LEARNING PARTNERSHIPS IN ON-LINE INSTRUCTION: EXPLORING THE POSSIBILTIES

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ABSTRACT

An important, emerging trend in online education is for universities or states to contract with software vendors to offer online IT training courses. These partnerships provide new possibilities for IT education. The question for instructors is how to utilize these opportunities to enhance IT education. This paper examines a partnership between the state of Michigan and the software vendor, NETg, called the Michigan Virtual University IT Training Initiative (ITTI). The features of this initiative will be addressed along with proposed alternatives for using the ITTI to support IT instruction. This discussion should benefit IT instructors at other institutions as their universities or states link up with software vendors in similar arrangements to offer online courses.

Keywords: Online instruction, e‑learning, web-based learning, IT education, IT certification

INTRODUCTION

Online instruction, also known as web-based learning or e‑learning, continues to grow at a rapid rate. A report by WR Hambrect & Co. and International Data Corp. (IDC) indicates that companies in the U.S. spent $3 billion on IT-based delivery of training in 1999; this was projected to grow to $11 billion by 2003 (3). In addition, the IDC estimates that the worldwide market for e‑learning will grow to more than $18 billion by 2005 (6). Among the factors stimulating the movement toward more online instruction in industry are shrinking company budgets in tight economic times and a reduced interest in business travel. For example, EDS contracted with DigitalThink to provide online learning to its 140,000 employees worldwide (6). Besides DigitalThink, other leading content providers of web-based corporate training include Learn2.com, NETg, Prosoft Training, SkillSoft, SmartForce, and KnowledgeNet (8).

Colleges and universities are also dramatically increasing their web-based course offerings. Today, working adults comprise a significant percentage of the college population. E‑learning provides 24/7 availability to fit learners' schedules, eliminates geographic boundaries, and offers a self‑paced, interactive, multimedia learning environment (1; 4). For example, one of the authors of this paper was recently contacted by a former student to get his opinion about an online learning program offered by another university; this student worked full‑time and was raising two small children, so she saw the online program as an attractive option. Thus, online instruction provides the ability to serve educational audiences such as working adults who would otherwise not have access to higher education (5).

A recent development in online learning is the partnership between universities (or state governments) and IT training vendors to offer online courses. In many cases, these instructional units lead toward IT certification. For example, in June 2001, the University System of Georgia, which covers nineteen public colleges and universities in the state, signed an agreement with KnowledgeNet to create a program to help students obtain IT vendor certifications, called the Georgia Global Learning Online for Business and Education (9). Duke University began offering IT vendor certification through its continuing education program even two years earlier. Boston University's Corporate Education Center is also among the universities who offer IT certification courses (9).

These "hybrid programs" try to leverage the advantages of both the university environment and vendor training. As more workers become interested in supplementing their degrees with practical training and certification, they often also want access to universities' resources such as the use of libraries, help with job placement, and financial aid. According to a 2000 study of IT vendor certifications by the U.S. Department of Education, partnerships between higher education and industry to offer IT vendor certification are expected to prosper in the coming years (9).

As online partnerships grow between universities or states and software vendors, educators are faced with the issue of how to incorporate these learning opportunities into academic programs. This paper explores a particular agreement between the State of Michigan and software vendor, NETg, to offer online courses. The workings of this program, Michigan Virtual University's ITTI, are examined next.

THE MVU IT TRAINING INITIATIVE

The Information Technology Training Initiative is one of the major programs offered by Michigan Virtual University (MVU) at its website (www.mivu.org). The MVU is a private, not-for-profit Michigan corporation that was established to deliver online education and training opportunities to the Michigan workforce. The MVU was founded by Governor John Engler, the Michigan Economic Development Corporation, and several major industries in the state to provide education and training to the state's workforce. The intent of this initiative was to maintain a skilled workforce to preserve existing jobs and draw new companies and jobs to Michigan. The MVU also generates revenues through course fees and contract services offered to certain audiences, sponsorships, and grants. One of the MVU's latest initiatives in conjunction with the Michigan Department of Career Development is Bee Freeway, which makes online courses available at no cost to Michigan businesses with 25 or fewer employees and employees of non-profit organizations.

