Anonymity in Blended Learning: Who Would You Like to Be?

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ABSTRACT

This paper examines the learning outcomes associated with implementing discussion forums and blog writings using pseudonyms in blended learning. Although anonymity or masking one’s identity has been used as a teaching strategy designed to induce higher writing production and lowering anxiety in face-to-face writing instruction, little research has been reported investigating whether this strategy enhances learning outcomes in blended learning. This paper provides a research framework to clarify the position of anonymity in writing instruction. Through this, field-related research questions are identified. The study found that online writing assignments using pseudonyms can be an effective teaching strategy that induces higher online participation, especially among students who are hesitant to participate in a traditional classroom setting. In this anonymous context, students prefer gender-free pseudonyms, assuming no human identities online, in contrast to a previous research that considers pseudonyms as a form of expression of one’s preferred identity.

Keywords

Anonymity, gender, culture factor, blended learning

Introduction

This paper aims to highlight the issue of online anonymity as a viable instructional and research topic in blended learning. It examines the learning outcomes of implementing discussion forums and blog writings using pseudonyms in blended learning. Anonymity or masking one’s identity has been used as a teaching strategy designed to induce higher writing production and to lower anxiety in face-to-face writing instruction (Hosack, 2004; Chester & Gwynne, 1998). However, little research has been conducted investigating how this strategy works in online or in blended learning, where both real and online identities co-exist in the course design. For this reason, this paper focuses on the issue of online identities using pseudonyms, or anonymity in online writing, in order to investigate the design factors that induce higher learning in online and blended courses.

Research Background

This paper examines the learning outcomes associated with implementing discussion in forums and blogs, which are two asynchronous computer-mediated writing tools that can be configured for either personally identifiable or pseudonym authorship. This section first defines the notion and use of anonymity as a pedagogical intervention in writing instruction and then provides an overview of the relevant research.

Anonymity in writing instruction

Anonymity results when the real identity of the author of text is not known; therefore, both using a pseudonym (invented name different from the author’s real name) and not using a name at all are considered sub-sets of anonymity. In writing instruction, anonymity is often associated with peer feedback (or peer-review) because anonymous peer feedback is used as a minimally threatening common teaching strategy in the revision process (Lu & Bol, 2007; Hosack, 2004). Typically, a teacher asks students to exchange their draft papers with and give comments to each other without providing their names. This is the simplest and still most practical use of anonymity in writing instruction. Anonymity is also used in online education (blended and completely online). For example, 95 percent of blog sites in an academic community are run under alternate or pseudonymous identities (Dennen, 2009)—though they typically also contain clues to the person’s real identity and 55 percent of people fake their identity, at least occasionally, on the web (MacManus, 2007). Thus, anonymity is common in the real world beyond formal education.
In order to aide ourselves and others in understanding the conceptual ideas, actors, and technologies involved we provide a tentative framework that articulates the necessary components that interact in online anonymity research. Increasing attention has been given to the potential of online writing tools in language education (Lamy & Hampel, 2007; Hyland, 2009; Miyazoe & Anderson, 2010a). In the field of writing instruction, we have abundant studies on the effectiveness of peer feedback. Peer feedback is the extension of the process writing approach that is considered to be a shift from teaching writing to interactive writing in the history of writing instruction (Raimes, 1983; Johnson & Johnson, 1998). Process writing involves higher interaction between the author and the text, and the input of reviewers. Process writing aims to be an interactive product of writing, and thus feedback and revisions are expected. Conversely, the teaching strategy of free writing invites learners to write extensively without worrying too much about correctness. In this sense, process writing is formal, whereas free writing is informal. Human and interactive components such as audience (author corrects his/her draft, teacher helps, peers give comments), identity (usage of real name, pseudonym, or no indication), and media (oral, paper-based, different digital tools) are used in both strategies. Realizing the benefits of these components is dependent on the course design of the writing instructor as on-and-off elements, wherein each element can be implemented or non-implemented according the course design, that is, each element can lead to the development of a new learning context and research design/question for further studies.

