

Paper ID: 7**A Case Study of Using Padlet to Capture Insights in Class**

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Abstract: Active learning appears to become more and more popular. One of the key principles is its reflective nature where learners learn by generating insights on their own. Generating insights can be challenging sometimes. This research studies a case of using Padlet to capture insights in university teaching targeting university students.

The Career Building Course is a one-credit general education elective offered by the Hong Kong University of Science and Technology. The key objective of this course is to enhance the career and employability skills of learners. Only a maximum of 30 undergraduate students are enrolled in each class, which takes 13 weeks, and final-year students are given the highest priority to register in the course. In order to fulfill one of the learning outcomes “to demonstrate winning interview skills”, learners are required to apply the interviewing skills learned to a real assessment setting, that is, the mock interview, in Week 11. A reflection then takes place in Week 12. The objective of the reflection is to allow learners to articulate the most important discovery about them from this learning experience. With the advanced technology available, Padlet (www.padlet.com) is deployed in class to aid reflection.

The key research questions of this paper are: (1) Compared with using pen and paper, are learners able to generate more insights by using Padlet (quantity)? (2) Are learners able to create deeper insights (quality)? In order to measure the impact of this new approach, the number of insights generated and the quality of insights was examined among 273 learners in three batches from February 2016 to May 2017. There are two ways to measure the education performance of learners. Firstly, by evaluating the insights generated by students, and secondly, by collecting personal feedback in a more detailed manner through interviewing 10 learners in a focus group setting. Focus group questions include “By co-creating insights by Padlet, are you more inspired than doing silent brain-storming using pen and paper on your own? Why?” and “Do you find Padlet easy to use? In what sense?” The preparation time before class and technological challenges are covered.

The findings reveal the advantages and drawbacks of using Padlet compared with the traditional way of using pen and paper. The results of the study will help program designers formulate a better-fit strategy when deciding which tools to deploy to capture insights during reflection in their class.

Keywords: Active learning, Experiential learning, Reflection, Padlet

Introduction

Most traditional classrooms are dominated by teacher’s one-way presentations. As a result, there is too little time left for class practice, not to mention time for asking learners to reflect on their learning. Teaching contents are in most cases one-size-fit-all, and learners are busy taking notes on their own rather than absorbing new knowledge through a reasonable level of team-workmanship and collaboration. This makes students dependent on their teachers, resulting in making learning a teacher’s responsibility instead of a student’s. University is regarded as a bridge between study and career, in which to equip learners with work world survival instincts is equally important. In view of this, experiential learning, especially in higher education, is becoming more and more prominent, in particular at The Hong Kong University of Science and Technology.

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Can technology help or hinder reflection? There is little research conducted in examining the effectiveness of Padlet in promoting reflection, thus, this paper is going to investigate the effectiveness of using Padlet to capture insights after an experiential learning activity in the Career Building Course. The main objective is to study the impact of using Padlet on the educational performance of 273 learners in terms of the quality and quantity of reflection after the mock interview. The key research questions of this paper are:

- (1) Compared with using pen and paper, are learners able to generate more insights by using Padlet (quantity)?
- (2) Are learners able to create deeper insights (quality)?

Literature Review

Broadly, experiential learning is any learning that supports students in applying their knowledge and conceptual understanding to real-world problems or situations where the instructor directs and facilitates learning. The classroom, laboratory, or studio can serve as a setting for experiential learning through embedded activities such as case and problem-based studies, guided inquiry, simulations, experiments, or art projects (Wurdinger & Carlson, 2010). Most of the learning activities are student-centered, whereas students take control of their learning process actively. Kolb's (1984) cycle of learning indicated that experiential learning is "the integration of knowledge—the concepts, facts and information acquired through formal learning and past experience; activity—the application of knowledge to a 'real world' setting; and reflection—the analysis and synthesis of knowledge and activity to create new knowledge".

According to Costa and Kallick (2008), reflection has many facets. For example, reflecting on work enhances its meaning. Reflecting on experiences encourages insight and complex learning. Reflection is also enhanced, however, when we ponder our learning with others. To reflect, learners must act upon and process the information, synthesizing and evaluating the data.

