

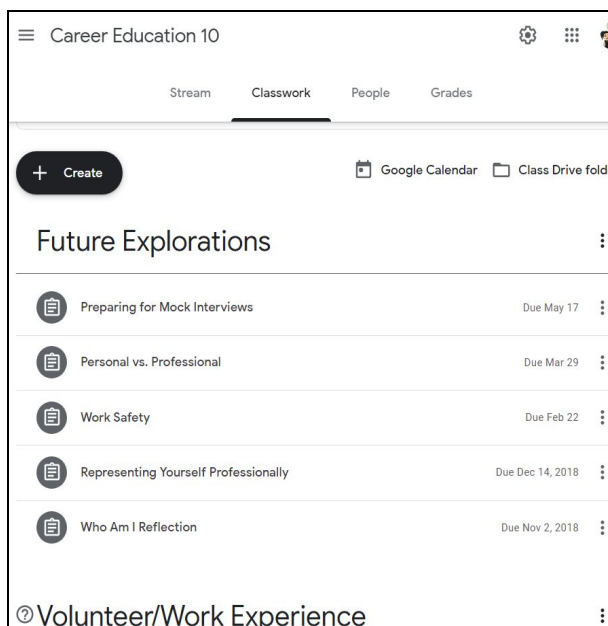
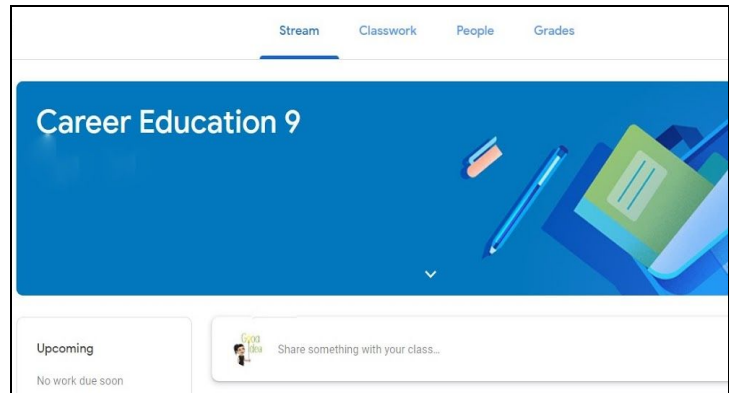
Innovative Technology Integration Proposal

By Melanie Laurie

The Problem

In our high school, Career Education is run outside of the timetable; there is no assigned class time for students to regularly meet face-to-face with the teacher. The course is facilitated by the teacher through Google Classroom. Almost all of the assignments are hyperdocs with instructions and questions for students to complete independently.

There is little opportunity for collaboration and most activities are based around websites and reflection questions. Some non-Google online tools (e.g. padlet) can be added to Google Classroom, but only as a link, so it cannot be embedded.



The structure of Google Classroom does not easily lend itself to a fully asynchronous online learning platform. Although it is easy to use, it is limited to the Google Apps for Education or Chrome extensions. Teachers and students are familiar with it as a supplementary technological tool for learning that happens in the physical classroom. It is commonly used as an announcement board and as a repository for assigned/graded work. They do not perceive it as a place where engaging learning can occur. In essence, Google Classroom is fantastic as a “substitution” for traditional pen and paper work and may even be

considered an “augmentation” to the traditional classroom, but it does cross the line into transformative practices (Puentedura, 2010).

In addition, there is a need for “stepping stone” tools for students to learn how to create work that moves beyond simple text documents, and for students to practice positive, productive interactions with peers online. We need to use technology to modify or redefine how students learn, communicate and connect (Puentedura, 2010). If the definition of learning is “the process of connecting the stuff in the mind to the stuff of the world” (Kalantzis and Cope, 2004, p.61) and technology is becoming more and more the “stuff of the world,” then we need to incorporate more ways of online participation for our students in our teaching practices. The overarching goal of Career Education is to prepare students for the future, thus it is imperative that we provide students with opportunities to learn and practice digital literacy and citizenship.

