Bridging the Disability Gap: Universal Design Principles in Instructional Design

Leeann R. Parker
Florida State University
EME 5603 Fall 2009
12/11/2009
Abstract

Disability accommodation is a legally-regulated concept in education, with the goal of providing equal access to learning opportunities for students with disabilities. The application of accommodation strategies includes the use of assistive technology and universal instructional design principles to enhance learning through different formats. Use of universal instructional design can help an educational institution create learning opportunities for a diverse student audience while complying with legal mandates and reducing potential redevelopment costs for course materials, increasing the overall effectiveness of a course. Challenges to universal design exist, such as effort of development, costs, and copyright protection concerns.
Bridging the Disability Gap: Universal Design Principles in Instructional Design

Educational institutions first began to formally address the needs of students with disabilities in response to the Rehabilitation Act of 1973 (Lightfoot & Gibson 2005). In 1990, the Americans with Disabilities Act expanded the initial concepts of the Rehabilitation Act and defined the standards for prohibiting discrimination against persons with disabilities in the employment and education environments, requiring reasonable accommodation for these individuals (Lightfoot & Gibson 2005, Menlove & Hammond 1998). The Individuals with Disabilities Education Act of 1997 (IDEA) took the ADA one step further, requiring the integration of students with disabilities into mainstream classrooms in primary education unless there is a compelling reason to separate these students (Boone & Higgins 2007). This act refined the definition of disability first established in the ADA, citing 13 specific disabilities that qualify a student for educational accommodation (Menlove & Hammond 1998). A revision to IDEA in 2004 (known as IDEIA 2004) enhanced the law by requiring universal design in curriculum when feasible, and accessible digital print materials (Parette & Peterson-Karlan 2007). As discrimination based on disabilities is reduced, students are increasingly exercising their rights to education (Menlove & Hammond 1998). As stated by Menlove & Hammond, “meeting the needs of learners with disabilities should be a consideration in all instructional design, development, and delivery of educational materials” (1998). Disability accommodation should be a consideration of an instructional designer in all aspects of a project, based on legal, ethical, and sound instructional design principles. This paper will first explore the defining elements of disability accommodation in terms of instructional design, then propose arguments in support of universal instructional design, and will conclude with examination of potential challenges to universal instructional design.
Defining the Elements of Universal Instructional Design

In terms of educational accommodation, disabilities may be classified into two groups: low incidence, such as less common hearing or visual impairments, and high incidence, including common conditions such as hyperactivity, learning disabilities, or autism (Boone & Higgins 2007). It is incumbent upon the student to indicate that they have a disability and to request accommodation from the educational entity when needed. Regardless of the type of disability, the law stipulates the accommodation of disabilities when possible. The requirements of “reasonable accommodation,” though somewhat vague, are meant to provide equal participation and access to education through modified instructional methods and materials that do not place an insurmountable burden on the educational entity (Lightfoot & Gibson 2005, Menlove & Hammond 1998). One tool in the accommodation approach is the use of assistive technology (AT). AT is intended to provide access to instructional materials for individuals with disabilities, using equipment or systems to improve their functional capabilities (Lightfoot & Gibson 2005, Parette & Peterson-Karlan 2007). Assistive technology is more commonly associated with persons with physical or sensory disabilities, such as hearing or visual impairments, versus cognitive disabilities such as autism (Boone & Higgins 2007). AT is a natural companion to ISD, as the design phase is part of the “access-to-learning” element of assistive technology (Boone & Higgins 2007).

Universal instructional design (UID) is also referred to as universal design for learning (Boone & Higgins 2007). Adapted from an accessibility concept first introduced in architecture, it is a model that seeks to incorporate accessibility for a diverse audience of students as part of the design phase, with the goal of minimizing subsequent redesign efforts for specific accommodations (Lightfoot & Gibson 2005, Parette & Peterson-Karlan 2007). The UID
Universal Design

approach asks the instructor and the designer to focus on the essential components of the curriculum, then determine which of these elements are accessible to all students, and which will require adaptation to improve accessibility (Lightfoot & Gibson 2005). Common accessibility accommodations include combinations of audio and visual presentations, high-contrast written materials, large sans-serif fonts, recording devices, and electronic text formatted for conversion to spoken output (Menlove & Hammond 1998). Adherence to universal instructional design principles would create materials that meet these criteria or could be easily adapted using AT.

