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Recommendations on the Use of OER in Designing a Course[1]

Abstract

The focus of this review paper is to provide data-based recommendations for the use of Open Educational Resources (OERs), which are customised by the lecturer and possibly curated by the students. The use of OER has been advocated mainly because of the cost savings to students, as they are a free or low-cost alternative to traditional textbooks. However, this article also uses students' responses to find new ways of using OERs to enhance student learning in the classroom. Strategies offered are encouraging the use of OERs and curating them to improve student networking through discussion as well as within a student team.

1 Introduction

The focus of this review paper is to provide data-based recommendations for designing a course that adopts and adapts Open Educational Resources (OER). The use of OER has been advocated for several decades as a cheaper alternative to expensive traditional textbooks. Initially, OER are defined as "teaching, learning and research materials in any medium, digital or otherwise, that are in the public domain or have been released under an open licence that permits free access, use, adaptation and redistribution by others with no or limited restrictions" (Paris OER Declaration). The use of OER content has been motivated by the high prices of traditional textbooks, which have increased almost tenfold between 1980 and 2022, even when adjusted for inflation (Tila, 2023). These high costs have had a negative impact on students, causing them to avoid taking certain courses, to withdraw or simply not to buy the textbook. According to the Florida Virtual Campus Office of Distance Learning survey, which used a large dataset of approximately 13,000 students, 53.5 % of these participants reported that they had not purchased the textbook due to cost. Achieving full textbook accessibility for all is a necessity, not a luxury, to achieve equity for all students (2022).

As such, OER are a popular, cheaper alternative to expensive traditional textbooks. The use of OER has its supporters and detractors. However, there has been a plethora of studies showing that the use of OER content in the classroom does not negatively affect student performance. According to the findings of Clinton (2018), Griffiths et al. (2018), Mathew & Kashyap (2019), Nelson & Riehman-Murphy (2022) and Parson (2023), students using OER course content did not perform worse than other students. Furthermore, Hilton (2020) summarised 36 studies and concluded that students and educators perceive OER as being as good or better than traditional textbooks. Tila (2023) confirmed that students' perceptions of OER content were positive both before and after COVID-19. Furthermore, Tila and Dawn (2022) confirmed that these perceptions were indeed consistent with the actual academic performance of Kingsborough Community College students enrolled in economics and business courses from 2016 to 2018. A more recent study by Clinton-Lisell (2023), which analysed a large dataset of approximately 8,033 students, found no evidence of a negative impact of OER on student learning.

In the absence of substantial evidence that OER have a negative impact on student learning, and with clear evidence of cost savings, this option has become increasingly popular. This review paper addresses the concerns of faculty who are considering adopting OER course content and sharing this responsibility with students by allowing them to participate in content curation. Allowing students to become co-curators of course content is a good pedagogical tool to support their learning, but it could also be helpful for the course designer.

2 Data-Informed Recommendations

Recommendation 1. Assign students the responsibility of reviewing and updating OER materials through online or group discussions.

