

PROMOTING MEANINGFUL LEARNING THROUGH *CREATE-SHARE-COLLABORATE*

Siti Nazuar Sailin

sitinaz@uum.edu.my

Noor Aida Mahmor

nooraida@uum.edu.my

School of Education and Modern Languages, Universiti Utara Malaysia

ABSTRACT: Students in this 21st century are required to acquire these 4C skills: Critical thinking, Communication, Collaboration and Creativity. These skills can be integrated in the teaching and learning through innovative teaching that promotes active and meaningful learning. One way of integrating these skills is through collaborative knowledge creation and sharing. This paper provides an example of meaningful teaching and learning activities designed within the Create-Share-Collaborate instructional strategy by utilizing Web 2.0 tool namely Popplet.

KEYWORDS: Meaning Learning, 4C Skills, innovative teaching

INTRODUCTION

Students in this 21st century are required to acquire these 4C skills: Critical thinking, Communication, Collaboration and Creativity. However, it is not easy to develop all of these skills among our students. Although the teaching of critical thinking and problem solving, communication, collaboration, and creativity and innovation are not new to educators and students as it has been introduced into formal education a long time ago, the number of students leaving schools and colleges with these skills is very uneven (National Education Association, 2013). It is critical that we support educators in mastering the competencies to ensure meaningful learning outcomes for students as to improve student's 4C skills. According to AACTE & P21 (2010), one way for educators to successfully integrate meaningful learning in their teaching is they should "successfully aligning technologies with content and pedagogy and developing the ability to creatively use technologies to meet specific learning needs" (p.11). New tools and ideas are needed to support classroom teachers, instructors and facilitators to implement new strategies in the teaching and learning (National Education Association, 2013). This signals that the acquisition of these skills can be integrated in the teaching and learning through innovative teaching that promotes active and meaningful learning.

In response to the needs of improving teacher's technological pedagogy, this paper provides a practical example on *Create-Share-Collaborate* as an instructional strategy that educators can employ in their teaching and learning practices to promote meaningful learning among students. This strategy is developed based upon an ongoing Scholarship of Teaching and Learning (SoTL) project that aims to improve student's critical thinking skills, and at the same time instill creativity, communication and collaboration.

THEORETICAL FOUNDATION

Instructional design is an important element of teaching and learning practice. Every instruction must be carefully design and based upon educational theories. The *Create-Share-Collaborate* instructional strategy is designed within the constructivist perspective of meaningful learning (Mayer, 2002; Jonassen, Howland,

Moore, and Marra, 2003; Howland, Jonassen & Marra; 2012) and experiential learning (Kolb,1984) theories. Constructivist asserts that people construct their own understanding and knowledge of the world through experiencing things and reflecting on those experiences.

The focus on meaningful learning and experiential learning is rooted within the constructivist view. According to Mayer (2002, p. 227), learning is a knowledge construction process in which “students seek to make sense of their experiences... engaged in active cognitive processing, such as paying attention to relevant incoming information, mentally organizing incoming information into a coherent representation, and mentally integrating incoming information with existing knowledge”. This understanding about meaningful learning is in line with Jonassen, et al., (2003, p. 15) who assert that meaningful learning occurs within “knowledge construction, not reproduction; conversation, not reception; articulation, not repetition; collaboration, not competition; reflection, not prescription”. In addition, Jonassen, et al., (2003) and Howland, Jonassen & Marra (2012) explain there are the five attributes of meaningful learning, that are active; constructive; intentional; authentic; and cooperative.

Importantly, learning is the process of knowledge construction, where knowledge is created through the transformation of experience. According to Kolb (1984), experience is the important source of learning and development. For students to meaningfully learn, they should involve in these learning cycle:

learn from specific experiences and relating to people (concrete experience);

make judgment by viewing the environment from different perspectives and look for meaning (reflective observation);

analyze ideas and intellectually reflect on a situation (abstract conceptualization)

able to get things done by interacting with people and events (active experimentation)

These characteristics of experiential learning serve as the theoretical framework in designing the *Create-Share-Collaborate* instructional strategies as well as the analytical framework in the analysis phase of the SoTL project.

