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ABSTRACT
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award winning faculty development program providing experiential,
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students is also essential to the success of teaching online. The Pegasus
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four areas of readiness: institutional, faculty, course development, and
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(Author/AEF)

UCF's Support for Teaching and Learning Online: CD-ROM Development, Faculty Development, and Statewide Training

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Abstract

The University of Central Florida has developed an award winning faculty development program providing experiential, collaborative learning for instructors to build online programs. A project is now underway to extend training throughout the State of Florida. Supporting students is also essential to the success of teaching online. The Pegasus Connections Disc provides software tools, tutorials and just-in-time information for all incoming UCF students and faculty. Lessons learned and evaluation data will be shared.

UCF's Support for Teaching and Learning Online: CD-ROM Development, Faculty Development, and Statewide Training

The University of Central Florida began an intensive faculty development program in the summer of 1996 to systematically teach faculty how to create interactive learning environments for online delivery. As the faculty development program matured, the delivery format modeled teaching with technology in the form of a simulation course. Since 1996, more than 180 faculty from all five of UCF's colleges have been involved in the faculty development program called IDL6543: Interactive Distributed Learning for Technology-Mediated Course Delivery.

The IDL6543 class is a result of an institutional approach to developing online learning to meet the needs of a rapidly growing campus with many nontraditional students. Faculty participating in IDL6543 receive financial incentives, course development support, and assessment support to make their first attempts in teaching online successful. Participating faculty become part of an interdisciplinary learning community that leads to peer teaching as "Web Veterans." Over 400 courses have been developed through the IDL6543 class. In November 1998, UCF was named one of five best practice institutions in North America in preparing faculty to teach with technology. The American Productivity and Quality Center and the State Higher Education Executive Officers conducted this benchmarking study. UCF also has a comprehensive research initiative that evaluates UCF's online courses.

This paper describes four areas of readiness: institutional, faculty, course development, and learner readiness that contribute to UCF's comprehensive approach to development and support of online learning. UCF's experience is now being extended to other institutions in Florida through a statewide training project.

Institutional Readiness

As institutions move into technology-mediated learning, increasing learning outcomes while designing for scale and controlling costs are issues that must be reconciled. Faculty satisfaction is a by product of institutional support and student satisfaction and achievement. Three units were created within the last three years to specifically support UCF's online initiatives. Course Development and Web Services (CD&WS http://reach.ucf.edu/~coursdev) creates and conducts faculty development and course production. The Center for Distributed Learning (CDL http://distrib.ucf.edu) provides campus-wide coordination, planning, marketing, and administrative support for program development. The Research Initiative for Teaching Effectiveness (RITE http://reach.ucf.edu/~research) was created to provide assessment of online courses to support faculty and course development. Since the creation of these three units, online learning has become institutionalized at UCF. Favorable conditions for institutionalization at UCF occurred due to the compatibility of online learning with the following:

Good fit with the character and mission of the institution
Good fit with learner characteristics of the institution
Clear articulated mission and strategic plan
Demonstrated level of faculty interest
Robust campus infrastructure

- Ubiquitous, universal 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
- Campus-wide 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

- 7 x 24 help desk support
- Communication and marketing
- Metacognition support
- Flexible tutoring and advising

3

- Orientation
- Adequate software
- Web-based campus services

Commitment to assessment

- Insuring quality of programs
- Research mission support
- Alternative assessment creation

UCF's Impact Evaluation

UCF has collected data since 1996 on the impact of our classes that are supported though our IDL6543 faculty development program. 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. These evaluation data have been used to target improvements in faculty development, learner support, and technical support needed by faculty and students. Over the past year, learning styles of students in the online courses have been studied with the intention of helping faculty address the needs of different learning styles they will encounter in their classes. Plans are to enable students to determine their own learning styles and make informed choices about the types of courses they select as part of their college education. Faculty participating in the IDL6543 program have an opportunity to receive expert research design assistance in addition to support for collecting, analyzing, and publishing evaluation results. Drs. Chuck Dziuban and Patsy Moskal of the newly created Research Initiative for Teaching Effectiveness (RITE) have pioneered UCF's assessment efforts in online learning. For more information see http://reach.ucf.edu/~research.

