

Chapter 23

Phases, Scaffolds, and Technology: Cloud-Based Student Collaboration Model for Online and Blended Course Design

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ABSTRACT

With ubiquitous Internet and the related tools, including computational devices and cloud-based technology, has come public access to a world of information literally at one's fingertips. This has led to the increased use of cloud-based student collaboration as a key strategy for engaging students as responsible, creative, and productive participants in the learning process. For the purpose of this qualitative study there are three objectives: 1) update and revise a course design model for cloud-based student collaboration that uses phases and scaffolds, and includes an optimal cloud-based collaboration toolkit identified by graduate students, 2) describe an online course wherein this model has been applied, and 3) share exemplar course materials including guides, learning plans and directions, and content scaffolds in the form of templates, that support this model and can be repurposed by anyone using cloud-based student collaboration in higher education.

INTRODUCTION

In the last twenty years, with the advent of the Internet and the development of computational devices for the general public, the world began to change. In the past 6-10 years, the fast forward button for change was pressed as smart phones started a path to ubiquity. With ubiquitous Internet and related tools has come public access to a world of information literally at their fingertips. If information resides “in the human mind as knowledge” (Liew, 2007, Section 2, para. 8) and if “knowledge is power” (Annan, 2000), then at no time ever before this time period, have people had so much potential for power. This power is available to education and the New Media Consortium Horizon Reports (Cummins, Johnson,

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Phases, Scaffolds, and Technology

& Adams, 2012; Johnson, Becker, Estrada, & Freeman, 2014) note trends impacting higher education including the technologies we use becoming increasingly cloud-based and the increasingly collaborative nature of work environments driving changes in the way student projects are structured leading to shift of students as consumers to creators and to new education paradigms that include online, hybrid, and collaborative models. Nace (2015) notes the need in education for supporting the development of “change skillsets.” For this, a curriculum of change and innovation is needed. Change is needed but change is hard, and rapid innovative change seems near to impossible. To support a more rapid approach for development of “change skillsets” and curriculum of change and innovation, it is imperative that educators share viable models and resources. For the purpose of this qualitative study using case study methods and auto-ethnographic methods, there are three objectives, 1) update and revise a course design model for cloud-based student collaboration that uses phases, scaffolds, and an optimal cloud-based toolkit, 2) describe a graduate level online course wherein this model has been applied, and 3) share exemplar course materials including guides, activity plans and directions, and content scaffolds in the form of templates.

BACKGROUND

As previously noted, work environments are becoming increasingly collaborative, new educational paradigms include online, hybrid, and collaborative models, technologies we use are becoming increasingly cloud-based, and student roles are shifting from consumer to creator. Thus, cloud-based student collaboration is increasingly becoming an effective strategy for teaching and learning, and includes a beneficial set of skills for students to develop. Further, many cloud-based collaboration tools are available to support student collaboration in a variety of forms such as student group work, the focus of cloud-based student collaboration in this study.

Cloud-Based Student Collaboration

Conrad and Donaldson (2004) remind us that “Bruner, Vygotsky, and Piaget all embraced the philosophy that humans do not learn in a vacuum but rather through interaction” (p. 4), and Pallof & Pratt further discuss collaboration as an integral component and “the ‘heart and soul’ of an online course or, for that matter a course that bases its theoretical foundation in constructivism” (Pallof & Pratt, 2005a, p. 6). When students are engaged in learning groups within a learning community they “have the opportunity to extend and deepen their learning experience, test out new ideas by sharing them with a supportive group, and receive critical and constructive feedback” (Pallof & Pratt, 2005b, p. 1). Collison, Elbaum, Haavind and Tinker (2000) further note the importance of collaboration and collective inquiry:

A process that involves inquiry confronts the unknown and relies on personal or collective resources to resolve questions. The online environment in which inquiry can flourish is gradually built by collaborative and collective contributions. Such collaboration efforts are likely to result in better outcomes, designs, practices, or products. (p. 30)

With the increasing development of cloud-based technologies, elements for the development of learning community and for class collaborations have also moved to the cloud. Such elements include student-ways of communication and document sharing (Fichter, 2005), student reflective activities (Lin,

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