Reflection is the key step in developing new insight or knowledge. The number of insights generated is a significant indicator of learning effectiveness. From the perspective of neuroscience, it indicates the number of new wiring created in the brain based on that learning experience (Ringleb & Rock, 2008). In other words, it represents how much the learner has learned. A higher number of insights indicate, on the one hand, that the learning is wired more firmly in our brain and on the other, that the insights are created from multiple perspectives (Rock, 2007). More insights generated is strong evidence that learners have internalized the learning and able to demonstrate better educational performance.

The quality of insights is another focus. To learn something new is to make new connections in our brain. Metaphorically speaking, making a new connection is like jumping between cliffs, and the human brain is a great machine which tends to choose the easiest path (Fritz, 1989). That is why we always tend to pick the shortest distance. It also explains why many insights are 'superficial', picked from the shortest learning distance in our brain without them being fully internalized. For example, "I will be more confident in the next job interview" is something that can be easily retrieved from our brain, whereas the insight "I noticed that I were very nervous last time, and I will sit confidently by leaning back a little bit and holding my head still in the next job interview" is more elaborative.

The ability of generating high quality insights suggests that the learners have developed the ability for continued learning and problem solving (Schön, 1987). Schön (1987) also pointed out that "professional education should be centred on enhancing the practitioner's ability to 'reflect-in-action'—that is, learn by doing and developing the ability for continued learning and problem solving throughout the professional's career".

Methodology

In the past, learners were invited to make meaning of their learning experience by answering a coaching question "What are your insights?" using pen and paper. Learners were given 10 minutes to brainstorm silently on their own. Afterwards, there would be a 'circle of voice' sharing session for each learner to articulate their insights succinctly.

Padlet replaced pen and paper in Spring term, 2017. In order to measure the impact of this new approach, the following areas were examined: (a) The number of insights generated, and (b) The quality of the insights. There are two ways of measuring the educational performance of the learners in the course: (1) By evaluating the insights generated by students, which has been explained above, and (2) by collecting personal feedback in a more detailed manner through interviewing 10 learners in a focus group setting. Details of the two methods will be discussed below:

(1) Evaluating Insights Generated by Students

The following rubric is used to measure the quality of insights:-

Criteria	Very in-depth (9-10 points)	Sufficient (6-8points)	Minimal (3-5 points)	Unacceptable (0-2 points)
Quality of Reflection ____/10	<i>Response demonstrates an in-depth reflection on the learning. Viewpoints are very detailed and personalized with multiple perspectives. Appropriate examples are given. More than one description of how to improve next time</i>	<i>Response demonstrates a general reflection on the learning. Viewpoints are detailed and personalized. Appropriate examples are given. One description of how to improve next time is stated.</i>	<i>Response demonstrates a minimal reflection on the learning. Viewpoints are general with minimal support by examples. Unable to describe how to improve next time.</i>	<i>Response demonstrates a lack of reflection on the learning. Viewpoints are missing and unsupported. Unable to describe how to improve next time.</i>

	<i>are insightful and clearly stated.</i>			
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(2) Collecting personal feedback through interviews

No two brains are alike. How one learner thinks can be completely different from the way another learner thinks. Is it actually easier for a learner to create new wiring in the brain by co-creating? Is it easier for learners to dig deeper and generate new insights by reading others?

In order to examine further learners' experiences of using 'pen and paper' and 'Padlet', a comparison question was asked at the focus group interviews: ***"By co-creating insights by Padlet, are you more inspired than doing silent brain-storming using pen and paper on your own? Why?"*** ('More inspired' means a learner can generate the first insight faster, generate more insights, and able to think more deeply about that learning experience and create higher quality insights). The second question focused on how user-friendly Padlet was to learners, namely, ***"Do you find Padlet easy to use? In what sense?"***.

Findings and Discussion

This part reports the results of the investigation among different student groups.

