



Supporting E-Learning at the University of Central Florida

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EDUCAUSE is a nonprofit association whose mission is to advance higher education by promoting the intelligent use of information technology.

The mission of the EDUCAUSE Center for Applied Research is to foster better decision making by conducting and disseminating research and analysis about the role and implications of information technology in higher education. ECAR will systematically address many of the challenges brought more sharply into focus by information technologies.

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Preface

The EDUCAUSE Center for Applied Research (ECAR) produces research to promote effective decisions regarding the selection, development, deployment, management, socialization, and use of information technology (IT) in higher education. ECAR research includes

- ◆ research bulletins—short summary analyses of key IT issues;
- ◆ research studies—in-depth applied research on complex and consequential technologies and practices; and
- ◆ case studies—institution-specific reports designed to exemplify important themes, trends, and experiences in the management of IT investments and activities.

While technologies offer many new learning possibilities, they also present new challenges. Institutions must adapt pedagogical practices, ensure technical proficiency, and develop and maintain a reliable and robust technical infrastructure to use e-learning effectively. These demands translate into a host of new instructor and student support requirements that institutions must address.

To help institutions achieve these goals, ECAR and IDC conducted research to learn

about the evolving student and instructor support requirements for online distance-learning courses, hybrid courses, and traditional courses that leverage technology. The research examines the issue from the perspectives of support providers and support users. From the provider perspective, ECAR examines central resource organization structures, resource availability and effective practices, and the challenges presented by e-learning's increasing popularity. From the user perspective, ECAR examines the e-learning course creation or adaptation process, challenges faced, and the effectiveness of support received for the process. The research also examines instructors' and students' technical proficiencies and support requirements. This research proceeded in three phases.

Phase 1: Online Survey

ECAR conducted an online survey of the EDUCAUSE membership to develop a baseline on the state of e-learning courses and their central support activities in higher education. It received 274 valid responses, which represents 18 percent of the surveyed EDUCAUSE membership. The survey's general topics included:

- ◆ online distance learning, hybrid course offerings, and student and faculty participation;
- ◆ student and instructor technical proficiency, e-learning activities, and support requirements;
- ◆ availability of instructor training and technical, course/curriculum, and support resources;
- ◆ infrastructure and organization of support resources; and
- ◆ current and future challenges to meeting support requirements.

Phase 2: Telephone Interviews

We conducted the second-phase interviews to drill down into the “whys” and “hows” of central resource support models for e-learning. We recruited interview candidates from a group of willing respondents from the initial survey; EDUCAUSE staff and an ad hoc advisory committee comprising EDUCAUSE members involved in e-learning also helped with recruiting. We selected candidates on the basis of several criteria, including reputation as a leader in e-learning, percentage of hybrid and/or online course offerings, and degree of faculty and student involvement in e-learning. During January and February 2003, ECAR invited 23 institutions to participate in qualitative interviews, and 19 institutions accepted the invitation.

ECAR and IDC created interview guides to solicit in-depth opinions on the issues touched on in the survey research. IDC and ECAR analysts conducted telephone interviews with support provider representatives (for example, a manager from the central IT department, a manager from the instructional technology unit, or a representative from the institution’s faculty resource center) and support user representatives (such as the academic senate chair of the instructional

technology committee or an appropriate dean or department chairperson) from each institution.

Phase 3: Case Studies

For the case study field research, ECAR and IDC chose six institutions from among the qualitative research participants and other institutions that have significant e-learning initiatives or have implemented noteworthy central e-learning support models. The case studies seek to gain a deeper understanding of the various central e-learning support models and, by extension, what has worked well and what needs improvement. We assume that readers of the case studies will also read the main report, which incorporates the case studies’ findings within the report’s generalized context.

ECAR wishes to thank the University of Central Florida leadership for their time, assistance, and diligence in support of this research. In particular we thank Joel L. Hartman, vice provost, information technologies & resources; Steve Sorg, director, Center for Distributed Learning; Barbara Truman-Davis, director, Course Development & Web Services; Linda Hennig, coordinator, School of Nursing; Judy Lee, coordinator, online educational media master’s program; and Martha Marinara, assistant professor of composition.

We hope that readers of this ECAR case study will learn from their experiences.

