Ventura College Sabbatical Leave Final Report

On-site Research Project from Spring 2017

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Background of Sabbatical Project:

The mathematics department of Ventura College has had a long-time struggle to make our online classes as successful as possible. The math department offers online classes for six different levels. However, in the past 5 years, every single class has had a vast difference in success rates between the traditional and online courses. The online courses have success rates that are as much as 35.2% lower than the same course offered in a traditional setting. Simply reading material from a text is insufficient to understand a mathematical process.

Though the success rates are not as high for online classes, these courses are still full every semester. Students are pleased with the options in flexibility that the online courses can offer a busy schedule.

All of the online instructors use varied programs, such as *My Math Lab* or *Alex,* to offer online platforms to their students that are specialized in mathematics. However, these programs alone do not do an adequate job of teaching the material to the students. While the instructors in our department all recognize the severity of this need, no one has been able to devote the needed time to collaborate on such an enormous project. The department has a desire to collect an online library of videos that students and instructors can access for each topic in our course studies.

Purpose of Sabbatical Project:

The purpose of this sabbatical project was threefold: **(1)**find and evaluate mathematical videos that teach any of our 100 algebra topics, **(2)**create videos for any topics in which quality videos could not be identified, and **(3)**create a website with the library of topics, links to online videos, and access to created videos.

Completed Components of Sabbatical Project:

- Find and Evaluate Existing Videos

To begin this project, I created a list of 150 algebra topics that are covered in our algebra courses. This list was sent to all teachers who teach sections associated with the topics.

They were asked to review the list and give feedback. In the end, 153 algebra topics were listed.

Next, came the research part of the project. I searched for available online videos for all 153 topics. More credit was given to reputable sites, understanding that my goal was to create something with value and longevity. In order for a video to be approved, it had to meet the following criteria: 1)no errors in calculation or mathematics; 2)interesting examples or appeal for students; 3)briefly covering topics but adequately presenting levels of difficulty.

Once I approved a video for a topic, I would move on to the next algebra topic. The approved link was cited and stored. I was able to find at least one video for every single topic that met the criteria I had established. Since I had no gaps in the topics, it was not necessary for me to create any videos.

- Create a website with the library of topics and videos

Once my list of links was completed, I went to the IT Department at Ventura College. Grant Jones and his staff were very helpful and assisted me in creating and designing a web site on the college page that hosted all of these links. The site is available to ALL students, seeking help in their Algebra learning. The site is entitled "Helpful Algebra Links" and can be found at the following url: http://www.venturacollege.edu/departments/academic/mathematics/helpful-algebra-links .

I was also taught how to maintain the site, in case any links go dead or become inactive. My goal is to keep the site at its' current high quality level.

After completing the website, I contacted all faculty in the math department and made them aware of this new resource. It was near the end of the semester as students and teachers were preparing for final exams. Here is some of the feedback I received from faculty: "I like the video resources and worksheets you put together for us on the various levels of algebra classes. Thanks for taking the time to do that. I watched a couple of videos this morning and they are great. I appreciate it and will be using these in my algebra classes." Another person responded: "Students will likely get a lot out of these as they prepare for their finals. I will share this with my students. Thanks Michelle."

While preparing for my classes this fall, particularly my online classes, I have already used many of the sites as resources for my students. I know that this will be a valuable asset and convenient tool for myself, my online students, and all VC faculty and students who take advantage of the webpage.

Thank you so much for allowing me to take a semester to devote the needed time to this important project. I learned so much, even outside of the final product. Watching hours of instructors also gave me some good illustrations and techniques that I look forward to

implementing in my classroom this semester. I look forward to the long time benefits of my invested time. Thank you again for making this possible for me to pursue!

Sincerely,

Michelle Beard
Professor of Mathematics
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