

Universal Instructional Design of Online Courses

Strategies to Support Non-Traditional Learners in Postsecondary Environments

By Kavita Rao, University of Hawai'i at Mānoa

With its unique position as one of few four-year universities located at a crossroads in the Pacific ocean, the University of Hawai'i at Mānoa serves a diverse population of students from the U.S., Asia, and the Pacific. The university's College of Education (COE) provides teacher education programs for students from various Hawaiian islands and from several Pacific island entities (such as American Samoa, the Marshall Islands and the Federated States of Micronesia). With this geographically-dispersed population, distance learning programs are a necessary and practical way for the COE to reach students. Online courses have created outreach opportunities and enabled students to enroll in certificate and degree programs that they are not otherwise able to access.

Our online teacher education programs attract many “non-traditional students,” learners who do not fit the profile of a typical college-age young adult. “Non-traditional students” include students who live in rural and remote communities, students with disabilities, and adult learners who are returning to school to earn certifications or degrees. The COE's non-traditional student population includes individuals who are culturally and linguistically diverse, many from traditional and indigenous backgrounds. These non-traditional students have a range of characteristics and needs, based on their backgrounds, experiences, and life situations.

Universal design (UD) educational models provide useful frameworks to consider when creating courses for the diverse and non-traditional students served by the COE's online programs. With a deliberate application of UD principles during the instructional design process, instructors can proactively develop courses that address the needs of diverse learners. UD principles can be taken into consideration when making determinations about various course elements and pedagogical practices for an online course, including decisions about how to use both asynchronous (e.g. course management systems) and synchronous technologies (e.g virtual classrooms via web-conferencing).

CONSIDERATIONS FOR NON-TRADITIONAL LEARNERS

Our non-traditional learners are often: (a) rural and remote students, some from traditional and indigenous cultures, (b) students with disabilities, (c) adult learners, and (d) students for whom the language of instruction is not a first language (EFL students). These categories are not mutually exclusive; a non-traditional learner may fall into one or more of them. Table 1 lists some challenges that non-traditional students may experience in an online environment, which include ambiguity and uncertainty about expectations, excessive reliance on text-based learning modalities, isolation and lack of community, and technology challenges (Ho & Burniske, 2005; McLoughlin & Oliver, 2000; Rao, Eady, Edelen-Smith, 2010, Zepke & Leach, 2002).

TABLE 1 Common challenges for non-traditional learners

Challenges/Issues	Rural/ remote learners	Students with disabilities	Adult learners	EFL students
Ambiguity/ uncertainty about expectations	✓	✓	✓	✓
Excessive reliance on text-based learning	✓	✓		✓
Isolation/lack of learning community	✓		✓	
Technology challenges	✓	✓	✓	

UNIVERSAL INSTRUCTIONAL DESIGN: APPLYING PRINCIPLES TO PRACTICE

Instructors often design courses before they know exactly who will be enrolled. During the instructional design phase, instructors can include course elements and pedagogical strategies that will address the needs of various types of diverse students who may enroll in their courses. The Universal Instructional Design (UID) framework provides guidelines that instructors can use to proactively building in supports for various learner needs. The eight principles of UID, based on Chickering and Gamson's (1987) principles for effective practices in undergraduate education and modified by Goff and Higbee to further include universal design elements, are:

- a. Creating welcoming classrooms
 - b. Determining essential components of a course
 - c. Communicating clear expectations
 - d. Providing timely and constructive feedback
 - e. Exploring use of natural supports for learning, including technology
 - f. Designing teaching methods that consider diverse learning styles, abilities, ways of knowing, and previous experience and background knowledge
 - g. Creating multiple ways for students to demonstrate their knowledge
 - h. Promoting interaction among and between faculty and students
- (Goff & Higbee, 2008)

Silver, Bourke and Strehorn (1998) state, "with UID, students may find that many of the instructional accommodations they would request are already part of the faculty members' overall instructional design.

Furthermore, these approaches may benefit all students in the class” (p. 47). Berger and Van Thanh (2004) note that the UID principles can foster equity and inclusion of students with disabilities and create campus environments that respect and value diversity.

