Examining the Effect of Blog Use on Learning Outcomes

in the College Course

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Abstract

Blogs have the potentials to help students learning. However, empirical studies conducted to examine the effectiveness of blog use in education are spare. Therefore, the purpose of this study is to empirically examine whether the use of blogs in the college course could enhance students’ learning outcomes. An experiment was conducted involving 112 college students from two classes enrolled in a statistics course. The experimental results show that the blogs not only enhance learning satisfaction, but also improves the learning achievements of the college students. This study provides empirical supports for the effects of blog use in the college education.
1. Introduction

Blog (also known as weblog) is one of the Web 2.0 applications. It allows users to create online journals and resource sites to share with their community and allows others to comment and feedback (Makri and Kynigos, 2007; Matheson, 2004). Therefore, blogs have the potentials to improve students’ learning by interactive communication, resource and opinion sharing, opportunities for collaboration and reflection, promoting critical thinking, and assistance in building learning communities (Top et al., 2010). The number of instructional blogs grows rapidly.

However, empirical studies conducted to examine the effectiveness of blog use in education are sparse (Sim and Hew, 2010). More empirical data from actual classroom implementation are needed (Churchill, 2009). The purpose of this study is to empirically examine whether the use of blogs in the college course could improve students’ learning outcomes.

2. Research Model

The research model is shown in Figure 1. The dependent variables are students’ learning outcomes (i.e. satisfaction and achievement). The independent variable is whether or not students have an instructional blog to assist learning.

3. Method

An experiment was conducted involving 112 college students from two classes enrolled in a statistics course. The two classes were randomly assigned as the control
and experimental groups. The instructor, textbooks, assignments, and teaching materials for both classes were identical.

3.1 Pre-test

A basic statistics test was performed as the pre-test after three topics were instructed. The pre-test was used to evaluate whether the students’ basic statistics knowledge is different between the control and experimental groups before the treatment (i.e. blog) is given. Table 1 presents the results of the pre-test. The results showed no significant difference between the two groups. That is, the two groups of students had equivalent statistics knowledge at the beginning of term.

Table 1. T-test results and descriptive statistics of the pre-test

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>T value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental group</td>
<td>62</td>
<td>64.73</td>
<td>16.69</td>
<td>-0.32</td>
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<tr>
<td>Control group</td>
<td>50</td>
<td>65.70</td>
<td>15.07</td>
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</tr>
</tbody>
</table>

3.2 Treatment

After the pre-test was completed, an instructional blog was developed for the statistics class. The students in the experiment group had authorities to access the blog, while the students in the control group maintained normal traditional curriculum activities. Figure 2 shows the basic functions of the instructional blog developed by this study.
3.3 Learning Satisfaction and Achievement

At the end of the semester, the learning satisfaction questionnaire and statistics achievement post-test were administrated to the two groups to compare their learning outcomes.

The measure of learning satisfaction drew items from Eom et al. (2006) and Wan et al. (2008). Respondents answered the question items on a five-point Likert-type scale anchored by 1 = *strongly disagree* and 5 = *strongly agree*. The measurement items are reported in Table 2. The Cronbach’s alpha value is 0.90.

Table 2. The measure items of learning satisfaction

1. I am satisfied with the quality of the course.
2. I would recommend this course to other students.
3. I am satisfied with the learning flexibility and independence of this course.
4. I am satisfied with the instructional model.

5. I am satisfied with the learning environment.

Table 3 shows the results whether the use of blogs in the college course could enhance students’ learning outcomes. It was found that the learning satisfaction of the experimental group students (i.e. mean = 3.65) was significantly higher than that of the control group students (i.e. mean = 3.32), with $t = 2.81$ and $p < 0.01$. Moreover, the result also found that the learning achievement of the experimental group students (i.e. mean = 75.32) was significantly better than that of the control group students (i.e. mean = 67.06), with $t = 2.19$ and $p < 0.01$.

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Group</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>T value</th>
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</thead>
<tbody>
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<td>Learning satisfaction</td>
<td>Experimental</td>
<td>62</td>
<td>3.65</td>
<td>.59</td>
<td>2.81*</td>
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<tr>
<td></td>
<td>Control</td>
<td>50</td>
<td>3.32</td>
<td>.65</td>
<td></td>
</tr>
<tr>
<td>Learning achievement</td>
<td>Experimental</td>
<td>62</td>
<td>75.32</td>
<td>16.82</td>
<td>2.19*</td>
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<tr>
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<td>Control</td>
<td>50</td>
<td>67.06</td>
<td>21.99</td>
<td></td>
</tr>
</tbody>
</table>

* $P<0.01$

4. Conclusion

This study finds and proves that blog is an effective mechanism to enhance the learning satisfaction and achievement of the college students. In the future, it is necessary to test whether the blog usage level has a positive effect on students’ learning outcomes and what influences students’ blog usage.

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References


