, such as hands-on technology workshops, pedagogical seminars, and other teaching with technology programs. Additionally, in a teaching center, the IT specialist must work collaboratively with other faculty developers.

Finally, a background in pedagogical theory is listed frequently in the advertisements, appearing in fourteen position descriptions. Knowledge of learning styles and adult learners are the most frequently mentioned topics within this theme. Having a background in the research on teaching and learning generally is useful for an IT specialist to help the faculty and institution enhance teaching and improve student learning through the effective use of technology.

This analysis demonstrates that a comprehensive set of knowledge and skills is needed to support and serve faculty well in their efforts to integrate technology into teaching. Other research has identified analytical abilities, IT knowledge, and social skills as the most important competencies for any IT professional (Hilton, 2001). However, the higher education professional development position listings indicate that while general knowledge of IT and relational skills also are important in this setting, pedagogical training is critical. Background in pedagogical theory and strategy is important because knowledge of teaching, learning styles, and theories can serve an IT specialist well in incorporating technology tools across the disciplines.

IT Work Areas

The typical work of an IT specialist in higher education includes coaching and training technology skills, consultation in various areas of teaching, course design and evaluation, and coordination of campus-wide programs. The IT specialist's work overlaps with that of a faculty developer, whose work areas are outlined as faculty development, instructional development, and organizational development by the POD Network (Diamond, 1988 & POD, 2004). As illustrated in Figure 1, an IT specialist, like a faculty developer, contributes to the professional development of faculty members and helps the institution promote teaching and learning initiatives. Of course, the specific duties of an IT specialist will be defined by the
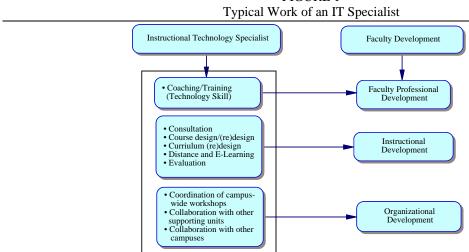
FIGURE 1
Typical Work of an IT Specialist

needs of the institution and the organizational structure of a teaching center or an instructional development office in the institution.

Recruitment of Qualified IT Specialists for Faculty Development

The skills and knowledge needed to be an IT specialist are extensive and complex. It can be a challenge to recruit a qualified IT specialist who can effectively fulfill the complex responsibilities. Effective recruitment requires careful planning and a process that enables candidates to demonstrate their knowledge and skills and recruiters to observe and identify the candidate's skills and knowledge.

Faculty recruitment in higher education and the steps for faculty hiring are clearly outlined in many articles including those by Half (1985), Perlman and McCann (1996), Ryan and Martinson (1996), and Tucker (1993). However, few publications describe the process of recruiting faculty developers or IT specialists in higher education. (Hilton [2001] summarizes common IT hiring practices in industry, such as standardized tests or structured interviews.) Below, we describe the hiring process used at the Center for Research on Learning and Teaching (CRLT) at the University of Michigan, which is designed to authentically assess the fit of an IT specialist or instructional consultant with the organization's and institution's needs. Although our process resembles the search for a faculty member or an administrator, the uniqueness and effectiveness of our search lies in the use of scenario-based interviews, the involvement of faculty members, technology staff, and graduate student instructors, and the candidate's own reflection of performance during the interview.
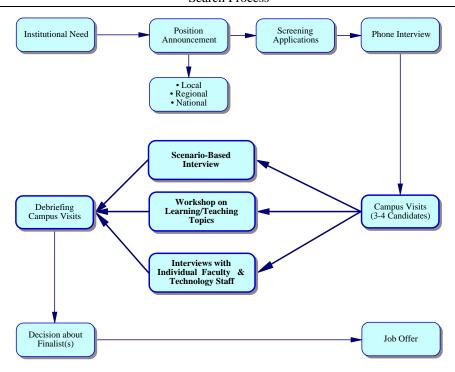
Description of the Position

Institutional need is usually the impetus behind the search for an IT specialist. The teaching center or the instructional development office first identifies the need for an IT specialist and defines the required qualifications, skills and knowledge for the position (Figure 2). The job announcement is then advertised in local, regional, and national publications and on listservs. For example, the job announcement from CRLT was published in the *Ann Arbor News* (local newspaper), POD listserv, American Educational Research Association (AERA) listserv, and *Chronicle of Higher Education.* The position listing analysis above may provide a useful starting point for organizations seeking to hire an IT specialist, but institutions should also analyze their own needs for a new hire. At CRLT, a search committee, comprised of CRLT staff and key stakeholders, screens applications and interviews selected candidates, primarily through a campus visit process.

Campus Visit

The campus visit consists of the scenario-based interview, sample workshop and reflection, and interviews with individual faculty members, faculty developers, and technology staff.

