Technology and Learning Collaborative: Design and Implementation

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Abstract
The integration of information technology into teaching and learning requires both effective technology support and intensive training. To meet these needs in an academic environment, computer centers and libraries have collaborated both out of necessity and efficiency to match technology and information resources with the needs of faculty and students. This paper describes the design and development of a Technology and Learning Collaborative that builds on the strengths of technology support personnel campus-wide, is supported by the administration, is integrated into the Center for Teaching Excellence, and was implemented without additional personnel or funding.

The assimilation of technology into our society has transformed the way we communicate in almost every aspect of our lives—personal, business, and learning. Education in general and universities in particular have made monumental adjustments to accommodate technologically induced change and, in fact, are well into the second stage of this process in which technology is a catalyst that is transforming the university itself (Burkle and Sayed, 2002; Roberts and Chambers, 2001; Levine, 2000; Hall, 1993). Campuses are networked, dormitories are connected, faculty post their notes on web pages, students access the library from their rooms day or night, reserves are electronic, and entire classes can have discussions via chat software (Rice-Lively, 2000). Amidst this transformation is the very significant need for professional development of faculty and teachers at all levels “to treat technology not as a new subject but as a way to enhance learning” (Cope and Brewin, 2000). The integration of information technology into teaching and learning requires both effective technology support and intensive training (Cooley and Johnston, 2001).

Information technology (IT) is defined as the development, installation, and implementation of computer systems and applications (American Heritage Dictionary, 2000). Some university campuses have centralized IT while others have implemented a decentralized approach (Katz and Rudy, 1999). Regardless of the process, academic computer centers and libraries have collaborated out of necessity and efficiency in a search for an effective way to match technology and information resources with the needs of faculty and students (Hardesty, 2000). Given the mandate of our President (Dennison, 2002) to “continue the effort … to serve the needs of the students, faculty, and staff including the renovation of classrooms and laboratories and upgrading the information technology infrastructure,” we describe the evolution of a collaboration between an academic computer center and library into a campus-wide Technology and Learning Collaborative at The University of Montana-Missoula, a model that could be readily adapted in most educational institutions.

Challenges and Collaboration
The challenges and collaboration between the IT Office (ITO) and the library at The University of Montana-Missoula have evolved over a decade. Our new Provost for Academic Affairs has defined the academic vision of the university “to foster an
entrepreneurial, student-centered environment that is characterized by faculty who engage students in the intellectual life of the academy through teaching and research and in the civic responsibility essential to a democratic society” (Muir, 2001). The respective missions of both the ITO and the library have been to facilitate teaching and research for faculty and students. Central to their ongoing collaboration have been the key elements of instruction and service (Samson et al, 2000).

These elements of collaboration have weathered a wide range of transition. The university administration has fluctuated on how best to manage information technology—centralized versus decentralized. Within the past three years, both the ITO and the library have transitioned to new leaders. Administratively, library services operate within academic governance with a Dean, Academic Provost and faculty structure; IT operates with an Associate Vice President who reports to the Vice President for Research and Development, who reports directly to the President. As a result, reorganization within each unit and between the units has created a changing dynamic of efficiency and collaboration. Equipment and classroom support services previously overseen by the library were moved to the ITO. Library personnel focused on media collections and graphic services that had been aligned with classroom support were integrated into the main library building. Media collections that had been separate and available during limited hours were integrated into the main library collection as well. In addition, many aspects of technology became firmly decentralized with individual networks and technical support distributed in departments across the campus.

Although a strong collaboration had developed between the Client Services unit of IT and the Library's Instruction Program, technical support personnel in other departments across campus were also seeking new levels of collaboration. In the School of Business, a new building with an array of smart classrooms and huge computer labs had increased the challenges for their Director of Information Technology. The expanding distance education program was evolving within Continuing Education, implementing the Blackboard course management system and developing an entire networked program. The Schools of Education, Fine Arts, Journalism, Forestry, and Pharmacy had developed an array of teaching and multi-media labs, networked resources, and comprehensive online education units. In addition, the College of Arts and Sciences had developed an entrepreneurial Web page design unit. All of these initiatives were occurring in relative isolation. It was becoming increasingly evident that in some instances we were duplicating efforts while in other areas we were impacting one another without sharing our expertise and needs.

**Necessity and Ideas Merge**
The head of the Client Services IT unit invited all campus personnel involved with technology support to a meeting to discuss these issues during Spring 2001. These individuals represented the College of Arts and Sciences, School of Business, Continuing Education, School of Journalism, School of Forestry, the Library, and Administration. Her recommendation to form a campus-wide group was based on the concept of Virtual Teaching, Learning, and Technology Centers (V)TLTCs introduced by Gilbert (2002). The dialog had become critical for all the units represented. We shared instruction, service, and technology support needs, a realization that additional personnel and funding were probably not forthcoming, and a strong commitment to strengthen our services.

The dialog was focused on how to accomplish our goal of a unified campus-wide center that maintained the decentralized composition of our information technology units.
Basic to all of our discussions was the goal to support the teaching faculty, specifically through a strong component of professional development. Cooley and Johnston (2001) identify professional development as the "single most important IT challenge in the United States" and their discussions were based on data from the 1999 and 2000 National Surveys of Information Technology in Higher Education. They also mention the TLT Group formed by Steven Gilbert as a “national organization that has helped revolutionize professional development for IT.” Our challenge was to develop an effective program within our governance, without additional resources, that effectively met the needs of our teaching faculty.