Case Background

The University of Central Florida (UCF) is a public, four-year metropolitan research university located near Orlando. One of 11 public universities in Florida, UCF has an overall enrollment of 38,795, including 31,972 undergraduates and 6,823 graduate and post-baccalaureate students. The university offers 76 baccalaureate programs, 62 master’s programs, three specialist pro-

grams, and 20 doctoral programs. Its 4,214 employees include 1,050 full-time and 258 part-time faculty. In addition to its main campus in Orlando, UCF offers courses through a network of 21 branch campuses, which serve approximately 10 percent of its total enrolled students, and UCF Online, which serves more than 17 percent of UCF's students.

UCF has an advanced e-learning program, offering both fully online courses and hybrid or reduced-seat-time courses. Of its total enrollment, more than 22,000 students currently take at least one e-learning course each semester. From its first online class in May 1996, UCF has expanded its e-learning program offerings to 2,200 courses, including 10 online degree programs and four online certificate programs. Current e-learning courses include

- ◆ Web ("W") courses offering fully online instruction with no regular class meetings,
- ◆ mixed-mode ("M") courses that include a mix of face-to-face instruction and Web-based instruction, and
- ◆ enhanced ("E") courses offering entirely face-to-face instruction with varying degrees of Web enhancement.

UCF's online baccalaureate degree programs include

- ◆ liberal studies (B.A. and B.S.),
- ◆ vocational education and industry training (B.S.),
- ◆ health services administration (B.S.), and
- ◆ nursing (R.N. to B.S.N.).

Online graduate programs include

- ◆ nursing (M.S.),
- ◆ vocational education and industry training (M.A. and M.S.),
- ◆ educational media (M.A.),
- ◆ forensic science (M.S.),

- ◆ instructional/educational technology (M.S.), and
- ◆ criminal justice (M.S.).

Drivers of E-Learning at UCF

Factors driving e-learning adoption among UCF faculty shifted as e-learning efforts matured and multiplied, and as UCF administration recognized e-learning's importance to their strategic goals.

The Early Roots of E-Learning

In the 1980s, UCF delivered courses to distant branch campuses using such video-based technologies as interactive TV, videotape, and videoconferencing. In 1995 and 1996, faculty members experimented with the Internet by offering instructional materials online to reach their face-to-face students that lived far from UCF's campuses. Simultaneously, the president, provost, and deans explored Web-based instruction opportunities to accommodate UCF's rapidly growing transfer-student population. In early 1996, the university addressed two issues: first, the lack of an institutional framework—both technical and pedagogical—to coordinate distance-learning initiatives; and second, the lack of an infrastructure to deliver distributed learning programs.

By creating an advanced, common platform, UCF replaced its older, over-the-air TV-based system with a high-bandwidth two-way interactive video solution that connected the branch campus sites with dedicated T1 lines. UCF's infrastructure upgrade provided a crucial boost to its video-based distributed-learning initiatives and, most importantly, instilled in UCF's technology planners the importance of a common, institution-wide platform to deliver distrib-

uted learning. This principle proved critical when UCF adopted Web-based e-learning in 1997.

Web-Based E-Learning Moves to the Forefront

During the fall 1995 semester, UCF President John Hitt served on a statewide task force on distance education. Maxwell King, then president of Brevard Community College, offered Hitt an overview of distance-learning activities at his school, including an established video-based distance-learning program and a small but growing online e-learning program. The two discussed the emergence of a student body segment that embraced e-learning courses. King posed a critical question that motivated Hitt to examine the current and future role of e-learning at UCF: "What programs did the university have to offer for students that transferred from the community college to UCF that would address these students' demonstrated demand for e-learning?"

Subsequently, Hitt directed UCF's recently hired Vice Provost of Information Technologies & Resources Joel Hartman and Vice Provost for Academic Programs Frank Juge to assemble a committee from across the university to develop a distance-learning plan. The group's definitive conclusion stated that while TV-based distance learning had a place at UCF, it did not represent the optimal platform for future e-learning initiatives. Instead, the group addressed Web-based instruction possibilities.

As Hartman and Juge explored e-learning initiatives emerging across UCF's campus, they became aware of a stand-out online course developed and offered by Steven Sorg, a College of Education faculty member, and Barbara Truman, then his graduate assistant. As Hartman explained, Sorg and Truman's online course epitomized the worth of research, planning, and execu-

tion in e-learning program development. "Steve and Barbara had done a thorough job of researching the requirements of effective e-learning," he said. "We saw it as a great model for our future programs." UCF eventually adopted the Sorg-Truman model as the framework for its institutional e-learning strategy.

