Improving argumentation through student blogs

Sujata S. Kathpalia *, Eng Kiat See [1]

School of Humanities and Social Sciences, Language and Communication Centre, 14 Nanyang Drive, Singapore 637332, Singapore

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ABSTRACT

Argumentation is essential for university students and many studies have been conducted to identify the best approaches to integrate argumentation into the university curriculum. However, there is still scope for improvement, especially in the area of online learning. This study assesses the use of argumentation in student blogs that were written before and after explicit instruction/activities on argumentation in a critical writing course. A total of 100 student blogs were analyzed and compared using a scoring framework for argumentation structure. It took into consideration presence of claims, evidence and counter-arguments as well as quality of argumentation. The findings showed that more than half the students were able to improve the structure and quality of argumentation in the post instruction blogs but more support is needed for the remaining students. Pedagogical strategies such as argumentation prompts and a peer-evaluation scheme are proposed to enhance argumentation in student blogs.

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1. Introduction

Learning argumentation is essential for students and educational institutions play an important role in developing this skill. Argumentation can be viewed from two perspectives — learning to argue (Jonassen & Kim, 2010; Osborne, Simon, Christodoulou, & Howell-Richardson, 2013) and arguing to learn (Jonassen & Kim, 2010; Osborne, 2010). Whereas the focus in the former is on the ability to support ideas with evidence, warrants, backing and rebuttal of counter-arguments, the emphasis in the latter is to obtain knowledge through the process of argumentation. As both perspectives seem to be complementary and necessary, this study is to determine whether students in a Singapore university have adequate argumentative skills to engage others in argumentation and learn through this process.

According to Kuhn (1991), argumentation is a skill that has to be developed through explicit instruction and learning opportunities. In educational settings, Toulmin's (1958) model is often used for teaching and evaluating argumentation. According to this model, a well-structured argument consists of a claim, grounds, warrant, backing and rebuttal, arranged in a hierarchical order. A basic argument begins with a claim or assertion which is supported by grounds or evidence, a warrant that connects the evidence to the claim and backing for extra support. A fully developed argument also contains a counter-argument or rebuttal to strengthen the argument by contradicting the claim before restating it more forcefully. Past studies have explored the quality of argumentation of students by applying Toulmin's argument pattern (or TAP) in

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* Corresponding author. Tel.: +65 6790 4811.
E-mail addresses: msskath@ntu.edu.sg (S.S. Kathpalia), EKSee@ntu.edu.sg (E.K. See).
[1] Tel.: +65 6790 5552.

relation to the evidence used to support claims (Bell, 2004; Sandoval & Millwood, 2005) or rebuttals produced to challenge counter-arguments (Cavagnetto, Hand, & Norton-Meier, 2010). Yet other studies (Berland & Reiser, 2010; Reiser, 2004; Sampson & Clark, 2011) have focused on improving students' argumentation in order to enhance learning. As scaffolding plays an important role in the learning process, studies have also explored the use of either explicit classroom instruction (Liu & Stapleton, 2014) or online scaffolding tools. These include computer-scaffolding graphic organizers (Belland, 2010), expert modeling (Liu & Bera, 2005), concept mapping (Cho & Jonassen, 2002; Davies, 2009; Dwyer, Hogan, & Stewart, 2010; Lee & Nelson, 2005) and question prompts (Hew & Knapczyk, 2007; Jonassen et al., 2009; Lee, Srinivasan, Trail, Lewis, & Lopez, 2011). The underlying belief in these studies is that students need the extra support to generate more developed arguments, identify connections between parts of an argument and challenge others' arguments.