Faculty Readiness

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

In our experience, mainstream faculty who have the greatest ease in transitioning to the online environment in teaching possess certain attitudes. Once faculty understand the online course development process and delivery differences, future development time and delivery time are reduced enabling transformation of more courses that are taught by that faculty member. The faculty attitudes conducive to adapting to the cultural change of online learning are:

- Genuine motivation to learn
- Willingness to lose some control over class design and teaching
- Ability to team with other experts
- Adaptation to the necessary change in role
- Ability to build a support system
- Patience with technology
- Ability to learn from others

A desire for online learning has manifest itself at UCF by the unprecedented demand for learning WebCT (an online course management tool). As of the summer of 1997 when UCF purchased WebCT, there has been an increase in accounts from 40 to 800. The nature of teaching and learning online requires a set of essential skills and knowledge. 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. Faculty who plan to teach online must prepare for their change in role and also plan for the change in role required for their students.

In addition, faculty interested in teaching online must possess or acquire sufficient computer and Internet skills. In order to achieve the adequate skill set to teach online, faculty will need institutional support as well as technical and professional development support. At the University of Central Florida, faculty interested in teaching fully web-based (W) or media-enhanced (M) courses may participate in a request for proposal (RFP) process, from which grants are awarded to develop and teaching online courses.

A New Approach for Faculty Development - IDL6543

The IDL6543 faculty development model for online teaching is an outgrowth of sound pedagogical philosophy and institutional support. IDL6543 is a faculty development program designed to create interactive online environments to support mainstream faculty as well as early adopters and innovators. A course approach was designed to create collaboration and experiential learning. As faculty go through IDL6543, they build activities and web pages for use in their courses. Participants in IDL6543 are given a new computer, release time, and course design and production support to develop and deliver their course. Faculty are required to participate in the IDL6543 faculty development program and work with staff from the Course Development and Web Services (CD&WS) unit to design and develop their online course materials. CD&WS was created to support the IDL6543 faculty development program and has teams of instructional and digital media designers, programmers called "Techrangers," and software engineers to assist with course production support. As of September 1999, approximately 180 UCF faculty have been involved in the IDL6543 faculty development initiative, resulting in the creation of over 400 courses that involve using online techniques. Approximately 350 faculty have received support from CD&WS since summer 1996. In the fall of 1997, UCF adopted the use of WebCT an online course management tool. Today, there are over 800 WebCT accounts in use at UCF with over 30,000 registered users in these accounts.

Faculty attending IDL6543 report being rejuvenated in their teaching. 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 continuously improve over time. Instructional designers from CD&WS act as change agents to facilitate building a cultural change across disciplines for faculty with varying levels of technological ability and experience.

The IDL6543 curriculum breaks down into approximately 60 hours of required time for average participants to become successful. Five classes: 15 hours, five labs: 7.5 hours, ten online modules: 30 hours, and consultations with instructional designers for needs assessment and development: 7.5 hours. Total: 60 hours. To date, class participants have included faculty from all five UCF colleges, several doctoral students, faculty from the Florida High School, two from the Naval Air Warfare Command Training Systems Division (NAWCTSD), and one person from STRICOM (US Army). For more information about IDL6543 see http://reach.ucf.edu/~idl6543.

