

Chapter 7

Finding Flow in the Classroom: A Case Study on Instructor Experiences and Likelihood of Continuing to Use Mobile Technology Tools and Gather E-Portfolio Content

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Abstract The focus of this paper is to investigate instructor flow experiences when using technology tools to aid interactive classroom learning and create e-portfolios. Tasked with developing university graduates with twenty-first century skills like e-portfolios, university instructors are inundated with new and different technologies to help build these skills. Yet, because these technologies are not easy to learn and use, the instructors are not using them to increase interactive learning in their classrooms. This combination of development pressure, too many choices of technology, and lack of technology understanding, is causing instructors to become increasingly anxious about technology. This case illustrates the process of testing and using two primary tools that were free, easy to learn and use, and yet could be combined in several ways to help curate artifacts for e-portfolios. The effect of using these tools showed it was easier to experience flow-like conditions when using them.

Keywords Flow · Optimal experience · Optimal engagement · E-portfolio · Google Forms · Google HyperDocs

Introduction

Cox and Richlin (2004) introduced faculty learning communities (FLC) as a method of professional development by sharing ideas with other faculty. At Hong Kong Baptist University (HKBU), we used the terminology of academic, structured Community of Practice (CoP). As I had contributed to previous work on e-portfolios (Shroff, Chaudhuri and Linger 2014), I was invited to become a

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member of a CoP for student e-portfolios (Chaudhuri and Chan 2016), to share and learn from other faculty who were focusing on generating and validating ideas to improve and implement student e-portfolios. In our CoP we discussed ways to help guide students in searching for and curating artifacts for their portfolios. Although many new technologies and apps have been created to help students learn (Bates 2015; Shroff, Keyes and Linger 2016), few instructors adopt technology to improve classroom interaction and learning experiences. These observations led to this qualitative investigation of tools that were easy for instructors to learn to use to increase engagement and interaction while helping students curate artifacts to be used in their e-portfolios in the classroom.

By December 31, 2015, Facebook reported they had over 1.4 billion mobile monthly active users (Facebook, 2015/12/31). Barrett (2007) outlined e-portfolios and social media similarities including finding and sharing information, and she showed differences as e-portfolios focus on evidence of learning. Pepler and Solomou (2011) found that when learners used social media they developed collaboration and creativity skills that enhance learning. Two important characteristics of e-portfolios are sharing experiences and ownership of learning, and Lewis, Pea and Rosen (2010) showed that social media helped learners develop these skills. Roseth, Akcaoglu and Zellner (2013) found that using computers in the classroom allowed students to curate artifacts and learn from a variety of outside sources. Also, as most universities have university graduate qualities of some kind, Hwang (2014) found developing e-portfolios helped students follow and realize their own skill development as they worked toward attaining graduate qualities.

Westberry and Franken (2012) suggested that by following the ecology of resources perspective, teachers could blend online and face-to-face learning in classroom activities to develop learners' access and retrieval skills for finding outside experts and resources. Also, when investigating tools for helping students collaborate, Chu and Kennedy (2011) discovered Google tools were quite easy to use and were effective at improving interactions. Linger (2016) found that using Google Forms and Docs with mobile devices was useful for in-class tasks to curate content for course e-portfolios, for group e-portfolios, and for individual student e-portfolios. Also, students' in-class learning reflections supported using mobile devices as an effective method for gathering e-portfolio artifacts.

Shroff, Deneen and Lim (2014) asserted that by collecting and showcasing artifacts, essentially becoming curators of their own e-portfolio displays, students built ownership of their learning. Also, the authors found that as students constructed their e-portfolios, the students developed critical thinking and self-evaluation skills, as well as learning and development reflection skills. Linger (2016) found that students appreciate instant feedback as this allows them to understand if they are learning or completing tasks correctly, and in-class exercises can be crafted so students could use their mobile devices in the classroom to curate artifacts for their e-portfolios.

Dewey (1938) mentioned that active and positive learning experiences are influential in assisting learners to continue being lifelong learners. Linger (2002), studying in-service teachers, found that those who had flow-like experiences while learning to use technology tools were more likely to use technology in their

teaching. If e-learning tools are easy to use, then learners are more likely to have positive experiences and continue to use them, and if the tools are difficult to use, learners are less likely to continue using them (Hidayanto and Setyady 2014).

