Building a Blended Technology Family: A Call for Action

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Abstract

Edison Community College has taken the bold step of integrating the roles of Information Technology practitioners and faculty into a new organizational structure that creates synergy and a more positive relationship between the IT practitioners and learning leaders. Practitioners graduate from the various programs and, while performing their jobs, teach as adjunct instructors, bringing valuable on-the-job insights into the classroom environment. The practitioners also offer internal training on tools that are used in the classroom and administrative offices such as Blackboard, Web Advisor, VoIP phones, administrative software and the IT infrastructure used by the institution. Faculty combine their knowledge of teaching, learning styles, classroom management, assessment and content with IT practitioners who are implementing state of the art teaching tools. The college finds that the new organization creates an atmosphere of emphasis on improvement that fits perfectly with its Continuous Quality Improvement and Servant Leadership initiatives.

Introduction

Four years ago Cornelius Pings, past president of the Association of American Universities, wrote that "The explosive development of digital technology has engaged every sector of the academic community, but the future impact of the technology will be even more sweeping. Digital information technology will profoundly influence the production, dissemination, and management of information; its impact may affect the structure, operation, and governance of the higher education enterprise as well" (1998, p.viii). His cautious observation of the effect of the new technology may seem to be a serious understatement against the backdrop of today's campus communities.

Edison Community College marked recognition of this profound change when in August 2000, its president, Dr. Kenneth Yowell, created a cabinet-level position to "…lead and manage the Information Technology Services staff in providing technology services to students, staff, and faculty, as well as foster a culture of customer service" (2000, p. 1). In two years time the Office of Information Technology Services has brought sweeping change to the processes of acquiring, provisioning, and managing of information technology services. More significantly, the office

now leads the strategic planning process for transitioning from centuries-old pedagogical methodologies to those emerging at the dawn of the 21st Century. It has done so by creating a synergistic and ongoing dialogue between academic specialists and IT practitioners. Faculty combine their knowledge of teaching, learning styles, classroom management, assessment and content with IT practitioners who are implementing state of the art teaching tools. Meanwhile, I.T.S. practitioners not only support online and distance course management, they help lead its adoption. Grant funding opportunities are now frequently begun and led from the I.T.S. office, regional inter-institutional alliances are maintained and nurtured under I.T.S. oversight, and anecdotal evidence points to a sharp and significant improvement in customer service levels.

Realignment of IT Academic Programs and Practitioners

Prior to the gains made by the new I.T.S. organization, the delivery of information technology training and credit courses at Edison had shown a trend-line of stagnancy and decline. This had occurred despite a shortage of IT workers in the U.S. estimated at "hundreds of thousands" by Aspray and Freeman (2002, p. 12). Why the disparity between a growing need for IT workers and the apparent lack of demand for the training of these workers in the Edison service area? Was it a cyclical decline or the result of the pedagogical model which was in use?

Though we do not know with certainty the causes of that stagnation, some suggest that the problem lies in the use of a traditional model for a curricular area that has a different set of skills needs as compared to most traditional academic areas. Neil Evans, executive director of the National Workforce Center for Emerging Technologies, outlines an IT skills pyramid that recognizes a need for three tiers of skill building curriculum for IT workers (2002, pp 28-29). The first tier, and that which is most comfortable within traditional academic communities, is that of foundation and employability skills (our general education courses), the second is that of technical skills (our academic IT courses), and the third is that of industry-specific skills (Microsoft and Cisco courses). It is at the third level that the traditional model begins to lose efficacy for preparing IT workers, for it is at this level that certification skills that are recognized by employers need to be led in an aggressive and unrelenting manner. It is in this area that a passion for the technology must not only be displayed, but also be deeply ingrained in the practitioner/learning leader and administrator, for change in information technology is also aggressive and unrelenting.

Additionally, the practitioner, always in need of perceiving the relentless, pervasive change of information technology, becomes the natural environmental scanner, always on the lookout for programmatic opportunities. This attribute alone could justify a shift in organizational structure as the need to overcome evolutionary change mandates new programs to replace those that have become outdated.

There are close analogies to this perceived need for a practitioner/learning leader model. Medical certifications are achieved after a close collaboration between the practitioner of medical services and the medical school student. At Edison the synergy of collaboration between the childcare center and the early childhood education curriculum has long been recognized and practiced.

Beyond the potential for more students in IT course delivery is the likelihood of producing a ready supply of well trained, certified, and Edison-knowledgeable IT workers. Many of Edison's current IT staff are products of Edison's academic and IT training programs. The track that leads from student to student intern to part-time employee and ultimately to a permanent IT position is well trod. This was particularly apparent during the time when a full-time faculty member led both the Internet Technologies academic program and the Edison Web site initiative.

