# OLTD 512 Final Inquiry Assignment

## SUMMARY

### Introduction

For my final inquiry assignment, I have chosen option B. I used the project-based learning (PBL) model to create an HTML & CSS unit for a Web Development 10 or Information Technology 11/12 course where students work in groups to create a real website for a client/user group that will be seen and used by people outside the class.

### What is PBL and what draws me to the approach

What draws me to the PBL model is its potential to accomplish both the learning objectives of a particular course and the overarching core competencies of the curriculum all at once. I feel that it is a natural fit with the big ideas and learning standards of the new applied design skills and technologies (ADST) curriculum in BC which are based around the design process of defining, ideating, prototyping, testing, making, and sharing. It also presents a tremendous opportunity to incorporate the core competencies of communication, creative thinking, critical thinking, positive personal and cultural identity, personal awareness and responsibility, and social responsibility. A model that has the potential to touch on all of these aspects while providing students with opportunities for deep, meaningful learning is very attractive.

The basic tenet of project-based learning is that students work on a large project that address a real-world problem or answers a complex question. Students demonstrate their learning by developing a product or presentation which they make public to people beyond the classroom. The real-world connotations and accountability to something outside of the classroom has the potential to improve student motivation, learning, and engagement. Students will learn how to solve problems, work in teams, communicate ideas, use creativity, and manage projects. All of these are skills that they can transfer to post-secondary education, career, and life environments.

A teacher's role in PBL is to design a project that aligns to the curriculum, scaffold students learning with any necessary skills and tools that students will need to start the project, set schedules, checkpoints, and deadlines to keep students on organized and on task, coach and guide students when they require skills, redirection, and assistance, and to assess student learning through formative and summative methods as well as peer and self-evaluations.

When designing a project for PBL, John Larmer of the Buck Institute for Education states that a good project should include the following 7 essential elements:
1. An appropriately challenging problem or question to solve or answer.
2. Sustained inquiry that includes asking questions, finding resources and applying information.
3. Authentic, real world context and quality standards that could have an impact on students in their school or their community.

4. Student voice and choice on the questions they ask, the resources they use, and the tasks and roles of team members.
5. Reflection on the effectiveness and quality of their project, and obstacles and how to overcome them.
6. Critique and revision to improve their process and products.
7. Public product, making their work public by displaying or presenting it to people outside the classroom.

**Challenges I might encounter with implementation based on personal experience**

Based on my experience and what I have learned during my research on PBL, some challenges to implementation that I could encounter would be:

1. Coordinating meetings for students to connect with clients during class time. Students will be creating a website for someone outside the classroom to use, their schedules might not align with my classes schedule.
2. Ensuring that the work students produce has an actual impact outside of my classroom. One of the key elements to PBL is producing a public product.
3. Setting appropriate timelines, checkpoints, and due dates. Every group will encounter different challenges and problems so setting timelines that work for all groups may be difficult.
4. Trusting students and resisting the urge to take too much control of the projects. Another key part of project-based learning is the opportunity for students to experience a real-world work environment. If the teacher is always looking over their shoulders and providing too much assistance they will not develop as many life skills.

**Similarities and differences compared to a more traditional approach**

The traditional approach that my trio presented in the previous assignment was the ASSURE Model. Below is a summary of the steps involved in the ASSURE and PBL models:

| ASSURE | Project Based Learning |
|---|---|
| 1. Analyze learners | 1. Develop an idea and connect it to standards and learning goals |
| 2. State standards and objectives | |
| 3. Select strategies, technology, media, and materials | 2. Decide what major products or performances students will create and how they will be made public |
| 4. Utilize technology, media, and materials | |
| 5. Require learner participation | 3. Map out the steps in the project and create a calendar |
| 6. Evaluate and Revise | |
| | 4. Plan activities and lessons and gather resources |
| | 5. Plan an engaging launch for the project |

The models are similar in that they both require the teacher to identify and state the learning standards and objectives that they want to address prior to designing the unit. They also both require the teacher

to select and plan the activities, technology, and materials that will be used prior to starting the unit. Both models are student centered and require students to actively participate in the learning environment while providing opportunities to incorporate technology into the classroom. The PBL model is different from ASSURE in that students have much more control and choice over the content in the unit. PBL also requires students to produce a real-world product or presentation that will be seen by people outside of the classroom, where in ASSURE only the teacher and possibly the students classmates will see their work which usually does not have as much real-world application. ASSURE is more structured and controlled by the teacher, where PBL gives much more responsibility to the students and provides opportunities for more practical, authentic, deep, long-lasting learning experiences.

