Instructional Material Report

Ricardo Ramos

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California State University, San Bernardino

Once our school went to distance learning, our district mandated Google Classroom as the primary domain to deliver instructional materials to our students. I designed this module to have Google Classroom be the hub of direction for students to access the other media and technology. From there, I chose media in order to facilitate the three learner interactions. For the learners to interact with the content, I produced notes and examples in a slide show format through ActivInspire software provided through my district and posted them on Classroom. I also used that same ActivInspire software to produce instructional videos that walk my students through those notes and examples. I posted those videos on YouTube and then used Edpuzzle to include questions and notes within those videos to check for understanding. The problems that the students were to practice the content with was assigned through their online textbook, Big Ideas. If for whatever reason students could not access their online textbook, there were supplemental practice problems produced through Kuta Software and posted on Classroom. For the learners to interact with the instructor, there were three methods of contact, 1) students could post questions or comments in Classroom, 2) students could email me, and 3) a Zoom meeting room was created and office hours posted in order for students to be able to get virtual face time with their instructor. Finally, for the learner-learner interactions, a Flipgrid topic was created where students would post a mini-tutorial video of an assigned problem demonstrating to their fellow classmates the solution. Students would comment and question on each other's video in order to spur discussion.

The majority of the media and tech that I chose to use I had either regularly used in my classroom or tried them once or twice in the past. Edpuzzle and Flipgrid were media that I had briefly used in the past and was now seeing the many updates and upgrades that have been implemented since the last time I used them. One area I always struggle with is producing my own videos as I dislike the sound of my voice and feel very awkward when recording. Continued practice and use of this media I foresee will be a huge benefit in my designing of future instruction and increase my comfort levels with them.

I structured the navigation of the instructional materials along the three learner interactions in combination with absorbing, practicing, and sharing the content. Within this module, I started with the learner interacting with the content, that is, absorption of the

information. Students start with downloading the annotated notes and then use those notes to follow along with the instructional videos demonstrating how to calculate volume. Students then practice the content through the assigned online textbook problems or posted worksheet problems on Classroom on their own. If students have difficulties or questions, I included learner-instructor interactions through the ability of posting comments on Classroom, emailing me directly, or Zoom conferencing during office hours. Finally, the learner-learner interactions come at the end of the module when students are to produce a video where they verbalize the solution of an assigned problem to their fellow classmates and respond to each other with comments and questions.

Cognitive load theory was on my mind in producing and choosing the media and technology to use within this module. I wanted to make sure my students were not introduced to any media that was completely new to them in this online space. My target audience had been introduced to and used the media in the physical space of the classroom at least a few times prior to this online module. The difference between then and now is that, then...they might have only used one or two pieces of the media at one time within a section, but now...they are using multiple media within a module (Google Classroom, Edpuzzle, PDFs, online textbook, Zoom, Flipgrid, etc.) Hopefully the familiarity and prior experience my students have with the media lowers their cognitive load, allowing for the absorption of the content.

Another area of my instructional materials where cognitive load theory came into play was the production of my videos. I posted three separate instructional videos, each with a length of about 7 minutes or less. Within each video the content is specific and to the point, being careful not to go over too much. The videos are also very bare-bones in order to reduce the cognitive load on students, allowing them to focus on the content. This bare-bones approach also extended to the production of my notes.

The choice to use Edpuzzle was to increase the interactivity and engagement of the students while watching the instructional videos. Instead of passively watching the videos, students need to respond to questions and reflect on what was presented in order to continue with the video. Edpuzzle also allows the instructor to monitor the progress of students, which allows for opportunities of remediation if necessary.

Links to Instructional Material Media

Google Classroom for Module https://classroom.google.com/u/0/c/MTA0MjE0NDA2MjQ3
(domain permission necessary)

Volume Introduction Video https://edpuzzle.com/media/5ec9db7d17f2813ef9aee365

PDF Annotated Notes
https://drive.google.com/file/d/18rQilw2QHHOcN6t_nZY8dim0kwzM_ItG/view?usp=sharing

Volume Prisms/Cylinders Instructional Video #1
https://edpuzzle.com/assignments/5ec9ff9a33f7c73efac69bc1/watch

Volume Prisms/Cylinders Instructional Video #2
https://edpuzzle.com/assignments/5ec9ff9ab5753f3f071b38b2/watch

Volume Prisms/Cylinders Instructional Video #3
https://edpuzzle.com/assignments/5eca0379ca8c813f157fb59c/watch

Big Ideas Online Textbook https://www.bigideasmath.com/BIM/teacher/assignments
(domain permission necessary)

Supplemental HW Worksheet
https://drive.google.com/file/d/1CPsQO-L5ZLb1bv0_alRBzYV8DT5epSKE/view?usp=sharing

Zoom Office Hours https://zoom.us/j/2410148499 (password: Ramos)

Flipgrid “Post your Solution” Problems
https://drive.google.com/file/d/1KJotU6gEK9dGVODMHpqzbhnxxojNYZMM/view?usp=sharing

Flipgrid “Post your Solution” https://flipgrid.com/ramos5336