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LT 712
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Midterm Part 1

The overarching objective of my PBL experience is to expose students to computer science by analyzing and developing solutions to authentic problems through mobile app development. The subject and grade level for my PBL unit will be 6th grade computer science. My goal is to hopefully spark students' interests in app development and computer science by showing all the possibilities with some basic coding skills and imagination. The driving question I have for my PBL unit is, “How can I create my very own mobile application?”

I would launch my project with an entry event about algorithms/ flowcharts to get the students to begin thinking sequentially, which is important in computer science. I have found that one basic platform for creating and deploying applications onto tablets is a website/software called “MIT App Inventor”. Learners will need to know and become familiar with the user interface of MIT App Inventor. I would most likely spend a few days going through some tutorial apps with the students so they become comfortable with creating and deploying apps onto a tablet. Larmer states that projects should focus on “information and concepts that go beyond the superficialities of a Google search, that have nuance, and that require thought and analysis.” (Larmer, 2015, pg. 35) I think with this hands on approach of designing and creating mobile apps, students will go far beyond just conducting Google searches. One thing I have noticed about designing, creating, and coding mobile apps is that it requires a lot of thought, analysis, and trial and error. You begin with an idea and it takes a lot of test runs and minor adjustments to get the app to function properly.

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Students will likely need scaffolding and suggestions on how to successfully code the practice apps. But, once students go through enough practice application projects and are able to understand and construct the basic components of an app, I would introduce the cumulative project. To introduce the unit project, I would plan on setting up an authentic situation. Larner states, “Authenticity is a not so secret sauce that enhances students' engagement in projects. Research has shown that it not only increases motivation but also achievement.” (Larmer, 2015, pg. 40) He also makes a point that the project can have an authentic impact on the world. This is one important point I like to point out early in the unit. We could go through a technology timeline or some similar activity to show how much technology has impacted the world and made our lives easier. One possible scenario for the final app project is to say, “A local computer technology organization is interested in creating a group that teaches people how mobile apps can be used to solve real-life problems that are important to individuals, their families, and their communities. They need your help to create apps that they can use as examples. They want you to use your creativity to design and create a mobile app that solves a problem that is important to you, your family, or your community.”

To help see growth or collect formative assessments to show learning before students submit the final app, I would require documentation on flowcharts, algorithms, sketches, screenshots on drafts of the app so that I can see how it evolved from an idea to an actual artifact. Once students complete their app, you will need to consider the size of your class and the class time you have available for the presentations. Students may use presentation software and formally present the apps to the audience, or you may have them create poster displays and

present their apps as a gallery walk. I think the gallery walk would be a good idea for students to present their culminating products.

I think my PBL unit aligns with each of the Essential Project Design Elements of Gold Standard PBL. I posed them with a challenge of creating an application of a technology organization. Larmer says its important to make learning meaningful because they give learning a purpose, “Students aren't just gaining knowledge in order to remember it, they're gaining knowledge in order to use it.” (Larmer, 2015, pg. 37) In my project, students aren't just learning about mobile applications, they are creating their very own application. As far as sustained inquiry, this project will require students to research, observe, and evaluate other applications so they can see how other apps work, in order to complete their own. I feel my project has several instances of being authentic. Larmer states that projects should have a personal authenticity because they speak to students personal concerns, interests, or issues in their lives. (Larmer, 2015, pg. 41) This is almost exactly what my project sets up, an opportunity to construct an app that solves a problem that is important to you, your family, or your community. As far as student choice, I feel I align to this design element because I am giving the students the freedom to act on whatever is interesting to them, so they can express their own ideas. Students will have ample amount of time to reflect on their finished product by downloading and testing out their app on one of the tablets in the classroom. They can have other students use their app so they can receive critique and revision. I also plan on having a gallery walk so all students can have the opportunity to observe all mobile apps that were created. This will allow students to offer up any critique they might have. More than likely, I would also make a rubric that would offer a

formative evaluation. “Providing formative evaluation is the fourth most powerful influence in his list of 150 possible influences, more powerful than teacher-student relationships, prior achievement, or cooperative learning.” (Hattie, 2012) Lastly, the students will have a public product that they can go home and show their parents on any tablet. It's something that won't wind up on a teacher's desk, in a folder, or squashed into a notebook. A mobile application is something that's always accessible and can be publicly displayed.