Quite often e-learning materials are introduced and evaluated from the point of view of students, but if the instructors do not like technology, find it difficult to learn how to use the tools, or find it difficult to teach students to use the technology, instructors will not use the new technology tools (Bates 2015). Based on my observations and experiences participating in an e-portfolio Community of Practice, instructors use tools they feel comfortable using. While twenty-first century skills are increasingly focusing on technology, instructors and students are working together to overcome the challenge of developing new technology skills. Although there are different lists of skills students and individuals will need to succeed in the twenty-first century, Bates (2015) gives a good summary of what is needed.

The knowledge and skills needed in a digital age, where all ‘content’ will be increasingly and freely available over the Internet, requires graduates with expertise in:

- knowledge management (the ability to find, evaluate and appropriately apply knowledge);
- IT knowledge and skill;
- inter-personal communication skills, including the appropriate use of social media;
- independent and lifelong learning skills;
- a range of intellectual skills, including:
 - knowledge construction;
 - reasoning;
 - critical analysis;
 - problem-solving;
 - creativity;
- collaborative learning and teamwork;
- multi-tasking and flexibility.

These are all skills that are relevant to any subject domain, and need to be embedded within that domain. With such skills, graduates will be better prepared for a volatile, uncertain, complex and ambiguous world. (p. 434).

Focusing on digital literacies, Dudeney, Hockly and Pegrum (2013) discuss several literacies students will need in the future. These include information literacy where students need to know how to find and work with information to solve problems. Also, the authors outlined collaboration literacy where students need to learn to work together online and in person. Further, the authors described re-mix literacy where students become curators by mixing ideas, images, videos, and other items they have gathered from the Internet.

There are a few models that help us understand factors that influence how individuals select and use technology. Rogers (2003), a professor in Communications, described how opinion leaders are those who adopt innovations first and communicate their experiences to others. Another widely used model for technology adoption is the Technology Acceptance Model (TAM) which primarily looks at two factors individuals consider when adopting technology, and these are

perceived usefulness, and ease of use (Davis 1989). Collan and Tetard (2007) developed the lazy user model after finding that people will use technology that is the easiest or takes least effort to use to help them attain their objectives. Because tools are a means to an end, individuals try to focus on the goal and tend to select the tools based on the factor of least expenditure among the three criteria which are cost, time, or physical/mental effort needed.

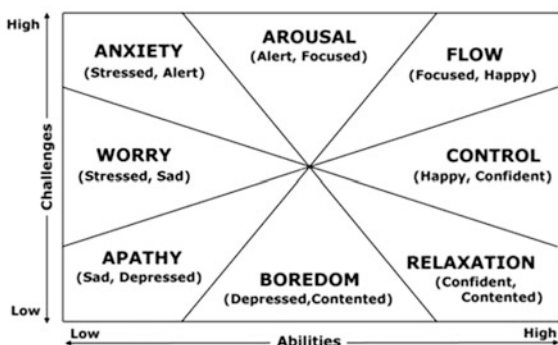
Csikszentmihalyi (1990) has written studied and written extensively on what is referred as optimal or flow experiences described by individuals who had been engaged in flow activities. These flow experiences occurred when individuals were so completely involved in an activity they reported feeling like they were just flowing with the activity. These flow experiences have been described in the literature as follows:

- intensely focused concentration on an activity,
- merged awareness with the activity,
- lost self-consciousness in the activity,
- feeling of personal control in the activity,
- experience of time awareness is distorted, and
- intrinsically rewarding engagement with the activity.

When individuals are new at an activity, they can experience flow if challenges are low and the skills needed are low. As individuals develop their skills in an activity, they seek higher levels of challenge to experience flow (Fig. 7.1). As flow experiences are positive, individuals who experienced flow reported: developing new skills, reducing anxiety, increasing self-esteem, wanting to return to the activity, and seeking greater levels of engagement with the activity.

Studying students' well-being with ubiquitous technology connections, Salvagno, Taylor, Bobeva and Hutchings (2015) found that user experiences with technology were important. The researchers asserted that students who were less confident with technology seemed to be overly cautious with it. These students tried to avoid the perceived pain of using technology as they felt the experiences were overly demanding. The students who reported being more technology confident described how technology supported their flow experiences in learning activities.