### Anonymity in writing instruction

<table>
<thead>
<tr>
<th>Identity</th>
<th>Reviewer(s)</th>
<th>Modes</th>
<th>Media</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifiable</td>
<td>Teacher</td>
<td>Face-to-face</td>
<td>Oral</td>
</tr>
<tr>
<td>Pseudonym</td>
<td>Author</td>
<td></td>
<td>Paper</td>
</tr>
<tr>
<td>Real name</td>
<td>Peer(s)</td>
<td>E-mode</td>
<td>E-mail</td>
</tr>
<tr>
<td>Pseudonym</td>
<td></td>
<td>Blended</td>
<td>Chat</td>
</tr>
<tr>
<td>No name</td>
<td></td>
<td></td>
<td>Forum</td>
</tr>
</tbody>
</table>

All these factors help enable the positioning of the research focus of previous studies. For example, the research design of comparing the effects of peer and teacher feedback in writing curriculum (Gielen et al., 2010) is under the audience category. The study by Yang (2010) comparing the effects of self-correction and peer-review also falls under the same category, with e-mode, originally made as an electronic system and with journal or informal writing as its final product. However, both studies did not explicitly plan the identity to be pseudonymous. Therefore, these studies are not in the category of anonymity research in this paper.

Anonymity and learner identity are two sides of a single coin. In online learning, anonymity, or hiding real identities, has been shown to foster a higher and more balanced participation among learners of varied backgrounds (Chester & Gwynne, 1998) by masking various social barriers such as age, gender, social status, and language proficiencies. This provides a rationale for the use of anonymity when new technologies (e-modes) are introduced into our online and writing instruction. If identity is pseudonymous, learners may enjoy the greater freedom, but may misuse this freedom by flaming, not contributing at all or being mischievous in other ways. The problem of lurking (Beaudoin, 2002) in online learning also deserves attention because students who prefer to be invisible while learning may change their participation style to be more visible if they could hide their real identities.

### Anonymity research in online writing

Anonymity studies are those with the identity element turned off, that is, the identity is anonymous. However, very little research covers all the various and diverse elements of writing instruction, e-modes, and anonymity in the field.

E-feedback, that is, feedback using digital writing tools, like other areas of online learning is a new research area that is attracting considerable attention as online learning becomes more pervasive in formal education. Several studies compare the effects of feedback between and among face-to-face and different e-modes. These studies include synchronous conversation on multi-user domains object-oriented (MOO) (Liu & Sadler, 2003), forum discussions on LMS (Guardado & Shi, 2007), blogs (Wu, 2006), and wikis (Franco, 2008). These were conducted in English as...
foreign language (EFL)/English as second language (ESL) contexts; however, the anonymity factor was not the focus of these studies. Bloch (2008) predicted a growing trend in the use of blogs and wikis for peer-review purposes in his book, *Technologies in the Second Language Composition Classroom*, which gives a comprehensive overview of online writing in language education. Despite the difference in identity disclosure, these types of research are relevant because once any e-mode is incorporated into the course design, planning the identity elements (i.e., real name, number, pseudonym, no name, etc.) becomes necessary when deciding on login and other identity disclosure protocols.

Even with the absence of an e-component, the study by Hosack (2004) is relevant to this study as it examined anonymous peer-review from a cultural perspective. It pointed out the *affective disadvantage* of peer-review (for a series of dialogues regarding this topic, refer to Jacobs et al., 1998; Zhang, 1995; Zhang, 1999). This is commonly observed among learners with Asian origins (e.g., China, Taiwan, and Hong Kong) who refuse to criticize the writing of others to preserve group harmony (Carson & Nelson, 1996). Two surveys were conducted on peer-reviews using both anonymous and real names. Participants of this study were tertiary-level Japanese students similar to the sample in this study. The majority of the participants preferred to give anonymous comments as they had less fear of hurting others.

