Support for Online Teaching and Learning

The U. of Central Florida keeps faculty ahead of the curve with a creative development program

by **Barbara Truman-Davis, Linda Futch, Kelvin Thompson,** and **Francisca Yonekura**

The University of Central Florida has developed an award-winning faculty development program that provides experiential, collaborative learning to build successful online programs. A comprehensive approach that supports teaching and learning online for both on- and off-campus applications has transformed the institution's culture.

In 1996, UCF in Orlando began an intensive faculty development program to teach faculty members how to create interactive online learning environments. As the program matured, the delivery format modeled teaching with technology in the form of a simulation course called IDL6543: Interactive Distributed Learning for Technology-Mediated Course Delivery (IDL). Since 1996, 200 faculty from UCF's five colleges have participated in the program, which combines consultation with instructional designers, face-to-face meetings, labs, and online activities.

The IDL course evolved from an institutional goal to develop online learning to meet the needs of the rapidly growing campus and the many nontraditional students. Faculty members who participate in IDL receive financial incentives, support for course development, and assessment so their first online teaching attempts are successful. Through the course, participants become members of an interdisciplinary learning community that leads to peer teaching. More than 400 online courses have been developed through the IDL program. UCF's comprehensive approach to developing and supporting online learning required that four key areas be ready: the institution, faculty, courses, and learners.

Institutional Readiness

As institutions embrace technology-mediated learning, they must also reconcile increasing learning outcomes with designing for scale and controlling costs. Three units were created within the last four years to support UCF's online initiatives specifically:

• Course Development and Web Services (CD&WS) creates and conducts faculty development and provides course development production.
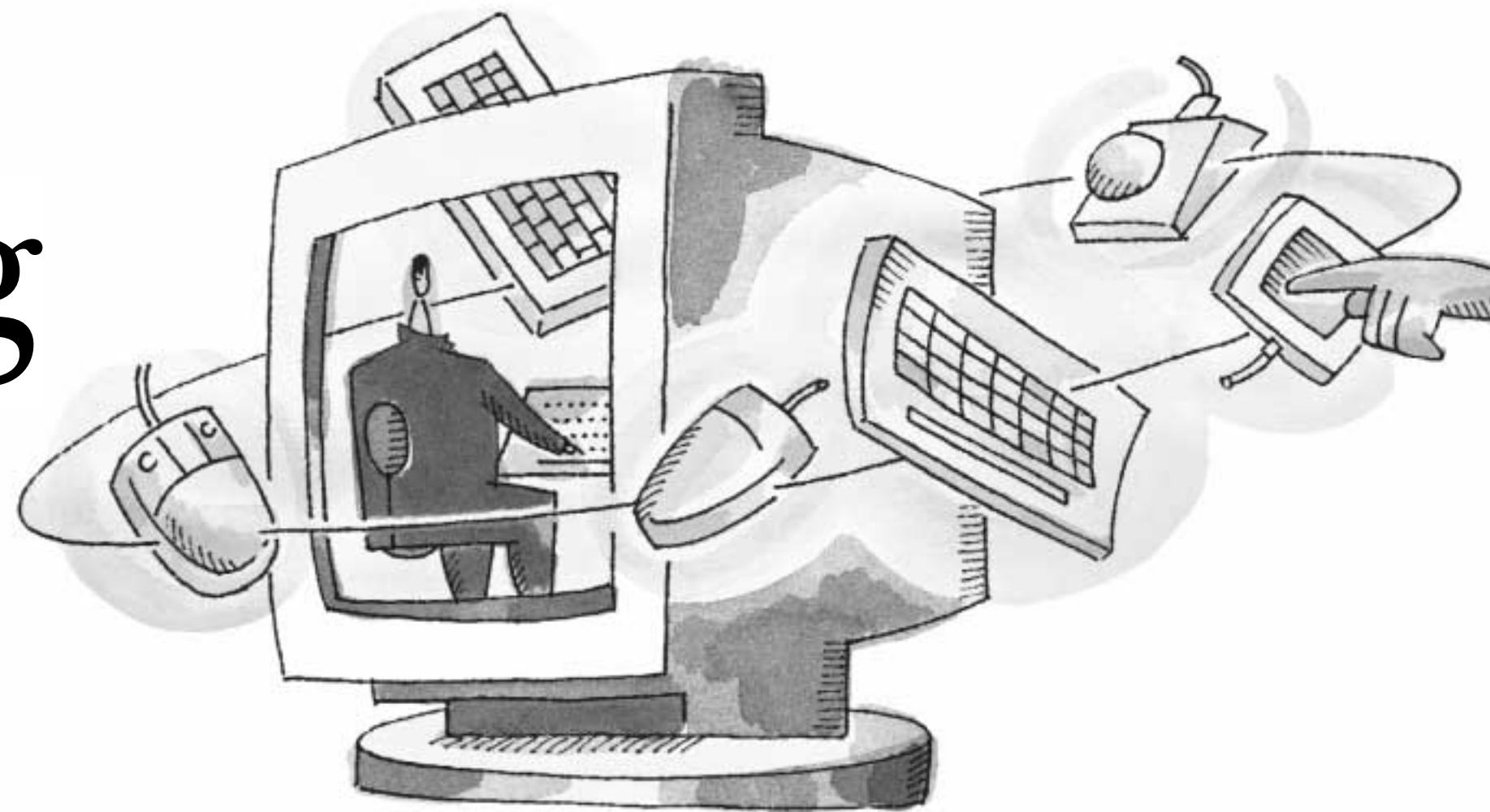
• The Center for Distributed Learning (CDL) provides campuswide coordination, planning, marketing, and administrative support for program development.