It is a model that would likely resonate quite well within current scholarly research for as Aspray and Freeman observe: "Traditionally, higher education models served as the basis for one's career, although some of the larger IT companies had training programs for their employees. Today, higher education is an entry ramp into a job, but it is not expected to carry one through a career. Taking advantage of on-the-job experience and various kinds of continuing education, the IT employee is today expected to engage in a life-long retraining effort, which is intended to keep the worker up to date in this rapidly changing field" (2002, p. 10).

Would Edison set in place an educational model that self perpetuates itself, that is, the student becomes the IT worker who trains others while continuing to be a student? Without the typical organizational constraints, our new organizational model was in place in 2002.

But did those constraints need to exist? It was the perception of the authors that the answer was no. Aside from the ongoing need for coordination between the IT and academic units of the college, there is the additional need for a moderate level of academic oversight, and that need could be met by the ITS administration. Coordination could easily be achieved through the establishment of joint meetings of the Deans' Council and the I.T.S. Council on a biweekly or monthly basis. And, where needed, current academic oversight practices could be replicated within the Office of I.T.S.

Realignment of Academic Support Services

The I.T.S. Applications Services unit has dramatically increased its work output to meet the need for the support of online, distance, and blended courses, as well as online testing concurrently. The faculty support organization has been carrying out its traditional processes of creating paper documents and tests, providing instructor textbooks and other classroom materials, and coordinating faculty/student scheduling. Whether or not this faculty support function was decreasing in volume or importance, the certainty was that the new technology was creating the need to lessen the existence of organizational "silos" that deter or delay the reassignment of support workers to areas of greater need. As an example, over two thousand students and more than one hundred faculty members utilized the Blackboard course management system during the fall semester, yet little support resource balancing was possible within the then-existing organizational structure. Time that ITS leaders could be spending toward helping develop faculty skills was instead being spent entering student names, login IDs, and passwords. Under a unified support services organization this highly clerical function was reassigned to data input personnel thus releasing ITS leaders to higher-level functions.

Likewise, while concern existed for the oversight of quality in instruction, academic leaders were burdened with the administration of the Faculty Support, Library, Learning Center and Recep-

tionist support functions. Just as the need existed to create new functional units for the purpose of releasing ITS leaders to higher-level functions, so, too, the academic leaders needed to be released to perform the more important higher-level functions of program development and faculty leadership.

In a broader context, the improved technology has created new synergies that make new alliances between traditional information sourcing units and those that manage the delivery of information of particular value to learners. Various studies and real-world implementations have demonstrated that it is now prudent to merge oversight of the library function into the IT organization. In Ohio, Kenyon College created such an environment in the early '90s and it has since dictated the design of campus facilities. There the flow of information from the search for information sources to the delivery of the information to the consumer appears to be seamless. According to Richard Bazillion, Dean of Library and Information Services at Winona State University "The arrival of electronic information products doesn't mean an end to libraries as institutions, although a new kind of library service is certainly evolving" (2001, p. 53).

Information literacy is now assumed to include both the ability to find information and also to make the information useful through technology. Carol Barone and others spoke to this need in 2000: "Librarians are struggling to augment print publications with appropriate electronic sources and to develop new electronic archiving schemes. Large digital library projects, such as the California Digital Library, are often operated as regional consortia outside the normal library framework to permit the structural, economic, and organizational freedom to experiment with new forms of information and new forms of access to it. Librarians in the future will focus organizing, defining, and bounding the masses of information available on the Internet. A new information resource profession combining the technical knowledge of the information technologist with the information organization expertise of the librarian is emerging, (2000, p. 31)"

Why did we see a need for change?

We strive to make Edison a leader of technology and learning. What we saw before the summer of 2000 was that compartmentalization fostered competition, system breakdowns, rivalries, and misunderstandings; it did not foster dialog. Without that dialog, we could not grow as a leader of technology and learning.

Building our "Blended Technology Family" has required a cultural change. From the traditional model to one of Learn, Lead and Serve. Our involvement and study of Continuous Quality Improvement (CQI), our North Central Accreditation process, Academic Quality Improvement Process (AQIP) and Servant Leadership have all helped in the transformation. Our departmental mission places a strong emphasis on customer service. The mission is clearly defined and it is service based. The V.P. of Information Technology Services has been charged with creating this new environment of service. The ITS motto is "IT'S all about you!" and the entire department performs in a "customer first: mode. New ways of organizing based on Servant Leadership have begun to effect the whole institution. We are beginning to see the amelioration of "us vs. them" attitudes. This strong service orientation encouraged Edison to change its organizational structure.