The UCF team began formulating the university's e-learning strategy in early 1997. In addition to laying out the technical and organizational infrastructure for e-learning, UCF's institutional strategy needed to address faculty development, course development, assessment, and program development. In developing its strategy, UCF committed to a holistic approach that focused on all individual facets of the plan that were consistent and mutually reinforcing. The UCF team also recognized the importance of making e-learning a pervasive, integral part of the university. "We believed that a truly successful e-learning program should transform the way the university performs its mission, and that means making it part of the fabric of the institution," Hartman said.

E-Learning and UCF's Vision

Two fundamental issues determined e-learning's success at UCF: its integration across the institution and how well its goals harmonized with the university's vision. E-learning supports the university's major goals in several key areas.

Improved Access

As a metropolitan research university, UCF defines its constituency as both urban and suburban. For both segments, the university's overall mission is the same: to shape its academic and research programs to these communities' needs. Older working adults with families define an important community at UCF and generally require the higher degree of flexibility that e-learning

provides. Students living far from campus may find e-learning to be their only means to take courses.

Relief of Classroom Space Shortage

With enrollment growth expected to remain strong, the efficient use of classroom space and other brick-and-mortar facilities has become an operational imperative. Of UCF's various e-learning models, the hybrid (reduced-seat-time) model focuses on classroom utilization efficiency. "In a reduced-seat-time mode, a three-hour-per-week course might meet one hour per week, with the remainder of activity online," Hartman explained. "This can triple the number of courses that can be scheduled in a single classroom."

Cost Reduction/Budget Restraint

In addition to making more classroom space available, UCF sees its reduced-seat-time classes as a way to reduce costs by lessening the need to rent or lease off-campus facilities, especially at branch campuses. This effort serves the university's broader goal of cost control.

Improved Convenience for Traditional, On-Campus Students

While fully online courses are typically associated with providing off-campus students with improved access, they have also been shown to provide convenience benefits to traditional on-campus students. In a recent UCF study, 90 percent of students taking fully online courses were also taking face-to-face courses on campus. These students cite increased convenience as their reason for taking face-to-face courses.

Improved Interaction

UCF strives to maximize classroom interaction between instructors and students and among students in a classroom setting,

but achieving this goal has been particularly challenging within the larger classroom setting. UCF views e-learning as a powerful vehicle that increases the degree of classroom interaction. "Offering classes online has enabled our faculty to address the issue of educational quality by promoting active learning, high levels of interactivity, and the formation of learning communities," said Hartman. "It has enabled the faculty to move from a broadcast-lecture-based format to a more collaborative, active student learning environment."

Early E-Learning Challenges at UCF

As UCF expanded its e-learning initiatives in 1997, challenging issues at both the faculty and student level emerged. For faculty, success meant preparedness—both attitudinal and technical. Faculty needed to recognize e-learning as a legitimate and essential instruction mode. To some extent, faculty views on e-learning were linked to an intrinsic calculation of e-learning's value relative to its costs, with value often considered in the context of becoming tenured.

Cultural Challenges

As Hartman explained, "Different colleges value the three basic faculty functions—teaching, research, and service—in different ways. The College of Education, where the e-learning initiative began, emphasizes research about teaching and teaching effectiveness; this may be less true in other colleges. When a faculty member, therefore, expends a great deal of time and effort to improve his or her instructional effectiveness by developing an e-learning course, that effort will likely count more toward tenure and promotion in some colleges and less in others. These realities have clearly affected the degree to which faculty engage in e-learning activities."

Instructors also factor in preparation and teaching efforts in online courses. Discussions with UCF faculty revealed an almost unanimous opinion that e-learning classes require considerably more time and effort to prepare than traditional, face-to-face instruction. The experiences of early faculty adopters of e-learning have also shown that online courses were associated with a significantly higher volume of e-mail-based communications with students.

Linda Hennig, coordinator for UCF's School of Nursing and an early e-learning adopter, sees the control of "task creep" as one of the biggest challenges of online learning. "Because the ubiquity of the Web can overwhelm all other activities, it's important for instructors not to let an online course consume them," she said. "Our experience from mixed-mode [hybrid] classes showed that instructors needed to set and follow a fairly rigid task framework to ensure that the tasks associated with the online portion don't swamp the planning of face-to-face classes." Clearly, understanding and addressing the implications of these perceived challenges were critical to securing faculty buy-in.