The MVU's IT Training Initiative is a program to provide the Michigan educational community with access to more than 700 Web-based, self-paced IT courses. These courses are provided free of charge to enrolled students, faculty, and staff at Michigan high schools, community colleges, colleges, and universities. This program began shortly after the state's Teacher Technology Initiative, which provided free laptop computers to K-12 teachers in Michigan. With these laptops in place, the state recognized the need to provide greater training in software-related

skills to teachers. However, as noted above, the scope of the ITTI extends beyond K-12 teachers to students, faculty, and staff in higher education.

The ITTI started delivering online courses in early 2001, after entering into an agreement with software vendor NETg, a division of Thompson Learning educational publishers. NETg is a leader in creating interactive multimedia training products, especially in the field of information technology. NETg serves more than 4,000 customers worldwide, and it was named IT Training Company of the Year (2000) by the Institute of IT Training. NETg's clients include large organizations such as Boeing, Yahoo, and AT&T. The MVU signed a three-year contract with NETg to make available more than 700 course titles (2).

NETg's courses provide interactive, hands-on learning experiences, and include the use of graphics, sound, video and real-world simulations. Most courses begin with a pre-assessment, a set of multiple choice, matching and demonstration questions that help the students determine their levels of skill. The program uses the results to create a "precision learning track" that guides students through the topics on which they need training without covering information they already know. At the end of each module, students take a mastery test to track their progress and reinforce their understanding of the skills covered.

NETg has partnered with industry leaders such as Microsoft, Netscape, Oracle and Novell to co-develop courses. This provides early access to beta software, first-to-market training opportunities, and the most direct paths to company-specific certifications. NETg specifies paths that, when followed, prepare individuals to sit for certification exams including Microsoft, Novell, Oracle, Cisco, Netscape and A+ products (2).

The ITTI contains both software-oriented courses as well as courses dealing with management and communications topics to facilitate professional development. Technical courses include offerings about: Microsoft Office Products, Oracle, SAP, Novell, and Cisco. Multiple levels of coursework are available in many cases for certain software packages. For example, Microsoft Access has learning units for: the fundamentals, proficient users, and expert users. Courses of a more conceptual (non-technical) nature address topics such as: e-business, project management, virtual teams, and communications skills. Once an eligible user successfully registers at the site there is no limit on the number of courses that can be taken. Most learning units are designed to be the equivalent of 6-7 hours worth of instructor-led classroom instruction.

As stand-alone, self-paced courses, the courses are free to eligible users through their education institutions. Some colleges may charge a fee if the course has been integrated into a tuition-based curricula with additional content and instructor facilitation. The ITTI does not grant degrees, but taking ITTI courses can be taken toward satisfying IT certification requirements.

The technical requirements for users to participate in ITTI course offerings are modest. They include having an IBM-compatible system, 486 or Pentium PC; 8 Mb of RAM (16 Mb for Windows NT); a mouse; Windows 3.1 or higher; a Windows display mode of at least 640x480 resolution with 16 colors (256 colors recommended); Internet access via a network or 56k modem; and an MPC-compliant sound card and headphones or speakers if the students want to

hear audio. Technical support is also available from the MVU Help Desk to answer specific user questions.

UTILIZING THE ITTI: THE OPPORTUNITIES

The IT Training Initiative offers many possibilities for online learning. One option is that users can take ITTI courses that work toward obtaining an IT certification. This can save a user hundreds or thousands of dollars compared to what vendors charge for similar training. This factor is important as IT certifications grow in popularity. An analyst at the U.S. Department of Education estimates that by 1999 IT vendors had issued 2.4 million certifications to almost 1.6 million people (10). A study last year found that certifications in products and technologies by Microsoft, Cisco Systems, and Oracle made up the top seven spots of most important vendor certifications (7). Thus, through the ITTI, a university student could complete the courses needed to take a certification exam and obtain a certification prior to graduation. Having the certification along with the student's degree would presumably improve the student's prospects in a competitive job market.

