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ABSTRACT
        This paper describes the process of establishing an
Internet-based online graduate degree program for teachers. At Webster
University (Missouri), this program was the first online degree to be offered
by the institution. The paper reviews Webster University's experiences and
outlines a planning process that includes defining the rationale (risks) and
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learned (rewards) are summarized, and recommendations are given for other
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(Author/AEF)

Pioneering On-Line Degree Programs For Teachers:
The Risks, Roadblocks, and Rewards

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Abstract: This paper describes the process of establishing an Internet-based on-line graduate degree program for teachers. At Webster University, this program was the first on-line degree to be offered by the institution. The paper reviews Webster University's experiences and outlines a planning process that includes defining the rationale (risks), developing the major components (roadblocks) including courses, approvals, facilities, instructor and student support, and evaluation. The lessons learned (rewards) are summarized and recommendations are given for other institutions that wish to launch on-line degree programs for teachers.

1. Introduction

1.1 Overview

The School of Education at Webster University (St. Louis, MO) recently joined other institutions in launching Internet-based on-line teacher education programs (Hammon and Albiston, 1998). Faculty in the School proposed the University's first fully on-line degree programs after several years of experimenting with teaching strategies using the Internet.

When considering the risks, roadblocks, and rewards of providing on-line programs, various issues and components need to be addressed concurrently. This paper outlines these issues and components as defining the rationale (risks), planning and development (roadblocks), and the lessons learned when Webster University launched its new on-line teacher education programs (rewards). This paper also makes recommendations that may apply to other universities developing similar programs.

1.2 The Institution

Webster University is an independent, comprehensive, nondenominational, multicampus, international university with accredited undergraduate and graduate programs in various disciplines including teacher education, business, management, liberal arts, and fine arts. Webster University offers day, evening, weekend, and on-line programs at its home campus in St. Louis, Missouri, and through its extended campus network at 75 locations in the United States, Europe, and Asia. The School of Education is one of five academic units in the University. It enrolls 150 undergraduate and 1000 graduate students in three centers in Missouri (St. Louis, Kansas City, River Heritage). School of Education programs include bachelor degree programs in early childhood, elementary, secondary, and special education; and Master of Arts in Teaching Degree programs in communications, early childhood education, educational technology, mathematics, multidisciplinary studies, science, social sciences, and special education.

2. Defining the Rationale (Risks)

The high-profile nature of on-line degree programs requires an institution to define a clear rationale for these programs. The rationale needs to include why this institution should offer on-line courses, which departments should offer on-line programs, and which particular programs should be offered on-line. With the Internet already established as a reliable, versatile, and accessible medium of communication, commerce, and education, it is timely that teacher education programs use this medium for the delivery of degree programs and courses.

Webster University found a rationale in its mission statement. Relevant points in the statement included directives to: "Create a student-centered environment accessible to individuals . . . sustain a personalized approach to education . . . and to provide graduate programs that allow students to achieve the best education for each individual's particular talents, interests, and goals in an environment that emphasizes service to students."

The rationale for Webster University's School of Education to offer on-line programs was to reach wider audiences, especially outside Missouri; to model progressive teaching strategies; and to provide leadership of using on-line delivery methods across the University.

Two Master of Arts in Teaching (M.A.T.) degree programs were initially selected for on-line delivery: Educational Technology and Multidisciplinary Studies with Emphasis in Educational Technology. The rationale for choosing these programs was that they model and mirror much of the content of these programs. Students learn about developing their own on-line courses and programs through first-hand experience of learning in the on-line format. Educational Technology students are familiar with the Internet. Most of them already integrate use of the Internet in their classrooms. Many schools are ready to, or are positioning themselves to be ready to, incorporate on-line (distance education) courses into their curriculum.

3. Planning and Development (Roadblocks)

The planning and development of on-line degree programs require the coordinated involvement of many individuals and offices within the institution. There are policies to clarify or make, technical and academic problems to solve, and logistics to manage. These issues can be discussed in terms of: (1) courses, (2) approvals, (3) instructor support, (4) facilities, (5) student support, and (6) evaluation.

3.1 Courses

In determining which courses will be delivered on-line, developers need to consider whether the courses are appropriate to the medium, are required for a degree, and preserve the integrity of the program. Scheduling the courses with instructors who are willing to teach on-line is also a factor.

In evaluating courses for the on-line programs, Webster University faculty found 14 potential courses that would constitute the first degree program cycle (Tab. 1).

Semester	Educational Technology MAT	Multidisciplinary Studies MAT with Emphasis in Educational Technology
1 (Summer)	Curriculum Design *(common course, cross-listed)*	
2 (Fall)	Contemporary Educational Issues *(common course, cross-listed)*	
	Building Web Pages	Interpersonal Communications
3 (Spring)	Collaborative Learning Strategies *(common course)*	
	Instructional Media *(common course)*	
4 (Summer)	On-Line Course Design	Comparative Educational Systems
5 (Fall)	Distance Learning Strategies *(common course)*	
	Planning Educ. Technology Facilities	Evaluation
6 (Spring)	Technology and Thinking Skills *(common course)*	
	Leadership Issues *(common course)*	
7 (Summer)	Instructional Design *(common course)*	

Table 1: Proposed Initial Course Sequence of On-Line Programs

The School of Education selected one of these courses, Curriculum Design, to pilot the on-line format. The experiences in this course were expected to further guide the development of the on-line strategies used in other courses. (Webster University School of Education, 1998).