Lu and Bol (2007) in a rare study compared the effect of identifiable and anonymous feedback in an e-mode. Data were obtained from 92 undergraduate students in general English writing classes in college. Subjects were randomly divided into identifiable and anonymous groups and met for regular classes separately. E-feedback, which involved critical comments and peer-rating, was administered using Blackboard software and integrated throughout the semester. Pre- and post-writing proficiency tests (400–500 words in 75 minutes) were conducted. The anonymity group exhibited better writing performance and was more critical in giving peer feedback than the identifiable group. Both groups acknowledged the merits of e-peer review system.

The findings on pseudonyms and gender differences are also relevant to the research in this study. Jaffe, Lee, Huang, & Oshagan (1999) studied 75 students of “upper level lecture class” (p. 225) who were divided into two parallel online conferences and used either real names and pseudonyms of their choice. Content analysis of the conference transcripts showed that women chose gender-masking names and had the tendency to develop more socially interdependent communication than men. In a study by Pagnucci and Mauriello (1999), 47 students participated in a college writing project. The students were allowed to use real names or pseudonyms of their choice when posting on the web. Thirty-six students chose pseudonyms; five women chose male identities, but none of the men used female names. The study also observed that the posts by male-sounding pseudonyms received more comments and more attention. Interviews with the subjects also revealed that females believed that using male names was necessary to make their statements credible.

To summarize, although research has been made on anonymity in formal academic writing, little has been conducted on anonymity either in the use of different digital writing tools or in the area of free writing, such as journals and blogs in formal educational context. Increasing attention is being given to the use of blogs in language teaching and learning (Thomas, 2009), and this is understandable given that the interface is easily accessible on the web and is consistent with our other traditional writing instruction approach of journal writing. However, the use of one e-learning tool likely does not necessarily generalize to other e-mode media, with many gaps to fill with further research. As partially discussed in prior studies, anonymity in different online writing tools with focus on a variety of discourse modes (Bloch, 2008; Myers, 2010), measurement issues in learning outcomes (Lu & Bol, 2007), and multiple learner factors (gender, culture, learning styles, etc.) are all in need of further research in our educational practice.

**Research Questions**

Research on this subject is still in its exploratory stage, thus the exploratory nature of these research questions. To bridge the knowledge gaps found in previous research, this study addresses the following questions: 1) What are the participatory behaviors of students’ in face-to-face (with real names) and online (with pseudonyms) in blended course designs? 2) How did the students perceive and evaluate the different online writing tools using pseudonyms? and 3) What are the students’ learning outcomes?
Research Methodology

Context

A total of 63 students (males 37; females 26) from three different classes in one university participated in the study. These students were taught by the same instructor. The course lasted for one 15-week semester in the spring of 2008. The class meetings were held in a classroom where one computer per student was provided.

The course content was an introduction to English for Academic Purposes (EAP), covering reading, listening, speaking, and writing skills. Students who participated in this research presented an unbalanced English language skill set of generally high-level reading skills but poor speaking and writing skills when entering the university.

The course followed a blended format: face-to-face meetings were planned for content-based reading, topic-based speaking, and video presentations, whereas online portions were reserved for writing. Students were given two opportunities for topical discussions using online forums as grade-bearing assignments and blog writing as optional activities. Both blog and forum components were developed and presented on Moodle—a popular open source learning management system (LMS). The students decided on a topic for discussion by voting on a choice from the course text. Choices were formulated as questions, such as “One trend described in the lecture is that people feel overly busy because they have to juggle many responsibilities. Is this true for you?” Students were required to write in English on the system. One or two volunteer students were asked to moderate the forum discussions. The teacher merely observed the online activities throughout the semester so as not to interfere with the students’ natural interactions.

Students were allowed to use pseudonyms of their choice on the LMS. They were first given random identification numbers to create their login accounts. They could change these numbers to a pseudonym upon login. The LMS system allowed users to change their names anytime during the semester. Students’ identities were concealed from the instructor throughout the semester, but at the end of the semester, they were asked to report their pseudonyms (to the instructor) for grading purposes. Both forum and blog writings were visible only to the instructor and members of the class.