This first recommendation is based on a recent anonymous survey conducted among students enrolled at Kingsborough Community College of the City University of New York (CUNY) in the fall of 2023. This survey was designed by multidisciplinary faculty who were part of a faculty interest group and explored students' experiences and challenges with online, hybrid and face-to-face teaching modalities during and after COVID. As this involved human subjects, the IRB was applied for and an exemption was granted. In December 2023, the survey was sent out via mass email to all full-time and part-time students enrolled at Kingsborough in autumn 2023, and 433 students responded to this anonymous survey. Among the various questions asked, two related to how connected students felt to their professor and to their peers, and which feature contributed most to fostering this connectedness. Figure 1 shows that around 80 % of participating students reported feeling connected to the professor, while only 58 % of the same participants felt connected to the other students.
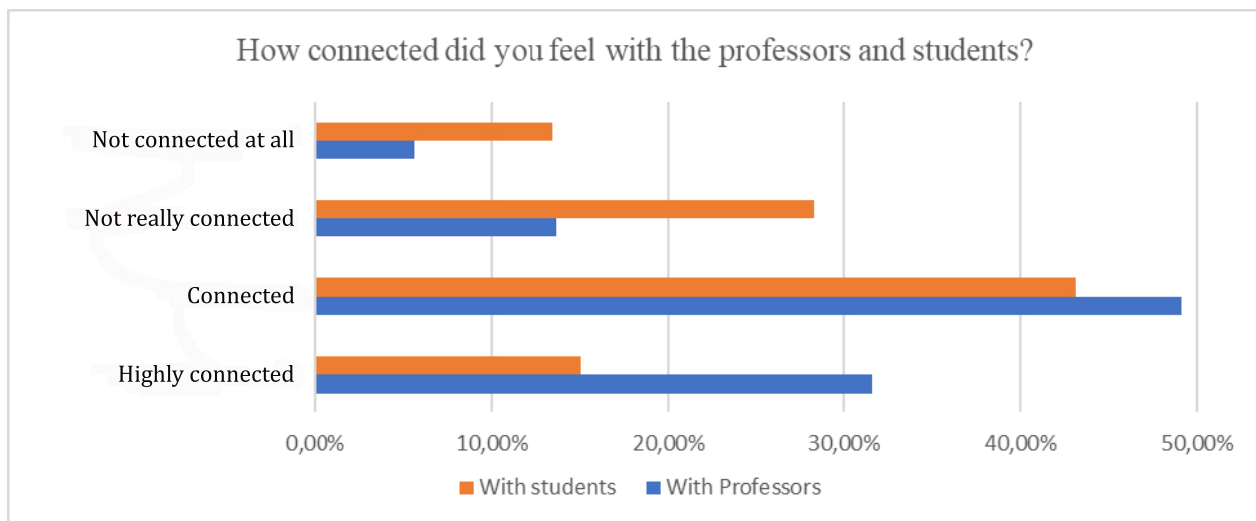

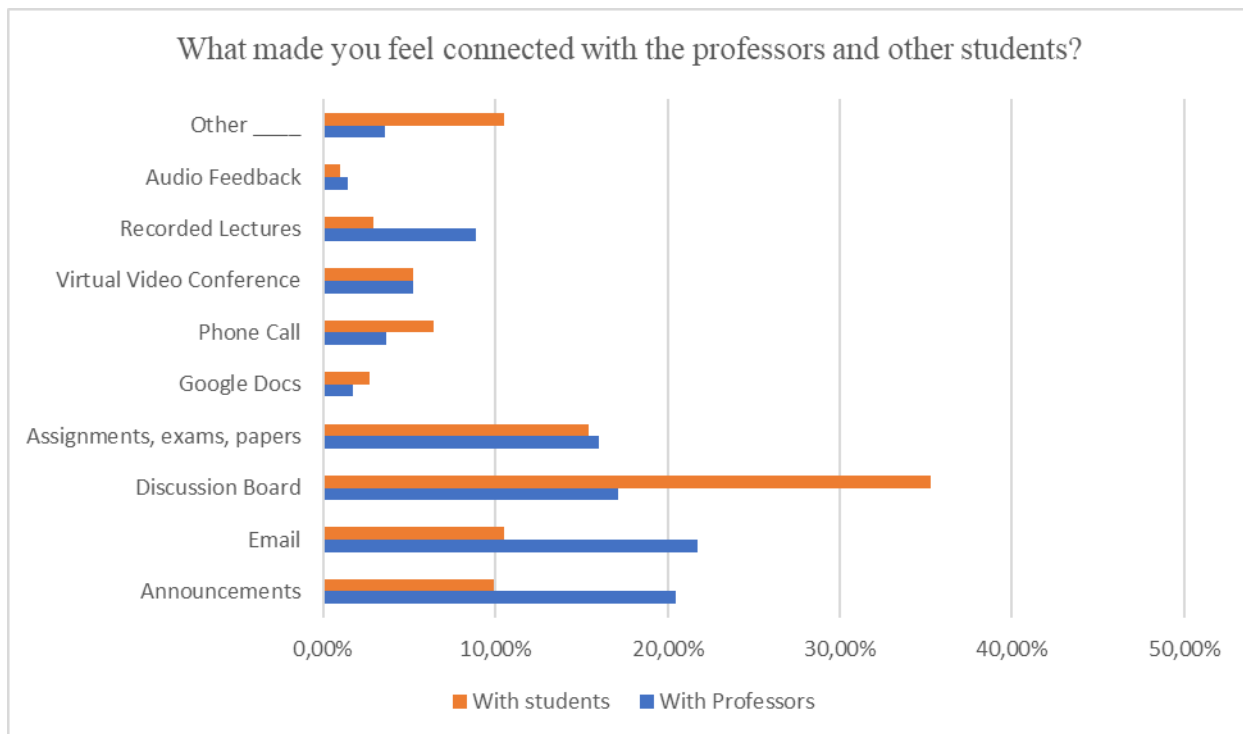FIGURE 1 Students reported connecting with faculty and other students during fall 2023 (N=433)