Technical Challenges

Securing the success of e-learning at UCF also required the resolution of more concrete, technology-related challenges, foremost among them technological and pedagogical readiness. Instructors needed to understand the technological requirements of e-learning—course management systems, Web content management, and so on. Equally important, faculty teaching e-learning courses needed to adapt their pedagogical techniques to online instruction.

Technological and instructional readiness also challenged students. Technology

sophistication varied considerably from program to program and from class to class; students often needed remedial instruction for basic functions such as logging on and sending files. Time spent resolving these types of problems threatened to deter instructional efforts.

Some students also lacked the proper software or software configuration to access UCF's learning resources, again affecting online instructors' time resources. UCF's CD-ROM-based software, the Pegasus Disc, includes self-configuring software tools, multimedia tutorials, and plug-ins that students can use to appraise their skills and, where deficient, improve them.

Hartman noted that "the Pegasus Disc has produced highly positive results. Even though the population of students online has increased, the overall support demands have actually decreased." He also cited the steady increase in technical sophistication of high school students matriculating to the university as a major factor in diminishing student technology challenges.

Securing Faculty Buy-In

In late 1996, the UCF team realized that they needed to resolve cultural and technical challenges facing instructors for e-learning to successfully expand across the institution. This included creating an incentive structure to enhance e-learning as a positive value proposition for faculty, and building an infrastructure and set of processes for faculty to obtain the technological and instructional support required to succeed. The team also needed to develop a strategy to proclaim a positive message about e-learning.

Now faculty selected to develop an "M" or "W" online course go through the university's faculty development program for online learning and receive

- ◆ the choice of either one course release time from a teaching assignment or (with a full course load) \$2,000 extra compensation per e-learning course and
- ◆ a new full-featured wireless notebook computer.

UCF established the Course Development & Web Services unit to develop and conduct faculty development programs and to assist faculty in online course design and development. As its central faculty development resource, this unit uses a course titled Interactive Distributed Learning for Technology-Mediated Course Delivery (IDL6543). Completing this program requires approximately 60 hours, including five classes (15 hours), five labs (7.5 hours), 10 online modules (30 hours), and consultations with instructional designers for needs assessment and development (7.5 hours). IDL6543 gives faculty

- ◆ the technology skills needed to teach online;
- ◆ the opportunity to discuss pedagogical issues and learn teaching models;
- ◆ e-learning success strategies; and
- ◆ a venue for faculty participants, instructional designers, and Course Development & Web Services' production team to work together to produce effective online course materials.

Early faculty adopters played an important role in fostering others' adoption. Often they discussed their courses and general e-learning issues over brown-bag lunches. Hartman noted that "as successful implementers of e-learning classes, these faculty were very effective and credible messengers."

As the volume of e-learning activity began to increase rapidly, UCF found it necessary to develop institutional practices that could be applied more systematically and on a wider scale. Key to this strategy was an emphasis on creating interdisciplinary learn-

ing communities so that practices would not evolve in pockets at a college or department level. Course Development & Web Services thus adopted the practice of using successful e-learning instructors—dubbed "Web veterans"—to share best practices with peers in a multidisciplinary group setting in the IDL6543 course.

Supporting E-Learning at UCF

The UCF e-learning team identified several support-related challenges to e-learning's success at the university. These included faculty and student support needs, support infrastructure issues, training, and funding.

Key E-Learning Support Challenges: Faculty

The UCF team has addressed the full range of support issues needed to establish an institution-wide e-learning program at UCF for both faculty and students. Few instructors could successfully redesign and adapt their courses to a Web-based modality without support because, in addition to addressing technical issues, they must fundamentally reevaluate their course's goals and structure. The UCF team also addressed another critical early-stage support requirement: course management system (CMS) training, which is necessary in order for instructors to perform ongoing class administration tasks.