Edison Community College Organizational Model For the 2003-2004 Academic Year	
V.P. for Education	**V.P. for ITS**
(Delivery of Education)	(Learning Support)
Faculty (including IT faculty academic quality oversight)	IT faculty (including IT curriculum development)
Curriculum development	Grant acquisition planning
Student development/services	Library, Learning Center, and Internet Cafe
Assessment	Faculty support
Academic concerns: • Delivery options: Flex, Web flex, Online, Traditional • Teaching tools using technology	IT client services
	IT core services: • Data, voice, video and image systems
	Application Services
Classroom management	Testing center
Using administrative software • Degree audit, class rosters, grades, etc.	Administrative computing • Interactive student information systems • Business continuance planning

We confront and overcome barriers with the implementation of cross-functional CQI process improvement teams. After working together in these teams, employees from all departments have a better understanding of processes and what their part in the process is. Today, our active ITS related teams are, Outlook E-mail and Exchange support, Academic lab deployment, ITS customer service, online course support, and the Online Academic Design team.

Three critical teams were formed and are now operating successfully: Edison Technology Committee (ETC), Academic User's Group (AUG) which monitors the Computer Replacement Fund (CRF) and the Administrative User's Group. These are all cross-functional teams that meet to develop strategic initiatives and tactical plans. We decide as a whole what is best for the college, not each department.

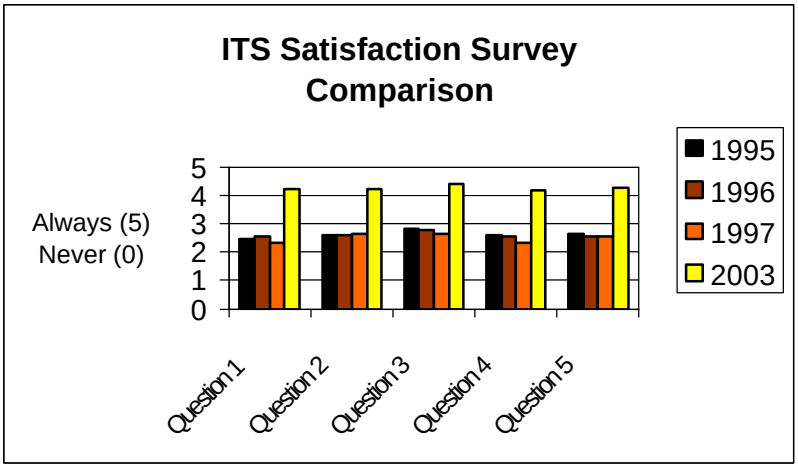
As an example, a technology fee is charged each student in courses meeting in computer labs and the revenue generated by this fee is put into the CRF. The AUG, whose members represent all academically oriented departments in the college, decides collectively the best way to spend that revenue. Decisions are influenced by student and learning needs as interpreted by the faculty, deans, and academic leadership as well as by the practical limitations, capacity building, and technical knowledge of IT professionals.

Additional collaboration also takes place between the IT faculty and IT staff. A series of meetings have led to improvements in the delivery of IT courses critical to the success of our students. Our courses for A+ certification and credit courses for operating systems and hardware have been streamlined and improved by this close collaboration. Higher levels of respect be-

tween academic professionals and IT professionals appear to result from these successful collaborative efforts.

How do we measure success?

We have compared historical data from our annual institutional survey. We began to work toward a change of culture during the summer of 2000. Our survey shows drastic improvement in each of the five areas surveyed.



Responds promptly to requests (Question 1)

The hotline number, 711, created in 2001, provides users direct access to assistance from our Help Desk. We have seen great reductions in the number of 711 calls. Calls are now placed more often for support and training than for "trouble." The initiative to replace outdated computers and peripherals utilizing the funds earmarked from the CRF, standardizing faculty office computers, placing the same equipment in both office and classroom, making every classroom "Smart", and, finally, offering training and instruction on new equipment, have drastically reduced trouble calls. Two years ago, it was not uncommon to have 25 to 30 Help Desk calls per day, today we average 3.

Comments from Edison employees:

"We have a system in place, as well as adequate staffing and expertise to support all requests on a timely basis."

"Any time I've requested assistance, I have always received a reply and usually a visit from someone in ITS."

"Response time is usually measured in minutes."

"We have experienced very timely responses."

"The help line is always answered promptly. Generally the follow-up is prompt and the problem is addressed. Professional staff members of the department give prompt and effective help when contacted directly."

