Equity and Innovation: Adding Human Voice to OERs

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Introduction

In 2020, Bahrainwala posited that student precarity—continual wage insecurity—is "shaping a generation of U.S. college students that suffer continually under poor material conditions, exploitative work schedules, and institutions that do not recognize their precarity" (p. 250). Using various statistics, Bahrainwala (2020) explained that 60% of U.S. college students were food-insecure in 2019, that over two-thirds of students graduate with an average debt of $30,000, and 25% of students work full-time while 40% work at least 30 hours a week (p. 250). For example, according to a U.S. News and World Report profile, as of fall 2021, 39% of students at our university (University of Texas at Arlington) were awarded Pell Grants in the 2020-2021 academic year. At least at our university, the traditional student (attending college right out of high school, living on campus, not working/caretaking for family) is uncommon. Instead, our students may represent the emerging majority student "characterized as being of a racial or ethnic minority, low socioeconomic status, 25 years of age or older, and [are] often the first member of their immediate family to go to college" (Goode et al., 2022, p. 21). Or they may be what the American Council on Education (n.d.) terms post-traditional learners.

In addition to student precarity, especially as emerging majority or post-traditional students, many students also face accessibility challenges. For the 2015-2016 school year, the National Center for Education Statistics estimated that 19% of undergraduates had a disability ranging from physical to learning disabilities. Yet, according to Bernard Grant at Best Colleges (2023), "Only 17% of college students with learning disabilities take advantage of learning assistance resources at their school." Thus, many students are facing multiple barriers to accessible education. While accessibility often relates specifically to accommodations for disabilities, we broadly consider accessibility to refer to the ability to access the materials, whether that be physical and learning disabilities, financial accessibility, technological accessibility, or otherwise.

Some instructors have attempted to help address these concerns through the adoption and use of Open Educational Resources (OERs). When

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questions of access arise, however, McWilliam (1999) reminds pedagogues to question what concept(s) does the word "access" refer to, as answers to this question belie motivations for access. For us, access is from a Universal Design for Learning (UDL) approach to education, which works well with OERs aimed at levelling playing fields toward greater student equity. Educators recognized that many students, regardless of ability, "faced barriers and impediments that interfered with their ability to make optimal progress and to develop as educated and productive citizens" (Meyer, Rose, & Gordon, 2014, p. 3). UDL is premised on "equitable opportunities to reach high standards" for all students through "multiple means" of engagement, representation, and action and expression (Meyer, Rose, & Gordon, 2014, p. 4). With the idea of multiple means of engagement in mind, we argue that OER creators and utilizers (i.e., authors and instructors) consider adding a human voice audio component to their OERs. We begin by discussing UDL in more detail before reviewing work on audio "reading" and the importance of human voice. This column details a feasibility study we undertook and underscores that, while a professional human audio component might be cost-prohibitive, creators and utilizers can still create (human) voice audio components for their OERs that open access to more students.

A Better Understanding of UDL

Meyer, Rose, and Gordon (2014) claimed UDL focuses on "the three-network model of learning" of affective, recognition, and strategic networks to account for learner variability (p. 51). As a result, the UDL framework moves those students considered marginalized in traditional education systems (e.g., due to disability or unmet resource needs) and recognizes them as "part of the predictable spectrum of variation" of learners (p. 51). For instance, in a traditional education system, some students may struggle with the printed text

(e.g., students with difficulty seeing; students with dyslexia). This places the locus of the problem on the student. However, from a UDL perspective, Meyer et al. (2014) explained, "A core tenet of UDL is the understanding that what is 'essential for some' is almost always 'good for all'" (p. 51). By this logic, the printed text becomes the locus of the problem. Instead, Meyer et al. (2014) suggest, "Providing content in multiple media supports those who require it (essential for some) but also supplies a rich cognitive learning environment where varied options and interactivity create a more nuanced experience, enabling learners to explore the content from multiple points of view (good for all)" (p. 54). Moreover, they posited that new media have "shattered the old model" of what is considered literacy. Instead, the "digital environment" allows for learners to "act on materials" to change the materials and for students to be accountable for their own learning (p. 50). Technology options are, as Meyer et al. (2014) pointed out, "among the most obvious" when it comes to offering multiple ways for learners to interact with text (p. 54). Multiple modes of representation can increase learners' strengths and "need not hold learners back" (p. 54). In the case of printed text, another representation of the material can be text-to-speech.

Audio Reading and the Importance of Human Voice

Because of the openness of OERs to various remixing, OERs work well with a Universal Design for Learning (UDL) approach that is invested in multiple modes of representation. Undoubtedly, the COVID-19 pandemic has worsened the precarity and lack of access many of our students are already facing (Lai, 2021). Especially with the pandemic, more readers are accessing books through audiobook formats (Tattersall Wallin & Nolin, 2020). Additionally, research has shown that human voice overs (rather than artificial intelligence) are preferred for stories

(Rodero & Lucas, 2021), and that spoken words have instructional benefits for students (Kalyuga, 2012).