Institutionalizing faculty development for online learning has provided benefits including:

- Creates experiential learning for faculty participants
- Enables cross-discipline sharing of teaching techniques
- Builds learning communities among faculty
- Creates lifelong learners among faculty
- Creates 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 delivery

Rapid development and adoption of web-based learning has occurred over the last three years at UCF requiring support staff to innovate operations to meet the needs of the entire campus. The combination

of factors such as: student needs, innovative faculty willing to take risks, and a campus culture where institutional support has enabled broad support in using technology for teaching have led to this rapid change. Systematic faculty development, comprehensive learner support, and attention to assessing new learning environments have allowed more faculty to participate and succeed in the online environment. The use of WebCT as a standard course management tool with so many features has been an important factor in the success of UCF's online programs. Professional development such as WebCT Academy will allow more UCF faculty and students participate in web-based instruction.

Course Readiness

Online course delivery does not necessitate delivery of content by online means alone. UCF employs a multitude of delivery strategies to delivery content and increase interactivity in courses. CD&WS produces CD-ROMs, print materials and videos to augment online courses. Online resources are the primary means of course delivery. Use of mixed mode deliveries and media enable more courses to be delivered appropriately online. UCF's investment in course development and production support has enabled course readiness for many programs.

Participants in the IDL6543 faculty development course learn both a standard process and receive standard elements to incorporate in developing online courses. This adherence to standards does not stifle the creativity of the instructor or of the support staff. Rather, the use of a standard process and of standard elements creates course readiness.

Development of a Course--The Process

WebCT Academy--Course Development & Web Services has developed a comprehensive curriculum for training faculty and graduate teaching assistants to use the course management tool adopted by UCF (WebCT). Participants in these six sessions learn the mechanics of managing an online course, and they are also presented with an array of best practice strategies from which they may choose to incorporate into their course. The first two sessions of WebCT Academy are required as prerequisites to IDL6543. The third and fourth sessions are taken as lab sessions during IDL6543, and the last two sessions may be taken after completing IDL6543. For more information see http://reach.ucf.edu/~webct411.

Initial Interview for Determining Faculty and Course Readiness

Prior to beginning IDL6543, instructional designers meet with faculty participants in an initial needs assessment interview. Along with providing valuable insights into the faculty member's instructional preferences, technology skills, and course characteristics, this interview provides the foundation of a relationship that will continue throughout and long after the IDL6543 course. The instructional designer becomes a coach to the faculty member developing an online course. The instructional designer must conceptualize the faculty member's vision for the course and guide him or her in incorporating appropriate instructional strategies and media as the course is developed.

IDL6543 Process of Development

Imagine a duck floating serenely on a pond while paddling like crazy beneath the surface. This metaphor can be applied to the IDL6543 process. Some faculty begin the IDL6543 course with an expectation that they will "get some web pages created." 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; each is addressed in IDL6543.

Returning to the duck metaphor, it can be seen that an online course has certain observable components; namely, the actual online web pages. This observable dimension is not unlike the duck floating calmly on the pond. This is all that the casual observer notices. Underneath the water's surface, however, two rapidly paddling webbed feet perform the work. One of these feet is the technological skill set developed by the participants, while 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 aorund in circles." Emphasizing only the logistics of producing web pages without supporting technological and pedagogical skills results in what can only be termed as a "dead duck."

The emphasis in IDL6543 on all three areas moves a developing course toward readiness. Technology skills needed for teaching online are taught. Pedagogical issues, models, and strategies are discussed. Finally, the faculty participants, instructional designers, and production team work together to produce the actual online course materials.

Specifically, the following topics are addressed in each of these three areas:
Technology

- WebCT course management skills
- Accessing electronic library resources (for course materials and for student assignments)
- Advanced e-mail techniques for automating certain course management functions
- Dealing with technology problems (simulated scenarios)

Pedagogy

- 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 & Fair Use
- Learner Support

Logistics

- Overview of course production process
- Accessing online library resources for content development
- Submission of materials (in electronic format) to instructional designer
- Review and editing suggestions by instructional designer
- Re-submission of materials by faculty member
- Coding of web pages
- Review of materials by faculty member and instructional designer

Production

At the conclusion of the IDL6543 course, each participant walks away with all of the publicly accessible web pages created and posted online, the WebCT communication tools configured for the specific strategies to be used, and one module of content in place. The content modules are based on a specific course objective, require student interaction, and are paired with an assessment. The faculty member also has created a "course management plan" with which he or she has scheduled the remainder of the course content production.

