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The impact of blended e-learning on undergraduate academic essay writing in English (L2)

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ABSTRACT

This paper describes a quasi-experimental study into the impact of a blended e-learning environment on academic writing assignments in English (L2) at a Thai international college. An experimental group of 15 students used an on-line bulletin board, as well as face-to-face (F2F) communication in class, to share information for essay topics they were preparing. The control group of 15 students, constituted from two smaller classes, used only F2F for the same task. The experimental and control groups were then compared on three variables for each of the three essays they wrote: number of references used; word count; essay score. The research hypothesis was that the use of the bulletin board would compensate for the larger class size of the experimental group and result in no difference in performance between the two groups. Results indicated that the experimental group had higher means on six of the nine outcomes, though these were not statistically significant, suggesting that the bulletin board may have more than compensated for the larger class size. The discussion includes consideration of how better control over the experimental conditions might lead to greater leverage of an on-line bulletin board as part of a blended learning environment.

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1. Introduction

Computer-mediated communication (CMC) has been used in mainstream classrooms for a number of years. Despite concerns about its effectiveness (see review by Torgerson and Zhu (2003)), there is a significant body of research to indicate that CMC is an important instructional tool (for a review see Johnson (2006)).

University students and lecturers in many parts of the world have reported positive attitudes towards CMC (Finland: Lindblom-Ylanne & Pihlajamaki, 2003; Taiwan: Liaw, Huang, & Chen, 2007; Turkey: Sagin Simsek, 2008). There is also evidence of the influence of CMC on performance (Italy: Francescato, Mebane, Porcelli, Attanasio, & Pulino, 2007; Egypt: EL-Deghaidy & Nouby, 2008; US: Koory, 2003).

Second language (L2) learning has also benefited. The evidence suggests that the use of CMC in the L2 classroom can improve students' involvement in their learning (Belcher, 1999; Bloch, 2002), and more specifically with their writing (Liaw & Johnson, 2001; Sullivan & Pratt, 1996). However, Murray (2000), reporting on distance learning, commented that more L2 research was needed on the measurable performance benefits of CMC.

1.1. Collaborative learning

In L1, Uribe, Klein, and Sullivan (2003) found that students at a US campus who collaborated using CMC performed better on solving illdefined problems than those who worked alone. In Holland, students on an English Literature course were split into two groups for on-line course assignments: studying alone; studying in groups. Results showed that the on-line groups achieved higher marks (Van Eijl, Pilot, & Voogd, 2005). Caballe (2007) argues that for collaborative learning (CL) environments to be effective, they must be customized. In this study, CL was achieved on essay assignments by using the classroom for brainstorming and discussions, and an on-line bulletin board for sharing evidence.

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1.2. Comparisons between F2F and CMC task types

The campus-based classroom, where students and instructors meet face-to-face (F2F), is physically and psychologically different to the virtual classroom. A number of authors believe that these differences must be considered for successful CMC outcomes (O'Toole & Absalom, 2003; Porter, 2003; Thatcher, 2005; Tutty & Klein, 2008). One area to consider is task type.

An empirical study by Schweizer, Paechter, and Weidenmann (2003) found that F2F was best for joint decision-making, and concluded that successful task achievement depended on choosing the right medium for the right task. Similarly, Adrianson and Hjelmquist (1999) found that F2F was better – and also preferred by students – for discussing and responding to ideas, whereas CMC was better for information-sharing. Others have found that CMC appears best for simple concrete tasks (An & Frick, 2006; Hewett, 2000; Mason & Bacsich, 1998).

CMC tasks also need to be structured. Aviv, Erlich, Ravid, and Geva (2003) reported that knowledge construction was significantly better within a structured as opposed to an unstructured CMC environment and led to higher levels of critical thinking. Mason and Bacsich (1998), summarizing their many years of running UK Open University courses, go a step further and emphasize that "on-line contributions must be posted within a *heavily* structured environment". In short, students are more likely to participate on-line, if there is a course goal driving participation.