21ST CENTURY LEARNING DESIGN

As noted earlier, educators need new tools and ideas to support their teaching and learning. We believe that 21st century learning design that utilizes Web 2.0 tools would enhance students 4C skills; critical thinking, communication, collaboration and creativity. As noted by Sahin (2009), students of the 21st century need to know more than core subjects. Students should be able to “know how to use their knowledge and skills — by thinking critically, applying knowledge to new situations, analyzing information, comprehending new ideas, communicating, collaborating, solving problems, and making decisions” (Sahin, 2009, p. 1465). These learning skills are critical in this 21st century as we have to prepare our students with the more challenging facets of the workplace.

Partnership for 21st Century Skills (2002) highlighted six key elements of 21st century learning; emphasize core subjects, emphasize learning skills, use 21st century tools to develop learning skills, teach and learn in a 21st century context, teach and learn 21st century content and use 21st century assessments that measure 21st century skills. One way of integrating these six key elements of 21st century learning and to improve 4C skills among students is through collaborative knowledge creation and sharing, or *Create-Share-Collaborate* instructional strategy (Sailin & Mahmood, 2016). The term *Create-Share-Collaborate* was coined based on the pedagogical benefits of Web 2.0. By using Web 2.0 tools, students can create information and share it with others (Baltaci-Goktalay & Ozdilek, 2010, Jimoyiannis, et al., 2013). Web 2.0 technologies also has the capacity to support active and meaningful learning through interactions and collaboration (An et al., 2009; Light & Polin, 2010), and provides opportunities for authentic learning experience through learning by doing (Lombardi, 2007). In addition, learning with Web 2.0 is an authentic practice that can inform learner of their planning and implementation of learning activities (Albion, 2008, p. 21).

In our study, the *Create-Share-Collaborate* strategy is designed within the meaningful and experiential learning theory and we believe that this strategy would encourage active learning and deeper understanding of the content knowledge.

CREATE-SHARE-COLLABORATE

We coined the phrase *Create-Share-Collaborate* to describe the instructional strategy invented in an ongoing SoTL project (Sailin & Mahmor, 2016). Through this strategy students have the opportunities to create their own knowledge in the form of digital contents, share their content creations with their peers and work collaboratively in the development of the digital contents. In this paper, we provide one example of meaningful teaching and learning activity designed within the *Create-Share-Collaborate* instructional strategy by utilizing Web 2.0 tool namely Popplet.

We utilise Popplet as an online mind mapping learning tool with an aim to promote active knowledge construction and critical thinking through collaborative brainstorming. The brainstorming process by using mind map has many advantages. It helps students to develop understanding, to solve problem, to convey information, and as an assessment of students' understanding (Willis & Miertschin, 2006). The use of mind mapping tool is very useful in organizing and representing knowledge; facts, information and ideas can be grouped and linked to show the relationship and to visualise the overall ideas (Kinchin, Streatfield, & Hay, 2010).

We believe that the process of building a concept map involves active learning strategy that engages the learners with the content of the lesson which can be used during class. This method can be used to replace traditional lectures. In conducting the *Create-Share-Collaborate* strategy, the instructor first introduced the online collaborative brainstorming tool (Popplet) to the students. Students were divided into small groups of 4 to 5 students based upon the number of students in the class. Each group was assigned with a sub-topic. Each group was required to collaboratively prepare an online mind map of their group's topic using online brainstorming tool. In this example students were preparing a mind map of one of the course content that is *Instructional Design*. The main board or "wall" for the online mind map was prepared by the instructor. The instructor "shares" the "wall" with the students by adding "collaborators" (see Figure 1).

