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Utilizing adult learning principles to understand students' perception of integrating open-access resources into nutrition curriculum: A survey research

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Abstract: The purpose of this research roundtable is to discuss how principles of adult learning could be used to make sense of student experiences with an open-access resource used in a basic level nutrition course. Based on survey results, students generally reported a positive experience with the OER.

Keywords: open-access resource, adult learners, nutrition, adult learning theory

The use of digital open-access resources is on the rise to mitigate the ever-increasing cost of college education. Between 2002 and 2012, the cost of textbooks, for example, increased 80% (Kendrick, 2014), an increase that far outstrips the usual rise in inflation (Okamoto, 2013). Students employ a variety of strategies to save money on books including avoid registering for certain classes; utilizing used, older, pirated, or shared books; or simply going without a textbook during class (Morris-Babb & Henderson, 2012). Between the cost of textbooks in general and the rise of eTextbooks has brought about the increasing popularity of Open Educational Resources (OERs) and Open Access Textbooks (OATs). OERs and OATs “are born digital content made available for free or for a nominal fee in a range of formats, including textbooks, games, media, and instructional readings,” (Okamoto, 2013, p. 267-268).

Not all students, however, are in favor of OERs. The reasons that many students resist eTextbooks include whether or not a particular text is accessible to mobile devices, issues of eye-strain when reading digital content for long periods of time (Stone & Baker-Eveleth, 2013); and whether or not students can annotate the content (Morris-Babb & Henderson, 2012). Research studies also show that there is no significant difference in student performance whether they choose a digital text over a hardcopy version (Chulkov & VanAlstine, 2012).

Student adoption of a textbook format has a strong behaviorism component. The ‘environment’ of the textbook and the class will determine which format they will use—or if they will purchase the textbook at all. If students find a textbook format that benefits them in the class, they are likely to continue to use it. If they simply cannot afford the textbook, they will not purchase it and run the risk of the negative consequences of failing the class. Failing the class is a remote consequence and students may try to get through the class without a textbook until it is too late.

Progressivism and its focus on student needs provides a better theoretical foundation for the importance of student choice in textbook format. Students choose the textbook format that fits best with their learning style which makes student choice in textbook format critical (Chulkov & VanAlstine, 2012). The student need for self-direction and applicability to their lives is also consistent with principles of andragogy (Elias & Merriam, 2005). Students of the digital age have high expectations. They want mobile, cloud-based learning opportunities that are flexible and interactive. They also want an inexpensive learning resource (Rockinson-Szapkiw et. al., 2013). A properly designed OER can answer those desires.

The purpose of this study is to assess students’ attitudes, perceptions, and actual experiences using an OER in a basic nutrition general education course. In this study, we surveyed students enrolled a basic-level nutrition course about their perceptions and experiences

using an open-access resource in the class. The course we selected for this study is an entry-level human nutrition course that is both a prerequisite for advanced nutrition courses and a general education science option. Students in this course are both traditional and non-traditional students with adult learners making up the majority of the online section of the course. The open-access resource developed for and utilized in this course is both a material written by the instructor and a “curated” resource combining text from the instructor, linked-out readings, recorded lectures, quizzes, and case studies. Approval for the study was obtained from our university’s IRB. The survey instrument was originally developed by Lindshield and Adhikari (2011). Surveyed items include student frequency of use of the open-access resource (OER), student preference for the OER (vs traditional textbooks), level of satisfaction with the OER as a whole and their rating of its quality, frequency of use and preference for components of the open-access resource.

Results are from a survey conducted on both sections of Basic Nutrition in the Fall 2016 semester (n = 151, on-campus course; n = 17, online course). Students ‘liked’ the general idea of an OER (combined means between 5.9-6.5 on a 7-point Likert scale for the relevant survey questions). They would also like to see OER used in other courses (combined mean = 5.9, 7-point Likert). However, they were divided (combined mean 3.9, 7-point Likert) on whether or not they would like to have a ‘regular’ textbook *in addition* to the OER. Students were satisfied with the resource used in the class (combined mean 5.9, 7-point Likert), rated its quality as ‘good’ (combined mean = 5.9, 7-point Likert), and used the OER somewhat more than they would a ‘normal’ textbook (combined mean 5.3, 7-point Likert).

Principles of behaviorism, andragogy, and progressivism can all be incorporated to explain student preferences and response to use of an OER in a basic-level nutrition class serving both tradition and non-traditional students. However, student preference and use of OERs needs to be balanced against faculty workload and the nature of the field of study in which the OER is used.

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