Methods

This research was patterned as a design-based research study (Anderson, 2005; Brown, 1992; Collins, 1992) that aims to develop and integrate theory and practice in natural educational settings. Design-based researcher insures relevance and potential for adoption by partnering researchers and practitioners in the design, development, and analysis of the research data. The first researcher was also the designer and teacher while the second author informed the research design and method. A mixed-method of quantitative and qualitative approaches was applied to balance the interpretation without interfering with the students’ learning as much as possible (Creswell, 2003; Creswell & Plano Clark, 2007).

Five data sources were used for triangulation: 1) pre-/post-course English proficiency tests, 2) paper-based survey regarding one’s pseudonym and online writing experiences, 3) semi-structured interview on the course experience including pseudonym usage, 4) students’ writings on the LMS, and 5) attendance records of the students and teacher’s notes on class management. Only the data obtained from the students’ written agreements were included in the analysis and publication of this paper.

To measure the students’ English proficiency, the paper-and-pen version of the new “quick placement test” (Oxford University Press, 2003) was used and validated for statistic pre-/post-comparison. The test was administered at the beginning (Test 1) and at the end (Test 2) of the semester. Each test consists of 60 questions ranging from beginner to advanced levels.

A total of 15 students (five from each class) volunteered for the interview, which was conducted by the instructor/researcher a week after the final examination day. Eight specific questions, starting with “How do you feel…” were prepared to solicit spontaneous responses. One of the questions the present study focused on was “How did you feel about the usage of your real name and a pseudonym on Moodle?” The students’ responses were
recorded and transcribed for analysis. Taking into account the contextual constraints, each interview was expected to be completed in about 10 minutes.

The survey was administered at the end of the course using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) for statistical conversion (Appendix A).

**Results**

Noteworthy findings are chosen and selectively summarized in this paper. As gender differences were present in many aspects of the data, the results are presented from this perspective as well.

**Physical and online participation**

To capture the online behavior of students, their participation in the online activities was analyzed in comparison with their physical attendance in class meetings. There were 15 class sessions and 6 discussion forums, with optional blog writing, in each semester. A high average attendance rate of 13.3 classes was achieved (n = 63). The students were encouraged to post their opinions and comment on others. However, the average number of forum posting per student remained at 4.21, which merely satisfied the minimum requirement (one post for each of the four discussion topics) for the grade-bearing assignments. Blog posting averaged 3.57 posts per student. A total of 15 or 24.6% of the 61 students did not post at all for this optional activity, whereas 12 or 19.6% voluntarily posted more than 7 times throughout the semester.

The correlation between class attendance and posts in forums and blogs was also computed. Correlation among these three activities was high enough (r = .327, p < .01 between class attendance and forums, r = .398, p < .05 between class attendance and blogs, r = .392, p < .05 between forums and blogs). This may confirm the traditional argument of extrinsic versus intrinsic motivation (Driscoll, 2005); that is, regardless of an activity being face-to-face or online, those students who did the optional assignments did so because of their internal motivation for learning and likewise attended almost all classes.

**Perceptions on the forum, blog, and pseudonym**

Table 1 summarizes the results of the series of questions differentiating between forum and blog posts 1) the students wrote, 2) read, 3) preferred, and 4) found useful. The number of students who preferred writing forums/blogs and those who preferred reading forums/blogs were almost at the same level (about 50 percent). Majority of the students preferred to use blogs (67.3 percent) than forums but found forums more useful (72.5 percent) than blogs. The results seem congruent with the objectives of the course design that required each activity: forums should be serious topical-based discussions and must be challenging but educational, whereas blogs should contain personal and/or reflective writing.