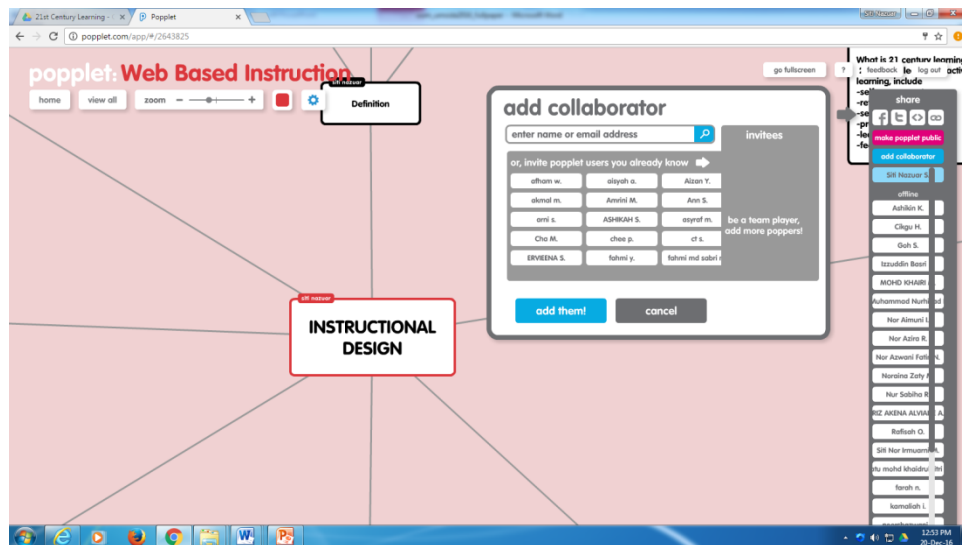


Figure 1: Collaborative feature of the mind mapping tool.

Students were given one week to find relevant information about the topic from the Internet and to create the mind map. A guideline was given to students. For this activity, students have to come up with a multimedia concept map which includes the following: (1) brief description about the topic; (ii) an image / illustration about the topic; and (iii) a video that describes the topic. The following Figure 2 shows an example of a mind

map produced by one group of the students on the sub-topic *ADDIE Model*. It can be seen on the Popplet wall that different names appeared to indicate student's contribution towards the development of the mind map.

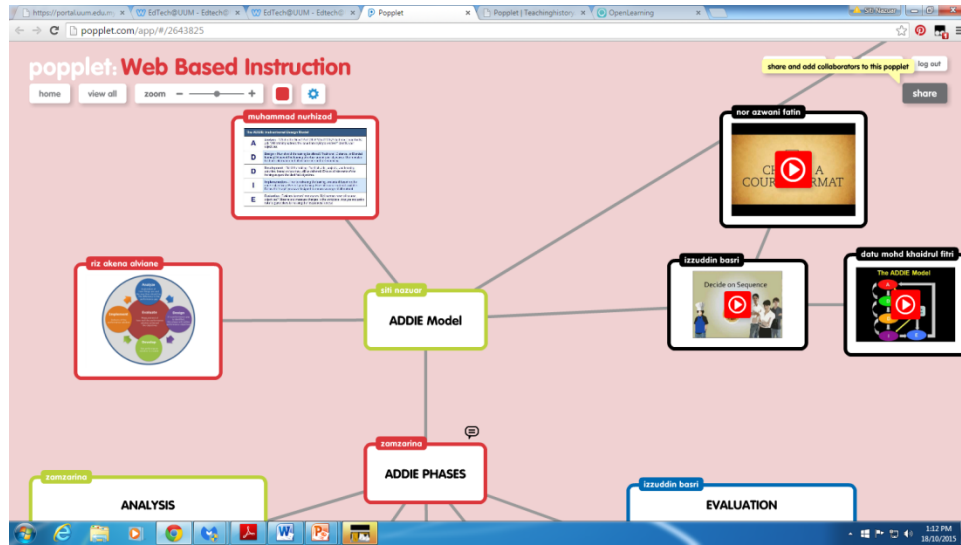


Figure 2: Student's contribution to the topic.

After one week, a face-to-face session was conducted. In the session, the instructor debriefed the students about the activity and topic. The instructor also added several mind map points or branches to complete the overall topic and added resources to the online mind map to ensure the topic was fully covered. The following Figure 3 shows the completed mind map produced collaboratively by students and the instructor.

