

Capstone Project Final Report

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Abstract

This report is a summary, an evaluation, and a reflection on a project pursued as part of the SPARC Open Education Leadership Program. That project was an effort to start the necessary conversations and build the necessary relationships in order to replace the costly course materials being used in a large enrollment class, at the University of Oklahoma, taught by several instructors with free, open resources. To be clear, the expectation was not that this conversion would take place during the span of the leadership program, rather that the groundwork for it would be laid. The initial phase of this project has been eye opening and will influence, for the better, the future work I do on this project. I hope that the following will serve as much as a guide for others pursuing similar goals as it has served me as an opportunity to collect my thoughts and prepare for the project's next phase.

Summary of Project Activities

As it happened, the project can be described in three parts. The first of which involve planning, strategizing, and mostly the preparation of an argument intended to be delivered to those involved in selecting the textbook used in Calculus classes taught at the University of Oklahoma. I sought guidance from OpenStax representatives and documentation that describes the methodology used in creating their Calculus title as well as a defense of the decisions made during its creation as I felt that would be useful information to have as I attempted to submit it for consideration by the Calculus textbook selection committee.

Having strategically decided to use the OpenStax Calculus text as the textbook that the Math department would use to form their first opinions of OER, I thought it best to gently solicit feedback about it from faculty who I already had relationships with before taking my forming a full argument to present to those who would decide whether or not to implement it. Along the way, those same faculty members informed me of the structure of the Math department as it relates to making decisions like this.

The third phase of this project, in many ways, occurred in preparing this report. As the goal of this work is not to implement OER in Calculus specifically, I have collected what I learned from that attempt and used it to formulate an improved plan that will serve my efforts as I carry on with the goal of implementing and OER adoption in a large, coordinated class.

Evaluation

Strategizing

The proposal for this project was to build relationships with those involved in selecting the textbook used in a large class taught by multiple instructors at the University of Oklahoma. The impact of converting a class like this to using OER has the potential to have enormous impact. I anticipated that textbooks used in large, multi-section, classes are chosen not by individual faculty members, but by a department chair or a textbook selection

committee. Because of that I thought that if that decision-making entity could be made to understand the benefits of adopting OER, one could maximize student savings for their efforts. Therefore I decided those efforts would be best spent attempting to flip a large, coordinated, class one at a time. Large, coordinated classes tend to be those where a fair amount of OER options exist and where enormous potential lies in terms of student savings. My goal for this project was not to see a change from using costly resources in a coordinated class to using OER; however, my goal was to meet with these stakeholders and begin conversations with them about what needs would be necessary to satisfy in order to eventually make the switch to OER.

When I started this project, I started with a question, "In what subject are there the most similarities between OER and the resource currently in use." Intuition told me to pursue Calculus as numerous Calculus OER exist, including an OpenStax title and the that the criteria for selecting a Calculus text would be clearly defined. I suggest, now, that someone attempting a project like this should start by asking themselves, "What department on campus might be most willing to overcome the inertia necessary for this goal to be realized?" After all, that is what matters most. An OER might be a perfect fit for a class, but there are many other factors that need to fall into place in order for it to be adopted. Executing an OER adoption is time consuming at any scale especially one of this size. It is resource consuming and requires cooperation between many stakeholders. Someone pursuing a project such as this should focus on gaining administrative support early as it will prove important to allocating resources, shuffling priorities, and bolstering the enthusiasm necessary for success.

I approached this project from a nuts and bolts perspective –very practically, and what I learned was that this project is much more political than that. Identifying the department that will be most willing to take on a project such as this will be difficult. My recommendation to those attempting this would be to reach out a diverse set of department Chairs before investing too much time searching for an OER that is a perfect match for a class. Find cooperative high-level stakeholders and let them tell you what classes it might be best to target. They, more than anyone else, will be in the position to respond with something like, "Perfect timing! We have been thinking about restructuring this class anyway! The textbook selection committee meets next week." I primarily chose to target Calculus based on my intuition that there is little difference in the textbook currently in use and the available OER. I do think that this point is important, though less than I thought originally. Again, start instead with "Who on campus has the authority to implement a change in a coordinated class and are they willing to pursue this goal with me?" Keep searching until you find an administration or decision-making entity that is willing to work with you instead of making an effort to persuade one that is hesitant.

Consider bringing along a faculty member with you who has made exceptional use of an open resource. It is not necessary that their implementation be related to the subject which you are pursuing, in fact, it might be helpful if the two are completely unrelated. Failing the availability of a representative such as this, substitute a video testimonial of someone singing the praises of OER from a peer or aspirational institution. At OU we are fortunate to have two faculty members who have served as lead authors on OpenStax books. When the time comes to make the case for OER to a committee or a decision-making entity on the matter, plan to bring an advocate such as this with you to speak about the practicalities of adopting an OER.