FIGURE 2 Students reported reasons for connectivity with the faculty
and other students during Fall 2023 (N=433)

The question that arises from Figure 1 is how to improve students' connectivity. The answer may be found in Figure 2, which shows that discussions are an important tool that students consider to contribute to their connectivity with other students. While other tools predominate in contributing to connectivity with lecturers, discussions seem to be the most important factor in connecting students with each other. This is a particular aspect that can be used in the development of OER content and its implementation in the learning process. Discussions can be used as a way in which students can update and curate OER materials. For example, a student could be asked to provide a real-life example that can be explained using the theory learnt in the course. The student will share this case study on a discussion board in the learning management system (LMS) and/or in a face-to-face meeting. At the end of the discussion, during which students interacted with each other, each student will add the example as an exhibit to the OER tutorial. Assigning students this task fosters accountability and provides another platform for them to interact and review each other's work.

Recommendation 2. Assign students responsibility for working on OER content in groups.

This recommendation is based on another survey conducted by several faculty members at Kingsborough Community College. One of the interesting and relevant questions asked at the beginning of the semester was about students' beliefs about the impact of teamwork on their learning. Over 90 % of the students (N=125) reported that they believed that teamwork improved learning. These beliefs were consistent with other findings from the end-of-semester survey. While some students were enrolled in courses that used teamwork, known as the experimental group, others were enrolled in courses that used individual work, known as the control group. As shown in Figure 3, 22% of students enrolled in the control group reported no interaction with other classmates in the course, compared to 5% of respondents enrolled in teamwork courses (known as TAS). Furthermore,
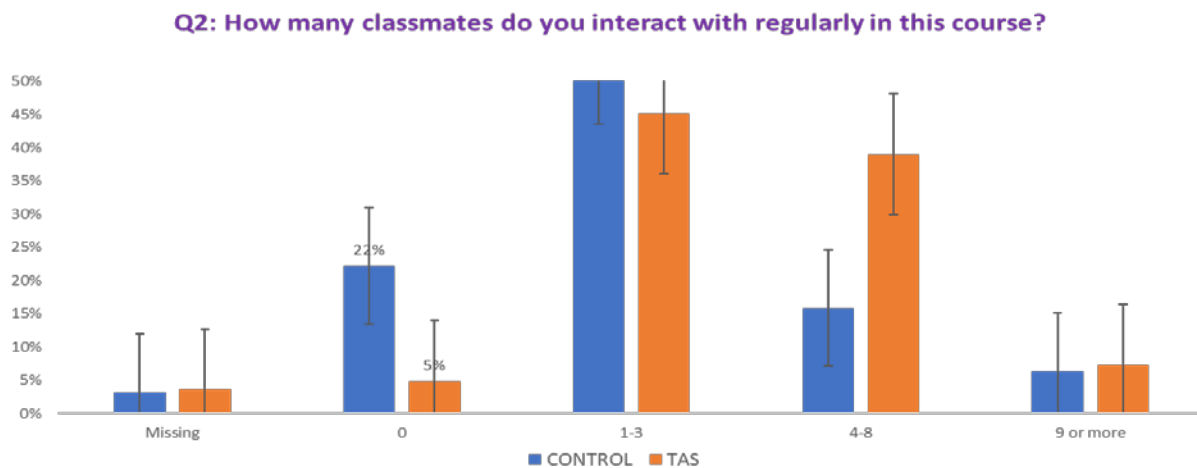