A pedagogical approach first proposed by Biggs (1987, 1993) and later developed by Yang and Tsai (2010) in the context of argumentation is the 3P model of presage, process and product. This model is framed by a phenomenographic perspective of "what is learned" (i.e. students' conceptions of learning) and "how learning is taking place" (i.e. students' approaches to learning) (Yang & Tsai, 2010, p. 73). According to this model, students' initial understanding of concepts has a bearing on their learning approaches and ultimately, on the final product. In the context of argumentation, this would mean that fragmented conceptions of argumentation lead to surface approaches in composing arguments whereas cohesive conceptions lead to deeper approaches. In a surface approach, the focus is on reproduction while a deep approach is oriented towards real understanding and engagement with the learning environment (Yang & Tsai, 2010). The findings of argumentation studies seem to support the fact that undergraduate students' understanding of and approaches to developing arguments have an impact on their writing (Wingate, 2012; Yang & Tsai, 2010). Therefore, to ensure higher and more sophisticated levels of argumentation outcomes, teachers should help students develop cohesive conceptions and deep approaches to learning. One way of achieving this would be to implement Biggs' (1987, 1993) 3P model or presage-process-product in the classroom. This model provides students the relevant input in an engaging manner to promote their understanding of concepts in the presage stage, followed by scaffolded activities to ensure deeper experiential learning in the process stage, and finally, application of what they have learned to the final product. Using this framework, it has been found that the quality of students' written products is dependent upon their preparation in the presage and process stages, with more written and oral practice leading to better quality products (Ogan-Bekiroglu & Eskin, 2012).

Some studies have examined argumentation in asynchronous computer mediated communication between university students and found that most students do not attain higher levels of argumentation as they are reluctant to challenge one another's propositions (Coffin, Hewings, & North, 2012; Joiner, Jones, & Doherty, 2008). According to these studies, the claims that are contested in student discussions are usually by students from different disciplines (Joiner et al., 2008) and modalised claims (e.g. I think, maybe) are questioned more often than bald assertions (Coffin et al., 2012). These findings seem to suggest that the medium, whether face-to-face or computer mediated, does not affect the quality of argumentation as much as other aspects such as the majors of the students and their linguistic choices. Using the 3P model, another study investigated the effects of scaffolding and learning conceptions on students' argumentation skills in an online argumentation environment called iArgue. This study found that scaffolding only improves students' argumentation skills at lower levels (e.g. claims and grounds) rather than higher levels (e.g. warrants, backing and rebuttals) (Tsai & Tsai, 2014). As for students' conceptions, the findings were more positive in that there was a correlation between their conceptions of argumentation and the quality of their online arguments. This seems to suggest that teachers and their course materials should focus on building students' conceptual understanding of arguments for optimal outcomes.

Another online medium that has been frequently used in educational settings in recent years is the weblog or blog. Blogs have been utilized in higher education to enhance students' content knowledge and communication skills across many disciplines such as business (Williams & Jacobs, 2004), language learning (Ducate & Lomicka, 2005), and science (Brownstein & Klein, 2006). Past studies have explored the use of blogs for sharing students' thoughts and experiences, posting examples of course assignments, reflecting on course materials, and conducting extended discussions beyond the classroom (Maag, 2005; Williams & Jacobs, 2004). However, the findings of empirical studies in both educational and professional settings are mixed, with some studies claiming that interactivity and knowledge are enhanced through blogs (Du & Wagner, 2006; Loving, Schroeder, Kang, Shimek, & Herbert, 2007; Luehmann & Tinelli, 2008) but others downplaying positive outcomes (Hall & Davison, 2007; Xie, Ke, & Sharma, 2008).

Although scholarly research on the pedagogical affordances of blogs in higher education is gradually emerging in recent years, there is still much scope for exploration. As mentioned earlier, past studies have explored the use of blogs in other aspects of higher education and as online scaffolding tools to improve argumentation skills. However, none of these studies has used a 3P presage-process-product course design that focuses on blogs to teach argumentation or used a pre and post intervention approach to measure improvement in individual students' arguments, especially in the Singapore context. Therefore, the objective of the current study is to evaluate the use of blogs as a tool for honing undergraduate students' argumentation skills in a critical writing course with a 3P course design in a Singapore university. Although students were required to write three blogs during the 13-week semester, this paper only evaluates and compares the first and final blogs to determine whether classroom intervention has any impact on students' argumentation structure and quality of elements. The blogs written before and after argumentation instruction and practice are compared using a TAP scoring scheme which is elaborated in the methodology section.