



Solving Learning (PSL), Computer supported collaborative work/learning (CSCW/L) and Performance support systems(PSS). An overall reflection on the design process is also included.

**Original thoughts:** See link from TLE

<https://2021.tle.courses.open.uwi.edu/mod/forum/discuss.php?d=93350#p242482>

## STINT 2 – DESIGNING PROBLEM SOLVING LEARNING ENVIRONMENTS

**Brief Description:** This stint demonstrates the initial steps leading up to the design involved watching a video and indicating one small problem that can be addressed with a design. Subsequently each member suggested their small problem and the group ultimately agreed to work on the problem of working memory. My contribution to the brain dump

(<http://creativemindzdesign.pbworks.com/w/page/147844152/Brain%20Dump%202>) outlines my thoughts on the PSL environment .The problem addressed was that Students lack the skills needed to capitalize on the use of working memory to improve on the ways in which they transfer comprehension skills to real life and real world scenarios needed for 21st century life skills and lifelong learning.

**Original thoughts:** See link from TLE

<https://2021.tle.courses.open.uwi.edu/mod/forum/discuss.php?d=99279#p283990>

**Prototype One :**<https://e000x7.axshare.com/>

**Justification:** Donnelly (2005) identified that the use of technology in project-based learning is effective. In addition to practical real-world activities, video and audio activities help learners to develop a more meaningful understanding of content.

**Reflection:** This prototype was my second attempt at the PBL stint. After participating in a discussion with my group members, other participants of the course and the facilitator I realized that our initial design was closed. It guided the learner, offered many forms of support and scaffolding which forced learners into one learning pattern to solve the problem. This was due to the lack of understanding about how PSL environments should function. As an individual I contributed to the design by suggesting the use of project based learning as seen in the post below

<https://2021.tle.courses.open.uwi.edu/mod/forum/discuss.php?d=99279#p283990> .This too was flawed as it lacked measurement and offered much guidance to the learner.

Afterwards a prototype was designed to illustrate its functionality. The prototype creates an environment that caters to providing steps to the learning to improve recall and short-term memory. Users were supported with graphic organizers and multimedia support. Follow this link: <https://e000x7.axshare.com/> to interact with the prototype.

**Discussion:** With further research my team and I discovered that the prototype must demonstrate the

systematic process of problem solving. (Donnelly 2005)

The following changes are proposed for my prototype. Firstly, the problem would have been simplified greatly. “eg - How to reboot your computer” where students would then be required to apply the knowledge rebooting a computer to solve the problem in game based learning activity. Students would adopt an avatar and experience a simulation where they must find solutions.

The support and scaffolding would have been removed completely.



**Thoughts, Designs and Justification-** While I supported my team by creating many graphics and multimedia resources. They were not the right fit for this task. The design as mentioned earlier was flawed in terms of the measurement of the initial problem and lacked opportunities for authentic learning and problem-solving opportunities.

**What I would do differently-** Given a better understanding of how a PSL environment functions, I would have created an environment that leaves the learner open to a variety of choices to help solve their problem. After further reflection I would not have given the learner any at all. We seemed to have created a well-structured environment when we should have offered an environment with less support. This approach then becomes more student centered and focuses more on teaching students how to learn as opposed to teaching specific skills that may not be fitting by the time they enter the workforce (Cennamo, Ross, & Ertmer, 2019). According to Gilbert Valdez, et al. (1999) including technology in student learning and student-centered learning makes learning more interactive, to match the learner’s development needs and enhance avenues for collaboration. The basis of PBL is that students learn by doing. It is a student-centered system whereby students, working within small groups, generate the information necessary to respond to, or solve, a specific problem or task. The role as a learner, is more active, as he or she is engaged as a problem-solver, decision-maker, and meaning maker, rather than being merely a passive listener and note-taker (Purser, 1996). In a PBL environment the teacher relinquishes the role of ‘expert’ and assumes the role of facilitator (Woods, 1996). The

instructor’s role is primarily to model, guide, coach - to support the learner through the learning and assessment process paying closer attention to concepts mastered over memory retention.

