The Effects of Mobile Collaborative Activities in a Second Language Course

Peter Ilic, Toyo University, Tokyo, Japan

ABSTRACT

This research is designed to explore the areas of collaborative learning and the use of smartphones as a support for collaborative learning through a year-long exploratory multiple case study approach integrating both qualitative and quantitative data analysis. Qualitative exploratory interviews are combined with Multidimensional Scaling Analysis to provide a detailed image of students’ mobile use during collaborative activities. The Multidimensional Scaling (MDS) reliability is supported by a second resampling that produced similar results independent of time or subjects. The results are triangulated across the qualitative and quantitative data and key issues are interpreted and discussed. The results indicate that the introduction of mobile access collaborative homework to a second language English class in Japan does have observable effects on students, including changes in use of space, time and method for mobile collaborative homework.

Keywords: Case Study, Collaborative, EFL, Japan, M-Learning, Mixed Methodology, Mobile, Multidimensional Scaling, Smartphone

INTRODUCTION

This study was designed to add to the understanding of how smartphones, used in a second language course for collaborative learning activities, impact the students’ learning habits. This study is set at a university in Tokyo, Japan, and the research students are native Japanese speakers who have studied English as a foreign language (EFL) for eight years. The central research question of this study is, “Does the use of smartphones for homework affect the relationship between Japanese university students, their mobile phones, and their homework?” The results of the study suggest that the use of mobile phones did impact this relationship in 3 ways; the time of collaboration, the space in which collaboration took place, and the method by which collaboration took place.

In the context of language learning, instructors need to understand the most effective ways to encourage collaborative learning to encourage second language communication. At the same time, it is important to consider the context of the students and the tools that are familiar to them.

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The affordances offered by smartphones for learning such as anywhere, anytime communication and data gathering contribute to these considerations.

**LITERATURE REVIEW**

**Time and Space**

Modern telecommunications is increasingly leading to a description of time as being compressed (Harvey, 1999), global (Adam, 2013), and instantaneous (Urry, 2002). Time is seen less as continuously linear and more as a multitude of individual moments (Adam, 2013) such as home, school, and work time. This view could mean very different patterns of interaction between students when collaborating through a mobile phone. The mobile phone supports this idea of time because it allows communication during previously unproductive periods of time (BenMoussa, 2003; Perry, O’hara, Sellen, Brown, & Harper, 2001) such as when traveling, so increasing the number of possible activities (Johnsen, 2001) like finishing homework (Virvou & Alepis, 2005). Likewise, space is less about localized presence as mobile technology separates space from place (Giddens, 1990). This mobility replaces the impression of being at a place for communication with a telephone, to belonging to a network of communication (Geser, 2004). This network membership means that the importance of traditional boundaries in physical space is changing.

Smartphones have created simultaneity of place (Traxler, 2009), a kind of bridging of physical spaces like home, school, and work, through the creation of a mobile social space, filling the gap between them (Bull, 2005). Mobile technologies transport communities and discussions into physical public and private spaces forcing people to adjust their behavior to manage a more fluid environment (Traxler, 2009). Private is no longer just what happens when physically alone (Cooper, 2002). A student on a crowded train may have a private moment enjoying a favorite movie or silently texting a close friend. The advance of mobile communications has brought with it a blurring of public and private boundaries; however, it is still unclear what the impact of such fundamental changes will have on collaborative learning and learning in general.

**Collaborative Learning**

Collaborative learning (CL) has its theoretical base in sociocultural theories, and places students in pairs, groups or communities of learning where they work with others to form questions, discuss ideas, explore solutions, complete tasks and reflect on their thinking and experiences (Laurillard, 2009; Stahl, Koschmann, & Suthers, 2006). In CL, learning is situated in student-centered activities (Wang, 2007) in which they establish shared meanings and develop critical and reflective thinking skills. Knowledge and understanding can be helped by collaborative work on topics that require genuine discovery together with peers who offer differing opinions for discussion (Damon & Phelps, 1989; Doise, Mugny, & Saint James-Emler, 1984; Howe, Tolmie, & MacKenzie, 1995).

In a collaborative group, the insights created and assimilated go beyond what could be managed independently (Tomasello, Kruger, & Ratner, 1993). CL is a social construction of knowledge where individuals are members of a group, but members remain engaged in a shared task using negotiation and shared meanings (Stahl et al., 2006). Social interaction between peers is fundamental to achieving learning (Dillenbourg, 1999). In a CL activity, usually three to five members take part in a coordinated effort to learn a specific educational objective (Dillenbourg, 1999) in a real social interaction context (Zurita & Nussbaum, 2007). The communication af-
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