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Developing Graduate Educational Technology Programs from a Service Learning Platform

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INTRODUCTION

Background

The graduate College of Education at the University of Massachusetts Lowell (UML), is in the second year of a service centered model for graduate coursework in educational technology. The two courses *Technology and Learning Environments* (T&LE, 1994), and *Technology and Schools of the Future* (T&SF, 1995) had previously been offered as "traditional" academic offerings. In cooperation with the Lawrence Public Schools, one of the poorest districts in the nation, these courses were modified as "service learning" experiences. A more detailed account of the first year of this project (LeBaron and Scribner-MacLean, 1995) is available on request to the authors. This paper discusses the lessons learned from Phase One, describes the changes implemented for Phase Two, and considers prospects for future project growth.

The general idea behind both phases of the project has been to utilize the vehicle of a formal graduate course to offer a theory/research-based consulting service to individual schools based on locally assessed needs. More particularly, this experiment has been designed to achieve the

following objectives:

1. To serve an urban public school system, challenged by severe resource shortfalls,
2. To provide a clinical context for academic work required of course members,
3. To apply the collective talents of a mature graduate school group to a local school,
4. To establish a foundation for longer-term school-college collaboration.

Evaluation results from the 1994 experience indicated agreement among all stakeholders that the Phase One project was a success, with minor weaknesses identified. School personnel wanted more on-site training and support from the participating students. University personnel believed that its various independent partnerships with the Lawrence schools should be better coordinated. All felt that needs should be identified before the first class meeting, so that students could devote the entire semester to problem-solving.

At this writing, the 1995 iteration of this project is underway in a 600-pupil upper elementary-middle school (grades 3 - 8) in another Lawrence neighborhood. Drawing from the previous year's experience, discussions were conducted between the course instructor and key Lawrence personnel during the summer preceding the course. At that time, the Lawrence parties included the Executive Assistant to the Superintendent of Schools, the districted Director of Instructional Technology, and the Principal of the target school. Since then, however, the participating school teachers have driven a reassessment of needs, and have shaped the practical application of the graduate students' academic work. Indeed, several of the currently enrolled course students are also teachers at the school.

The target school is well-equipped for educational technology. Each classroom possesses four networked IBM computers. Additionally, a lab equipped with thirty IBM Eduquest 40s (486/66 MHz), and another multimedia lab, are located on different floors of the building. All building computers will soon operate on a base band token ring LAN. The school is connected to the Internet through two voice grade telephone modems allowing only two simultaneous Internet sessions. Options for high speed district-wide Internet access are now under consideration by the district, service providers and other community stakeholders.

Service Learning: A Conceptual Foundation

The redesigned course structure is consistent with the pressure on higher education for systemic re-assessment, re-design and restructuring. An often discussed element of such reform is "service learning." Service learning advocates urge colleges and universities to forge mutually beneficial relationships with their supporting communities. They assert that pure academic study isolated from social needs is an unaffordable luxury. The ivory tower tradition isolates institutions from their support base. Lynton (1995) and Fairweather (1996) have written persuasive advocacies for service learning throughout American higher education. Service learning may assume a variety of forms:

1. The explicit concentration of academic work on public service through the context of student coursework and/or independent study for academic credit
2. Individual pro bono consulting by faculty
3. Faculty research centered purposefully on community conditions and needs (Bruckner, 1995)
4. Faculty-supported institutional commitments to public service.

The service learning model supports and is supported by the mission of the five-campus University, and of the Lowell campus in particular. The University's three overarching operational priorities are: (a) Excellence and innovation in teaching, (b) support for sustainable economic development, and (c) service to culturally diverse constituencies. Added to these priorities is the

commitment of the Lowell campus to advance the effective use of technology throughout its pursuit of excellence in teaching, research and service.

The Stakeholders

The Lawrence Public Schools' investment in technology is driven by a district-wide plan originally designed in 1992 and subsequently adapted in the light of emerging developments. Lawrence's overriding educational technology Rationale urges a district-wide curricular integration of technology to empower students to acquire ongoing technological skills, knowledge and experiences. Students are expected to develop technology competencies and habits of use that will allow them to function effectively in a technology-infused society and economy. Such knowledge and skill is designed to promote learning efficacy in a local and global community. (Lawrence Public Schools, 1994).

Although the Lawrence School District has undertaken significant initiative in the development of educational technology and the acquisition of hardware, resources for software, expansion hardware, staff, training and infrastructure development have been constrained. Lawrence has adopted a "bottom-up" approach to such investment: starting from the earliest elementary level grades with implementation across a grade district-wide before proceeding to the next grade, the acquisition of networked computers, supported by software and allocations of training time, has gradually worked its way up through the fifth grade. Ultimately, the entire K-12 system is expected to be equipped and networked; significant strides have been made in this respect.
The University of Massachusetts Lowell College of Education offers exclusively graduate level programs to a full-time equivalent student population of approximately 325. In addition to its academic offerings, the College operates three centers: (a) The Center for Field Services and Studies, devoted to school outreach and university-school collaboration; (b) The Tsongas Industrial History Center, a museum offering educational resources and services based on Lowell's unique industrial tradition to area schools and educational organizations; and (c) a multilingual, multicultural early childhood Demonstration School, operated in cooperation with the City of Lowell Public Schools, offering integrated services in three languages that represent Lowell's diverse citizenry (English, Khmer and Spanish).