Fig. 7.1 Visual adaptation of skill challenge development in flow experiences (Csikszentmihalyi 1996)



According to Bates (2015) instructors not only do not have time or motivation to research new teaching and learning apps or tools, but also, they do not have time to learn how to use the new tools well enough to teach their students. As most instructors have developed identities as opinion leaders in their own areas of expertise, it seems reasonable that these instructors would not want to change their identities to focus on technology. When instructors attempted to use new technologies, often they report it as not easy to use and not easy to teach the students how to use it. Society, economy, and even governments are pushing instructors to use more technology within the classroom for blended learning.

Methodology

This research aimed to contribute to the complicated field of selecting and using technology to increase interaction with students inside the classroom learning experience. In this case I have focused on creating a map of instructor experiences to observe and understand the Google tool integration process and thus provide a view of this situation. The mapping process focused on Google tool application experiences based on flow characteristics of developing skills, reducing anxiety, increasing self-esteem, returning to the tools, and seeking greater levels of engagement.

Instructor Experiences

This study was conducted in a small Hong Kong university as an instructor who taught students who were enrolled in what is locally referred to as ‘self-funded’ full-time students in the School of Continuing Education. The Learning Management System (LMS) in use was Moodle, and this version of Moodle was not mobile-device friendly. The LMS was primarily used to distribute learning resources and assignments and to submit finished assignments via Turnitin. The qualitative nature of this study was designed as a beginning point in researching these types of interactive classroom tools and therefore limits the generalizability as a population sample. The following sections present the results of experiences with tools that were designed to help instructors interact with students in the classroom. The articulation step of the situational maps described what had become visible.

Observations of Investigating Interactive Classroom Technology Tools

This section was included because it is important for us, as educators, to focus on decision-making processes that both instructors and students navigate to search, find, understand, apply information, and in this case tools. This process awareness

should provide instructors with examples to follow when teaching or guiding students through similar learning and thought processes.

As I am a communication instructor, I am not an expert with technology, so I only looked for technology tools that were easy to set up, easy to use in the classroom, and easy for me to locate the data and artifacts that were curated during the class. During the time of this investigation, over a period of about three years, I had investigated tools that I thought could make my courses more interactive and therefore more engaging for my students. With no budget and a limited understanding of technology, I searched for tools that were easy to use and were quite effective at helping both the instructor and students to interact during their time in the classroom. Although many organizations and universities offer different levels of support for teaching and learning with technology, like most instructors, I do not have time to wait for extra support during my classroom teaching.

My purpose for investigating these tools was to increase engagement in the classroom. Based on previous research (Linger 1997, 2002), I have found it is important to interact with students in the classroom to improve their student learning experiences. As I was instructing students who were not native English speakers (I was told I was hired because I did not speak Cantonese, the local language), and so, I found it challenging to maintain a high level of engagement with all students during my classes. Also, quite frequently, students asked me to speak with them in Cantonese in the classroom like the local instructors, but I told them because the university's medium of instruction was English, speaking Cantonese was against the rules. As Asian students are known for not interacting with instructors during class, I continued to search for ways to breach that cultural barrier. While watching students using their mobile devices to interact with one another with Facebook and texting, I saw this as an opportunity to connect with them using their mobile devices, a tool with which they were familiar.

Google and Specialized Searching with Mobile Devices

I began by asking students to complete Internet searches using their mobile devices during class. At certain points during class, I would ask students to use their phones to conduct Google searches for terms or meanings, find the context of issues, locate background information of topic, and even find historical progressions of problems. At times students would share their findings with me by showing their device to me, and they or I would tell other classmates about the findings. After experiencing some success using the Google search engine, I asked students to use other, more specialized search engines, and this allowed for some critical thinking, in-class discussions about different sources of information. Although this exercise seemed somewhat effective, students continued to question the relevance to helping them prepare for their exams. I explained that this process enabled the class to use these 'real life' examples for learning and discussion. Although students seemed to find this process interesting and it helped them understand the real-world context of the

ideas, a few students noted in their semester-end teaching evaluations that they saw little value in doing this. Other challenges with searches were that I had little record of what students found during their searches, and at times, as I walked around the class, I found that they were not using their devices for searching as asked.