OpenStax evaluation

For me, one of the first waypoints of this project was to identify the OER I thought would be most suitable for replacing the Calculus textbook here at OU. In order to do that I looked at several Calculus OER and determined that the OpenStax Calculus title should be the flagship of my efforts as it appeared to have the most potential to replace the resource currently being used. Because I'm not a Calculus expert, this decision was a guess at best based on the reputation of OpenStax, the perceived quality of their materials, and the ancillary materials they

make available which I thought might be of interest to the Math faculty at OU. In order to be able to make a robust argument to those who I hoped would be adopting the OpenStax text, without becoming an expert on the subject matter myself, I reached out to OpenStax and asked questions about how the book was developed and if they could share with me the reasoning behind decisions that were made about the arrangement and presentation of the material. I convinced myself that doing this would prevent that same burden from being put on Math faculty making the potential OER adoption that much easier for them.

What I learned about the way that this specific OpenStax book was developed was insightful, and I'm sure it will prove useful at a point in the future in discussions about the quality of the resource; however, I would recommend waiting to ask for it until the stakeholders whom you are working with request it or its utility becomes obvious. Anyone attempting a project such as this should know that OpenStax seemed eager to share this information with me. I've made public the Calculus-specific materials they sent under the terms that they specified. Surely similar information will be just as easy to acquiring for anyone looking to adopt another of their titles. When the time does come, to analyze and compare the arrangement of textbooks I recommend that it be left someone with an expert's understanding of the material that might be able to make judgements about it that would be a suboptimal use of anyone else's time to attempt.

I started my project by performing a review of the OER landscape searching for Calculus resources that I could recommend to those who would potentially be adopting them. After comparing them, I decided that the OpenStax Calculus title should be the flagship title of my effort keeping in mind that many others exist should it not suit those I would present it to. In anticipation of needing to defend the contents of the OpenStax Calculus book, I arranged a call with two representatives of OpenStax to find out more about the arrangement and contents of the book. I wanted to be able to provide information that would back up the arrangement of the book as it pertains to pedagogy to anyone who asked for it during my attempt to implement it. OpenStax sent documentation to me that explained choices made when arranging the book and compared its table of contents to those of other popular Calculus titles. I spent a fair amount of time drawing comparisons between the OpenStax Calculus table of contents and the Cengage title that is currently being used on my campus in an effort to be able to converse with faculty as I presented this information to them.

Meetings with supporting faculty

Once I had gathered all of the information that I thought would be useful about the OpenStax Calculus book, I began reaching out to those in the department who I already had relationships with. These were professors who all had at one point received Alternative Textbook grants from OU Libraries, and who may or may not teach Calculus. My hope was that these people would be able to provide information about how the department works; the textbook selection process, identify decision makers, clues regarding what aspects of a particular resource might be most important.

Seek to find out what a department values in an educational resource instead of assuming what they value. You might discover an affinity for assignments turned in physically when you expected them to use, online, automatically graded homework problems. For example, I learned just this about OU Calculus classes. Students turn in physical copies of assignments and use WebWork, an open source online homework system, only to deliver supplemental practice problems.

A department Chair will likely be able to inform you of course coordinators who are sometimes in place to manage the various instructors and sections of a course or courses. That person will likely be a wealth of information and a possible champion for your project. Expect to find out who is responsible for selecting the textbook, if only one person, or who comprises the textbook selection committee if one exists. The department

Chair will likely be able to inform you of this structure. Despite the recommendation to pursue a top-level approach to bringing a department's attention to OER, it definitely couldn't hurt your momentum to have an ally anywhere within the department. Keep an eye out for someone who is particularly enthusiastic who might be willing to speak up about their interest in the project. This person, for example, might formally nominate an open textbook for consideration by the textbook committee. –something that someone outside the department might have difficulty doing.

A project like this should be done with an understanding that circumstantial factors such as timing might significantly influence its momentum. It might be best to attempt during the summer when faculty commitments are relaxed and they potentially have fewer demands on their time. It might be necessary to remind yourself that they are directly doing the work that is the mission of a university and that they have a workload such that discussing a project like this might be seen as a distraction from that mission. Expect succinct responses and do not let the need for follow-up emails, follow-up phone calls, or office hour visits frustrate you. Above all, be mindful that a project like this is closely related to academic freedom which should always be respected. Be reminded that faculty are busy. Their attention is in high demand and rather than forcing the project it might be best to pursue other departments and circle back in a year or two when factors beyond your control are tuned to your favor.

Lessons Learned

The most overarching lesson I've picked up during this project is to not force a project if you are consistently encountering resistance –try a different approach. You are likely juggling several projects at any given moment and attempting to force this one is likely not worth your time or energy. To borrow an electrical metaphor, pursue the path of least resistance. Early in the project, reach out to a few mid-range administrators to gauge the department's interest prior to investing too much time in pursuit of faculty who are numerous, busy, and likely laser focused on executing the primary function of a university.

Though I learned that it is best to be sensitive to an involved party's interest before diving headlong into a project that fundamentally involves their participation, it is equally important to be persistent and not give up on the project. Near the 3/4 mark of this semester, I assumed the role of Open Education Coordinator which allowed me to formally set goals for myself to achieve in the next year. As one of those, I listed that I want to pursue the conversion of a large enrollment course from using costly, traditional resources, to a free and open solution. Having made one attempt at it, I am confident that by implementing the lessons I learned in this attempt that I will be able to make inroads with a department that is interested in an OER project and for which timing and other circumstances are right.