FIGURE 3 KCC student survey on teamwork and student interaction in autumn 2022 (N=143)
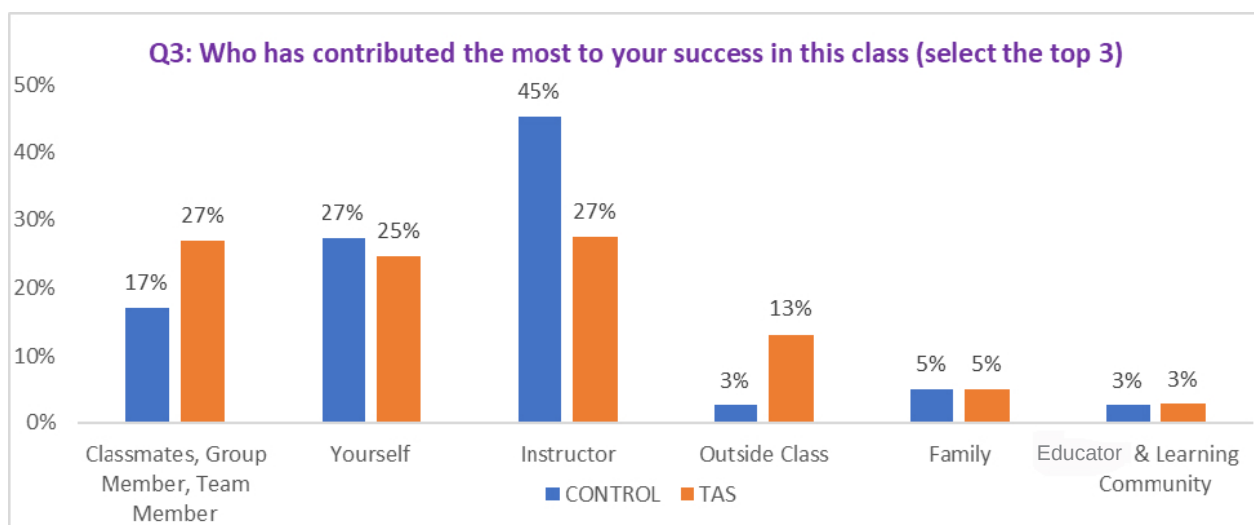

FIGURE 4 KCC student survey on teamwork and success during fall 2022 (N=143)

students who were involved in teamwork also seemed to attribute their success to factors other than the teacher. As shown in Figure 4, students who completed individual work seemed to attribute their success mainly to the teacher.

The data from this survey seems to suggest that teamwork is perceived to improve learning and interaction between students. This is a good starting point when considering allowing students to take an active role in curating course content and creating OER materials through teamwork assignments. Working in a team seems to have a positive effect on students based on their perceptions, but also leads to interaction and mutual support.

3 Conclusions

This review article provides a brief perspective on the reasons why OER are becoming a popular choice for course content, and presents data-based recommendations on how to integrate OER material into a course design by actively involving students. As there is clear evidence of cost savings, but no substantial evidence of a negative impact of OER on student learning, OER alternatives have become increasingly popular. This publication addresses the concerns of faculty who are considering adopting OER course content and sharing this responsibility with students by allowing them to participate in content curation. Allowing students to become co-curators of course content is a good pedagogical tool to support their learning, but it could also be helpful for the course designer. While OER are freely available to students, they are not free to create, as the famous saying goes "There is no such thing as a free lunch." Allowing students to participate in the maintenance and further creation of OER content could be a way of sharing the costs of content creation by generating benefits as well.

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