3.2 Approvals

3.2.1 Internal Approvals

While policies about approvals of on-line programs vary across institutions, it is necessary to enlist cooperation and support of numerous administrative offices and faculty. On-line programs require involvement of such offices as computing and network services, registrar, libraries, media services, academic advising, and extended campus personnel. Faculty approval bodies scrutinize new programs, inevitably mixed with other agendas such as the competition for budget resources. Conflicts also arise when no policy exists or when the application of a policy to on-line degrees is vague. It is essential to plan for all levels of information sharing, approvals, and the enlistment of cooperation or participation on campus. Since current academic policies at most institutions are developed only for on-campus formats, they typically require clarification for on-line programs. Such policies may include admission, registration, course attendance, academic conduct, grading, and the articulation of on-line courses with on-campus courses. Faculty policies such as qualifications, intellectual property rights, load, and compensation also need review.

Webster University administrators encouraged the development of on-line degree programs in each academic unit (Schools). Initiatives for developing on-line degree programs were assumed by several faculty members in each School. These faculty teams provided regular progress updates about the emerging on-line programs at faculty meetings, campus committee meetings, and with postings on the University's Intranet. These presentations and updates were valuable in raising faculty awareness and building a supportive consensus for the on-line programs. At Webster University, new courses, emphasis areas, or degree programs require approval by the School or department faculty, and the University's graduate curriculum committee. Most academic policies that the School of Education faculty reviewed remained unchanged. Policies on course conduct, transfer of credit, directed studies, independent study, credit by examination, grading, advancement to candidacy, honors, academic warning, probation and dismissal were not affected by delivering the program on-line. Polices that needed to be modified, included the admission policy, and policies on registration, enrollment, loads, course attendance, and grievances.

3.2.2 External Approvals

Regional accrediting bodies require institutions offering on-line (distance education) degree programs to adhere to standards of good instructional practice. Each regional accrediting commission sets its own requirements, guided by the Western Interstate Commission for Higher Education (WICHE) Principles (Commission on Institutions of Higher Education, 1997). Institutions are required to document how they expect to address these principles.

Webster University is accredited by the North Central Regional Association of Colleges and Schools (NCA). One of NCA's curriculum guidelines is: "Programs provide for timely and appropriate interaction between students and faculty, and among students." (Commission on Institutions of Higher Education, 1997) To address this guideline, Webster University assures that "All on-line courses will involve interaction between students and faculty, and among students using email, small group and whole class discussion forum. Some classes will also include audio or video conferencing." (Webster University School of Education, 1998)

In addition to the regional accrediting bodies, some state coordinating boards for higher education and the boards for elementary and secondary education require additional approvals for on-line degree programs. State commissions may require review of on-line teacher education courses that are applicable to state certification, licensure, or to teacher professional development.

3.3 Facilities

On-line programs put new demands on an institution's campus facilities, including its technology infrastructure, libraries, and media and computer centers. Technology infrastructure refers to workstations, servers (web, email, ftp, streaming audio, video, and multimedia), networks, and Internet access. This infrastructure requires a long-range plan and design, as well as on-going maintenance. There needs to be sufficient personnel to attend to the infrastructure, as well as to provide the necessary support to faculty and students. Academic libraries must be available to the on-line student. Although some library resources may be available on the Internet, many reference or research resources are currently only available in hard copy. This means students must be able visit a library in person to complete research assignments. Traditional on-campus students have access to media and computer centers, where they can check out camcorders or digital cameras, or use video editing facilities or high-resolution scanners for their assignments that require media use. On-line students should also have comparable access to the same tools and facilities to complete assignments.

Webster University already had a technology infrastructure in place. However, it contracted consultants to install additional servers to accommodate the on-line courses. Webster's extended campus network provided the advising, registration, labs, and technical support services for the on-line courses. In many states, students could obtain library access to public university libraries. Where this is not available, Webster University arranged cooperative library agreements with university or college libraries in the geographic vicinity of on-line students. Media and computer center support services were available at the various extended campuses.

3.4 Instructor Support

3.4.1 Training and Assistance

Since most faculty may not have experience teaching on-line, training is critical. This training must include the instructional design of on-line courses and the management of materials, course activities, and student interaction. Instructors must learn to use course management software, conferencing or group discussion software, as well as other software tools and templates that facilitate course delivery. Instructors must also be provided with media construction assistance and on-going technical support.

Webster University contracted instructional design consultants to provide the training for faculty as well as the course management and conferencing software, templates and tools for all on-line courses throughout the University. Decision-makers believed this approach to be more cost-effective and lower risk of failure than assuming these tasks internally.