Over time, as faculty began offering increasing numbers of e-learning courses, the support needs broadened from developing online courses to include ongoing course maintenance. Although faculty may require CMS or Web site assistance in the early stages, UCF has witnessed a marked tendency toward self-empowerment through both troubleshooting experience and training. For example, nearly all faculty call the

CMS inherently easy to use. An increasing number of instructors also have begun to learn basic Web publishing (Macromedia Dreamweaver). Together, these factors have eased problem-related support needs for CMS and Web content management. Judy Lee, coordinator of UCF's online educational media master's program, believes her training in Web publishing substantially lessened her reliance on technical support personnel. "Earlier, my approach was to create content in Microsoft Word and send it to Course Development & Web Services, who would then upload it to the course Web site," she said. "By learning Web publishing, I've gained more independence and, as a result, more flexibility."

With more than 500 course sections offered online each semester, performance and reliability have become critical, making the CMS server and its network connection one of the most sensitive systems the university operates. Facilities to communicate quickly with faculty whose courses are online when a technical problem arises have also become essential.

Key E-Learning Support Challenges: Students

As with faculty, student e-learning support issues evolved over time. E-learning's self-selective nature presented an early challenge because students had few guideposts to gauge their readiness for Web courses. Some did not have the necessary software, or their software was incompatible with that used in their course. Linda Hennig of the School of Nursing explained that in the early phase of her classes, file incompatibility was a problem with cascading consequences. "One of our frequent problems was that students were unable to open files in Microsoft Word because they were using Microsoft Works or WordPerfect," she said. "We had to inform students that if we

can't read the files, they couldn't get credit for an assignment." She stressed, however, that these problems were short-lived, thanks mainly to incoming nursing school students' increasing technological proficiency.

In the educational media program, coordinator Judy Lee found that attachments and compressed files in e-mail communication were the most common technical problems. Lee explained that "very few students in the graduate educational media program use UCF as their ISP and e-mail provider, and instead use their schools' system. The biggest problem—and it's not yet resolved—is that the firewalls that protect the UCF and public school systems won't allow attachments through." A similar problem exists for the many students who use stripped-down e-mail software associated with free e-mail services like Yahoo, AOL, and Microsoft's Hotmail. These services often provide their users with limited server space to store received attachments, so that e-mails with attachments sometimes "kick back."

Lee developed a set of ad hoc protocols to either assist students directly (via solutions specific to the student's ISP) or direct them to the appropriate support resources:

- ◆ the e-mail client vendor, through its Web site's support resources;
- ◆ UCF's help desk, to help with firewall issues; or
- ◆ Course Development & Web Services' Web site, which has a help section for students who use AOL as their ISP.

Where Is E-Learning Support Most Challenging?

An important question about the overall magnitude and nature of support demands—how e-learning support demands are balanced across the institution—yields different answers for students versus faculty, and for schools versus colleges.

Faculty and students clearly represent the most significant commitment of support resources at UCF, because the time and resources expended on faculty readiness training through Course Development & Web Services dwarf those spent on ongoing problem-related technical support. Student technical support demands are on a clear downward trend; the Pegasus Disc (CD-ROM) has eliminated many problems.

When comparing support requirements for various UCF colleges, three important parameters emerge:

- ◆ some UCF colleges are more engaged in e-learning than others, with a larger percentage of their faculty involved in e-learning;
- ◆ support needs vary across the colleges; and
- ◆ some colleges have assumed partial responsibility for e-learning support.

"We've seen faculty support requirements as roughly even on a per-faculty-member basis," said Hartman. "To a large extent, this reflects the successful standardization and institutionalization of our technology platform and our approach to pedagogical and technical training."

UCF's E-Learning Support Infrastructure

To support its e-learning initiatives, UCF created three support units.

Course Development & Web Services

Headed by Barbara Truman, this unit provides leadership through developing and implementing research-based models and scalable systems that provide the foundation for UCF's systemic e-learning initiative. The unit also creates and delivers faculty development programs and provides design and production support to create online courses.

Course Development & Web Services has three support groups:

- ◆ The Instructional Design Team interfaces with faculty, supports curriculum development and delivery, and provides instructional materials design and development. The instructional designers also work closely in cross-functional teams with graphic designers and programmers. Instructional designers are paired with specific faculty with whom they maintain a close, continuous relationship. The coordinator of course development heads the Instructional Design Team.
- ◆ The Digital Media Design, Video, and New Media Teams provide production support for online courses, the Pegasus Disc, and the main UCF Web site. Providing structured, professional production support allows faculty to focus on designing their online courses.
- ◆ The Techrangers, a group of three full-time staff and 12 part-time students, provide programming and technical support. The established practice of using student programmers has been a key factor in supporting e-learning's rapid growth at UCF.