Second, a user can take an ITTI course to help maintain an existing professional certification. For example, if Michigan K-12 teachers complete and achieve a satisfactory success rate of 80% on the post-assessment test of an ITTI learning unit, they can qualify for continuing education credits toward maintaining teacher certification. This serves as an important motivator for teachers to complete ITTI learning units.

A third reason a user may take an ITTI course is for personal development purposes. For example, a user might just be interested in learning more about a certain software package such as Microsoft FrontPage. This option might be particularly attractive to a student who is taking a reduced course load during a particular semester. Taking the initiative to complete one or more of a series of courses about a particular topic can demonstrate to employers the students' interest and proficiency in that area. The student's learning at the ITTI website can be documented through printouts of the successful completion of a course, similar to what teachers do to verify their completion of learning units. The student, however, might need to educate prospective employers about the ITTI learning experience and what knowledge was mastered since many employers may not be familiar with the ITTI program.

Fourth, an ITTI learning unit can be utilized as an additional source of information about a particular topic. That is, instead of taking an entire course, a user who is working on a Microsoft Access project, for example, could look up specific topics in the ITTI's Access courses. In this way, the ITTI courses can serve as a "help file" about a software package. A detailed table of contents is available with most ITTI learning units that should help a user find needed information rather easily. The information and examples presented may be clearer than in other sources.

Finally, an ITTI learning unit can be incorporated (in whole or part) into a traditional, instructor-led course through projects or assignments. For example, a specific topic that is not contained in

an existing textbook in Microsoft Excel could be added through use of that part of an ITTI learning unit on Excel.

Alternatively, individual or group projects could be used that involve students completing an entire ITTI course. The authors recently concluded a group project that utilizes this approach. The project was undertaken in a graduate IT course at a large, public university in Michigan. Groups of three students were assigned to complete particular ITTI learning units. They were required to integrate information from their ITTI learning unit with other sources to submit various written project requirements. The groups also were required to make a presentation about their assigned learning unit/topic. The goals of this project were to: (1) to increase students' awareness of the free training opportunities available at the MVU website; (2) learn state-of-the-art information about an IT-related topic; (3) gain experience working in a project team; and (4) improve students' abilities of "learning how to learn" through online vendor instruction.

A questionnaire was administered to collect students' feedback about various issues including: satisfaction with the project; perceptions of the specific quality dimensions of the learning unit (i.e., its degree of interactivity, clarity, ease of use, etc.); problems experienced in doing the project; and perceived strengths of this approach. The students were also be queried about their awareness of the ITTI prior to beginning this project and their future intentions to take other ITTI courses.

Preliminary analysis of this data reveals that even though the majority of students were new to online learning and had no prior awareness of the ITTI, participants reported a good level of satisfaction with this experience and a high probability of taking additional ITTI course offerings. Students also indicated they preferred this project over a "traditional" group research project utilizing printed, library sources. Among specific satisfaction measures with the learning unit, ease of use scored particularly high, receiving a mean satisfaction rating of 4.32 out of a possible 5. The complete results of the survey will be shared at the IACIS 2002 Conference.

SUMMARY

This paper has taken a closer look at one state-vendor partnership to deliver online IT instruction called the Michigan Virtual University ITTI. The workings of this initiative have been examined as well as how it may be used for the benefit of IT instruction. As university or state-vendor partnerships to offer online training expand in the future, how to utilize these opportunities will become an issue for more schools. Several possibilities for doing so have been addressed in this paper. Survey results obtained by the authors indicate a number of positive outcomes to suggest that course projects utilizing online learning units can be incorporated successfully into a traditional, instructor-led course.

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