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Project 2: Learning Disabilities in Higher Education Online Learning

Online learning in higher education is increasingly ubiquitous. Some courses are face-to-face, with virtual components, while others are entirely web-based. Learning management system (LMS) tools can be synchronous, in real-time, or asynchronous, which time-shifts interactions. A self-paced educational setting can be helpful to students with learning disabilities. If a student is self-disciplined, he or she can review course material as much as needed before interacting in class discussions. The efficacy of postsecondary e-learning, for students with learning disabilities, is just beginning to emerge.

E-Learning can enable students to use their own organizational methods. In a qualitative study, students with attention deficit hyperactivity disorder (ADHD) were interviewed. Participants were enrolled in postsecondary mathematics, biology, and chemistry classes (Graves, et al, 2011). "Themes" to answers were parsed out, including the ability for students to be organized (Graves, et al, 2011, p. 323). The findings reported, "all of the participants perceived clarity as a key component in their learning process" (Graves, et al, 2011, p. 324). In other words, if the course was designed clearly, students with ADHD could follow. Self-paced learning enabled the participants to review material at their own convenience, which built up students' confidence to succeed (Graves, et al, 2011, p. 325).

Learning online can lower barriers to class participation. Students with learning disabilities may be shy to participate in face-to-face settings; however, online discussion boards are asynchronous, allowing students to join in at their own pace (Case &

Davidson, 2011, p. 48). Coursework can be chunked into smaller blocks, thus alleviating the need to sit for long periods of time (Case & Davidson, 2011, p. 48). Of course, self-pacing is only an advantage if the student has a strong independent work ethic (Case & Davidson, 2011, p. 48).

Reading online presents challenges to students with learning disabilities. Researchers conducted audio-recorded interviews from learning disabled participants in postsecondary education (Hollins & Foley, 2013). Results were coded to match whether the e-learning experience was "successful" or "not-successful" (Hollins & Foley, 2013, p. 613). Questions measured the intuitiveness of online courses, including webpage navigation and layout. The findings suggested that students who already experienced online learning were better suited to function in subsequent e-learning settings (Hollins & Foley, 2013, p. 622). The most frequently problem reported pertained to reading large amounts of text on a computer screen (Hollins & Foley, 2013, p. 622). The findings extended beyond the courses (and the LMS tools) to university online library databases (Hollins & Foley, 2013, p. 621). Gleaning over multiple articles on a video monitor can be particularly challenging.

In 2006, a Canadian study of 223 students with learning disabilities was conducted. Professors and service providers also participated. Online survey questions assessed accessibility of LMS tools (Fichten, et al, 2009, p. 244). At least one problem was reported for every question category (Fichten, et al, 2009, p. 249). For example, participants "complained of the inaccessibility of websites" (Fichten, et al, 2009, p. 250). In other words, even if the LMS was accessible, related websites were not. Many students saw no resolution to website access, either. Typically, instructors designed the

courses. Therefore, faculty may simply require training on available LMS features, like chat and video, as well as web accessibility. Professional development was recommended (Fichten, et al, 2009, p. 253).

Researchers at the University of Alaska conducted a study of tenured and adjunct faculty. The purpose was to assess the accessibility of online, postsecondary learning for learning disabled students. A web-based questionnaire was conducted (Gladhart, 2010). The results suggest that better communication between stakeholders is needed. About half of the respondents were informed by their institution – or by the students themselves – about how to address disability issues (Gladhart, 2010, p. 188). Almost a quarter of the surveyed faculty failed to mention available university disability services in their course syllabus (Gladhart, 2010, p. 188). About two-thirds of faculty reported that they were never trained on e-learning accessibility (Gladhart, 2010, p. 193). The researchers next transposed the Universal Design for Learning (UDL) Framework onto LMS courses (Gladhart, 2010, p. 189). Just over one-third of the participants had ever heard of the UDL Framework (Gladhart, 2010, p. 193). In addition to the need for training, researchers recommended increased use of multimedia tools, including screencasting and podcasting (Gladhart, 2010, p. 194).

Universal Design for Instruction (UDI) is a research-based set of principles applicable to online learning environments (Parker, et al, 2009). It is similar to the UDL Framework; however, it focuses more on instructional delivery methods. A study was conducted assessing UDI Principles in learning management systems. Applications that deliver instruction (e.g., the Internet, chat features) were reviewed. The findings were presented in a series of vignettes (Parker, et al, 2009). Researchers recommended that

faculty needed to be more aware of LMS accessibility features. Furthermore, instructors must learn about related applications' accessibility functions, like text-to-speech options in Microsoft Word.

A 2011 report recommended that instructors test accessibility in advance of a course's start. This will help avoid future problems for students (Case & Davidson, 2011, p. 55). For example, a scanned page might seem accessible for students with difficulty reading; the words can be resized with in a reader. Scanning, however, in actually an image of a page's text. The resulting document would not work with a text-to-speech reader (Case & Davidson, 2011, p. 51). Case and Davidson recommended that instructors take time to assess the usability of each accessibility feature.

It can be more advantageous in an e-learning setting, rather than face-to-face. Disabilities, including ADHD, can be difficult to overcome if the student has to take notes in real-time. Multimedia and asynchronous teaching methods can be beneficial for students with learning disabilities. Technology changes at a much faster rate than research. For example, Apple introduced iPads in 2010, just over the three-year cycle for dissertation research. As a result, little data exists reporting on its efficacy to help students to succeed.

The university or the student himself or herself is not always obligated to share learning disability information with faculty. An online instructor may never be told a students' individualized needs. Therefore, course delivery must cater to all learning styles. Ultimately, using a wide range of LMS tools falls on the instructor. Because postsecondary faculty often designs e-learning experiences, a need for more training exists.

References

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