Mobile Learning, Teacher Education, and the Sociomaterial Perspective: Analysis of the SMS Story Project

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ABSTRACT

This article is primarily a theoretical piece that uses a model of mobile learning, the FRAME model (Koole 2009), to explore a mobile teacher-training project that took place in Papua New Guinea: the SMS Story. The author takes a sociomaterial perspective, drawing upon Barad’s agential realism and Sørensen’s multiplicity perspective. As the author explores the “intra-actions” of the social, learner, and technological aspects of the FRAME model, diffraction patterns arise; in other words, spaces of social and material possibilities, constraints, and tensions come into view. New ethical questions emerge regarding whose perspectives and whose practices should come to matter in pedagogical practices. This article is intended for qualitative researchers, teachers, and teacher educators who are interested in alternative ways of thinking about the entanglement of mobile technology, humans, and materialities in educational contexts.

KEYWORDS

Agential Realism, Apparatus, FRAME Model, Mobile Learning, Papua New Guinea, Posthumanism, SMS, Sociomaterial, Teacher Training

INTRODUCTION

The Framework for the Rational Analysis of Mobile Learning (FRAME) model (Koole, 2009) is highly commensurate with the sociomaterial perspective. The model can help teacher educators and teachers-in-training understand how the material and the human are inherently intertwined. The SMS Story project (Kaleebu, Gee, Maybanks, Jones, Jauk, & Watson, 2013; Kaleebu, Gee, Jones, & Watson, 2013; Gee & Jones, 2013) will be used as an example. The SMS Story project took place in Papua New Guinea (PNG) with the goal of using a seemingly simple mobile technology (SMS) to provide training content to English teachers in remote areas. The analysis of the SMS Story project through FRAME model demonstrates the complexity of the entanglement of technology, culture, and individuals in the learning process.

In this paper, the author will draw upon Karen Barad’s (2003, 2007) agential realist perspective and other sociomaterialist writers to argue that the recognition of non-human actors in teaching and learning is an important issue with ethical implications. The first half of the paper is highly theoretical offering a discussion about sociomaterialism, agential realism, and the FRAME model. The second half provides a concrete example (the SMS Story Project) to illustrate the theoretical. In closing, the author will review the entanglement between the local, sociomaterial processes and Western pedagogical and technological approaches. Localization of mobile learning content and practices in teacher training emerge as a significant issue.

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BACKGROUND

Sociomaterialism

Theoretical approaches that privilege matter over discourse or humans over non-human can lead to deterministic views in which the activities of one kind of actor is thought to shape the world and its possible configurations. Current educational practices may unnecessarily constrain the field of possibilities particularly if they are based upon a limited view of the agency of the local people, communities, and environmental contexts. Ethically, a broadened awareness of the agentic potential of the variety of actors in specific educational contexts can help teachers recognize whose or what’s perspectives have come to matter, wittingly or unwittingly, through our pedagogical activities.

The author’s perspective of sociomaterialism, is derived primarily from the writings of Barad (2003, 2006) and Sørensen (2009). The perspective is performative and inclusive of human and non-human actors. Performativity emphasizes what something does (Sørensen, 2009). Matter matters because it intra-acts to co-constitute phenomena (Barad, 2007). In a mobile learning context, this suggests that people, devices, communications networks, and social rules are all connected and all affect the nature of the mobile intra-action. The word intra-action is used here because it suggests entangled agencies within continually emerging phenomena as opposed to interaction, which suggests already existing entities (Barad, 2007).

The terminology in this paper requires careful treatment. In agential-realist terms (Barad, 2007), the FRAME model, described in the next section, is itself an apparatus that requires the theorist to delineate boundaries of phenomena. An apparatus is made up of phenomena. Phenomena are primary ontological units that are constitutive of reality. Apparatuses, themselves, are boundary making; they are discursive-material phenomena that dynamically reconfigure the world through material-discursive practices. For example, while binoculars (an apparatus) change one’s field of view over large distances, a microscope (an apparatus) changes one’s field of view over small distances making the minute appear large. Knowledge practices help actors determine which apparatus to use. What is key about apparatuses is that they enact a cut (draw metaphorical boundaries; make determinate) between the ever-emerging phenomenon and the agencies of observation.

Influence from Sørensen’s (2009) work suggests it is possible for the coexistence and coordination of multiple, concurrently existing patterns of relations. For example, light can be understood as both a wave and a particle at the same time; water can be understood as both continuous (a body of water) and discrete (molecules) at the same time. In Sørensen’s multiple-concurrent view, matter can be bounded, fluid, and networked at the same time. For sociomaterialists, matter can be both material and discursive simultaneously.

By using Barad’s agential-realist perspective and Sørensen’s (2009) multiplicity perspective, this paper conceptualizes the FRAME model with fewer binary distinctions and foundational/anti-foundational assumptions. Each aspect is not to be taken as a singular, unchanging, bounded phenomenon, but multiple, interrelated, and constantly changing. Such a view can help us escape social and/or technological determinist positions. Instead, we can consider the material and discursive as inseparable, contingent, and always becoming.

The FRAME Model

The FRAME model (Figure 1) defines mobile learning as an apparatus comprising learners, society, and technologies. The model is depicted as a Venn diagram comprising three sets. Each set is a circle, called an aspect. Each aspect is also an apparatus that is in a constant state of performativity and becoming.

The intersections of the FRAME model are also apparatuses where the aspects metaphorically collide and intermingle. The metaphors of diffraction patterns in light and ripples in water provide us with a way to think about the intersections of the FRAME model: dropping a stone into water is an
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