Community service is woven throughout these three centers. Service learning infuses much of the College's pre-service teacher preparation activity. In its other graduate academic programs, however, service learning is rare. This project is intended to serve as a prototype for similar initiatives, as appropriate, elsewhere in the College and the University.

COURSE DESIGN AND IMPLEMENTATION

Phase One

The conventional organization of the T&LE course was replaced in September, 1994 with the service learning model. The course was designed to establish a partnership between the university and the community/local school district and to give students school-site interaction. The focus was exclusively the technology enriched learning environment and determining ways to improve the uses of technology as an important teaching and learning tool. As students enrolled they were contacted by the faculty member teaching the course to inform them of the course's experimental nature, and its goals. This ensured students were electing an experience that aligned with their own academic and personal goals. While the intention was to provide a consulting experience for the students and an opportunity for the Lawrence school system to benefit from the students time and research talents, it was the faculty member's hope that this course be but the beginning of a

long-term relationship with a local school district.

Portions of student contact time were devoted to small group client-student work in or outside of the target school, often not at the conventional class meeting time. In order to merge individual and small group research with common course experiences, classes were held on an "as needed" basis. On their own initiative, class members scheduled their small group work so that its various strands were coordinated with the ultimate purpose of producing "deliverables" of concrete and significant value to the host school. Graduate students began their research with numerous site visits, touring classrooms, the computer lab, and other elementary schools in the system. They were given documentation and information about the district's long-term technology and curriculum plans.

After reviewing all school-district materials, the class members researched literature dealing with technology education independently and then worked cooperatively in their small teams to create a technology needs assessment specifically targeted at the partner school. Much of the research and correspondence was conducted over the Internet. Using the World Wide Web (e.g., the National Center for Technology Planning), students accessed information about successful technology models in schools and ways to integrate technology into the curriculum and to use it as a learning tool. They also found relevant listservs (e.g., cosndisc@yukon.cren.org) and bulletin boards (e.g., k12.ed.tech), and used these to confer with other educators. Although class members communicated regularly via e-mail, client personnel from the target school were not connected, and this made communication between the two groups somewhat cumbersome.

The group collectively produced a 45-page Needs Assessment (plus more than 50 pages of appendices). Key elements of the completed report, presented in person to various school constituencies at the end of the semester, included:

1. Evaluation and selection of software
2. Staff development
3. Classroom management
4. Assessment of the technology's influence on student performance
5. Local advocacy for technology development
6. Assistive Technology Lab design.

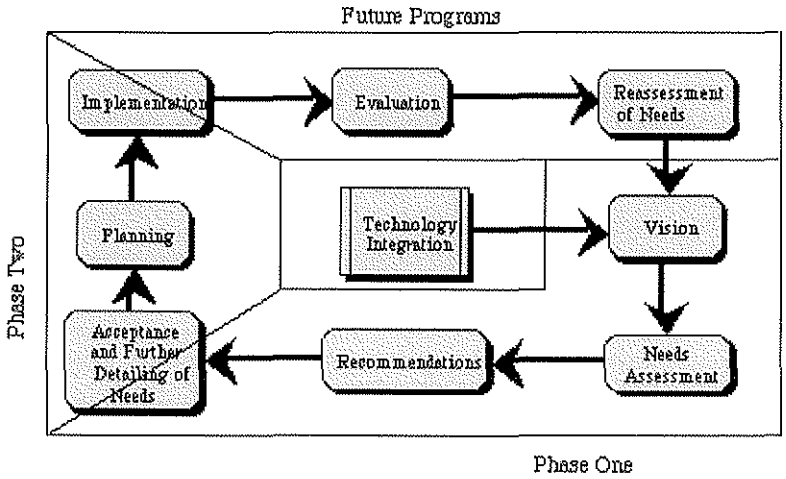

Figure 1. The Technology Planning and Delivery Cycle for the University-Community Partnership.

Phase Two

At this writing, the 1995 project iteration (T&SF) is in progress. The feedback from the first course offering prompted changes in the course design. Having the already completed Phase One Needs Assessment, the class has moved to the development of detailed plans for improving the integration of technology within the partner school. University students and local school personnel will jointly participate in implementation of the planned activities.

Like their predecessors in Technology & Learning Environments, the T&SF students are expected to produce a literature-supported report based on their class experience. A major difference, however, is that this report will be a blueprint for action. Addressing an unmet concern from the year before, T&SF will launch concrete staff development activity, and support it with realistic suggestions to access resources for the continued support and growth of technology integration by teachers into their curricula and their teaching. This blueprint will include the following elements:

1. A theoretical foundation
2. A needs statement
3. Ideas for the professional development and support of teacher in the target school
4. Identification of available human and material resources
5. An action plan with specific responsibilities for the continued participation of class members
6. A strategy for integrating activity initiated by this project with overall school and district priorities and programs
7. Proposals for partnerships and project support from foundations, government and the private sector.