Flow Supporters As students were all familiar with Google, they used their phones to search for real-world ideas, solutions, and concepts. This was exciting and therefore generated feelings of self-esteem. Students' searching and sharing helped me develop new skills to enable them to conduct higher level searches using more specialized search engines which helped me develop my skills and I continued to return to these tools, and find more advanced uses for these tools.

Flow Blockers After the initial excitement, students lost interest which caused anxiety. Also, as I could not easily track their findings to give feedback, students seemed to think they were using this technology just to use technology and therefore saw little advantage in searching and finding information. By later in the semester, students had lost interest in searching and indicated that they wanted to focus more on information to help them prepare for their final papers and exams.

Observations Experiences Applying Google Tools with E-Portfolios

As I continued to investigate in-class interactive learning tools, I learned about Google Apps for Education while attending a parallel session at the e-Learning Asia Forum, 2014. The speaker introduced Google tools that were easy to learn (via YouTube) and use, were versatile and therefore useful in many different situations, and were free (no charge) to use. After viewing about 10 YouTube videos, I found the tools were fairly easy to learn to use and to apply in the classroom. Although I began testing using Google Docs first, I realized that Google Forms were easier to use for creating interactive lectures. After a video learning and testing period of 2–3 weeks, I felt comfortable enough to try using Google Forms in the classroom for interactive lectures. Later, I gave Forms to the students so they could give individual learning reflections at the end of class, and I tried using Google Docs with group research tasks within the classroom.

An important aspect of using Google tools was that the students and I could use the tools anywhere we were located when we had a device with an Internet connection. Later, I found that this allowed the students and I to walk around the classroom, or campus, (one student was at home sick when she completed a Form) with a smartphone or tablet and they could curate e-portfolio content wherever they found it. No matter where they were located, I could see what the students were doing, and therefore I could give them advice and guide them to different sources to help them find new information. Also, using the sharing function on Google Docs allowed me to see students work whenever they asked me questions, even when I was not at my desk. Further, although a few students complained about

downloading the Google Docs app onto their devices, many of the students told me they were keeping the app on their phones after the course.

Google Forms and Class-Level E-Portfolios

I found that Google Forms were a quite easy to use and simple survey tool. Within a Google Form I could include multiple questions, lecture slides, YouTube videos, links to check outside sources, as well as links to Google and other search engines to have students search for information during class. Soon after I implemented Google Forms, I realized that I no longer needed to teach from PowerPoint slides during the lecture, and I began teaching directly from the Forms. Also, as Google Forms were created in my Google Drive, the students' responses were automatically saved in a spreadsheet in the same folder as the Google Form. This enabled me to quickly look at the students' submissions and find exemplars of good examples that I could immediately share with the class so other students learn from high-quality, creative answers. Further, I was able to identify students who did not understand the material, so immediately I could work with them to help identify their gaps in understanding.

Because the lecture slides were included in the Forms for simultaneous viewing on their devices, students could review previous slides, if needed, before they answered questions. In effect, this interaction helped develop an experience–response in-class learning process that enabled students to immediately reflect on what they had learned and how they responded. This allowed me to observe differences in the way students were learning, thinking, and responding, so I could give them improved feedback on how they were processing or focusing on the ideas throughout the lecture. Although I had experienced success at interacting with students using Google Forms during my lectures, the interaction seemed stronger and more compelling as students knew they were contributing to the course-level e-portfolio.

Shortly after I began using Forms in class, students started asking me to give them access to answers they and other students submitted on Forms in previous classes. I simply gave them a link to share the past responses with them anonymously, so on their own, they could review what was submitted in previous classes. As I began a regular practice of sharing the responses with students, I realized this was the beginning of the class-level e-portfolios. I simply pasted links to the submissions into the class e-portfolio, so students could access the links any time they wanted. After giving them access to responses in the class e-portfolio, I noticed that students became more involved in class by asking more questions about their responses. Also, the quality of student responses improved as they realized that, although answers were anonymous, all classmates would see their responses. After process of sharing students' responses continued for a few weeks, one student created the term 'group note taking' as the classroom was becoming 'one big brain' engaged and sharing in the learning experience.