• The Research Initiative for Teaching Effectiveness (RITE) assesses online courses to support faculty and course development (see reach.ucf.edu/~coursdev, distrib.ucf.edu, and reach.ucf.edu/~research).

These three units have collaborated to increase support for institutionalizing online learning. The "Institutional Readiness" sidebar shows the conditions that made it possible to initiate and increase the scope of online teaching and learning at UCF.

From an assessment perspective, UCF has collected data since 1996 on the impact of classes that are supported though the IDL faculty development program. Participating faculty members can receive expert research design assistance in addition to support for collecting, analyzing, and publishing evaluation results. Support for evaluation has resulted in a coordinated approach to collecting data about student and faculty demographics, student learning styles, growth in enrollment and sections, student and faculty perceptions of teaching and learning online, and problems encountered while teaching and learning in the online environment. Evaluation data have been used to target improvements in faculty development and learner support.

UCF has been studying student learning styles in online courses with the intention of helping faculty address the individual differences students encounter in their classes. Armed with this information, UCF can be more responsive to student needs and can improve metacognitive skills for all its students.

Institutional Readiness

These are the favorable conditions that made it possible to initiate and implement online teaching and learning support at UCF. You can use the following as a checklist to assess your institution's readiness. If your campus has the following, you're ready. If not, use this as an action-item list.

Good fit with the institution's character and mission

Good fit with learner characteristics of the institution

Clearly articulated mission and strategic plan

Demonstrated level of faculty interest

Robust campus infrastructure
• Ubiquitous access to computing
• Redundant, reliable network services

• Well-equipped campus labs
• Coordinated technical sales and support

Distance or distributed learning leadership
• Articulated vision and doctrine of shared vision from top administration
• Core organizational structure
• Planned growth
• Campuswide coordination
• Internal and external partnerships
• Buy-in by academic leadership

Commitment to faculty support
• Incentives and rewards
• Systematic faculty development
• Research design and analysis support
• Tenure and promotion reconsideration
• Policy development

Commitment to course and program support
• Design for scale
• Quality standards development
• Multimedia production support
• Research and development
• Copyright support

Commitment to learner support
• 24/7 helpdesk support
• Communication and marketing
• Metacognition support
• Flexible tutoring and advising
• Orientation
• Adequate software
• Web-based campus services

Commitment to assessment
• Ensuring quality of programs
• Research mission support
• Alternative assessment creation

Faculty Readiness

Internet use has become so pervasive in society and on campus that faculty members are facing pressure from their students to provide some form of Web presence to facilitate and complement learning. More mainstream faculty members are looking for support for teaching with the Web because students now expect online course offerings.