**Proposed changes** -Various models and methods exist for designing problem-based learning environments to help students learn how to solve problems. such as story problems, troubleshooting problems, and case, systems, or policy analysis problems. These kinds of problems that can be solved

in classrooms from kindergarten through graduate school. (Learning to Solve Problems, 2004). Students then can choose what method they prefer to solve a particular problem. Provisions for this would be included in the prototype.



Original Image Changes to Simulations in

prototype

The student is free to interpret the key elements on the story and experiment, and manipulate based on their prior knowledge, e.g., simulation, learning objects and microworlds. They can perform research to find out more information that will help them solve the problem. For example, students can support their quest for a solution by manipulating or creating objects, putting their efforts to the test, and collaborating with others. This can be in a classroom environment or a computer-based environment.

EDID6509 – Designing Learning and performance solutions

## STINT 3 – DESIGNING COMPUTER SUPPORTED COLLABORATIVE WORK AND LEARNING ENVIRONMENTS

**Original Thoughts-Follow this link**

<https://2021.tle.courses.open.uwi.edu/mod/forum/discuss.php?d=115831#p324309>

**Brief Description and CSCL Feature change *Individual***

The proposed design for the CSCL environment involved the use of Google Classroom. Google Classroom is a learning management system. The problem identified was that Google Classroom has no built in search tool / or dictionary to allow students to search for vocabulary words within the platform.

Proposed Solution: A search engine can be added to the settings menu that would allow users to search for vocabulary words or course related material The search engine must also be responsive to audio speech to text capabilities all in one location within the existing platform.

Justification: Fischer (2013) poists that Computer Supported Collaborative Learning practices are shaped by “dynamically reconfigured internal interactions of the participating learners.” Furthermore, it explains and expounds on the importance of active application of subject matter knowledge in CSCL practices. The inclusion of a search engine promotes interaction, engagement, participation and active learning. This link [CSCL/W: https://e2dwr5.axshare.com](https://e2dwr5.axshare.com) illustrates the functionality of the design and was created with the Axure prototyping software. Follow this link to interact with the prototype CSCL/W: <https://e2dwr5.axshare.com>.

Problem description posted in TLE

<https://2021.tle.courses.open.uwi.edu/mod/forum/discuss.php?d=115831#p330511>

**CSCW Environment Design**

The proposed design for the CSCW environment involved the use of OpenEmis. OpenEMIS is a collaborative Education Management Information System with groupware features. The system allows many parties inclusive of administrators, shareholders, social workers, teachers and other members of the respective multi disciplinary bodies to map and manage the professional profiles of teachers, students attendances, student performances and competencies. Accessibility is assigned to end-users depending on their job roles, responsibilities and functions. According to Medsker., (2013) the fundamental principles of learning and performance remain the same, "but changes in society and technology constantly alter the way we need to apply the principles" (p.6).

No prototype was designed for this activity as per course guidelines.

Follow this link for post in

TLE: <https://2021.tle.courses.open.uwi.edu/mod/forum/discuss.php?d=115831#p330587>

### **Group**

The group selected the environment proposed by Jerome Smith who also contributed to the design of the prototype. The CSCL involved the collaborative tool Google Meets. In the proposed design improvement, it was thought that a collaborative group working in Google Meets was not able to share documents in real time within the platform (Telegram offers this feature). Thus the design included the suggestions for such sharing capabilities. The links to the design iterations are accessible via <https://hmezqc.axshare.com>

Group Problem selected in the TLE

<https://2021.tle.courses.open.uwi.edu/mod/forum/discuss.php?d=115831#p319526>

## **Collaboration Tool: Google Meet**

**Problem:** Google Meet lacks the ability to share and save files such as Audio, Documents and Pictures instantly during a voice or video call.