An advantage of Google Forms was that in a single Form the tool allowed me to ask any combination of many open-ended and closed-ended questions, as well as

draw from Internet sources like libraries or even YouTube. By inserting links to have students go search the Internet for information, compare examples, I found this process seemed to encourage higher level thinking and questions from the students as they explored information outside of the normal classroom. This created what seemed to be more learning ownership as I heard students often mention ‘our class’ responses’ as the students curated more diverse and interesting examples for the course-level e-portfolio. Also, the students seemed to embrace Google Forms so strongly that all groups included Google Forms in their final in-class presentations. This enabled each group to interact with classmates by asking questions and giving feedback during their final group presentations.

Flow Supporters As I searched the YouTube videos, I received over 500,000 hits containing different methods to use Google Forms and develop my own skills. Although, there was still a learning curve, I did not have any problems I could not overcome after watching more videos. This held my anxiety in check. Also, the YouTube videos were helpful for guiding me through the process of developing the interactive class experiences, and as a result I spent much more in-class time directly talking with the students as we discussed questions related to their e-portfolios. This was quite satisfying and my self-esteem was boosted through our in-class interactions and also when students referred back to their own answers and the course e-portfolio. Throughout the semester I continued to use and develop the tools by trying more and higher level tasks for the students by returning to the tools and seeking higher levels of engagement. There were several times I lost track of time as I was problem-solving and strategizing new uses for Google Forms.

Flow Blockers As mentioned before, I did experience a few anxious moments where I did not know what to do, but I seemed to find ways to overcome the obstacles by watching the videos.

Google Docs and Group-Level E-Portfolios

After using Google Forms for about two weeks, I felt comfortable enough to share Google Docs (HyperDocs) with groups to use as in-class research guides. The HyperDocs were created to guide the individual members of each group to curate content for their group’s e-portfolio. As Google Docs can be shared so several individuals can simultaneously collaborate to research and write, these HyperDocs became group wikis in this situation. To give some background to this assignment, for the past few years, at the beginning of the semester, each group in the class choose a case study problem to solve. Each week the groups would apply the newly learned course content to solve different aspects of their group problem using their Hyperdoc.

In the past, each group created a final PowerPoint presentation, but now the groups were tasked with creating a group e-portfolio that contained possible solutions to solve the case problem. In this new process, every week the members of each group were given a shared group HyperDoc to begin collaborating in

writing and researching tasks as in-class exercises. Students began these writing and research processes using their mobile devices in the classroom as they gathered content and helped develop their group e-portfolio. Using group e-portfolios as visuals in their final projects seemed better than PowerPoint because e-portfolios offered more opportunities for reflection, comparison, development, and feedback as e-portfolios were more tangible and permanent.

After students received the weekly in-class research HyperDoc containing various individual research tasks, group members could discuss responsibilities, search for information and examples on the Internet, and then each member would insert her or his findings into the group HyperDoc during class. Group members were asked to evaluate effectiveness of their research and findings, and then later, after class, groups would edit their findings and create for their group portfolios. Also, it is important to note that, even though I could not understand the in-class group discussions which were in the students' mother languages of Cantonese or Mandarin, I could still see what each individual was writing in English on the group research HyperDoc. Also, Google Docs have a revision history feature, so I could identify content that individual students had written and then give those students immediate feedback.

As with Google Forms, students were not limited to remaining in the class to complete their research tasks. They could, as a few classmates did, go to the library, find resource, take pictures with their phones, and then upload the pictures into the group research HyperDocs to share the information they found. There were, however, three incidents when students were absent from class and yet they were still completing their in-class research and writing tasks. Although I was happy the absent students were contributing to their group work, I would have preferred they were in the classroom so I could give them immediate feedback.

As groups were researching information in real time in the classroom, I was able to observe, advise, and guide their critical thinking as they developed the best solutions for their case problem. Interestingly, at the beginning of the semester I was giving a lot more advice on "what kind of" and "where to find" information, and as the semester progressed, students were asking me more questions about application, context, and synthesizing options to solve their case problem and improve their e-portfolios. Building on this, I noticed that as the semester evolved, the group members began giving feedback and support to one another too. Being the instructor, I found that I was interacting with students and answering many more questions than I answered before I had introduced the Google Docs and e-portfolios combination.

While the groups were curating content for their e-portfolios, I could see group collaboration activity on my own device as I watched students in real time. Also, I was able to observe students as they practiced real-time collaborative discussions, work tasks, studies, and reviews within the classroom. In the end, the group e-portfolios were focused wikis containing re-mixed content students curated and put into infographics and memes. Although literacies were not the focus of this paper, it is worth noting that many of the literacies discussed by Dudeney et al. (2013) and twenty-first century skills listed by Bates (2015) were practiced when the students engaged in these shared group research HyperDocs.