Not every faculty member is interested nor equipped to teach online. A combination of skills and willingness to adapt to the cultural change are required. In our experience, mainstream faculty members who most easily adapt to the online environment tend to have the following traits:
• Motivated to learn
• Willing to lose some control of class design and teaching style
• Able to collaborate with experts
• Willing to change role
• Able to build a support system

• Patient with technology
• Able to learn from others

Faculty members who plan to teach online must prepare for their new role as well as the new role required of their students. In addition, they must have or acquire sufficient computer and Internet skills. In order to achieve the skill set required to teach online, faculty members will need institutional and technical support as well as professional development opportunities. UCF faculty members who are interested in teaching fully Web-based or media-enhanced courses may participate in a request-for-proposal (RFP) process, from which grants are awarded to develop and teach online courses.

A NEW APPROACH

The IDL faculty development model for online teaching is an outgrowth of sound pedagogical philosophy and institutional support. It is a faculty development program designed to create interactive online environments to support mainstream faculty as well as early adopters and innovators. Faculty who receive grants are required to participate in IDL and work with staff from the Course Development and Web Services unit to design and develop their online course. This approach creates collaboration and experiential learning. As faculty members participate in IDL, they build activities and Web pages for use in their courses. Participants receive a new computer, release time (equivalent pay as if teaching a three-hour course), and course design and production support to develop and deliver their courses. Prior to beginning IDL, instructional designers meet with faculty participants in an initial needs-assessment interview. This interview provides valuable insight into the fac-

ulty member's instructional preferences, technology skills, and course characteristics as well as the foundation of a relationship that will continue long after the IDL course. The instructional designer conceptualizes the faculty member's vision for the course and guides him or her in incorporating appropriate instructional strategies and media as the course is developed.

As of April 2000, approximately 200 UCF faculty members have been involved in the IDL6543 faculty development initiative, which has resulted in more than 400 courses that involve online techniques. Approximately 450 faculty have received support from CD&WS since the summer of 1996. In the fall of 1997, UCF adopted the use of WebCT, an online course manage-

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Using mixed mode deliveries and media enables UCF to deliver more courses appropriately online.

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ment tool. Today there are more than 1,000 WebCT accounts in use at UCF with more than 26,000 registered users in these accounts.

Faculty members report that their teaching is rejuvenated as a result of the IDL program. Each semester approximately 30 faculty from various disciplines become involved, resulting in an instructional model that builds on itself through peer teaching. This development cycle creates an upward spiral that allows the instructional model to improve continuously. Instructional designers from CD&WS basically facilitate a cultural change across disciplines for faculty with vary-

ing levels of technological ability and experience.

There are many benefits to institutionalizing faculty development for online learning. In addition to enhancing your institution's offerings, it
• creates experiential learning for faculty participants.
• enables cross-disciplinary sharing of teaching techniques.
• builds learning communities among faculty.
• creates lifelong learners.
• generates discussion of the teaching and learning process.
• allows peer evaluation of successes and failures.
• exposes faculty to tools and instructional best practices.
• models a combination of delivery techniques.
• uses cooperative and collaborative learning techniques.
• provides greater flexibility for busy faculty.
• transforms all teaching for more active learning.

Course Readiness

Online courses are not limited to one delivery method. For example, CD&WS produces CD-ROMs, print materials, and videos to augment online courses. Online resources through a computer-mediated communication model are the primary means of course delivery. Using mixed mode deliveries and media enables UCF to deliver more courses appropriately online. Our investment in course development and production support has enabled greater course readiness for many programs.

Participants in the IDL6543 faculty development course learn standard processes and receive standard elements to incorporate in online course development. Adhering to standards does not stifle the creativity of faculty

members or support staff; rather these standards create course readiness.