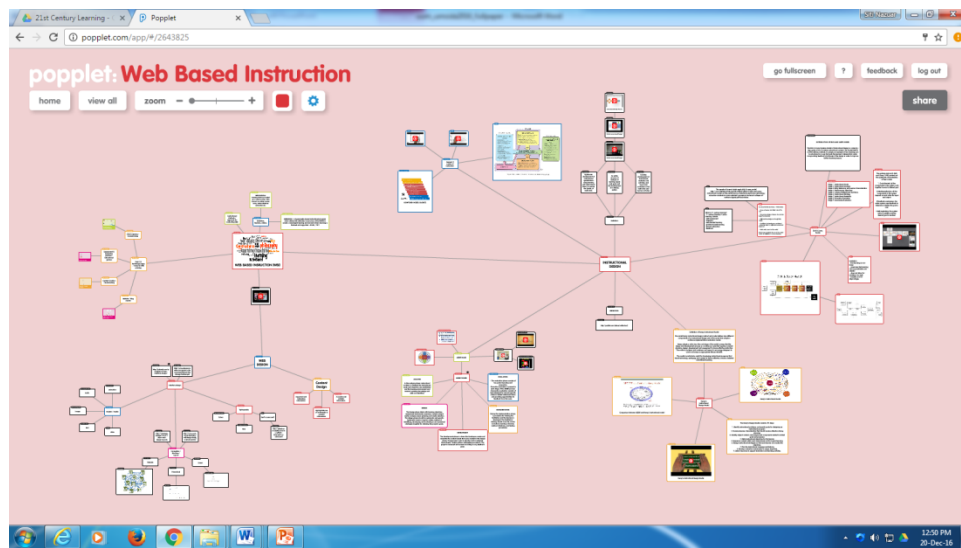


Figure 3: The completed mind map.

Students were given another week to “study” the topic (to read, view images and watch the videos that the other groups had added to the mind map). After that, an online “quiz” was conducted as an assessment of students' learning. The instructor also assessed students' creation of the mind map based upon a self-prepared rubric. After the assessment, students were asked to reflect upon their experience of the online collaborative brainstorming activity. Following the Gibbs' (1988) reflective practices cycle, students were

required to reflect upon what they have done and their feelings, discuss whether or not they have learned about the topic through the activity, come to a conclusion and suggest ways to overcome the problems they faced. In addition, the instructor also wrote her own reflection about the whole process of teaching and learning using the above mention strategy.

IMPACT ON STUDENTS' LEARNING

The *Create, Share and Collaborate* instructional strategy using collaborative brainstorming tools such as Popplet would benefit students in several ways. It was observed by the instructor that through this strategy, students involve in an active knowledge construction through collaborative brainstorming that involve gathering, analyzing and synthesizing of information to come up with the digital mind map of the given topic. Students also communicated their ideas with peers in this process. The visual designing of the mind map scaffold student learning as it helps them to better understand the topic discussed. This consequently would improve their 4C skills; Critical thinking, Communication, Collaboration and Creativity through active and meaningful learning process.

In terms of motivation of learning, students showed positive feedback toward the implementation of this strategy. Students were excited in using Popplet to produce the digital mind map. Although it was their first time using this tool, some students felt a bit uncomfortable at the beginning, students indicated that the teaching and learning process was “fun” and “interesting”.

I was so happy and excited because the teaching and learning process is fun especially when we can see colorful mind map that can differentiate the points (subtopics). (ST#1)

At first I felt awkward to use Popplet because this was my first time using it. But, I was excited because the teaching and learning process became very interesting... the mind map that we produced was very colorful. (ST#8).

I am very excited to use Popplet. It has increased my interest to continually use Popplet for education purposes. By developing mind map using Popplet, it can make learning more interesting because it is interactive and dynamic. It can also instill good values among students... cooperation and collaboration. (ST#16).

An analysis of students' reflections of the learning process also indicated that the collaborative online brainstorming activities using Popplet have a positive impact towards student's critical thinking (Sailin & Mahmor, 2016). Data from the student's reflections on the teaching and learning process using Popplet, reveals that students were able to develop their critical thinking skills during their construction of knowledge through collaborative brainstorming (see Sailin & Mahmor, 2016 for detail findings). Further analysis on the impact of *Create, Share and Collaborate* instructional strategy using collaborative brainstorming tool is still ongoing.

CONCLUSION

This paper shares on *Create-Share-Collaborate* instructional strategy that advocates a focus on learners through meaningful and experiential learning. This strategy can be adopted in the teaching and learning practice by utilizing Web 2.0 tools such as Popplet that incorporate collaborative and sharing features. As our students are digital natives, it is important for us to design our instructional strategies that suits our student's needs, as well as promote meaningful and active learning by using digital technologies.

*This paper is part of an on-going research project funded by a SoTL grant.

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