Have and Pedersen (2016) noted that there is a major transition in the work required from the brain when moving from print to sound. A listener's cognitive mapping of a narrative is more demanding with reading, but this can be lessened by the performing voice. Commonly, some OER creators and utilizers turn to synthetic voices (e.g., voice-to-text software), but Gregg (2022) has shown that "high-quality synthetic speech is not at the point where it can replace a human audiobook speaker…" (p. 315). Despite the technology continuously improving, current synthetic voices add to extraneous cognitive load, or the working memory load, experienced by learners as they interact with instructional materials (Chandler & Sweller, 1991).

A trained, prosodic voice, on the other hand, can contribute to the text a "physical and mental interpretation, and the shift from experiencing the book with the eye to experiencing it with the ears has a great impact both on the literary experience and on how we experience our surroundings while reading" (Have & Pedersen, 2016, p. 29). Thus, a human voice audio component can enhance a listener's comprehension and experience of a text. Fortunately, the amount of cognitive load a reader experiences is something that educators and instructional designers have some ability to impact positively.

Feasibility Study

With these ideas in mind, we undertook a feasibility study using Tucker et al.'s (2019) fourth edition of *Exploring Public Speaking*, an open-access text used across the multiple sections of our university's Fundamentals of Public Speaking course. Originally, we sought to create a professional audio component for one of the chapters of the text for use in the university course.

Both authors have backgrounds in theatre and/or performance studies and Melanie co-owns an audio recording company. We presumed that between us, we could choose an example chapter to then roll out across the sections for student and instructor use.

Our feasibility study considered the evaluation of resources in creating a human audio component to accompany the OER. This included the production of one chapter as well as employing a production manager, voice talent, and an audio engineer. We took care to consider conversion of an instructional text and images into an audio interpretation as well. However, as we thought through the details of how to create the chapter, we recognized the cost associated with a professional audio component could be cost-prohibitive, especially to OER creators, unless they were working through a grant and specifically budgeted for that cost. Current professional rates for audiobook narration can involve a complicated formula. For our purposes, a simplified formula that works well as an average is $30 per 1000 words (the average reading rate of professional narrators is approximately 9000 words per hour for educational texts). Using our sample text, *Exploring Public Speaking*, which is over 161,000 words, would quickly become prohibitive to record the entire text as written. Thus, we had to reconsider how OER creators and utilizers might be able to increase the accessibility of their OERs.

Suggestions

We recognize the call we are making asks for possibly more than OER creators and utilizers can deliver, yet we emphasize the importance of adding UDL-aligned modes of representation to our classrooms. To help address our call, we offer additional ways OER creators and utilizers might add a human audio component.

First, OER creators who cannot add payment for a human audio component into a grant budget

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proposal could consider their overall book length. Is it possible to write a shorter book, one where a human voice audio component might better fit within a budget? OER creators could write chapter overviews and/or summaries that accompany their textbooks. Adding a human voice audio component of only the overview or summary might be more financially feasible. While not a direct translation of the OER text, it may provide additional insight beneficial to students and, in this way, can still expand access.

Second, OER creators and utilizers could partner with other on-campus departments and/or students with theatre and/or oral interpretation expertise to do some of the voicework. Some universities may be able to provide OER creators with university resources (e.g., sound design or podcasting studios) allowing students to record the voicework. This might be a paying job OER creators can build into a grant budget or might be negotiated as an independent study and/or service-learning project for students to gain valuable experience. This option allows OER creators to involve students at multiple levels, increasing access and student feedback.

Third, OER creators and utilizers can consider other digital platforms to host the human voice audio component. Specifically, OER creators and utilizers might use a YouTube channel (with or without video) to offer the human voice audio components of their OERs on a more open platform. Similarly, podcasting platforms could also be a space for OER creators and utilizers to add audio components aligned with their texts. Again, while it is not the same as a professional production, it does offer another mode of representation of the OER, increasing access to more students.

Certainly, our preferred method of adding a human voice audio component would be to have a professional voice actor hired to voice the text alongside the OER. We believe a voice actor with expertise in oral interpretation allows for the highest potential of student engagement. Yet, we recognize the possible infeasibility of such a claim, and we would rather students have UDL-aligned access than throw out opportunities because of cost. With the quick and increasingly lifelike developments of synthetic voice, OER creators and utilizers could also consider what adding an audio component to their texts, regardless of whether the voice is human, does in increasing accessibility for all students, as this is the most important goal.

Conclusion

There is no doubt that the COVID-19 pandemic has changed our understanding of education, especially regarding access to technology (e.g., fast, consistent WiFi). As a result of the necessities of education to shift suddenly and drastically due to the pandemic, educators must take advantage of the lessons learned to increase accessibility where and how we can. Given that one of the main arguments for OERs is often tied to lowering student cost, OERs are positioned as instigators of access. Providing free and open knowledge to students certainly increases access for a variety of students—financially, culturally, and dis/ability. Yet, OERs are also poised to push education toward greater access through adding multiple modes of representation from a UDL perspective. By adding a human voice audio component to their texts, OER creators and utilizers increase access to more students thereby potentially increasing and reinforcing student learning. Students have options to learn in ways that benefit their personal styles, allowing education to be transformed as we reckon with the pandemic. While we consider a human voice audio component to be the best option for increasing student access and learning, we recognize that it may not be readily available to all OER creators and utilizers. Still, we hope OER creators and utilizers will consider the options we have provided here as well as other options they may come across to ultimately create open resources that are, indeed, open access for all.

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Conflict of Interest

The authors have no conflicts of interest to report.

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