This year, participating partner school personnel are using the Internet along with the University participants. Through e-mail and the electronic transfer of files, collaborative turnaround in developing project documentation has been quicker, and decision-making easier. Several developments have converged to support a deeper level of collaboration: the school system has put technology integration and staff development on a very high priority; the State of Massachusetts has recently initiated a new teacher certificate for school technology coordination; and the University's Lowell campus has recently adopted technology development as its major operational priority. The convergence of these events provide a foundation for in-depth, technology-centered professional development partnerships between the Lawrence and several University departments.

PROGRAM EVALUATION

Successes

Both course offerings using the service learning model are seen as successful. Surveys showed that from a student perspective, the result of participating in the Phase One experimental course was:

- an increased network of students and in-site school personnel
- an increased understanding of the inner workings of today's elementary schools vis a vis technology
- better understanding of the state of technology in schools
- a fresh perspective on consulting in a school system
- additional knowledge of instructional technology theory
- an exposure to a university-community partnership and its resultant opportunities.

As the semester nears the end for the Phase Two course offering students are reporting positive

outcomes as well. They have:

- developed insight into translating plans into action
- increased their own technology skills through use and integration into the course
- improved their knowledge base about educational technology
- developed more positive attitudes towards the use of computers
- developed insight into the realities teachers face every day in trying to integrate technology with insufficient time and funding
- developed an appreciation for a course model that makes students responsible for the course outcomes/production.

All students agreed they had gained new insights from the experience and would like to see the Lawrence-UMass Lowell relationship continue to expand. Students and school personnel alike stated they had increased their awareness of the issues and potentials in integrating technology into the learning environment. They increased their personal capacity to help their peers. With increased awareness of the difficulties in balancing the needs of the district, school and other organizations, students recommended that the goals be kept modest and realistic. Student suggestions for future course design included more participation in determining the initial course goals, more opportunity to visit the site-school, and an opportunity to give hands-on help to school personnel.

Issues

Because the service orientation of these courses charted untested territory, the consequent ambiguities produced frustration. Although the course timetable was designed to accommodate the need for flexible working relationships, the time limitations on all participating personnel left insufficient time (as the students in both phases indicated) for the work of research, planning, documentation and project implementation. During development of the initial report students noted the additional complexity of designing and developing a single report by a multitude of individuals with diverse experience and viewpoints.

Though initially perceived as a drawback, the advantages of the non-public school work experience of several students soon became apparent. First, these students carried expertise to the partnership not always available in university or school settings (e.g., organizational development, technical design, political skill, staff development). Second, the vision of the student-consultants was not constrained by the institutional assumptions often found in homogeneous groupings of any professional field. The students brought a fresh perspective to their public school clients, and tempered their own visions with their direct exposure to the challenge of urban public school teaching. Because they took uncommon care to respond to locally-articulated needs and to behave as co-learners, a mutually-respectful interpersonal climate was quickly established.

Service learning efforts of this kind pose special challenges for university faculty. No longer is there the security of a fixed course syllabus, preordained reading lists and prearranged content sequence. The execution of such a course is influenced by many unpredictable variables inherent in a dynamic client environment, whose short term challenges change by the day. Even the academic side of the course requirements change in the face of unanticipated client developments (procurement delays, facilities breakdowns, changing curricular priorities, student migration, sudden staff and policy changes). Because service learning course models are executed in practical settings, they must bend to the inevitable changes that occur in the on-site practice.

FUTURE DIRECTIONS

Planning for the future by both school and University personnel is now focusing on identifying opportunities to build broader coalitions for school improvement through technology. In keeping with informal suggestions proposed within the school system and the University, the coordination of resources among the Lawrence-affiliated UML departments and the school resources will result in a substantially greater efficiency in the delivery of services. To this end, specific proposals have been made to the University's Department of Computer Science (CS), which has provided technical support and in-service network training to Lawrence teachers. CS faculty and students will cooperate with their College of Education counterparts to leverage University resources, and to make joint proposals to outside funding sources. As the target school and school system launch their local area networks, and prepare for full, multiple-user access to wide area networks, CS personnel can provide a valuable technical resource for trouble-shooting. Such support will supplement the more pedagogically-oriented service available from the College of Education.

What began as a single, community-centered graduate level education course will become an integrated part of a longer term educational technology development program. The emerging relationship among UML units will not only advance the developmental side of the enterprise; it will also enhance outreach to other relevant resources, including the business community, parents, citizens, foundations and government. It will capitalize fully on the creative energy and focused power of several cooperating institutions jointly dedicated to the goal of improving education where the needs are profound.

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REFERENCES

- Bruckner, M. (1995). Real-life research: Would-be administrators in the Heartland give the 'at risk' problem a face and a name. Education Week. 14 (20), 40.
- Fairweather, J.S. (1996). Faculty work and public trust. Needham Heights, MA: Allyn and Bacon.
- Lawrence Public Schools. (1994). Draft plan for educational technology. Lawrence, MA: Lawrence Public Schools.
- Lynton, E. (1995). Making the case for professional service. Washington, DC: American Association for Higher Education.

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