**Problem Description:** Google Meet is a video conferencing service from Google. It is a great solution for both individuals and businesses to meet on audio and video calls. This service is similar to the popular video conferencing tool, *Zoom*. You are able create ad hoc calls and invite your friends and family, however its inability to share and save files instantly makes way to loss of time, inconvenience and loss of data integrity.

**Proposed Solution: Google Meet with Uploading File Feature & Saving Files To (G:)** Iteration One (1) will be focused on creating a prototype that will reflect the missing 'Drop File' feature in Google Meet. It will be interactive, simple and functional. Once this feature is available, individuals will be capable of sharing documents and other files in real time and those files will be automatically saved in a folder within the users Google Drive (G:) for future access.

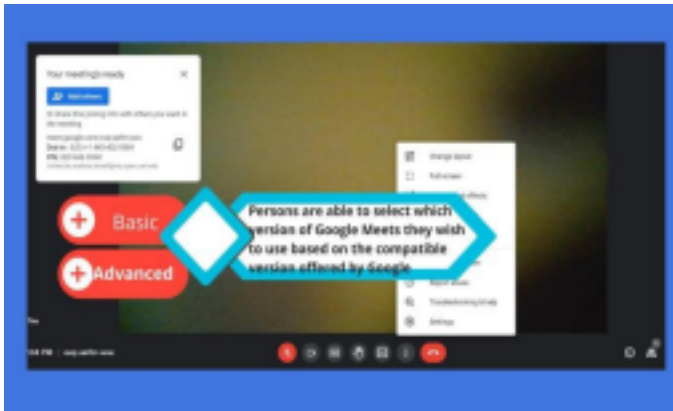
Image of problem description

As an Individual I proposed other changes that can be made to Google Meets. In an attempt to address an improvement to Google Meets, research was conducted into whether the software allows for the inclusion of various multimedia sources. The group explored using paid and unpaid versions of the Google Workspace feature to examine accessibility and functionality. It was concluded that this feature does not currently exist and the prototype below seeks to showcase the functionality of this feature, had it been included in Google Meets . The iteration of this design can be viewed by visiting the following link: <https://hmezqc.axshare.com>

### **What I would do differently**

Here I would have added a bit more interactivity or functionality to my suggestion to Google Meets. It was noted file sharing when working collaboratively in 21st century workspaces is a much desired feature. Especially when participants can stay within the platform and safely and securely exchange information and files. Unfortunately when we received our grades and feedback we were advised that such features exist however when we conducted our research it was not available in any of the versions of Google Meets that we were exposed to. From using the platform at university level, at work to teach where the government offered the paid version or even when using personal g- mail accounts. This revelation was baffling. However in Google Meets it is a feature that may make a difference to the end user.

### **Proposed changes**



I proposed adding an option that allows the user to select either basic or advanced. This way they can select the platform that best caters to their needs Here, the user can choose the basic option to simply meet or click the red button to select the advanced meet option with the additional features for more collaborative work.

## STINT 4 - DESIGNING PERFORMANCE SUPPORT SYSTEMS

**Brief Description:** Case study for group -

<https://2021.tle.courses.open.uwi.edu/mod/forum/discuss.php?d=128452#p355817>

**Original thoughts:** See link from TLE

<https://2021.tle.courses.open.uwi.edu/mod/forum/discuss.php?d=127779#p351515>

**Individual:** Worked on embedding a video in Moodle

**Prototype :** Individual -PSS: <https://s37hcg.axshare.com>

### Thoughts, Designs and Justification

The main function of a Performance Support System is to integrate immediate help and individualized guidance into an environment or system that is easily accessible. This could be in the form of online advice and assistance, data, images, videos, web links and other tools to support a user in getting a task done.

At the time of completing the requirement for this course, two members were also enrolled in the course EDID6510 – Learning and Knowledge Management systems. This course involved the designing and managing of content in a learning management system (LMS) called Moodle. Most members are new to manipulating the tools and features in Moodle and it was thought that designing a PSS for



Moodle would support the group and the wider course community.

