IMPACT OF OPEN EDUCATIONAL RESOURCES (OERS) ON GENETICS STUDENTS?
A QUALITATIVE STUDY AT SAINT XAVIER UNIVERSITY
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Introduction
It is easy to understand why information, both in theory and in practice, should always be provided in the best possible way to all end users; with regards to its accessibility and its quality. Information should be acquired more easily, and not be delayed by students not being able to afford their books for classes.

Even with a growing online markets for discounted books, over the last 10 years the average cost of college textbooks has risen four times faster than the rate of inflation. That has caused 65 percent of students to skip buying required texts at some point in their college career because of a lack of affordability.

Publisher texts offer, for the most part, peer reviewed standardized curriculum which have been Nationally approved. This allows instructors a peace of mind when selecting from publisher text that they will have a high quality educational resource that they provide to their students. Open Educational Resources (OERs) on the other hand, are often criticized as being less rigorous academically while they are much more affordable for the students.

With the ever increasing demand for access to quality, OER’s we worked on developing one for Saint Xavier University’s Biology 300 Genetics Lab. These efforts were generously supported through a grant funded by the Saint Xavier Library.

Materials and methods
A self reporting survey was performed on the 2019 genetics lab students. The survey inquired on the normal methods that students use to acquire their materials as well as preferred medium for materials to be received. Students were also surveyed on their perceptions of the OER school provided lab materials.

A quantitative analysis of the 2018 and 2019 genetics lab course midterm grades were performed using a student t-test (comparing means) and a Fisher’s F-test (comparing variance).

Results
Although there is no statistically significant difference between overall grades, pre-lab or post-lab grades there student perception were significantly affected. Students reported significant increases in their engagement (81%), interest (58%), and overall satisfaction (77%).

Over 70% of students prefer printed materials over digital materials.

The majority of the students (78%) self reported having at least one difficulty utilizing technology when accessing online resources, with the highest percentage having problems with navigation issues (39%) followed by accessibility to printers (21%) or poor internet connection (19%).

Conclusions
OERs allow for curriculum to become more adaptive, which is especially useful in rapidly evolving fields such as genetics. However, with all of the available resources out there it is essential that instructors invest the time in either finding the resource that best fits their own needs or as we did adapt various ones to fit their own specific needs.

Fiscally, OERs are also beneficial to not only the students but also to institutions. By allowing faculty to utilize OERs institutions are not left with inventory that goes stale in bookstores and needs to be reordered at the end of the semester only to be reordered the next term.

OERs make the classroom a more equitable environment due to their reducing the price burden to the learner. However the instructors are charged with ensuring that they spend the initial time and energy finding resources that are equitable to those which have been used in the past so that quality is not sacrificed for cost savings.

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