Designing Meaningful Asynchronous Discussion Activities: A Design-Based Implementation Research Proposal

Katrina M. Wehr

Pennsylvania State University

Abstract

This proposal provides a narrative of a research study following the methods prescribed by Penuel et al. (2011) for a design-based implementation research study. This proposal follows the characteristics outlined by McKenney and Reeves (2012) for education design research proposals. The project aims to study the relationship between design and meaningful asynchronous discussion activities in a studio-based online course from the perspectives of students and instructors. This study proposes two iterations of research: the first iteration being an information-gathering study and the second iteration deploying an intervention based on the work of Gašević et al. (2015) for improving outcomes of asynchronous discussion activities based on the Community of Inquiry model.

*Keywords*: asynchronous discussion, design-based research, studio-based instruction

**SECTION 1: PURPOSE**

As a practitioner, I have observed many challenges related to teaching individuals at a distance with the assistance of technology. Some challenges are easy to resolve and require little research or collaboration. Conversely, other challenges are big, messy, and take a village to try to tackle. In my current position, I have encountered one of these difficult problems of practice when it comes to designing successful asynchronous discussions in the digital environment. Specifically, asynchronous discussion is relied upon heavily in a digital media design bachelor’s program, which is delivered 100 percent at a distance.

It is important to differentiate the discipline when considering the aspects of this problem. Degree programs in the visual arts utilize a specific pedagogy known as studio-based instruction, which is generally centered on the process of making, and is defined by qualities such as promoting an open learning environment and encouraging responsive communication among instructor and peers in order to receive and provide feedback to facilitate iterative work (Chinn et al., 2017). This unique space, when translated for distance learners, can be described as a series of asynchronous discussion activities with specific outcomes. Our current solution for this pedagogical strategy is an online studio tool that attempts to promote open discussion and feedback, but after several semesters of use, it is clear that refinement is necessary in order to improve the student and instructor experiences in this environment.

In order to best study the phenomena occurring in this space, as well as develop an environment that could potentially solve some of the problems, I propose to examine asynchronous discussion environments utilizing the design-based implementation research approach as defined by Penuel et al. (2011). Design-based implementation research focuses on iterative, collaborative design around problems of practice “from multiple stakeholder perspectives” (Penuel et al., 2011, p. 332). In addition, design-based implementation research reflects one of the hallmarks of traditional design-based research in that it also aims to develop theory along with the intervention. This aligns with my project goal of not only designing an environment, but also generating theories about what makes it successful or unsuccessful to inform future iterations of the environment design.

Broadly stated, the purpose of this design-based implementation research study will be to explore design elements of digital studio discussion spaces in online learning environments for undergraduate distance students enrolled in an art course at an R1 university in the mid-Atlantic region. Design elements will be generally defined within two categories. The first includes visual design choices, which refer to layout, color schemes, iconography, and other elements that impact the presentation of content in the learning environment. The second category is instructional design, which refers to any choice made about the way a task or activity is carried out. Discussion spaces will be defined as any virtual location where peer-to-peer conversation or instructor-student conversation occurs that is visible to all students in the course. For the purposes of this proposal, any mention of the virtual studio space can be considered a discussion space.

**Research Questions**

This research aims to explore how asynchronous discussion spaces can be designed to promote critical conversation that aligns more closely with studio-based instruction pedagogy. In order to work toward these outcomes, the project will be guided by the following questions.

Central Question 1: Understand through design-based implementation research how undergraduate distance learners participate in asynchronous studio-based discussion activities.

Central Question 2: Explore through design-based implementation research the influence of design choices in online discussion environments.

In addition to these overarching questions, the following questions identify more specific points of interest that I hope to gather data about through this project.

1. How does task design influence depth of participation?
2. How does environment design affect critical conversation in peer-to-peer discussion?
3. How can instructors support students in discussion-based learning activities?
4. How does environment design impact community in online discussion environments?

**SECTION 2: THEORETICAL FRAMEWORK**

Based on literature review, this project will be carried out under a few theoretical assumptions which are briefly explained in this section. First, the current body of research on asynchronous discussion activities utilizes the Community of Inquiry model to guide development of interventions. The Community of Inquiry (CoI) model was developed by Garrison et al. to guide educators’ use of computer mediated communication tools to deliver instruction (2000). In their hallmark paper, the authors assert that learning happens within a community comprised of students and instructors, and they identify three “essential elements” (2000) for successful learning. These elements include social presence, cognitive presence, and teacher presence.

The Community of Inquiry model has been categorized by existing literature within the constructivist set of beliefs about education, and constructivism is another theory that this project subscribes to. Specifically, asynchronous discussion activities have frequently been studied through the lens of social constructivism, and this study will also examine the current state of discourse from this perspective. Social constructivism is an offshoot of the constructivist theory of how we learn and was primarily refined by Vygotsky (1978). Vygotsky’s beliefs about meaning making among learners involve discussion and sharing perspectives within communities of practice comprised of peers and experts with varying levels of understanding about a subject (1978). Woo and Reeves used social constructivism to study meaningful interactions in online environments (2007). According to their perspective, social constructivist beliefs involve learners making meaning and obtaining knowledge by participating in the social aspects of a learning environment (2007). They also believe that online learning interactions can become more meaningful if activities are designed according to social constructivist frameworks (2007).

This research project will utilize social constructivism and the Community of Inquiry model not only to guide intervention development, but also to assess the current discussion environment and inform both the instructional and visual design choices for the intervention.