DEVELOPMENT

CD&WS has developed a comprehensive, eight-session curriculum called WebCT Academy for training faculty and graduate teaching assistants to use WebCT. Participants learn the mechanics of managing an online course and are presented with an array of best practice strategies. The first two sessions of WebCT Academy are required as prerequisites to IDL6543. The third and fourth sessions are taken as lab sessions during IDL, and the last two sessions may be taken after

Kudos

completing the IDL program (for more information see reach.ucf.edu/~webct411).

Some faculty members begin the IDL course expecting to create some Web pages. Others come expecting to learn how to use WebCT. A smaller group wants to learn how to teach online. The three dimensions—creating course materials, learning technological skills, and developing instructional strategies—are important, and each is addressed in IDL6543.

We liken the IDL6543 program to a duck floating serenely on a pond, while paddling like crazy beneath the surface. An online course has certain observable "logistic" components, not unlike the duck floating on the pond. The casual observer just notices the duck (logistics). Underneath the water's surface, however, two rapidly paddling webbed feet perform the work. To continue this analogy, one of the "feet" keeping the Web course afloat is the technological skill set developed by the participants and the other is the knowledge base of pedagogical strategies that is formed.

Emphasizing only one of these dimensions (just the technology or just the pedagogy) will result in a one-legged duck swimming around in circles. Emphasizing only the logistics of producing Web pages without supporting technological and pedagogical skills results in a dead duck.

You must support technological and pedagogical skills in addition to the logistics of producing Web pages.

Because IDL6543 emphasizes all three areas, the program moves a developing course toward readiness. The program provides the technology skills needed for teaching online; encourages discussion of pedagogical issues, models, and strategies; and facilitates teamwork between faculty participants, instructional designers,

and the production team to produce the actual online course materials. (The sidebar, "A Three-Pronged Approach," summarizes the topics addressed in each of the three areas.)

PRODUCTION
At the end of the IDL6543 course each participant takes with him or her all of the publicly accessible Web pages he created and posted online, the WebCT communication tools configured for the specific strategies he is using, and one content module in place. The content modules are based on a specific course objective, require student interaction, and are paired with an assessment. Course content typically takes the form of Web sites created by Techranger programmers and digital media designers. Design element graphics (such as frames, buttons, bars, and bullets) follow one particular look for each course. These graphics are part of a number of templates from which the faculty member chooses at the beginning of IDL6543. A course-specific graphic header is created for each online course that visually communicates the key con-

cept(s) of the course (for example, the header graphic for a social problems course incorporates images of police officers restraining a violent person, and picket signs displaying various slogans related to social issues).

Techrangers and software engineers can create dynamic media elements and interactive content as necessary for particularly crucial concepts in the course (for example, a women's health issues course incorporates a personal health assessment form in which students enter their lifestyle habits and receive a personal health rating).

The faculty member and instructional

designer communicate throughout the course development process. The instructional designer plays the personal trainer role to the faculty member, but also serves as primary liaison between the faculty member and the production team. A course-management plan is developed to ensure completion of all course materials prior to the start of the first semester the course is offered. Each subsequent semester the course is offered, the faculty member and instructional designer revise the course materials based on the experiences of the preceding semester and on emerging strategies, technologies, and assessment results.

Typical Course Pages

The following categories and examples are typical of course home pages:

Course Home
• Course description
• Learner-centered objectives
• What the instructor expects from the learner
• What the learner can expect from the instructor

Schedule
• Provides easy reference, printing, and navigation
• Links directly to course content and assignments for a specified due date

Protocols
• Provides specific instructions for communications such as e-mail and the conferencing forum
• Typically addresses subject heading preferences, frequency, and style

Syllabus
• Course-related information found in a traditional syllabus

Here are a few sample classes from four of UCF's colleges:

College of Education
reach.ucf.edu/~mae6337/
reach.ucf.edu/~eme6208/

College of Engineering and Computer Science
reach.ucf.edu/~eas3101/
reach.ucf.edu/~cwr6535a/