FIGURE 2
Search Process

Scenario-based interview. The scenario-based or case-based interview is common in business management, law, and consulting firms (White, 1998), but it is rarely used in recruiting faculty members, faculty developers, and IT specialists. The purposes of using the scenario-based interview are to test the candidate's analytical, communication, and consultation skills; to assess the candidate's knowledge and resourcefulness; and to see how well the candidate performs under pressure.

The scenario-based interview places the candidate in a role-playing situation, where the candidate plays the role of an instructional consultant and one interviewer plays a faculty member or department administrator. Other interviewers observe the role-play. After the candidate is presented with an instructional problem, the dialogue between the consultant and faculty member starts. The candidate or the interview facilitator can stop the simulated consultation at any time. Once the role-play stops (typically, after about 20 minutes), the candidate is asked to step back, analyze, and reflect on his or her own actions and the process. For example, the reflection will explain why more information was requested, questions asked, suggestions proposed, or resources presented.

The interview scenarios usually are based on instructional problems (classroom/department) that require the candidate to analyze the issue, answer questions, and provide solutions to the problem. In faculty development, consultation, communication and analytical skills, and knowledge of teaching and learning are critical. The scenario-based interview provides a way for the interviewers to see how the candidate applies his or her skills and knowledge in a real world situation.

Although the scenario-based interview places the candidate in a realistic consultation situation, where he or she can best demonstrate knowledge and skills, the selection and creation of the scenario require attention and prudence. First, the scenario should reflect or be based on real instructional problems and be representative of faculty development or IT work in the institution. The scenario can be a general teaching consultation or consultation on technology and teaching, but it ideally is so complex that no simple or single answer will be sufficient to solve the problem. The complex problem usually requires the candidate to seek multiple perspectives and solutions and then to identify the most appropriate ones for the specific situation. The scenarios selected for the candidate's interview should also reflect multiple aspects of the IT work. Coaching a faculty member to use technology in teaching, consultation with faculty members and departments regarding technology use in classrooms, and collaborative work on campus are key IT work areas.

Faculty from each institution should craft their own scenarios that reflect their own needs and work at the institution. The following are suggestions of general topics that could be used for an interview, followed by an explanation of how to assess the candidate's performance during the interview.

Coaching a faculty member to use technology in teaching. For this scenario, the candidate plays the role of an IT specialist while one interviewer assumes the role of the faculty member. The faculty member starts the conversation by telling the IT specialist that s/he would like to use PowerPoint to create simple presentations for a large lecture course. Since the faculty member has never used PowerPoint, s/he would like to learn it. The professor went to a PowerPoint workshop last semester, but did not learn much because the workshop pace was too fast.

This scenario highlights how the use of PowerPoint in relation to the course goals and student learning outcomes is an important issue in technology and teaching. Best practices of PowerPoint in lectures, as well as teaching strategies that involve students in active learning during lectures, are relevant to the consultation. Other topics that may arise are how to learn technology skills and computer applications. Additionally, the use of PowerPoint for lectures may have implications for ways that the professor teaches and expectations students have about the faculty and course (e.g., students may ask for PowerPoint handouts before a lecture).

These related issues and questions are useful for evaluating the candidate's performance. An IT specialist, unlike a server administrator, web editor, or hardware/software support staff, should be able to teach the faculty technology skills, but go beyond points-and-clicks to discuss course goals and student learning outcomes, as well as to explain possible effects of technology on teaching and learning.

Consultation with faculty members and departments regarding the use of a course management system such as Blackboard, WebCT or other home-grown tools (like CTools at the University of Michigan) can serve as a second topic for the interview. In this scenario, a faculty member would like to examine options for using the course management system in teaching. The interviewer again plays the role of the faculty while the candidate is the IT specialist.

The consultation about the use of a course management system involves many issues such as purposes and functions of the system, management of teaching and learning resources, course design, and student engagement in learning. Once the faculty member understands the system's features, he or she can then decide how it will be used in a particular course. Many instructors use discussion features, synchronous or asynchronous, in the course

management system to prepare or extend classroom discussions. The facilitation and management of an online discussion, which involves different skills and considerations than a face-to-face classroom discussion, will be part of the conversation.

Working collaboratively with a department technology director can be a third scenario for the interview. The IT specialist is a consultant who not only provides service to all faculty and teaching assistants on campus, but also serves as a liaison between units. In this scenario, a department IT director meets with the IT specialist to discuss the use of instructional technology in the department. The department mandated the use of a course management system, endorsed the purchase and installation of a classroom response system in a number of classrooms, and pledged to help faculty incorporate technology into teaching. The interviewer plays the role of the department IT director.

This conversation may highlight several areas of teaching and technology, including the selection of technology tools, technology skill training, course planning, student learning outcomes, the effects of technology on teaching and learning, promoting active learning using technology, and pedagogy.