<table>
<thead>
<tr>
<th>Table 1. Participation, preference, and utility of forums and blogs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wrote more</td>
</tr>
<tr>
<td>Frequency</td>
</tr>
<tr>
<td>Forum</td>
</tr>
<tr>
<td>Blog</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Table 2 shows the results of the degree by which forums and blogs were enjoyed by gender. Male students enjoyed blogs more than forums, whereas female students enjoyed both activities at the same level and recorded a higher level of enjoyment than their male counterparts.
Table 2. Forum and blog enjoyment by gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Enjoyed forum</th>
<th>Enjoyed blog</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>28</td>
<td>27</td>
</tr>
<tr>
<td>Male</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Male</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Male</td>
<td>2.93</td>
<td>3.22</td>
</tr>
<tr>
<td>Male</td>
<td>.813</td>
<td>.934</td>
</tr>
<tr>
<td>Female</td>
<td>24</td>
<td>24</td>
</tr>
<tr>
<td>Female</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Female</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Female</td>
<td>3.42</td>
<td>3.42</td>
</tr>
<tr>
<td>Female</td>
<td>1.176</td>
<td>1.176</td>
</tr>
</tbody>
</table>

Figure 1 summarizes the replies to the questions about the specific utility the students considered in both forums and blogs. Students were asked to rate the usefulness of forums in terms of 1) improving English writing (m = 3.62), 2) understanding chapter topics and content (m = 3.63), and 3) interacting with classmates (m = 3.18). They were asked to rate blog utility using the following criteria: 1) improving English writing (m = 3.88), 2) thinking ability in English (m = 3.98), and 3) interacting with classmates (m = 3.07). These findings show that the students acknowledged the moderately high utility of improving English writing and cognitive ability in both forum and blog writings. However, they were neutral on the value of activities being helpful in interacting with others. This result is understandable given that many posts on LMS did not receive active comments and remained monologic.

Figure 1. Specific utility acknowledged for forums and blogs

The students’ reactions to pseudonym usage were measured by three sources illustrating their choice of pseudonyms on the LMS, survey, and interviews.

Table 3 summarizes the result of students’ choice of pseudonyms by gender. The researcher could match 56 students’ pseudonyms out of the total 60 with their real genders. The remaining 4 students kept the random number identification originally provided on the LMS. Unexpectedly, 44 or 78.6 percent chose gender-free names; 9 or 16.1 percent chose the pseudonyms of their original genders; and 3 or 5.4 percent, all being male students, chose names of the opposite gender. The premise that female students tend to choose male identities was not supported in this study. Instead, both genders mostly chose neutral or impersonal identities (e.g., “Ponyo Ponyo,” “Happy blue sea,” and “Dustbox xxx”) in this study.

Table 3. Pseudonym choice by gender

<table>
<thead>
<tr>
<th>Gender shifting</th>
<th>M→M</th>
<th>M→F</th>
<th>M→N</th>
<th>F→F</th>
<th>F→M</th>
<th>F→N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of students</td>
<td>7</td>
<td>3</td>
<td>22</td>
<td>2</td>
<td>0</td>
<td>22</td>
</tr>
</tbody>
</table>

* M: Male, F: Female, N: Neutral

Two questions were posed in the survey relating to choice of real names and pseudonyms: 1) participants felt easier to participate in the activities and 2) they preferred to write English. Majority (90 percent) answered that pseudonym were better for both tasks. A student left a message as an open comment to the question suggesting that pseudonyms
were good but it took away the perspective of linking a person’s opinions orally expressed in class to those expressed online. This explains why some students did not feel that pseudonyms were useful for the class.

<table>
<thead>
<tr>
<th>Table 4. Pseudonym versus real name usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ease of participation</td>
</tr>
<tr>
<td>------------------------</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Real name</td>
</tr>
<tr>
<td>Pseudonym</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Interview results showing that 12 out of 15 students preferred pseudonyms overlapped with the survey results. The interviews also provided information on why pseudonyms were preferable. The identification “I + number” signifies “Interviewee + number 1 to 15” in the following statements.

The reasons largely fell into two themes relating writing and reading the online activities; that is, from the writing perspective, the points of freeing themselves from others’ eyes and evaluations (I.3, I.7, and I.13), from making mistakes in front of others (I.4), and from becoming too aggressive with others (I.8) were raised.