To sum up, CMC appears more suited to giving and storing information, and F2F for responding to or discussing information. As these tasks are complementary, the optimum solution would appear be to use both CMC and F2F. This pedagogic combination of the virtual and the real classroom is called blended learning and is advocated by an increasing number of authors (e.g. Hakkarainen & Palonen, 2003; Lee, 2003). This study reports on the impact of a blended learning environment on academic essay writing.

1.3. Cultural implications

Commenting on L1 writing, Porter (2003) argues that though technology matters, it is only a tool. What matters more is the context in which the writing takes place. In a global context, this means a consideration of culture, and this is the view of other authors.

Thatcher (2005) suggests technologies such as CMC affect different cultures and different rhetorical traditions in different ways. Sugimoto (2004) urges that consideration be given to how cultures outside of the Western context express themselves in writing, and how they might best use computers.

In this study, Thais, who are more collectivist and less individualistic than Americans (Hofstede, 2004), may be more willing to collaborate with others but less willing to promote their own views. CMC tasks in this study needed to accommodate this Thai cultural propensity for modesty.

1.4. Class size

This study compared the performance of a class using CMC with two smaller classes that did not. This posed a problem. It was possible that smaller class size exerted an influence on the experimental outcome by giving the control group an advantage. What does the literature have to say?

In US colleges, class size has an impact on satisfaction across a wide range of disciplines; the smaller the class, the higher the instructor evaluation (Bedard & Kuhn, 2008; Cheng, 2011; Wood, Linsky, & Straus, 1974). These positive effects also extend to grades. In an investigation of 750,000 student observations at a US north-eastern public university, Kokkelenberg, Dillon, and Christy (2008) found a significant impact from class size. As class size approached 20, there were precipitous declines in grade point averages, and this continued, albeit more gradually, as class sizes increased. Similar findings have been found in other countries (e.g. Germany: Mandel & Sussmuth, 2011; Italy: De Paola & Scoppa, 2011; UK: Bandiera, Larcinese, & Rasul, 2010).

The importance of class size to skill acquisition may be just as important. In one of few studies reported, class size for students at an institution studying Chinese, Arabic, or Korean, were reduced from 9 to 10 students per class to 5–6 students. The results saw concomitant improvements in proficiency for the smaller classes (Yi, 2008).

Summing up, class size appears to have an effect, and it may have had an effect in this study, possibly to the benefit of the two smaller classes in the control group. If so, what then becomes of interest is the ability of CMC to mediate – on behalf of the experimental group, with its larger class size – so that there were no differences in performance. Did CMC in this study compensate for the disadvantage of larger class size?

1.5. Rationale for the study

The primary reason for the study was to investigate the effectiveness of an on-line bulletin board in helping students develop their skills in academic literacy. Some of these skills include finding information from outside sources and then evaluating, synthesizing, and incorporating this data into assignments, accurately cited and referenced (Burton & Chadwick, 2000). For Thai international students, the problems of accessing quality sources are compounded by language, as many of the key academic databases are in English. This challenge can be made less daunting, if students can share their data from outside sources via an on-line bulletin board.

Additionally, a number of authors have called for more research into how online environments differ from the traditional classroom, and the different opportunities and risks they offer (Andrews et al., 2007; Lindblom-Ylanne & Pihlajamaki, 2003). An and Frick (2006) call for researchers to study "actual student performance with concrete learning tasks" and check if these affect learning. They also suggest researchers should investigate whether students perform simple routine tasks better through CMC than F2F.

There are also issues related to students' digital literacy. In a review of 34 studies from 1999 to 2010, Lust, Juarez Collazo, Elen, and Clarebout (2012) found that many university students were unable to use the tools available on learning management systems (LMS), and that this had an adverse effect on performance. A simpler LMS may be an answer.

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