Chapter 6
Critical Cloud Pedagogies: Using Network Diagrams to Name and Visualize Learning Networks

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ABSTRACT

Many students will soon enter high-tech workplace environments that utilize cloud technologies and systems, yet they must be critical of the technologies and infrastructures they use on the cloud. More approaches are needed, however, to facilitate learning environments where students both use cloud technologies and have opportunities to critically reflect on their rhetoricity. The author argues that new vocabularies are needed to describe the use of cloud technologies, especially those used in our pedagogical practices. Utilizing vocabularies and methods informed by actor network theory, instructors can easily identify and diagram the networks that students compose in pursuit of their learning goals. To demonstrate, the author offers network diagrams representing two different writing courses taught in the United States, in turn presenting how instructors can engage in similar diagramming practices and even use the “cloud” and “networks” as crucial points of inquiry for students.

INTRODUCTION

In the not-so-distant past, writers would need to save their files and data on a local hard drive. However, cloud technologies have quickly transformed the way writers compose, shifting from a hardware-driven logic to a network-driven, cloud logic. In addition to the hardware-to-network shift, writers have also experienced a new age of asynchronous collaboration previously impossible in the past. Everyday literacies are now mediated by a range of web-based applications that work from the cloud logic, such as word processors (i.e., Google Docs, Etherpad, TitanPad), data storage and management (i.e., Dropbox, Google Drive, Box), and social media platforms (i.e., Twitter, Facebook, Tumblr). The shifts of ‘hardware to network’ and ‘individual to collaborative’ are not just shifts in logic, but they are also profound shifts in our orientation to technologies and the affordances they provide.

The shift from an industrial to an information age has shaped the context for distributed work teams. According to Michael Hardt and Antonio Negri (2000), “In the passage to the informational economy,
the assembly line has been replaced by the network as the organizational model of production, transforming the forms of cooperation and communication within each productive site and among productive sites” (qtd. in Meijas, 2013, p. 4). Work in this information economy is now mediated by collaborative tools on the cloud, helping facilitate network-driven knowledge production in new, dynamic ways. To further highlight the context of knowledge work mediated through cloud technologies, high-tech work environments are increasingly global, with workers distributed across geographical and geopolitical borders. Robert Reich (1992) coined the phrase symbolic-analytic work, which describes how workers in an information economy are problem solvers who utilize computers for their everyday work activities. Symbol analysts, who primarily analyze and arrange symbols for their daily work activity, can often telecommute and are granted with more mobility for their careers. Now nearly two decades since the Reich outlined the work activities of symbol analysts, a new creative class has emerged, including a new culture of innovators and entrepreneurs. Institutions of higher learning continue to play a key role in preparing new members of this information economy.

However, in this era, perhaps more than any other in history, a failure to consider and confront the power relationships represented and enacted by technologies is vital. Students, many of whom will enter high-tech workplace environments that utilize cloud technologies and systems, must be critical of the technologies and infrastructures they use on the cloud. There is lack of methods to engage students in critical cloud pedagogies, however. More approaches are needed to facilitate learning environments where students both use cloud technologies and have opportunities to critically reflect on their rhetoricity.

In light of the challenges that the cloud presents, important delineations are needed. “The cloud”, the way I utilize it here, refers to the sociotechnical imaginary that has now provided a new logic for knowledge work in an information economy. Cloud technologies are social web-based tools that allow users to perform, participate, and engage in networks on the cloud. Following these terms--and in the interest of this collection-- “cloud pedagogy” refers to teaching and learning that utilizes cloud technologies and sometimes even engages students in the topic of the cloud itself.

The shifts in logic and orientation have been facilitated by development of the cloud. Still, the cloud is difficult to grasp. It is at once technological and cultural, both imaginary and artefactual. The shift to the cloud has happened so quickly, and has so rapidly permeated our everyday literate practices, that we are still attempting to make sense of it. The difficulty in making sense of the cloud logic and its influence on everyday writers is, primarily, a lack of vocabulary to describe it.

In this chapter, I argue that new vocabularies are needed to describe the use of cloud technologies, especially those used in our pedagogical practices. In order to address this, I suggest that actor network theory can provide both a vocabulary and a modeling method for cloud pedagogy. Utilizing vocabularies informed by actor network theory, instructors can name and visualize the networks that students engage in for their learning goals. Network models are especially beneficial for critical reflection and course planning, especially courses in which students utilize multiple cloud technologies to facilitate their learning. When utilizing actor network theory, including its vocabularies and methods, instructors are better situated to afford students with more agency and, ideally, provide learning environments where students can achieve learner autonomy and grant themselves with more agency. Cloud pedagogy, when informed by the sensibilities of actor network theory, has an opportunity to shift to a network-focused pedagogy that values relationality of people and things, avoiding technology-driven pedagogies and curricula. Actor network theory methods can also help facilitate rhetorically-focused pedagogies that utilize cloud technologies. I first begin by highlighting the metaphorical underpinning of the cloud and the network, examining how these terms operate rhetorically. I then provide an overview of actor network theory