“Japanese people…worry about others’ opinions…therefore, stating opinions in the unidentifiable situation…is better.” (I.3)

“…when there are friends you know…you cannot state what you really feel and think…so anonymity largely helped me to say things openly.” (I.7)

“…when discussing, if your name is masked, it’s easier to state your opinion freely…say your opinions more frankly.” (I.13)

“…it’s easy to state opinions when one is anonymous…I feel embarrassed that others see me making mistakes in English.” (I.4)

“…[with my real name] I feel I should not speak too strongly…” (I.8)

From the reading perspective, four students (I.2, I.6, I.10, and I.14) noted that the pseudonym helped them concentrate on and appreciate the content of others’ posts rather than focus on who said what.

“…when you judge your own or other’s opinions…my judgement might change depending on who says what; the content is important but the evaluation may change depending on who says what. With anonymity, we did not do so.” (I.2)

“…with anonymous blogs, people look at me objectively, without any preconception that my character should be this and that, so it’s very good. (I.6)

“…with anonymity, when I state my opinions, you do not know who might read them, so private emotions would not probably come in. No prejudice…and we can be more objective to find others.” (I.10)

“…with anonymity, when discussing, you do not reply because they are your friends but without discrimination, you think this person is good so you want to reply to the comments. I think this is good.” (I.14)

Japanese society requires students to follow certain social rules in the face-to-face class space. Their participation is dependent on the social context where they find themselves, making it more difficult for them to produce as freely as they may wish. Therefore, the pseudonyms freed them from the social customs to write more and openly in this research study.
Learning outcomes

Table 5 summarizes the results of the English tests administered twice. Results show that the mean difference from pre-test (Test 1) to post-test (Test 2) improved modestly from 29.60 to 31.27 or 1.67 points higher out of the 60 points in total. This improvement is statistically significant (p < .05). Therefore, progress in terms of English proficiency occurred over the semester.

Table 5. Pre-/Post-course English proficiency

<table>
<thead>
<tr>
<th></th>
<th>N = 63</th>
<th>Pre-test results out of 60</th>
<th>Post-test results out of 60</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Males</td>
<td>Females</td>
</tr>
<tr>
<td>Max</td>
<td>40</td>
<td>39</td>
<td>40</td>
</tr>
<tr>
<td>Min</td>
<td>18</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>Mean</td>
<td>29.60</td>
<td>29.05</td>
<td>30.44</td>
</tr>
</tbody>
</table>

Table 6 summarizes the changes in the English tests and the word count results for both forum and blog posts per student by gender. Word counts in the table were adjusted. Words collated due to wrong spacing were corrected before the automatic word count function was applied. Finally, the mean word count per student, including only the students who actually posted, was computed to obtain the accurate reflection of their activities.

The word count by gender analysis shows that female students wrote more than their male counterparts. However, for unknown reasons, male students made a higher progress by 2.03 points as a group than the female students by .07.

Table 6. English test results, amount of online writing, and gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>Test 1 to Test 2 (points)</td>
<td>37</td>
<td>-12</td>
<td>14</td>
<td>2.34</td>
</tr>
<tr>
<td>Forum (words)</td>
<td>32</td>
<td>8</td>
<td>751</td>
<td>309.03</td>
<td>193.020</td>
</tr>
<tr>
<td>Blog (words)</td>
<td>23</td>
<td>8</td>
<td>562</td>
<td>220.65</td>
<td>160.157</td>
</tr>
<tr>
<td>Forum + Blog (words)</td>
<td>33</td>
<td>19</td>
<td>938</td>
<td>453.45</td>
<td>280.520</td>
</tr>
<tr>
<td>Female</td>
<td>Test 1 to Test 2 (points)</td>
<td>26</td>
<td>-7</td>
<td>13</td>
<td>0.72</td>
</tr>
<tr>
<td>Forum (words)</td>
<td>25</td>
<td>53</td>
<td>1029</td>
<td>341.84</td>
<td>237.106</td>
</tr>
<tr>
<td>Blog (words)</td>
<td>23</td>
<td>82</td>
<td>1104</td>
<td>396.70</td>
<td>266.220</td>
</tr>
<tr>
<td>Forum + blog (words)</td>
<td>25</td>
<td>154</td>
<td>2133</td>
<td>706.80</td>
<td>475.191</td>
</tr>
</tbody>
</table>