Table 2 provides an overview of the pedagogical strategies that instructors can incorporate when designing and implementing online courses in order to address the four challenges presented in Table 1 for non-traditional learners, and maps how the strategies align to universal instructional design principles. Though Table 2 specifically aligns strategies to the UID principles, these course elements and strategies also align to the principles of the other UD educational models of Universal Design of Instruction (UDI) and Universal Design for Learning (UDL). The principles of these three UD educational models have similarities, each stemming from the core universal design philosophy of creating access to learning environments and curricular content. Detailed descriptions of the strategies described in Table 2 can be found in the Rao and Tanners (2011) article in the *Journal of Postsecondary Education and Disability* and in the Rao, Eady, Edelen-Smith (2011) article in *Phi Delta Kappan* magazine.

TABLE 2 Pedagogical Strategies and UID Principles

		A: Welcoming classrooms	B: Essential course	C: Clear expectations	D: Timely, constructive feedback	E: Diverse teaching methods	F: Natural supports	G: Demonstrate knowledge	H: Interaction - students/ faculty
Challenges	Pedagogical Strategies	UID							
Ambiguity/ uncertainty of expectations	Personalized introduction Consistent and organized use of CMS Provide clear syllabus and rubrics	●	●	●					
Excessive reliance on text- based learning	Provide multimodal sources of information Include digital texts and audio files for reading assignments Provide assignment choices with alternate ways to demonstrate knowledge					●	●	●	
Isolation/ lack of community	Include synchronous class meetings Have short, frequent lower-stakes assignments instead of larger high-stakes assignments Provide timely feedback from instructor on all assignments	●		●	●	●	●	●	●
Technology barriers	Provide proactive tech support Create mechanisms for peer assistance				●		●		●

STUDENT FEEDBACK

Course surveys and interview data indicate that students have favorable perceptions of courses that incorporate elements that align to universal design principles. Non-traditional students from rural and remote communities particularly appreciated the supports that were put in place to address issues of isolation and the excessive reliance on text (Rao, Eady, Edelen, Smith, 2010), such as regular virtual meetings online and course content presented in multimodal formats. Students reported that having audio and video files (prepared by the instructor) about key course concepts in addition to the textbook for the course helped them comprehend content and made the course feel manageable. The instructor provided video and audio files that had captions and transcripts available when possible and created guided notes to accompany many of the video/audio materials, thereby giving students multiple means for accessing course content. Students commented that the guided notes helped them focus on key concepts as they viewed or listened to assigned materials, which was especially helpful in this online learning environment where they had to navigate through and absorb a lot of new information independently.

Weekly synchronous “virtual class” meetings using a web-conference environment (e.g., Elluminate or Blackboard Collaborate) provided a connection with instructors that the students found sustaining and supportive. Students appreciated the fact that during the synchronous sessions, the instructors presented slides and a lecture about the course content and also included engaging activities that fostered active discussion and interaction. During synchronous sessions, instructors used varied methods to foster peer interactions, using the “breakout room” feature of the virtual meeting software to let students discuss course concepts in small groups and then report back to the whole group. Students commented that these peer interactions helped build online community and allowed them to discuss issues relevant to their local and cultural contexts. Students also appreciated consistent and specific feedback from instructors on weekly assignments, noting that feeling consistently connected to the instructor helped them to stay motivated to continue in the online course.

Student data collected on an online course designed for adult learners who were returning to school for teacher certification indicated that students valued various “universally-designed” course elements (Rao & Tanners, 2011). Students commented on the organization of the course, noting that having materials in a consistent format and place each week was helpful. Students highly valued having multimodal sources of information and being given options to complete assignments in various formats (text-based and multimedia). Many commented favorably on the utility of having more frequent low-value assignments, noting that this allowed them to keep up with coursework in their busy schedules juggling school, jobs, and families.

CONCLUSION

The promise of earning advanced degrees and certifications through distance education is appealing to many students who need the flexibility offered by the online format. However, many facets of this format create barriers and challenges for the very students who need distance education options the most. By being open to and aware of students’ backgrounds, experiences, and needs, instructors can build supports into their courses, proactively creating online environments that make it possible for students to complete courses and reach their educational goals.

Course design and development takes time and advance planning. Integrating UD-based strategies requires additional forethought, planning, and resources on an instructor's part during the instructional design phase. To make this process manageable, instructors can add UD-based strategies incrementally into their courses, rather than feeling compelled to address every UD principle concurrently; by adding a few UD-based strategies each time they teach a course and assessing what works for their student populations, instructors can create a foundation for an accessible and accommodating learning environment that can be built upon and refined as needed.

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