College of Arts and Sciences
reach.ucf.edu/~enc1101j/
reach.ucf.edu/~enc3241/
reach.ucf.edu/~syp4932/

College of Health and Public Affairs
reach.ucf.edu/~nur4084/
reach.ucf.edu/~pla4932c/

COMPONENTS
UCF's online course model has two major components: publicly accessible Web pages and password-protected pages within the WebCT course-management tool. The publicly accessible Web pages combine to form a comprehensive online syllabus. These pages convey the course's direction and the faculty member's personality. The public pages help students who are shopping for a course, particularly those who will never meet the faculty member in person. Although these pages are professional in appearance, an effort is made to maintain a welcoming, informal tone. All of the publicly accessible pages for UCF's centrally supported online courses are housed on one Web server called the Reach Server (see reach.ucf.edu). The standard Web page convention allows easy student access to all supported online courses.

Although the exact number and titles of standard public pages and buttons varies according to a faculty member's preference, the typical pages include a course home page, schedule, protocols, and syllabus (see "Typical Course Pages" sidebar).

The password-protected portion of the course within WebCT is where students and faculty members interact and where any sensitive online content is accessed. Content may include faculty-prepared notes (which may replace or supplement textbooks) and specifically designed course activities. Instructional designers work with faculty members to create activities based on course objectives and that result in realistic assessments.

Designers and faculty members attempt to include instructional strategies and tools that make online content as interactive as possible. Students who are reading online text in WebCT can use a feature that allows them to

Statewide Training Grant

UCF's Course Development & Web Services unit received a grant to extend its curriculum development and training to other institutions in the state. Florida has an articulation agreement with its 28 community colleges enabling all students receiving AA degrees to be admitted in any of the 10 state universities. Florida also has a statewide license for WebCT, which enables all 38 public higher education institutions to purchase the program at a reduced rate.

With the statewide training grant the CD&WS unit has developed training materials for WebCT, including a CD-ROM with tutorials, print manuals, a practice online course, and a videotape demonstrating applications. Teams of instructional designers from UCF have conducted training at selected Florida institutions that result in formal collaborations to promote readiness and improve the quality of online learning (for more information see reach.ucf.edu/~coursdev/webct).
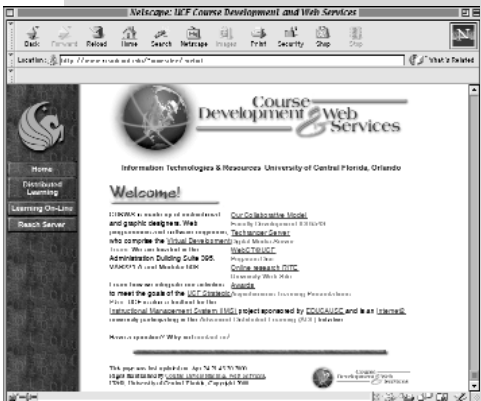
write their own notes on each content section, much as one would make notes in the margins of a book. These notes can be seen by only the student (and the faculty member) and can be compiled and printed for review. Interactive questions can also be embedded into the text so the student can quickly check his or her understanding of the concept being discussed. The online environment fits particularly well with faculty members who wish to guide students in finding their own content in a constructivist approach where meaning is created in relation to students' prior experience and knowledge.

Some course concepts may require media elements beyond basic text and graphics. Determining whether these elements are worth the resource expenditure to create them and if they enhance instructional value is something the faculty member and instruc-

Evaluate whether the advanced media elements add value and are worth the expense.

tional designer have to evaluate.

As a means of promoting community in online courses, a password-protected database called the Student List supplements WebCT. Students may enter biographical information and choose to display either their student identification card photo or a cartoon caricature to help other students and the faculty member get to know them. Students' preferred e-mail addresses can also be entered so classmates and the faculty member can communicate.

