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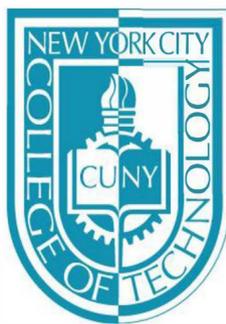
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Open Educational Resources: What Do Students Want?

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ABSTRACT

This project aims at identifying the needs and requests of students for Open Educational Resources (OERs) in order to develop rubrics for design, evaluation but also revisions of OERs. For this purpose literature searches on the matter were conducted to determine if information on students' perspective on OER content and expectations existed. Simultaneously, feedback from City Tech students with experience using OERs was collected. Our results provide insight on how City Tech students perceive OERs, in comparison with traditional resources, and pinpoint the key pedagogical features OERs should offer to attract and better serve students. The data collected will also contribute to a more methodical approach for assessment and improvement of existing OER material.

INTRODUCTION

As defined on the City Tech OER OpenLab site, open educational resources (OER) are cost-free, openly licensed educational materials that can be used for teaching, learning, conducting research, and other purposes. This definition comes from the Creative Commons organization. Aside from being cost-free resources OERs have "open licenses" which means, according to the Creative Commons licence chosen, the author/creator allows their work to be available for others to use, share, and even update, revise, and built-upon. In short, if you find teaching/learning material with a Creative Commons license that lets you share and/or customize it to suit your context, then you can call it O.E.R.! OERs are now commonly and increasingly used at City Tech, created by professors for a particular course and designed to the course specifications for students ease-of-use and access. Professors can organize OERs to their liking and include various media such as links, videos, illustrations and articles. OERs are dynamic as they can easily be updated, extended and improved upon by instructors. However, aside from the financial advantage of OERs, little is known about students' expectations and appreciation of such resources. Our project aimed at gaining insight into City Tech students' perception and anticipation of OERs.

MATERIALS & METHODS

Extensive literature search was conducted to find if there were any previous studies addressing what students desired and valued as OER content.

Concurrently, we underwent an OER training with Assistant Professor Cailean Cooney from the City Tech Library, to gain a better understanding of the fundamentals surrounding OERs.

In an effort to uncover how City Tech students perceived the OERs they had experience with and assess their expectations, we designed and distributed a short survey. Both student authors have taken Biology 1201 at City Tech at different academic points making them privy to analyzing the physical (traditional) laboratory manual versus the OER manual used today (available online as a PDF file). There were different perspectives which led to the generation of the survey questions. Both student authors had vastly different experiences with OERs. One student author preferred traditional resources and the other preferred OERs. Depending on the organization of the OER, it can be more or less time consuming because of the quality of information provided. These different perspectives lead to understanding and taking into account variability in students' learning capacities and needs, OER organization and quality and positive or negative experiences with OERs (if any at all), especially now that remote learning is a necessity. After thorough analysis and discussion, the survey was deployed using Google Forms and a link sent via email to a random sample (there was no distinction in age, ethnicity, gender, class, major or seniority) of about 300 City Tech students currently enrolled in the Fall 2020 semester.

ACKNOWLEDGMENTS

We would like to thank Prof. Tatiana Voza, Ph.D. Associate Professor, for mentoring us and proofreading our work, also meeting with us every week to make sure we are progressing in this research. We also thank Cailean Cooney, MLIS, MA Assistant Professor / O.E.R. Librarian for training us on OERs and considerably helping us get a better understanding of OERs.

Our 8-question survey is shown below:

OERs: What Do Students Want? - SURVEY
1. Costs aside, given your experience, do you overall prefer OERs or the traditional course materials (textbook, ebooks)?
2. For each of the following features, indicate if you prefer OERs or traditional resources
3. Rank what you like about OERs from most relevant (1) to least relevant (5)?
4. Given your opinion, do you think OERs can completely replace traditional resources for a course?
5. What is a type of OER that you find most necessary for a course?
6. Concerning OERs, what do you believe should be a priority in their design and content?
7. Evaluate teaching material features from most useful (1) to least useful (5) to your understanding of material in class or when studying.
8. Please write below any comments pertaining to OERs, and your experience using them, you wish to share:

RESULTS

Literature Review

Our literature search revealed a gap in information about what students want in OERs or what they like about them. In a synthesis of 16 research studies on the efficacy of OERs in higher education and/or their perception by instructors and students (Hilton 2016), it appears that almost all surveyed students found OERs easy to use, while a little more than three quarters felt the material was more up-to-date in OERs (compared to traditional textbooks). Overall students preferred OERs over traditional textbook and resources, with a significant reason for this preference being financial since OERs save students significant amounts of money (Hilton, 2016). However, focus on students' opinion on the content of OERs was scarce.