The proposed case involves persons who are experiencing performance issues in completing the set up of course resources in Moodle. There are six (6 tasks) the group proposed. Follow this link for the case study in TLE <https://2021.tle.courses.open.uwi.edu/mod/forum/discuss.php?d=128452#p354348>

The group chose to model the task of "*Integrating a BigBlueButton (BBB) for synchronous sessions*". Please click on the link to view a draft of our prototype: <https://7mv8m1.axshare.com> . The PSS seeks to integrate user support in the form of a "Big Blue Button" which gives users a choice of access to synchronous sessions Follow link from TLE for more

<https://2021.tle.courses.open.uwi.edu/mod/forum/discuss.php?d=128452#p355817> As an

individual I contributed my sharing in the brain dump activity on PSS .Follow this link from TLE

<https://2021.tle.courses.open.uwi.edu/mod/forum/discuss.php?d=127779#p351515> and helped to create the group PSS on how to embed a Youtube video into Moodle. A model of the tasks can be viewed at this link: <https://s37hcg.axshare.com>

Here the user can mouseover the options in the drop box and a guided screen tip prompts the user with options. Users can select the type of media they wish to add . For each item in the dropdown list that is selected a popup window describes the type of media . This prototype however is set for users to select a single source for content or activity before scrolling down to click "Save and return to course" or "Save and display"

Once the media is selected and added to the forum it is then saved the activity is now visible on the course page. Users can click the from within the forum activity to open and access the youtube video.

**What I would do differently** -For this stint, I would have chosen from among the more difficult tasks in Moodle that can be a challenge to users. Tasks that require more guidance to complete the process of setting up activities and adding resources. That would represent a more detailed approach.

**Proposed changes**-An addition to this PSS design is the inclusion of a side bar with "Nice to know" hints. These hints would randomly display information about options and features in Moodle when users have completed at least three of any five to six step activity to aid the user. Additionally short cuts may pop up and display to offer support with the option for users to disable that feature at any time.

**OVERALL REFLECTION** -This course presented a few challenges first ao all having to create your individual prototypes simultaneously with the group was a maddening yet highly rewarding experience. There was much to learn and master. Many of my teammates were concerned with simply grasping a concise understanding of the requirements and then being able to apply concepts to a design. I have learnt that the process of design can be a messy yet tedious process. However I was reminded in a

previous course “It is the theory that drives the practice”. Mr Jiri Vilppola who stated then the best way to learn and master technology was to play, play, play. This was my approach. At times it was a challenging experience but overall, I enjoyed the journey. It has left me frazzled yet more confident in the design process.

This experience allowed me to quickly observe that the conditions for learning are highly overlooked by many institutions. Both practical observation and experimental evidence suggest that in the case of many skills “the amount of transfer of learning is proportional to the amount of initial practice” (Gagne, 1954). The foundational design principles of behaviorism, cognitivism and constructionism and even connectivism must be applied to the basis of any design. The principles outlined in these theories help to guide a particular design. The design process of the prototypes was intriguing and nerve wrecking . The Axure software was a pleasure to work at times. We tried to ensure that each stint had a different group leader to maximize learning from each other as a team.It worked well. The struggle was real for many, in trying to accomplish a number of tasks in the prototyping software. I found myself on several occasions helping my group mates to figure out how to perform certain actions and functions in Axure and neglected my own iterations nevertheless it was another opportunity to learn and work collaboratively as I learned much from the team this semester. As the assignments indicated we needed to be on the same page, pulling our weight, moving forward to accomplish the assigned tasks. I think my team worked well together as we always do, as the Smooth Solution Designers.

One major takeaway was the challenges , climate and context that instructional designers work with. Now I know how frustrating it can be as instructional designers to figure out what is necessary to complete a design, work with short deadlines and not so clear requirements. All in an attempt to satisfy a client

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