Each semester student information is

automatically uploaded to both WebCT and Student List databases so students can get to their online courses as soon as possible. This automated database population does not require faculty members to enter information manually for each student in every course.

Learner Readiness

Many students enter online courses with insufficient computer skills, low metacognitive skills, and ignorance about the kind of course they are entering. In our experience students are most successful in online classes when they have the following characteristics:

- Informed self-selection
- Responsibility for their own learning
- An access plan for taking the course
- Awareness of how they learn (metacognition)
- Technical skills
- Ability to build a support system
- Favorable response to technological uncertainties

Since the beginning of online courses at UCF faculty members found themselves spending the first few weeks of class dealing with technical issues rather than course content. Most of the technical issues were the result of students' weak technical skills and lack of adequate software. For example, many students did not know how to

- access the Internet.
- search the Internet.
- use e-mail and create attachments.
- use word processing programs.
- access their course.
- use WebCT.
- troubleshoot computer problems.
- troubleshoot Internet connection problems.
- download and install software programs and or plug-ins.

To create learner readiness UCF has developed the Pegasus Disc to address these issues. The Disc contains numerous tutorials to provide students with technical skills ranging from an introduction to computers to how to log into their course and use WebCT. Students may use the Disc to learn new skills, improve existing skills, or check their knowledge. The tutorials include QuickTime movies, self-check quizzes, and practice exercises. In addition, many faculty members assign the tutorial's practice exercises as an assignment to test the skill levels of their students.

The Disc also features software tools, plug-ins, and just-in-time information. The software tools include programs and plug-ins frequently used on campus and in the library. The just-in-time information provides contact information for campus facilities, useful information, and forms including financial aid forms. This allows distant students access to information and promotes the campus community feeling. The Pegasus Disc is distributed to all new students and faculty at UCF (for more information see reach.ucf.edu/~coursdev/cdrom).

LEARNING-ONLINE WEB SITE

Prior to the Pegasus Disc we created a Learning-Online Web site as a resource for online courses (see reach.ucf.edu/~coursdev/learning). This Web site provides guidelines for taking online courses, including computer specifications, password information, skill requirements, tips on metacognition, and information. Since the Web site was created prior to the Pegasus Disc, some information is duplicated between the two resources. As a result UCF is redesigning the Learning-Online site. The next version of the site will include three sections:

- *Metacognition for improved self-selection.* Consistently our research shows that successful students in online courses are self-motivated, well organized, and have highly developed metacognitive skills. Students who do not have strong metacognitive skills cannot identify when they need help and can become lost without face-to-face interaction with a faculty member. Section 1 will include a place for

As students' technological expectations change, they place new requirements on institutions and faculty.

"student self-selection" to determine if their learning style is appropriate for an online course, which will help them decide whether or not they should enroll in such a course. Also, metacognitive tips will be expanded to assist students in getting the most from online courses. The section will also include computer specifications so students can determine if they have the appropriate equipment.

- *Get ready to learn.* Once a student has registered for an online course, this section will provide tips on how to get ready. We will provide a list of required skills and directions to the Pegasus Disc for access to tutorials. Also, section 2 will include a timeline that graphically

displays what a student can expect during an online course. The timeline will highlight preliminary preparations as well as the significant events that occur in all online courses.

- *Online resources.* For students already in online courses, section 3 will provide a list of online resources accessible at UCF. The section will include links to the library, dictionaries, and thesaurus; provide guidance on netiquette and how to create references; and describe other available online services.

Initially students approached course Web pages with caution, wondering why they had to access a Web page for course information. Research at UCF shows that student opinions are changing and now students expect Web pages and don't want excess paper. As students' technological expectations change, they place new requirements on institutions and faculty. While students' technological knowledge increases, so does their level of readiness.

UCF has institutionalized online learning into the university's core mission. The convergence of institution, faculty, course, and learner readiness has empowered UCF's faculty and students to succeed in teaching and learning online. As more research is conducted, lessons learned will be shared across campus and with other partnering institutions. One outcome from this transformation is clear: There is no going back. *e*

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