Provides accurate information (Question 2)

Training is provided by both faculty and Application Services through scheduled in-house courses and individual office visits. Training manuals have been placed on our network in Public Folders. Whenever new technology is introduced on campus, training courses are scheduled and manuals developed.

Comments from Edison employees:
"Troubleshooting and assistance is provided and worked through until resolution in a timely basis."
"The personnel from ITS have always been able to "fix" any problem I've encountered. If the first person who responded was unable to find the solution, he/she called a co-worker for backup."
"Problems are always explained in detail in understandable terms."
"We all benefit greatly from the knowledge and experience in this department."
"ITS department is Great."

Exhibits helpfulness and courtesy (Question 3)

One of our goals is the practice of outstanding customer service and our motto is, "I.T.'S. It's all about you!"

Comments from Edison employees:
"All members of the ITS staff are cordial, prompt and professional. Our system has improved to the point that there is a higher morale and self-respect."
"Not only are the staff from ITS helpful and courteous, they all have a wonderful sense of humor and do not make those of us who are a bit "computer challenged" feel as though we are being a bother."
"(ITS network manager)… is a genius!"
"A very professional, supportive bunch!"
"The entire IT department is helpful and courteous especially …(ITS technicians.)"

Demonstrates flexibility (Question 4)

IT professionals know the challenges of keeping up with technology, trying to keep projects on target, and responding to the daily challenges of keeping an enterprise up and running. We strive daily to juggle all three.

Comments from Edison employees:
"My experience with the personnel from ITS is that they spend as much time as it takes to get the job done regardless of their own agenda."
"Most people in the ITS department can juggle more then one thing."
"They are the best..."

Performs functions effectively (Question 5)

The IT functions at Edison have improved through an emphasis on employee service attitudes, hiring service-oriented professionals, and by constantly balancing client needs with the best match of IT professionals' skills to client needs. Better service levels have been achieved without dramatically increased expenditures.

Comments from Edison employees:
"As an employee who just had their hard drive rebuilt, I couldn't be happier. With all the upgrades and programs to reconfigure, everything is working perfectly and speedily."
"Great team to work with."
"Nobody's perfect--this department makes a close approach!"
"Nothing short of being the best for ITS"
"Absolutely wonderful."

In addition to ITS areas already discussed, Application Services has contributed greatly to the success of changing the attitudes toward education and learning with technology. The unit has used technology to blend the conventional classroom delivery to that of online learning. Training and in-house support is available to give instructors the tools and the instructional ideas they need to produce a quality in the learning environment. The goal of the Application Services team is to empower the employee and student population with the knowledge and skills necessary to succeed.

The members of all of our IT teams, our IT practitioners, often graduate from our programs and, while performing their jobs, teach as adjunct instructors, bringing valuable on-the-job insights into the classroom environment. The practitioners also offer internal training on tools that are used in the classroom and administrative offices such as Blackboard, Web Advisor, VoIP phones, Polycom, and administrative software.

We believe that the better scores on our annual institutional assessment can be attributed to our effort toward changing our college culture. We work hard to encourage collaborative efforts and we're proud of our success. For example:

Our Faculty Support office provides online testing support for faculty, and posts all syllabi to the Public Folders that are maintained by the Applications support team. A faculty member brought two proposals to the ETC. One for a Wireless Zone and another for Interactive Video; both were approved, implemented by ITS and used by all. Another faculty member worked with vendors, the Learning center, Student Services, Bursar, Registrar and ITS to develop a college-wide testing center.

The Future of IT at Edison

The Edison Technology Committee, recognizing the need for combining the new technology with information organizing and sourcing expertise, recommended in March 2002 the formation of a Center for Student Learning. Conceptually, the ETC plan calls for the creation of a "virtual" center housed in multiple current venues that will ultimately lead to the creation of a "real" and

unified center at a future date. This concept has recently driven strategic planning at the college toward a capital campaign aimed at funding a building renovation and expansion project to house the center, as well as that of a center for IT learning and business and Industry training. Since planning for the new center is in the formative stage, the realignment of functions at the college will positively affect the need for comprehensive planning efforts.

Conclusion:

In 2002 Hawkins and Marcums' made the observation that "…it is important for information resource and technology leaders to articulate the risk, the alternatives, and the consequences of inaction as they define a direction for the campus" (2002, pp. 134-135). We at Edison believe that there was little risk in implementing a functional realignment yet there existed the potential for huge gains if the model does indeed work. However, we are more cautious in accepting the Hawkins and Marcums observation that "To do this requires the leader to have one managerial attribute that is scarce on college and university campuses today: courage." It is certain that it does require that the academic leader have vision.

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