Course content typically takes the form of web sites created by Techranger programmers and digital media designers. Design element graphics (i.e., graphical frames, buttons, bars, and bullets) follow one particular "look" for each course. These graphics form a number of "templates" from which the faculty member chooses at the beginning of IDL6543. A course-specific graphical header is created for each online course that visually communicates the key concept(s) of the course (e.g., the header graphic for a "social problems" course incorporates images of police officers restraining a violent person, a homeless person, and picket signs displaying various slogans related to social issues).

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Dynamic media elements and interactive content elements may also be created by Techrangers and software engineers as necessary for particularly crucial concepts in the course (e.g., 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.")

An ongoing dialogue between the faculty member and instructional designer is conducted throughout the course development process. The instructional designer continues to play the role of coach to the faculty member, but also serves as primary liaison between the faculty member and the production team. The "course management plan" is used 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 work to revise the course materials based on the experiences of the preceding semester and on emerging strategies, technologies, and assessment results.

Course Components (The Elements)

UCF's online course model consists of two major components: publicly accessible web pages and a password protected pages within the WebCT course management tool. This can be conceptualized as a house with a front porch. Only the people who live in the house have a key to get into the house, but the porch isn't locked. Anyone can stroll up the sidewalk and sit on the porch.

The publicly accessible web pages combine to form a comprehensive online syllabus. These pages convey the direction of the course and the personality of the instructor. The public pages are helpful to students who are shopping for a course, particularly for those students who will never "meet" the instructor in person. Although these pages are professional in appearance, an effort is made to adopt a welcoming, informal tone. Many pages are written in the first person voice. All of the publicly accessible pages for UCF's centrally supported online courses are housed on one web server called the Reach Server. (See http://reach.ucf.edu.) The standard web page convention allows easy student access for all supported online courses.

Although the exact number and titles of standard public pages and buttons varies according to instructor preference, the typical pages and their descriptions appear below:

Course home

- Course description
- Learner-centered objectives
- What you expect from the learner
- What the learner can expect from you

Schedule

> Generally this is offered as an individual page for ease of reference, printing, and navigation. It links directly to course content and or assignments for a specified due date.

Protocols

> This page contains specific instructions for how communications such as e-mail and the conferencing forum are to be conducted. Subject heading preferences, frequency, and style are some of the issues typically addressed in Protocols.

Syllabus

> Note that " Course Home," "Schedule," and "Protocols" are distinct documents. "Syllabus" contains the course-related information found in a traditional syllabus minus the content found in the above three documents.

The password-protected portion of the course within WebCT is where interaction takes place between students and the instructor and where any sensitive online content is accessed. "Content" may take the form of instructor-prepared notes (may replace or supplement textbooks) and specifically designed course activities. Instructional designers work with faculty members to design activities that are based on course objectives and result in realistic assessments.

An attempt is made 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 write their own notes on each content section, much as one would make marginal notes in a book. These notes are viewable only by the student (and the instructor) and can be compiled and printed for review. Interactive questions can also be embedded into the text so that the student can quickly check his or her understanding of the concept being discussed. The online environment fits particularly well with instructors who wish to guide students in finding their own content in a constructivist approach.

Some course concepts may require the creation of media elements beyond basic text and graphics. High instructional value validates creation of these more complex media elements and the expenditure of resources required for their creation. Deciding what "instructional value" means in a particular course is a task that the faculty member and the instructional designer share and agree upon.

As a means of promoting community building in online courses, a password-protected database called the "Student List" is used to supplement 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 instructor get to know them. Students' preferred e-mail addresses can also be entered so that students and instructor can easily e-mail some or all of the class members.