Design and Development

During the development phase and as our meetings evolved during the Spring 2001, it was soon evident that we needed to accomplish two simultaneous goals—establish our group as a collaborative entity and obtain administrative sanction—to be an effective campus presence. As we deliberated our strategies, technology support and learning were our two priorities, and the name of Technology and Learning Collaborative (TLC) was a natural. TLC resembles some of the basic concepts of the VRLTC but has been adapted to meet the specific needs of our campus culture. Next we developed a plan to acquire administrative sanction. Strategically, we decided the TLC would fit best within academic governance. Within the recent past, a Center for Teaching Excellence has been created with a new Director and a strong presence in the academic community. We determined we would align well with this Center since our main mission is faculty support. The Director was enthusiastic about our suggestion, offered to write a letter of support for our initiative, and recommended that one of our members serve on the Advisory Board of the Center.

TLC members then drafted a proposal to be presented to the Provost for Academic Affairs. It described the history, objectives, mission, and membership of the TLC and proposed that it be administratively positioned in support of the Center for Teaching Excellence with a TLC member serving on its Advisory Board. Along with this proposal were letters of support from academic Deans of each unit represented and from the Associate Vice President for Information Technology.

The real work on this project began once the letter of approval was received from the Provost. It was then time to pull our ideas into a cohesive and effective plan of action. Along with an announcement of the new collaborative, the TLC also offered the first in its series of professional development opportunities. These included three sessions: 1.) Using Microsoft Office XP for Course-Related Tasks; 2.) Technology in the Classroom: Library Information Resources; and 3.) Multimedia Creation Resources. In addition, the Center for Teaching Excellence featured a cover story on the TLC in its next newsletter, encouraging faculty “to take advantage of this collection of expert personnel in assisting you with your instructional technology needs in your classroom.” A TLC Web site was also designed and included in the campus Web site.

Another part of the action plan was the distribution of a survey to faculty that coincided with an Open Forum on Technology, Teaching and Learning. Our goal was to listen to our faculty, to learn what they needed, and to adapt our professional development sessions to meet their needs. As a result of this feedback, sessions for the following year included: 1.) Presentation Portability—strategies for making PowerPoint presentations portable among various computer platforms, electronic classrooms, and computer labs; 2.) Choosing the Right Technology to Meet Your Instructional Goals—defining instructional needs, identifying available technologies, and choosing
appropriate technologies to meet instructional goals in the classroom and online; and 3.) Web Page Development: Melding Content and Design. These sessions were also hosted by the Provost and the Associate Vice President for Information Technology as another statement of support for the TLC.

Further development of the TLC has been augmented by the inclusion of several new members—the new Campus Web master, a new staff member in Disability Services for Students, the Training Director in the Center for Excellence in Developmental Disabilities Education, Research and Service, and the Online Learning Coordinator from the Provost's Office.

Assessment and Implementation
New membership and continuing administrative support are two components that reflect the success of the collaborative. In the School of Business, the Director for IT conducts a faculty workshop series at the beginning of fall semester that addresses issues of concern to the faculty. Continuing Education has restructured to facilitate a campus-wide listing of all online courses, creating cohesive access to and marketing of these educational opportunities. The School of Journalism has been instrumental in making Final Cut software available for its students in computer labs across campus. The library has been proactive in establishing a strong outreach program to all faculty including those teaching online courses so information resources are integrated into the curriculum at all levels. Over 6,000 students visit the library for instruction during the academic year (Samson 2003).

Successful initiatives by the ITO include the Student Technology Assistants Program that provides training to eligible students and helps them get placed in academic units to assist with technology support. IT has also been instrumental in exploring software options, co-teaching professional development courses, managing training facilities, handling the administrative details for the TLC training sessions, keeping campus technology support personnel informed of TLC's projects and services, and managing an online knowledge database (RightNow) for disseminating information. Information Resources and Information Technology were highlighted to new faculty as part of a series sponsored by the Provost for Academic Affairs; and members of the TLC provided a presentation to the Faculty Senate and have continued their monthly meetings to facilitate their proactive initiatives.

Challenges always exist within the arena of IT. Outreach is a main mission of the TLC, and proactive advertising, timing, and relevancy will continue to be a priority in scheduling the TLC Professional Development Series in order to increase attendance. Central to the collaborative will be the organizational ability to coordinate campus IT initiatives and deter fragmentation and unnecessary duplication of efforts. This model also fosters the capability to expand the collaborative to include as many units as possible and incorporate other campuses within the university system. A final challenge, always a part of IT, is the need to stay current with software and hardware capabilities and to maximize their use to the best advantage within the framework of each academic institution.

Future Plans
The design and development of the TLC was built on nearly a decade of collaboration between IT personnel and the library. Brought together through both outreach and necessity, these two campus entities have sought to solidify an effective mechanism for collaboration during a time of great transition. As the transition became transforming
throughout the entire university, the TLC has evolved with efficiency to meet the
critical needs of the teaching faculty. Without additional staffing or the creation of a
new administrative unit, members of the Collaborative continue their service within
each of their units while strengthening their positions through effective outreach to the
university via the TLC. The process of evolution will continue in the IT environment.
The collaborative efforts of 10, and then 5 years ago, built the groundwork for the
design and development of the TLC. Another 5 years may well see the advent of
further configurations of collaboration within the parameters of this continuing IT
transformation.

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