The Center for Distributed Learning

Headed by Steven Sorg, this group provides campus-wide coordination, planning, marketing, and administrative support for program development. (Sorg's online vocational education class served as the template for UCF's institutional model.)

The Research Initiative for Teaching Effectiveness

Headed by Charles Dziuban, this group studies faculty and student dimensions of online learning and assists individual faculty with research projects related to teaching and learning.

IDL6543: An Inside Look at UCF's E-Learning Faculty Development

As discussed above, UCF's IDL6543 course represents the core vehicle for training faculty who will develop and teach fully or partially online courses. Faculty desiring to enhance their face-to-face courses with online resources (an "E," or enhanced, course) can participate in WebCT Academy, a six-session course designed to train faculty and graduate teaching assistants to use WebCT, UCF's CMS. For faculty, the goal of WebCT Academy is to learn the mechanics of managing an online course. The course also emphasizes review of best practices and online pedagogy.

Regular consultations with instructional designers occur before, during, and after the IDL6543 course to ensure optimal faculty preparation. Initially, the instructional designers learn a faculty member's instructional preferences, course characteristics, and technology skill level. Over time, the designer becomes both coach and collaborator with the faculty member to incorporate instructional strategies and media as the course develops. The IDL6543 course develops faculty readiness in several areas.

Technology

Technology skills needed for teaching online include

- ◆ use of the WebCT CMS,
- ◆ accessing electronic library resources (for course materials and for student assignments),
- ◆ use of advanced e-mail techniques to automate certain course management functions, and
- ◆ dealing with technology challenges.

Pedagogy

Pedagogical issues, models, and strategies addressed include

- ◆ an overview of distributed and asynchronous learning,
- ◆ instructional best practices using technologies,
- ◆ systematic instructional design process (instructional strategies),
- ◆ distributed learning course development process,
- ◆ interaction in online courses,
- ◆ assessment in online courses,
- ◆ course administration,
- ◆ group work in online courses,
- ◆ copyright and fair use, and
- ◆ learner support.

Development

Development of the instructor's online course materials entails

- ◆ an overview of the course-production process,
- ◆ accessing online library resources for content development,
- ◆ submitting materials in electronic format to an instructional designer,
- ◆ course design consultations with the assigned instructional designer,
- ◆ coding Web pages, and
- ◆ final review and testing of the online course by the instructor and faculty designer.

Department-Level Training Initiatives

In addition to UCF's central IDL6543 faculty development program, a few smaller-scale faculty support efforts exist at the college and department levels. For example, the Department of English has created a program called "Teachers Teaching Teachers" to serve the many untenured instructors and adjunct faculty (approximately 80) who have been unable to complete the formal faculty development program offered by Course Development & Web Services. The department enabled five composition

instructors to attend IDL6543; in turn, these instructors trained the remaining instructors. Composition program director Martha Marinara asserts that the program is “highly effective.”

Prevailing Practices for E-Learning Technical Support

UCF’s Computer Services Help Desk provides general technical support for faculty and students engaged in e-learning, with Course Development & Web Services’ Techrangers providing backup support on specific course or CMS-related questions. Recalling e-learning’s introduction in the School of Nursing in 1998, Hennig noted the importance of providing students with a lot of hand-holding. “Many students were not even using e-mail then and needed to learn some very basic functions,” she said. “We gave a substantial amount of support to the first group of students, often over the telephone.”

As the nursing students became more technologically sophisticated, Hennig gradually changed her role from helper to facilitator. “I’ve made it increasingly clear to my students that my role is not to provide tech support but instead to direct them to the proper resources.” Hennig also provides the information in her syllabus and places a link to the Techrangers site <<http://techrangers.ucf.edu/>> on her course Web site. One of Hennig’s most significant sources of technical support has become her students, who share information through course help forums and e-mail. “The help forums have been great because they provide a medium through which more proficient students can talk to students having problems,” Hennig observed. “It’s a great example of how the Web can foster collaborative problem solving as well as collaborative learning.”