Evaluating Insights Generated by Students

Table 1: *Science Students*

Term	Spring term 2016	Fall term 2016	Spring term 2017
Total number of students	32	19	28
Total number of insights	29	21	84
Average number of insights per learner	0.9	1.1	3
Average quality of insights (scale of 1-10, 10 max)	5.5	5.5	8.5

Table 2: *Non-Science Students*

Term	Spring term 2016	Fall term 2016	Spring term 2017
Total number of students	71	70	53
Total number of insights	85	91	127
Average number of insights per learner	1.2	1.3	2.4
Average quality of insights (scale of 1-10, 10 max)	6	6	7.5

Compared with writing reflections using pen and paper, Padlet generated more insights within the same time limit. The result is more significant among Science students (number of insights increased by 200% from 1 to 3). Science students, by and large as thinkers, are generally more detail-oriented. They need more time to organize and/or come up with a structure before speaking up. They prefer to learn by reading and analyzing instead of

listening and responding promptly. Therefore, a fun yet interactive environment in which all insights are written can stimulate Science learners to think from multiple perspectives.

In terms of the quality of insights, Padlet can help learners to generate higher quality insights instantly. Results of the current study suggest that Science students demonstrated understanding of the learning in the mock interviews through more detailed explanations and deeper analyses. Their high quality reflective statements were very rarely seen in previous terms (score increased by 64% from 5.5 to 8.5 out of 10).

(1) Collecting Personal Feedback through Interviews

Group 1 - Science Students

All Science students in the study found Padlet a very impressive tool. They suggested that they might not have enough time to listen to all comments in class had they used pen and paper. Also, sometimes they might not be able to express their thoughts clearly in oral conversations. They preferred to take time and go through all ideas, and be inspired by each other by writing on Padlet. A learner also suggested that it was challenging to reflect on his own. However, he was able to add to others' insights. This group of learners also found it easy to categorize and rearrange insights on Padlet, making them more organized. Padlet definitely added value to class, it would have been harder to read the insights one by one otherwise.

One of the factors contributing to more and deeper insights is that learners could contribute in an anonymous manner. This is an advantage especially for Asian students who are not used to speaking up openly. In this case study, learners found it far safer since they were not put in the spotlight. The option to write anonymously effectively eased learners' concern of being criticized. This sense of security enhanced more positive thoughts and more freedom in writing. Learners tended to generate more ideas and to elaborate more on their viewpoints. As a result, a positive cycle was formed – more and deeper insights were being captured on a Padlet page with minimal repetition.

Group 2 – Non-Science Students

Most learners welcomed the idea of co-creating insights using Padlet. They found it an efficient and fun way to exchange ideas. Moreover, learners preferred to brainstorm anonymously and at the same time be able to see in real time what exactly the other teammates were thinking about. This particular group of students suggested that Padlet was a smart way of sharing insights especially for reflecting on the mock interviews, when some of them did not perform well but still wanted to share the harsh comments they had received. The learners were also more comfortable in expressing their viewpoints without having to put their hands up. Nevertheless, it is worth noting that one learner preferred using pen and paper as it seemed easier for him to write down instead of typing his thoughts.

In terms of technical practicality, the implementation of Padlet was smooth. Learners were able to scan the QR code on average within 10 seconds. Compared with having learners take a sticky note from the whiteboard for writing down insights, the class time consumed was almost the same. In terms of class atmosphere, Padlet raised the energy and boosted team-

workmanship dramatically. Learners were excited about this new technology and the instant results they co-created.

Conclusion

Padlet is an effective way for capturing more insights. It can give the teacher a more complete picture of learning from all students rather than from a few dominating students in class. It is an energizer that boosts class energy. Having said that, there are also downsides of using Padlet. For example, allowing learners to voice comments anonymously may hinder the development of their ability to speak up openly in a structured manner. It is important for program designers to balance between anonymous and named comments in class, both of which are possible on Padlet. In addition, a strong recommendation can be made before class to encourage mutual respect and avoid nasty content appearing in real time.

As mentioned, one learner in this case study preferred the traditional way of using pen and paper. Using pen and paper to scribble something is definitely a proven way of learning. Different learners may have different preferences. Some of them may feel more comfortable using old-school ways of note-taking. However, it may take up more class time if students are invited to read or hear everybody's written opinions, and to add their own after a few more minutes of reflection again.

For teaching programs that are continuous, program designers may consider multiple approaches to capturing insights, such as using drawings, writing on paper (e.g. sticky notes), answering a question on an online forum and so on, as well as deploying Padlet.

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