Support of the UID Perspective

Universal instructional design is a wise approach from both a philosophical and economic standpoint. Varying the delivery format of courses and the accessibility of materials creates not only opportunities for students with disabilities, but also serves the needs of students with different learning styles or abilities (Lightfoot & Gibson 2005, Parette & Peterson-Karlan 2007). Accommodation need not be a reactive measure when the universal instructional design approach is used to create a more inclusive environment for all, versus traditional approaches of adding accommodation only to fit the needs of a specific student (Lightfoot & Gibson 2005, Parette & Peterson-Karlan 2007). Accommodations are historically created as an add-on to curriculum that is already in use, in response to an individualized request (Lightfoot & Gibson 2005). This creates increased work for the faculty and instructional designer as they must quickly work to redesign the course and materials to fit the needs of the requestor. Preparing for enhanced accessibility as part of the initial design phase will reduce the potential future costs of redevelopment due to accommodation requests, saving time and money in the long run (Lightfoot & Gibson 2005, Menlove & Hammond 1998). The principle of universal design in instruction creates “curriculum and environments that, by design, lack traditional barriers to
learning” (Boone & Higgins 2007). Universal instructional design has the potential to create learning events with increased effectiveness for all users, not just students with disabilities (Boone & Higgins 2007). For example, consider adaptive ideas that have become beneficial to a larger audience, such as word-prediction assistance built into internet browsers and cell phone text communication (Boone & Higgins 2007). Some requirements for accessibility are simply sound instructional design principles viewed with new relevance, such as the use of sans-serif fonts to enhance readability (Menlove & Hammond 1998). UID also fosters an environment less stigmatizing for persons with disabilities, as it focuses on increased accessibility for all and decreases the likelihood that the individual will need to request accommodations that would be obvious to peers and draw attention to their disability (Lightfoot & Gibson 2005, Menlove & Hammond 1998). For example, providing multiple formats of materials from the start of the course would eliminate the need for a student with a hearing or visual impairment from asking for lecture note handouts individually.

Challenges to UID

Universal design is not a silver-bullet approach to instructional systems design. The designer cannot plan for every possible disability accommodation in the creation of the course, thus the reasonable accommodation standard of individual evaluation will still be required in some circumstances (Boone & Higgins 2007, Lightfoot & Gibson 2005, Parette & Peterson-Karlan 2007). Designing for broad accessibility is laudable, but a designer cannot predict every type of assistive technology that may later be applied to their work, nor whether these devices will work effectively in the performance setting (Lightfoot & Gibson 2005). Universal instructional design may improve accommodation or prevent costly redevelopment when the need arises, but the significant impact of planning and developing in the formative stage of
instructional design poses a challenge through the cost of time and resources (Lightfoot & Gibson 2005). Development timetables and budgets within an educational institution may not permit the extra effort required at the front end to ensure that the instruction is designed for maximum accessibility on the back end. One final concern for an instructional designer approaching the universal design concept is the application of copyright law to material accessibility (Boone & Higgins 2007). Converting written material to audio or vice versa may constitute a violation of performance regulations under copyright protection, thus the rules must be thoroughly understood before adapting course materials to alternative formats.

Conclusion

The goal of an instructional designer is to create effective learning experiences for a target audience, using the best approaches in delivery and format to enhance retention and understanding for the learners. Universal instructional design principles should be among the tools in the kit of a well-rounded designer, enabling them to produce courses that meet the needs of a diverse student population in an accessible, cost-effective, user-friendly fashion. Overcoming the obstacles to universal instructional design will lead to improved access for students with disabilities, as well as an enhanced experience for learners without disabilities. These are noble goals, well worth the time and effort to pursue from both the philosophic and economic perspectives, helping an organization maintain compliance with governmental mandates. Inclusive instructional strategy is not just sound business for educational institutions, it’s the law.
References