3.4.2 Intellectual Property Rights

While instructors' intellectual property rights are taken for granted for on-campus courses, the parameters of intellectual property rights for on-line courses seem less clear. Instructors need protection of their intellectual property rights in their courses. Some institutions already have policies developed, which can be applied to on-line courses. Many others do not. Academic governing bodies must formulate institution-wide intellectual property policies to protect the parties involved.

Webster University did not have any intellectual property rights policy in place. The policy that Webster University is developing includes: (1) principles underlying the policy; (2) articulation of the rights and responsibilities of authors, creators, inventors, and the University; (3) the various categories of ownership such as traditional works, university-sponsored works, and externally-sponsored projects; (4) designation of an administrative area to coordinate intellectual property issues; and (5) declaration of the rights and responsibilities of students.

3.5 Student Support

The on-line format may attract students in larger numbers. In addition, the students may be from geographical locations beyond the traditional reach of the campus. Therefore, in order to provide appropriate student support, it is necessary to identify the unique needs created by the on-line format. Student services that may need to be addressed are enrollment, academic advising, and registration.

Different ways of accessing library services and obtaining technical assistance may also be necessary.

Webster University's on-line programs attracted new graduate students at the home campus, the extended campuses, and other geographical locations. At the home campus, the additional student services needed as a result of the increased enrollment were met with exiting resources. The University's extended campus network was called upon for the additional student services required beyond the home campus.

3.6 Evaluation

An on-going evaluation of the effectiveness of an on-line program is necessary to justify the endeavor. Enrollment and retention figures are good indicators of student interest. Student feedback provides more details about student satisfaction and appropriateness of teaching strategies employed in the on-line programs.

Webster University's evaluation component includes the same tools used in traditional on-campus courses. The projects, papers, and exams assigned are the same in both the on-line and on-campus versions of the courses. Team planning occurs in some on-line courses, enabling instructors to critique each other on the appropriateness and effectiveness of the on-line teaching methods. Enrollment and retention statistics are tracked separately for on-line and on-campus sections. Student evaluation include on-line journal writing that include comments about the course format, in addition to a standard course evaluation form used in all courses (on-line and on-campus).

4. Lessons Learned (Rewards)

What lessons were learned from Webster University's experiences in launching on-line teacher education courses? First, on-line courses seem to sell themselves. No additional, or special, marketing is necessary to attract students. The interest that on-line courses generates not only results in higher enrollments, but also increases the visibility of an institution's programs. This increased interest and visibility can elevate the profile level of an institution.

Webster University found that the on-line approach to course offerings was congruent with its mission statement to create a student-centered environment, to sustain a personalized approach, and to emphasize service to students. During its first registration period, Webster University's enrollment for the pilot on-line course reached its maximum quickly. These students were from various majors, not just the Educational Technology major. There were several reasons that these students chose the on-line courses over the traditional on-campus courses. The most common reason was the convenience of the delivery format. The asynchronous nature of on-line courses enabled students to take these courses in addition to their normal load. Other reasons students cited for choosing on-line courses included interest in the medium and greater ability to customize a course to their individual needs. One of the biggest rewards among both students and faculty was to have been among the first to participate in an exciting, new approach to graduate teacher education.

Will other institutions experience comparable risks, roadblocks and rewards as Webster University did in starting new on-line programs? The answer will depend on how the institution and individuals within it perceive and deal with innovation and change. Institutions that attempt to launch new on-line degree programs will probably find some institutional support in place. However, there are likely to be many challenges and roadblocks, which heighten risks for failure or potentially compromise the quality of the on-line program. Based on Webster University's experiences in starting on-line degree programs for teachers, the following recommendations are suggested for other institutions:

- Identify a program development team and team leader. The commitment of several key individuals is critical in guiding the development through the maze of issues, the resistance to change, and the complexities of design components.
- Prepare a well-defined development plan and secure commitments from administrators for this plan. The plan should include a strong rationale for the on-line program and details about the courses involved, how the instructors will be trained and supported, the anticipated approval processes, and the technological and organizational infrastructure changes required.

- Enlist broad participation and share information. Consider the program development process as a training or professional development for the faculty. Every discussion or presentation is an opportunity for them to increase awareness and knowledge about the nature of and methods used in on-line courses.
- In developing intellectual property policies, consult policies from other institutions, as well as legal experts in intellectual property.
- Pilot one or more on-line courses before launching a full degree program. The pilot course should be an additional section, rather than a replacement of an on-campus course.
- Outsourcing technical and training support components for on-line courses can be less risky and more cost-effective than committing in-house resources.

Delivering courses and programs on the Internet is one of several new technology directions that institutions are ready to explore, if not eager to embrace. Whether the institution is comfortable with change and innovations or not, the work to start on-line programs is challenging across-the-board: The institution's philosophy and mission statement must be examined. Policies must be created or modified and approved. Curriculum and courses must be updated. The organization's infrastructure must be strengthened. Technology resources must be expanded. New training, support, and assistance for faculty must be instituted. Student services must be broadened. In effect, the institution itself could be transformed as a result of starting one new on-line teacher education program. With wise planning and careful development, this transformation will be happily welcomed as an important benefit to students, to faculty, and to the institution itself.

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