**Resources my students or I will use**
In order for students to complete the PBL unit below they will need computers with internet access as well as links to graphic design and HTML and CSS coding websites that they can refer to throughout their project. Students will also require real clients/user groups to create a website for to ensure their project is authentic and public. As a teacher resources I would require are literature and guides to planning a PBL unit. I have included links to resources students could use in my unit plan below and resources for teachers to plan a PBL unit in my references.


**WEB DESIGN PBL UNIT PLAN**
**Scaffolding (2 weeks)**
Before beginning the major project, students need to learn the basic skills required to design and code a simple website.

1. **Basic Graphic Design Principals (3 classes)**
   Students will be introduced to the graphic design principals of typography, colour, layout & composition, images, and branding & identity. The class will watch videos on GCF Learn Free and have them to refer to when working on their project. Students will use these principals when creating the mock-up of their website and their actual website for their client. To practice these skills students will use Adobe Illustrator software to create a logo.
   https://www.gcflearnfree.org/beginning-graphic-design/

2. **HTML & CSS Coding Basics (5 classes)**
   Students will complete the HTML and CSS coding basics tutorials on Codecademy.org. Students will also be shown where to find other resources for coding their website such as w3schools.com. Students will create an account on github.com which is free cloud storage application for coding things such as websites from scratch.
   https://www.codecademy.com/catalog/subject/web-development
   https://www.w3schools.com/
   https://github.com/

**Major Project (4 weeks)**
Once students have the basic graphic design and coding skills required to begin creating a real website they will begin the major project. In designing this project, I have attempted to incorporate the 7 essential design elements of PBL (described above) into the design process of the new ADST curriculum. There will be a check-in required at the end of each step in the project where each group is required to show the teacher their work.

1. **Defining & Ideating: Consultation with 'client'. (1 class)**
   Students are placed in groups of 3 and are required to meet with a client/user group within the school and develop a plan to create a website for them based on their needs. User groups could include: Cafeteria, Students Council, Athletics Council, Weight Training Club, Mental Health Club, Drama Club, etc. Students also have the option of creating a website for a client/user group outside of the school.

2. **Prototyping: Sketch of website (3 classes)**
   Students use the information gathered in their interview with their client and the basic graphic design principals they learned prior to beginning the unit to create a non-functional mock-up of the website using pen and paper and then Adobe Illustrator software.

3. **Testing: Presentation of sketch to client, revisions to sketch and final plan (1 class)**
   Students meet with their client again to present their mock-up of the website. In this meeting they work with the client to make any necessary changes and finalize the plan for the website.

4. **Making: Creation of website (12 classes)**
   Students will use the graphic design and coding skills they learned in the scaffolding portion of the unit and their client meetings to create a fully functional website based on the final mock-up that was approved by their client.

5. **Sharing: Posting and presenting finished website (2 classes)**
   When the website is complete they will present it to their client for final approval and then create a QR code link to the website to post around the school. Students will also present their final product to their classmates.

6. **Reflection on the design process (1 classes)**
   Students will get feedback from their client and peers on their project. They will also complete a self-evaluation. Each group will meet with the teacher to discuss their project and the design process. Each student will be required to submit an individual reflection that includes evaluations on all of their group members along with the link to the final version of their website.

**REFERENCES**

Applied Design, Skills, and Technologies 9 Curriculum. Retrieved from:
https://curriculum.gov.bc.ca/curriculum/adst/9

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Larmer, J. (2018). Getting Started with Project Based Learning (Quick Reference Guide). *ASCD*.

Patton, A. & Robin, J. (2012). Work that matters: The teacher's guide to project-based learning. *Paul Hamlyn Foundation*. https://www.phf.org.uk/publications/work-matters-teachers-guide-project-based-learning/