Proposed Technology

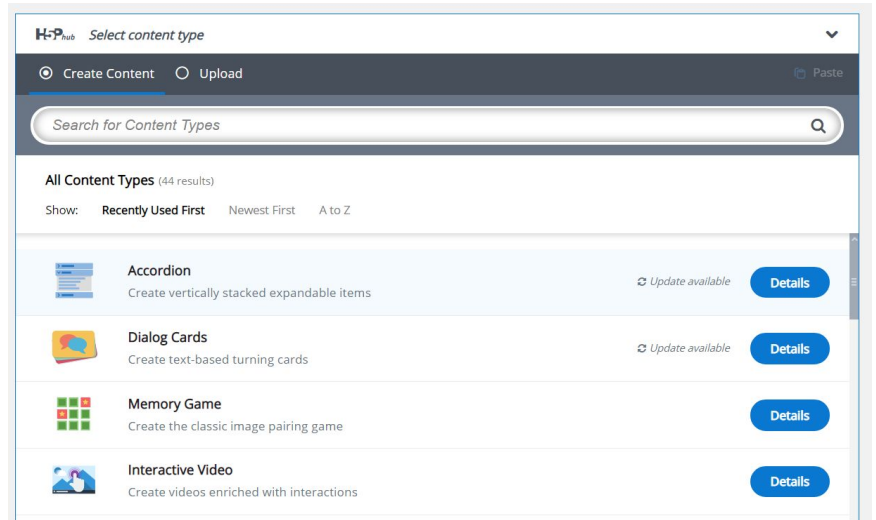
Moodle with the H5P plugin is a robust and flexible learning management system that will address the needs expressed above. The strength of Moodle is that it is “activity-based” (Moodle.org, 2019) so in addition to its own wide selection of activity types, it easily allows the embedding of external online activities like padlet or H5P interactive content, to name a few. One of the key elements that Moodle does much better than Google Classroom is that it better facilitates online collaboration because it allows teachers to set up multiple ways for students to interact and communicate.

The screenshot shows a Moodle course interface for 'CLE - Grade 10'. The main content area is titled 'Is your dream job for real?' and contains a Venn diagram with three overlapping circles labeled 'Things you like to do', 'Opportunities in the world', and 'Things you're good at', with the word 'PURPOSE' in the center. Below the diagram is a paragraph of text: 'It's good to have dreams. It's great if your future work includes doing what you love and what you're good at, AND getting paid for it. Many believe that this is how to find your purpose in life or how a job can be meaningful or valuable. But where do you start? Let's take a look at this video interview of the CFO (Chief Financial Officer) of Purdy's Chocolates to see what this job involves and how he got there. As you watch, questions will pop up that will require you to answer before continuing with the video.'

A video player is embedded, showing a man in a white shirt speaking. The video title is 'Chief Financial Officer (Episode 94)'. Below the video, there is a paragraph: 'Maybe being a CFO is not your dream. Take a look at some of the other Career Trek videos. You can search alphabetically, or by skills, or by region. Click the thumbnail to view Career Trek instructions; a larger image will open in a new tab.'

At the bottom, there are three search options: 'Career Trek Home Page', 'Search for careers by skills', and 'Search for careers using interest filters'. Each option has a corresponding thumbnail image.

The H5P plugin is important because it can allow teachers and students to easily create interactive content. Increasing interactivity is crucial because it allows students more ways to learn and remember what they have learned. Also, it provides an opportunity for the students to demonstrate learning through the transfer of skills or content from one context to another (Mazur, 2013).



To further provide reasoning for using Moodle with the H5P plugin for the Career Education course, the SECTIONS framework by Bates (2014) is very helpful in addressing many important aspects of technology selection and integration:

<p>S Students</p>	<p>Our students are digital natives, but they still need instruction when it comes to participating in today’s online “knowledge society” (Kalantzis & Cope, 2010, p.41). Many of them are eager to use their devices for learning, but need direction online, particularly with organization and choosing which resources or tools to use.</p> <p>Moodle can accommodate the different learning needs of students. Examples:</p> <ul style="list-style-type: none"> ● Moodle can be formatted so that students only see one section/lesson displayed on the module page at a time. Also, students do not always have to click on external links to access content because it can be embedded. This helps reduce “extraneous processing” (Devers et al., 2018, p.12). ● Students can create interactive content themselves with H5P plugin and move beyond text answers ● Easier for students to track completed work with tick boxes on the module page (Devers et al., 2018) ● Students can access anytime and anywhere and Moodle is mobile-friendly
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<p>E</p> <p>Ease of use and reliability</p>	<ul style="list-style-type: none"> ● For teachers, Moodle is easy to use and learn with many online tutorials and MoodleDocs instructions <ul style="list-style-type: none"> ○ In editing mode, prompts and explanations are provided ● For students, Moodle’s module page is the basis for all their learning and work. Students work sequentially down the page. Activities are clearly marked with an icon and hyperlink. ● Very reliable and tested with over 160 million users globally ● Abundance of support through the online community forums and Moodle resources
<p>C</p> <p>Costs</p>	<p>To be addressed in the budget section below</p>
<p>T</p> <p>Teaching functions and media selection</p>	<p>Moodle with the H5P plugin provides a variety of multimodal learning activities which align with Universal Design for Learning principles to facilitate learning through “multiple means of engagement, representation, action and expression” (CAST, 2018)</p> <ul style="list-style-type: none"> ● Easy to organize course pages to meet instructional needs ● Easy to make and design multimedia and interactivities ● Easy to embed external interactivities
<p>I</p> <p>Interaction</p>	<p>Moodle can be considered the interface in Anderson’s model of online learning (2008). It provides:</p> <ul style="list-style-type: none"> ● Different ways for students to collaborate with other students online and asynchronously including Moodle’s groups, discussion forums, wikis, database, chat and workshop ● Different ways for students to learn by interacting with the content through activities ● Different ways for students to connect with the teacher and for the teacher to connect with the student directly or through activities like Moodle’s choices, feedback and quiz.
<p>O</p> <p>Organizational issues</p>	<ul style="list-style-type: none"> ● Our servers need to be able to host Moodle and the H5P plugin ● Our IT support needs to be familiar with moodle and H5P ● Time and Pro-D needs to be given to teachers to develop and design the course content ● Students need to be taught how to learn asynchronously online.

<p style="text-align: center;">N</p> <p>Networking</p>	<p>Moodle provides students with different opportunities for online collaboration and connection, thus with practice, they are more confident and competent to connect with others in online spaces outside of the course, whether it be for work or personal.</p>
<p style="text-align: center;">S</p> <p>Security and privacy</p>	<ul style="list-style-type: none"> ● Data will be stored on our servers ● Teacher/student login required ● Moodle consistently updates security controls to protect users

Implementation

A 2 year plan is suggested with the design process in mind. The dates attempt to coincide with the linear nature of the Career Education courses currently running. Please note the opportunities for testing, feedback and reiteration before scaling up.

Stage 1 - Sept 2019:

- IT person adds a Career Education course to moodle server with the H5P plugin.

Stage 2 - Sept to Nov 2019:

- Teacher designs one unit of the course with H5P interactive content (no student H5P creation yet)
- Present to administration for feedback

Stage 3 - Jan to March 2020:

- Test the unit with one class of students
- Get feedback from students and IT
- Teacher and administration reflection

Stage 4 - April to June 2020:

- Address any issues and continue with design of other units to complete the course
- Test run a few students creating H5P interactive content
- Get feedback from students and IT
- Report to administration
- Teacher designs remaining units to complete the course

Stage 5 - Sept 2020 to June 2021:

- Implement full course with whole grade, including student creating H5P content
- Get feedback from all (students, teacher, IT, administration) during the process and at the end
- If considered successful or only minor changes needed, then proceed to expand to other Career Education courses

Budget

Using the cost categories from the Bates (2014) SECTIONS framework, here is an estimate of costs associated with using Moodle and an H5P plugin for a Career Education course.

Development

The cost is mainly the amount of extra time it will take the teacher to develop the course in its entirety. One unit took approximately 30 hours to create, and since the Career Education course has four units, an optimistic estimate of time would be 120 hours for course creation. IT will need to add the Career Education course to Moodle and install the H5P plugin. This could take approximately 30 minutes at most since our IT support person is familiar with Moodle.

Delivery

The cost of delivery will be the time it takes to administer the course, including marking and online interactions. This cost can be absorbed by current teacher responsibilities and teaching load. Any technological delivery needs for Moodle can be absorbed within the current IT responsibilities.

Maintenance

Maintenance includes Moodle or H5P updates and backups which can be absorbed by current IT responsibilities. Updates for course content is already a part of teacher responsibilities.

Overheads

There are two possible overheads. One, as more classes of Career Education are added (at Stage 5 with more student users) then there could be additional costs to increase server space, if needed. Two, usually licencing for learning platforms or tools is an institutional cost, however, both Moodle and H5P are open-source and free to use.

Conclusion

As outlined here, I believe that the benefits of implementing Moodle with H5P for our Career Education course far outweigh the costs. I look forward to collaborating with the administration and IT on the proposed implementation plan and budget to see the successful integration of this technology.

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Please note: All images are screenshots from courses I have created