**SECTION 3: METHODS**

**Research Site**

This research project will take place in a 100 percent asynchronous undergraduate art course that incorporates studio-based instruction activities. The course is delivered in a university supported learning management system, but the studio-based elements of the class will take place in an online learning platform that has been specifically developed to facilitate studio instruction. The course is a traditional 15-week long semester course taught every semester. The research project will be conducted over a period of two semesters, with iteration one taking place in the fall and iteration two taking place in the spring, with the potential to extend the time to the next academic year if results indicate that would be beneficial.

**Participants & Selection**

The participants in this research will include both instructors and students. Students in this course are generally underclassmen who are new to studio instruction in general. Since the course is geared toward distance learners, the participants could live anywhere in the world and access the course material at any time to participate when it suits their schedule. The instructors in this course both have MFAs and have taught the course before.

These participants have been selected because of the unique setting in which they are engaging in studio-based discussion activities. The instructors for the course were recruited because of their experience as students participating in face-to-face studio-based conversations and as instructors in face-to-face studio-based courses. These instructors have also contributed expertise and feedback to the development of the initial studio-based discussion environment.

Student participants will be selected for additional interviews and analysis based on their level of participation in the discussion activities in the course. In order to obtain useful feedback to improve the instructional and visual design of these activities, it is necessary to hear from students who show high participation and low participation to better understand what aspects of the design allowed or prevented their participation.

**Study Design**

**Iteration 1**

The first iteration of the study will establish a baseline to be used to compare to iteration 2 and be used mainly to test the effectiveness of data collection methods and instruments.

**Iteration 2**

In iteration 2, I would like to implement an intervention based on another design-based research study. The intervention is outlined by Gašević et al. in 2015, where the research team created role assignments and role rotations for their asynchronous discussion study. In their project, the researchers developed roles that specifically aligned not only with markers of cognitive presence, which is one of the three components of the Community of Inquiry model, but the roles were also aligned to the goals and outcomes of the course (Gašević et al. 2015). To provide a brief example, students in a graduate-level research course were assigned roles such as “research expert” and “practicing researcher” and used those roles as context to compose their responses to the discussions in the course (Gašević et al. 2015, p. 56).

For the purposes of this research, I propose that in consult with the instructors, we divide students into groups and develop two roles that align with the course goals. For the sake of this proposal, I will pitch a “client” role, where students would provide feedback from the perspective of the client who will receive the project, and a “tutor” role where students would write their feedback from the perspective of someone who is workshopping the piece. After each project is completed, the roles would switch, and the students would participate from the alternate perspective.

**Data Collection**

Data will be collected through a variety of means. First, artifacts from the natural proceedings of the course will be gathered, coded, and analyzed for themes. Artifacts that would be analyzed in this way include discussion posts, artwork, and reflection assignments completed after each unit. Surveys will also be administered after the first three weeks, six weeks, and 12 weeks of the semester. These surveys, created with the instructors of the course, will ask students to rate the quality of the studio discussions, how helpful the discussions are in improving their work, and other similar questions so that student perceptions of quality can be tracked throughout the semester and compared across semesters. Instructors will also complete surveys documenting their own perceptions of the quality of studio conversations throughout the semester.

In addition to surveys, students will be selected based on their participation in the studio discussions for in-person interviews to take place via video conference software toward the end of the semester. It would be helpful to interview students who participate beyond what is required and those whose participation ends when requirements are met to understand the different perspectives of these students’ experiences in the studio discussion activities, if such students exist in the course and are willing to interview. In the interviews, students will be asked to explain how they participate in the discussions and what characteristics of the design make their participation easier, and what makes it difficult. They will also be asked to talk about a specific interaction that will be identified from the artifact collection.

Finally, at the end of each semester, instructors will be interviewed about their perspectives of how the class participated in the studio discussions and they will be asked to share their ideas on the intervention and suggest other implementations that could be researched in future iterations.

**Tradeoffs**

There are some tradeoffs worth considering by proceeding with this research as proposed. For example, the same group of students will not experience iteration 2 or 3 of the intervention, which could impact the degree to which comparison of student perspectives may be considered valid. Additionally, the studio-based discussion was developed based on the perspectives of two faculty members with similar training and backgrounds. Introducing different instructors into the study may help provide new insights that haven’t been considered before. The instructors involved in the study have also taught the course in the past, which can be a strength but also a trade-off due to potential feelings of loyalty to the original design of the course.

**SECTION 4: IMPLICATIONS AND RELEVANCE**

Completing this research project will obviously benefit the community involved in supporting this 100 percent asynchronous art bachelor’s degree program, which relies heavily on studio-based discussion activities as an integral learning experience for enrollees. Any results that contribute to improving the asynchronous experiences of the program are valuable for the local community. Depending on the nature of the results, findings could potentially apply to the design of face-to-face studio-based learning experiences as well if role assignment does in fact help students contribute more meaningful critical feedback for peers.

More broadly speaking, completing this research project could contribute to the existing work around the cognitive presence piece of the Community of Inquiry model discussed above. In addition to contributing to theory about the Community of Inquiry model, this research also has significance for higher education professionals who are interested in providing art offerings at a distance. This research findings could also contribute to design principles for the instructional design and implementation of asynchronous discussions in that creating customized roles for specific types of discussions might yield better all-around participation in asynchronous discussion activities across disciplines, but more research would be needed to determine the extent of that claim.

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