Survey Results

Fig 1. What do students prefer: OERs or traditional resources?

Costs aside, given your experience, do you overall prefer OERs or the traditional course materials (textbook, ebooks)? 22 responses

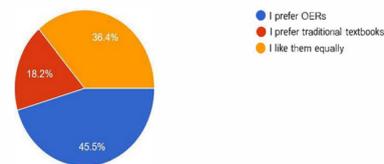


Fig 2. Preferable features - OERs, traditional resources or both

For each of the following features, indicate if you prefer OERs or traditional resources

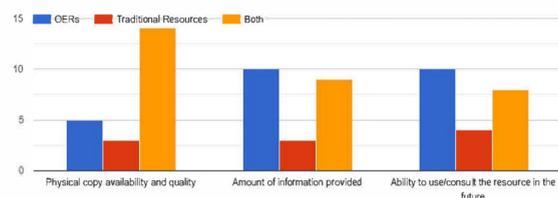


Fig 3. Ranking of what students like about OERs

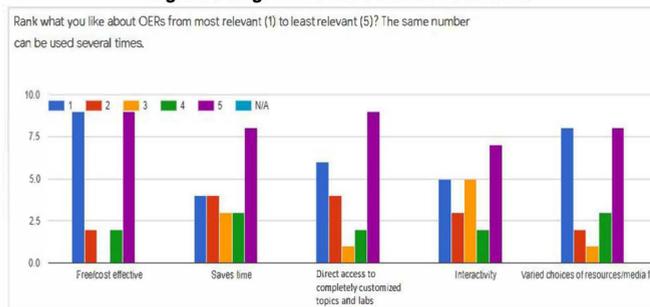


Fig 4. Should OERs completely replace traditional resources

Given your experience, do you think OERs can completely replace traditional resources for a course? Check the answer that most closely fits your view. 22 responses

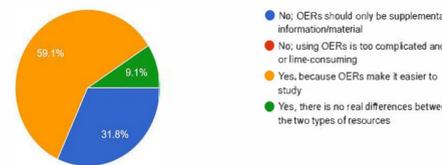


Fig 5. Necessary types of OER

What is a type of OER that you find most necessary for a course? Rank from most important (1) to least important (5). The same number can be used several times.

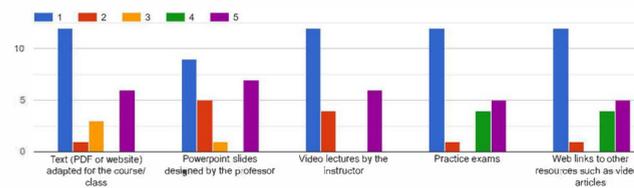


Fig 6. Contents to prioritize in the design and content of OERs

Concerning OERs, what do you believe should be a priority in their design and content? Rank from most important (1) to least important (5). The same number can be used several times.

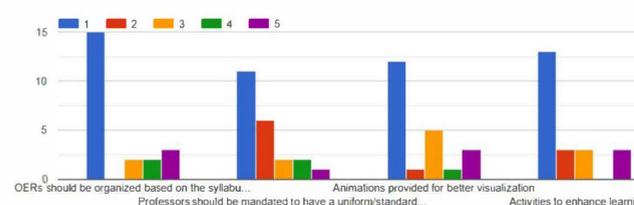
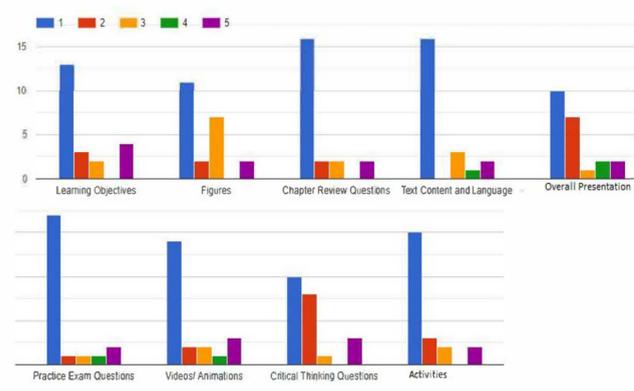


Fig 7. Ranking of teaching materials useful for students' understanding

Evaluate teaching material features from most useful (1) to least useful (5) to your understanding of material in class or when studying. The same number can be used several times.