Coordination and collaboration is an important part of the work of an IT specialist for faculty development. The role-play will help the interviewers to see the candidate's skills working in a team environment and knowledge and skills about providing customized IT services for departments.

Evaluation. Those observing the role-play will want to pay particular attention to how the candidate addresses the following issues:

- Did the consultant ask questions about the faculty member's prior experiences with technology, as well as his/her current teaching needs? What levels of questions did the candidate ask during the role-play?
- What consultation style(s) did the candidate utilize (e.g., expert, problem-solver, collaborator) and were they appropriate for the scenario (Brinko, 1997)?
- How did the candidate handle technical or design questions from the faculty member?
- How did the candidate deal with any resistance from the instructor or departmental technology director?
- What other campus resources were recommended?
- What collaborative efforts were suggested and discussed?
- What follow-up activities were planned?

- Did the candidate demonstrate knowledge of current research and best practices on teaching and learning?
- What level of reflectivity did the candidate demonstrate about the role-play scenario?

In addition, the role-play will demonstrate whether the candidate is a good listener, communicator, and problem-solver. Besides key IT skills and knowledge, consultation and other general skills such as analysis, communication, and decision-making are focal points for observation during the role-play and for discussion and debriefing after the interview.

Sample Workshop and Reflection. In the search process, the scenario-based interviews are followed by the candidate's workshop on teaching and learning. Candidates choose a topic and present a one-hour interactive workshop during the campus visit. The interactive workshop simulates the regular seminars offered during the semester at the University of Michigan. Faculty members and graduate student instructors who may be interested in the workshop topic usually are invited to attend the workshop. At the end of the workshop, candidates are asked to reflect on the audience's questions, explain their own answers, suggest areas where they might have done better (especially if the workshop had been longer), and assess whether the goals for the workshop have been achieved.

The ability to step back and self-evaluate is critical for faculty developers and IT specialists in higher education. This process enables one to improve practice over the long-term, as well as to make timely adjustments whenever necessary during a program. Such adjustments and mid-way corrections are important because faculty developers work with individual faculty members with diverse backgrounds, disciplines and personalities, rather than with templates and tools. At the same time, the reflection offers the interviewers the opportunity to see the candidate's ability and skills to conduct interactive workshops and to work with an audience on instructional issues.

Final Interviews. Finally, the candidate meets with individual faculty developers, faculty members and technology staff. The individual interviews provide the candidate with the opportunity to learn the work of individuals at the institution and to ask questions that may not be suitable at the group meeting. Most faculty developers may find it difficult to give an adequate assessment of the technology skills of an IT specialist. The individual interview with technology staff offers a much better assessment of the candidate's technology skills and ability to keep abreast of technology development and research in higher education. Additionally, if the candidate is offered a position, the

individual interviews help key campus constituencies buy into the hiring process.

The campus visit provides an enormous amount of valuable information and data for the debriefing and the final decision. The interviewers will debrief the candidate's performance during the campus visit, highlight the presence and absence of the core skills and knowledge of IT and faculty development in the candidate, and decide on a candidate. The essence of the CRLT search process is the scenario-based interviews, the reflection on the workshop, and individual interviews with faculty and technology staff. The search process recruits qualified faculty developers and IT specialists for faculty development at the University of Michigan. However, none of the activities in this search process is fixed. Any activities in the search process can be adjusted to an institution's needs and integrated into the institution's own search practices.

Conclusion

An IT specialist for faculty development in higher education faces responsibilities and challenges that are quite different from those for IT personnel in design and development or technology specialists in K-12 settings. The IT specialist for faculty development in higher education needs to possess a complex array of skills and knowledge in both faculty development, generally, but also in the effective use of technology. An IT specialist with a well-balanced set of technology skills and pedagogical knowledge can best support the faculty and institution's efforts to integrate technology into teaching. Since there are not clearly defined credentials for an IT specialist in a faculty development setting, CRLT has developed an interview process to better assess a job candidate's qualifications. The combination of a scenario-based interview, workshop and reflection, and individual interviews enables CRLT to identify and recruit qualified professionals for IT and faculty development.

This paper describes key work areas for IT faculty development through job descriptions, which are employers' perceptions of the skills the position entails. Therefore, future research should focus on practitioners in the field, or IT specialists and faculty, to find out what skills and knowledge serve them best in practice. This research can significantly enhance teaching and learning in a higher education system that is becoming increasingly dependent on the effective use of technology.

Of course, few candidates can be expected to be well-trained in all areas of faculty development and IT work. Mentoring and professional development for faculty developers and IT specialists are still necessary, as are effective ways to keep them up to date with research findings, issues and best practices of teaching and learning in higher education, and technology skills. Once new hires assume the responsibilities of faculty development and IT in a higher education institution, they still will need to learn "to do the work," "about the work" and "from the work" (Candy, 1991 & Wilcox, 1997, p. 23).

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