Each semester, student information is automatically uploaded to both WebCT and Student List databases so that students can "get in" to their course as soon as possible. This automated database population does not require faculty to manually enter information for each student in every course.

Getting an online course ready to become an engaging learning environment is a time-consuming and demanding process, but working together, faculty members, instructional designers, and support staff make online course delivery possible for students.

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
- Know how they learn (metacognition)
- Have necessary technical skills
- Know how to build a support system
- Respond favorably to technological uncertainties

To create learner readiness UCF has developed or is in the process of developing several products.

Pegasus Connections Disc

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. 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
- Trouble-shoot computer problems
- Trouble-shoot Internet connection problems
- Download and install software programs and or plug-ins

The Pegasus Connections Disc was developed 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 practice exercises from the tutorials as a beginning assignment to test the skill levels of their students.

The Disc also includes software tools, plug-ins, and just-in-time information. The software tools include programs frequently used on campus as well as programs and plugins used in classes and in the library. For those students living at a distance from campus, the just-in-time information provides contact information for campus facilities, financial aid forms, and many other forms and information of use to students. The just-in-time information brings services to students at a distance and promotes the feeling of being part of the campus community. Informal demonstrations of The Pegasus Connections Disc for faculty led to the distribution of the Disc to all incoming students and faculty at UCF. For more information see http://reach.ucf.edu/~coursdev/cdrom.

Learning Online Web Site

Prior to the Pegasus Connections Disc, a Learning Online web site was created as a resource for online courses. The Learning Online 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 Connections Disc, some of the information is duplicated between the two resources. As a result, UCF is the process of redesigning the Learning Online site located at http://reach.ucf.edu/~coursdev/learning.

The next version of the Learning Online web site will include three sections:

Section 1 - 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 the instructors. Section 1 will include a place for "student self-selection" to determine if their learning style is appropriate for an online course and whether or not they should enroll in an online course. Also, metacognitive tips will be expanded to assist students in getting the most from online courses. Computer specifications will be outlined so the students may determine if they have the appropriate equipment.

Section 2 -Getting ready to learn. Once a student has registered for an online course, section 2 covers tips on how to get ready. A list of required skills will be included with directions to the Pegasus Connections Disc for 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 for an online course as well as the significant events that occur in all online courses.

Section 3 - Online resources. For students already in online courses, section 3 will be a list of online resources accessible to them at UCF. Links will be included to the library, dictionaries, thesaurus, netiquette, how to create references, and other online services available at UCF.

Student Expectations

Initially students approached course web pages with caution. They asked, "Why do I have to go to a web page for your course? Why don't you provide me with a copy of this information?" Research at UCF shows that student opinions are changing. Now students say, "Why don't you have a web page? I don't want to keep up with this paper, it's easier to access it on the Internet."

As student's technological expectations change, they place new requirements on institutions and faculty. At the same time, students' technological knowledge is increasing perhaps changing the level of student readiness.

Statewide Training Grant

UCF's Course Development & Web Services unit received a grant to extend its curriculum development to others institutions in the state. Florida has an articulation agreement with its 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 enabling all 38 public institutions of higher education to purchase WebCT at a reduced rate.

The statewide training grant will support the development of training materials for the use of WebCT for online learning. A CD-ROM containing tutorials is in development along with print manuals, a practice online course, and a video tape. These materials will be delivered in fall of 1999 through statewide training events. For more information see: http://reach.ucf.edu/~coursdev/webct.

Summary

UCF has institutionalized online learning into the core of the university. The convergence of institutional, faculty, course development, and learner readiness has helped UCF's faculty and students successful in teaching and learning online. As more research is conducted on UCF's efforts to mature its faculty development and online programs, models will be refined to incorporate best practices throughout the institution and the state.

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Abstract

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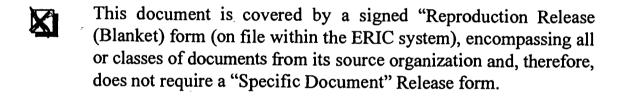
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