DISCUSSION/CONCLUSION

As of March 2020, New Yorkers have been in quarantine or restricted social interactions - no large groups of public gatherings which jhcluded all schools and educational facilities allowed. These measures have been put in place in an attempt to "flatten the curve," minimize the spread of the new coronavirus and its effect on humanity. The pandemic has affected us all in many ways, one of which was the strong influence it has had on the push towards remote learning. Thus, the reliance on OERs today has increased dramatically because of cost effectiveness and availability to students. Not all OERs are created equal. Each professor has to create, conform and edit OERs based on the institution, class, major, etc. This sudden expansion of reliance on OERs during the pandemic has caused us to ask and evaluate what students want in an OER with the goal of increasing usefulness and efficiency of such material. The literature obtained in our search only discussed the perceptions and influences of OERs amongst students and professors, not details on content and efficacy to the student. Therefore, our team designed a survey to evaluate and gain a better understanding of what students want to find in OERs. The survey was sent to about 300 students currently enrolled in the Fall 2020 semester via email and student study group chats. Students could choose to respond anonymously or provide an email to be entered for a chance to win a \$10 Gift Card. Despite the incentive, there was a lack of student participation - only 22 students' responses were collected. Due to the small sample size, the results should be taken with caution.

- Most students preferred OERs over traditional textbooks. About 60% of students who took the survey, felt that OERs could replace the traditional textbook because it made studying easier, while about a third believed OERs should only be a supplement to the textbook. Such results could be explained by the non uniform format and use of OERs in different classes. While some OERs are designed to replace traditional resources, others might have been provided by instructors as additional resources to complement the existing (traditional) resources. Another explanation could be the rush in providing OERs as the emergency move to remote learning occurred. Such OERs might still need refining and additional material.
Students generally found it necessary and important to have modified text adapted and conforming to the syllabus, access to video lecture recordings, powerpoint slides, practice exams and web links to additional resources. These features provide a clear guide to study, research and assists the student in finding quality sources relevant to the scope of the class. Remote learning has limited the student - professor/faculty relationship, making it more difficult to get a clear grasp of the topic online as opposed to physically being in the classroom.
In designing the content of OERs, students felt that it was important to have a standard format organized based on the syllabus as well as activities and visual tools/animations to enhance learning. Some teaching materials students found most useful were learning objectives, chapter review and practice exam questions and interactive activities. However, when asked what students liked about OERs and how relevant each feature was to them, the results can seem alarming but could also be attributed to the small sample size and the various OERs and classes.

The pandemic has forced students to rely on cost-effective online resources. Our assisted OER training taught us that despite OERs being cost effective for students, the professors volunteer time and energy into creating and modifying the OER for the specific classes. Not every professor has elected, or had time to adopt an OER and the organization and level of development of material may vary. Organization and quality control of the data provided in OERs are also a huge issue. Furthermore, not all subject areas are represented equally in the form of OERs. Thus, there may be limitations in terms of the coverage of various topics. For example, open access journals are available depending on the discipline, which can leave professors and students at a disadvantage. Surprisingly, students felt that the free cost, reduction of time, direct access to customized topics/labs and interactivity of OERs were least relevant to them. We believe these results are because students were never involved in the creation and modification of OERs. There is a need for more studies to show students were consulted for their preference regarding OER contents. We hope to influence how OERs are created in the future by making students' wants an essential component in the design of OERs. More student surveys, eventually adapted for different courses, would provide significant feedback and input for creation of optimal OERs that satisfy both instructors and students, in all aspects of teaching and learning.

In conclusion, OERs should result from more collaboration between students and faculty. The results would provide tools for an improved and adapted teaching/learning environment - all keys for long term success and academic achievements.

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