Figure 2. Gender, online participation, and English change by word count
Figure 2 summarizes the relations between the English test results, amount of online writing, and gender. The vertical axis shows the total number of adjusted word count for both forums and blogs, whereas the horizontal axis shows the change in scores from English Test 1 to Test 2. As some students made a slight regression in the test scores even if more students made progress, the vertical axis runs from left minus to right plus. This figure and the correlation between the amount of writing and improvement in English proficiency show that these two factors are not significantly related ($r = .044, p < .01$). Moreover, seven students, as shown on the zero change line vertically running through the middle of the figure, showed no change from Test 1 to Test 2, whereas the amount of writing differed largely. All these suggest that quantity of writing in this study was not directly related to the level of progress made in English proficiency.

**Implications**

In a blended course design environment, this study found that student participation in face-to-face attendance and online activities were similar. The students also perceived that both forum and blog writings were useful in improving their writing skills and strengthening their ability to comprehend forums and reflect on blogs. The opportunity to use pseudonyms was also highly appreciated. This means that using pseudonyms can be a useful strategy to induce higher participation in online writing. A slight improvement in the overall English proficiency of students was recorded. However, the amount of writing and the degree of improving English proficiency were not significantly correlated in this study.

One of the unexpected findings of this study concerns gender difference in participatory behavior. In this study, higher participation from female students than male students was observed. Further, the total word count in forums and blogs, and the word count in blogs are significantly different that is, statistically, female students wrote more than the male students as a group. This result is consistent with other studies on pseudonyms and gender (Jaffe et al., 1999; Pagnucci & Mauriello, 1999). By using pseudonyms, female students may enjoy more freedom in their production. However, as Figure 2 presents, two female students who wrote far more than the other students (two pink dots on the 2,000 words line) and with the limit of about 60 students’ writing samples, we need to conclude that the amount of writing and the change in English proficiency are not correlated with each other. However, presumably, the quality of writing may also have increased in this study: to clarify this point, both the quality and quantity aspects of writing measurement should be taken into account in the future study (this point was further clarified in another study by Miyazoe and Anderson, 2010a). Rather, it may be more advisable to set a limit to the length of each writing piece in order to condense their content and structure, especially at this stage of the students’ English proficiency.

Due to contextual constraints, English proficiency tests were not specifically designed to measure academic English writing ability or confidence, but to determine general English proficiency. This limited the scope of the study. Conducting pre-/post-English writing tests under the same research conditions may reveal higher progress in English language ability. If the course was designed exclusively for writing, then the research may have produced even more salient results (Miyazoe, 2005). This leads to other research questions related to how we could measure learning outcomes by implementing online writing tools such as discussions and blogs. Further study investigating learning outcomes should be done following up in this exploratory work.

When introducing interactive elements to writing and thinking processes online, the nature of discourse changes from writing to speaking, to what is referred to as *writing speech* (Crystal, 2001). Therefore, our research should shift from whether the online discourse confirms to past customs to investigating ways learners act and in what ways they learn in a new learning environment. Especially in writing instruction, our efforts in reproducing classroom strategies may not work with online writing tools. Comments intended for discussions or drafts belong to a meta-level of language (language on language). Thus it is challenging to differentiate the two different levels of written language in an online learning environment, where no apparent contexts in written discourse are provided. For this reason, we suggest that planning different objectives for different writing tools, such as forums for discussions, blogs for reflections, wikis for collaborative work can help learners understand what should be done and how to act. This may eventually reduce their cognitive load in differentiating and adopting appropriate writing styles (Miyazoe & Anderson, 2011).