By providing students with tools such as the Pegasus Disc <<http://learn.ucf.edu/2nowwhat/2pegasuscd.html>> and the UCF Learning Online Web site <<http://learn.ucf.edu>>, and by fostering online learning communities, UCF has taken a proactive approach to supporting e-learning students. These resources help students succeed online and help relieve faculty of the burden of technical support. The UCF and Techrangers help desks supplement these resources.

Funding E-Learning at UCF

The units that support UCF’s e-learning initiative—Course Development & Web Services, the Center for Distributed Learning, and the Research Initiative for Teaching Effectiveness—are funded in the same manner as other service departments on campus: through the standard university budget allocation process. Steven Sorg, director of the Center for Distributed Learning, believes the key to securing adequate funding for e-learning has been a tight alignment between its goals and the goals, mission, and vision of the institution as a whole. “In the same way form follows function in architectural design, we believe that funding for distributed learning follows the institution’s goals, plans, and strategies,” he said. “We derive our funding requests from the institution’s strategic plan, from the goals of the colleges, and from the aspirations of the provost and the president. And we’ve attempted to link all of our activities in such a way that they move the institution forward on the institutional agenda—not the IT agenda. So the key to funding e-learning is that we define it in terms of institutional priorities, college needs and priorities, and results. To achieve this, we go around and talk to every dean and department chair every semester about their needs. We talk about their successes

and what online learning can do to help them. It's their agenda."

Lessons Learned in UCF's E-Learning Experience

In the nearly seven years since the University of Central Florida began offering e-learning, a significant body of knowledge about successful e-learning has accrued. This includes broad practices defined at the institutional level and instructional practices associated with fully or partially online courses. Of particular importance are the following findings:

- ◆ *Faculty adopt e-learning incrementally.* A study by the Research Initiative for Teaching Effectiveness indicated that after instructors redesign their first course, they often return to Course Development & Web Services to redesign additional courses. This indicates that once faculty adopt e-learning and see its benefits, they become active proponents.
- ◆ *It is important to institutionalize practices.* Hartman believes that UCF's institutionalized approach is the key to its success in e-learning. "We've understood that e-learning is at its core an instructional activity. It has to fit into the faculty culture and the campus environment, and finally it has to meet institutional goals. We approached it from that point of view."
- ◆ *It is about teaching, learning, and pedagogy—not tools.* Barbara Truman, director of Course Development & Web Services, asserted that successful faculty development results from an instructional approach, not from an emphasis on technology. "It is typical for IT organizations to approach e-learning training as an exercise in learning tools, like WebCT or PowerPoint training," she

said. "We see our role as helping faculty think about teaching and learning and pedagogy, and that's a big factor in our success and that of the faculty. We focus very much on what our faculty do and what they need—and we do a lot to try to make them succeed on their own terms in this new environment."

In 2002, Charles Dziuban and Patsy Moskal of the Research Initiative for Teaching Effectiveness identified key lessons that both students and faculty had gleaned from their experiences with e-learning. Students recommend that e-learners

- ◆ not procrastinate,
- ◆ attend orientation,
- ◆ be disciplined,
- ◆ develop computer skills,
- ◆ ask for help,
- ◆ keep in touch with the professor, and
- ◆ check the forum daily.

When asked to identify positive aspects of e-learning, faculty noted that

- ◆ student and teacher interaction is enhanced,
- ◆ the teaching and learning environment is much more flexible,
- ◆ the environment forces continuous improvement,
- ◆ the teacher's role changes to that of a facilitator, and
- ◆ students are more actively involved in their learning.

When asked to identify the negative aspects of teaching e-learning courses, faculty stated that

- ◆ time demands are severe;
- ◆ technology problems will occur;
- ◆ face-to-face student contact will decrease;
- ◆ students' evaluations of teachers will be lower (but a recent institution-wide study of student course evaluations has found that, on average, student evaluations of teachers in online courses equal

or exceed those for other modalities); and

- ♦ faculty will experience multiple role expectations that change quickly and dramatically.

The Future of E-Learning at UCF

Looking to the future, Hartman sees UCF moving toward increasing virtualization—not just in terms of teaching and learning but also in such areas as online library resources and student, staff, and

faculty services. “We have a wide array of online resources available now, and are expanding that through development of an institutional portal,” he said. “The online learning component within our broader virtualization strategy—by impacting so many people in such a positive way—has been a catalyst for our broader online services agenda. By bringing more people into the online environment, e-learning has helped students and faculty gain an enormous level of information literacy.”