In the past, when I asked my students to be creative in class, I could see fear in their faces which was usually followed by questions from them like, “How can we be creative?” The answer to how does one “be creative” is not easy, but with group e-portfolios I asked the students to compare different groups’ examples and then have them discuss which artifacts were appropriate, or better for addressing different e-portfolio problems. Also, because all the group e-portfolios were linked to the course-level e-portfolio, at any time the students could see other groups’ work as examples. After a few weeks, I saw that students were regularly checking other groups’ e-portfolios for inspiration.

Later in the semester, the students were asked to use Google Forms to submit anonymous peer feedback for other groups’ e-portfolios. This peer feedback was then posted in the course-level e-portfolio and became the focus of class discussions as we analyzed and discussed students’ peer feedback submissions for critical thinking and appropriateness.

Flow Supporters Again, I searched the YouTube videos, I found over 500,000 samples that demonstrated different ways to use Google Docs and therefore viewing a few of these videos helped me develop my own skills and overcome problems. This enabled me to build confidence as well as reduce anxiety. Although using Google Forms enabled me to feel more useful by answering more questions and having more discussions, using Google Docs made this question–discussion interaction flourish in the classroom. Like most instructors, I teach to interact and help my students, so this was a great esteem building exercise and I felt excited to continue using the tools with more and more interesting tasks for students. Similar to Google Forms, there were several times I lost track of time as I was problem-solving and strategizing new uses for Google Docs.

Flow Blockers Although Google Docs were not as easy to use as Google Forms, I was able to learn how to use them with only a few challenges.

Google Forms and Individual Student E-Portfolios

A third level of a portfolio was the individual student e-portfolio. In this exercise, students created their own e-portfolios containing not only, their resume, job search cover letters, but also reflections of valuable knowledge and skills they had learned each day in the course. Near the end of each class student completed and submitted a Google Form to record reflections of what they learned in class and how the learning may be valuable to their personal or professional lives. When students submitted their reflections, they would get an automatic response email containing their submission and then students edited and copied those reflections into their individual portfolios. An added benefit to this was each week I could see what they were reflecting and know how well they were learning. This exercise was similar to the “One Minute Paper” process described in Angelo and Cross (1988). Again, because all of the students’ submissions were saved in my same Google Drive

folder as the Form, it was easy for me to see students' responses in class immediately after they submitted them. In the past I collected the one minute papers to view and return to students, but now I just read down the column in the spreadsheet. Google Forms eliminated the whole process of students' filling out the 3×5 cards, giving the cards to me, and then my checking the responses on the cards, and returning the cards to the students.

Flow Supporters Similar to the Google Forms and Course-level e-portfolio combination, I developed more new skills and experienced fewer anxious moments than with other interactive tools. By having a quick check and reading the students' responses in the spreadsheet, I felt I was able to understand the students better. I learned a great deal about what they thought was important and how they thought they could apply the information to improve their daily lives, and often, the students found value in areas and applications I had not imagined. This process was quite fulfilling and it helped me continue to look for more relevant uses for the tools as well as develop and improve in-class examples for my lectures.

Flow Blockers As I had learned to use Google Forms before, they were easily adapted to this task with few challenges.

Discussion

Though modest, the results articulate an instructor's experiences using two simple and easy to use applications to curate e-portfolio content and reporting flow experiences in the process. These findings were similar to those reported in previous flow literature. An important key seems to be the combination of using just two simple Google tools Forms and HyperDocs, to help students curate content for their e-portfolios within the classroom. As for this instructor, using the tools was more fulfilling than past exercises using paper worksheets. Also, using the interactive tools in the classroom seemed to help students benefit from increased engagement, instructor interaction, and instant feedback during classroom activities, while the instructor was able to follow student knowledge and skill development more closely.

As two primary characteristics of flow experiences are engaging in an activity and having a goal, it seems using the Google tools to curate content was the activity and the e-portfolio was the goal. Students used the tools to interact with me both in class, and with technology via their e-portfolios, and this process seemed to become a more collaborative experience for all. Future research could focus on quantitative assessment of instructor flow experiences as they learn to use these tools.

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