The analysis of pseudonyms in terms of gender shift revealed that a large percentage of students chose gender-free pseudonyms and regardless of gender, appreciated the merits of pseudonyms. These observations show that students
are selective in their choice of pseudonym. Instead of choosing a totally anonymous identity, many students prefer to choose an identity that does not suggest gender, that is, an identity free from being a gendered human in the social context. Thus pseudonym use is a nuanced form of anonymity, as students in the current research seemed to consider choosing a pseudonym not as a chance to create a new identity (as in the study by Dennen, 2009) but as a chance to deindividualize themselves (Lu & Bol, 2007; Connolly, 1990). This may be the reflection of a duality that pseudonyms present: pseudonym for identity and pseudonym for anonymity. This may be the reason why pseudonym was categorized into identifiable and anonymous identities above. Further study is needed to clarify in which way a learner could realize a higher learning performance and if this differentiation is socio-culturally specific or a common phenomenal in other contexts.

Finally, the reason online anonymity has been widely discussed, yet detailed research data in the formal education context remain scarce, may come from the contradictory demands to mask students’ identities and track each student’s learning performance, especially in an online situation that lacks visual information. In particular the growing interest and capacity to engage in learning analytics (Siemens, 2010) in which online behaviour is tracked and analyzed may confound interest and use of anonymous identity. In blended learning, where real and online identities intersect, re-conceptualization of the research design may be needed because of the complexities multiplied by factors coming from both face-to-face and online modes.

Conclusion

This paper concludes that online pseudonym-based activities are an effective strategy to induce higher production of written content with less stress and fear for foreign language learners. It also considers that the treatment of anonymity can be a crucial factor in increasing the amount of content and effort expended by EFL students. More research on different digital writing tools for varied purposes of writing and for different learner needs is warranted.

References


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Appendix

Survey: Extract questions regarding anonymity, forum discussions (BBS), and blogs

These questions are about you. Please circle the correct item or fill in the appropriate number.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>years old (in integer number)</td>
<td></td>
</tr>
<tr>
<td>Academic year</td>
<td>year</td>
<td></td>
</tr>
<tr>
<td>Mother tongue (Ex. Japanese)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cultural identity (Ex. Japanese)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PC use (approximate indication)</td>
<td>For years (in integer number)</td>
<td></td>
</tr>
<tr>
<td>Studying English (approximate indication)</td>
<td>For years (in integer number)</td>
<td></td>
</tr>
</tbody>
</table>

To the meeting classes in spring (2008 April 2008 July),

I rarely attended. 1 -- 2 -- 3 -- 4 -- 5 I mostly attended.
(A three on the scale indicates attending approximately 7 times out of the total 14 meeting classes.)

Below are questions regarding the forum discussions on Moodle in the Practical English II course. During the course, approximately one topic was set every two weeks.

1. To the forum discussions,

   I rarely made posts.  1 -- 2 -- 3 -- 4 -- 5  I made posts on almost all topics.
   I rarely read posts.  1 -- 2 -- 3 -- 4 -- 5  I read almost all of them.
   I rarely enjoyed them. 1 -- 2 -- 3 -- 4 -- 5  I enjoyed them.

2. Forum discussions were,

   for improving English writing  not helpful.  1 -- 2 -- 3 -- 4 -- 5 helpful.
   for understand chapter topics and content not helpful.  1 -- 2 -- 3 -- 4 -- 5 helpful.
   for communication with classmates not helpful.  1 -- 2 -- 3 -- 4 -- 5 helpful.

Besides these, in what areas do you think that the forum discussions were, for you yourself, helpful (or not helpful). Write freely.

3. Regarding the forum discussions in the Practical English II course, feel free to write any comments you may have.

Below are questions regarding English blog writing on Moodle in Practical English II. The activity was optional and bonus-point-based.

1. On the English blog,

   I rarely made posts.  1 -- 2 -- 3 -- 4 -- 5  I often made posts.
   I rarely read them.  1 -- 2 -- 3 -- 4 -- 5  I read almost all of them.
I rarely enjoyed them. 1 -- 2 -- 3 -- 4 -- 5 I enjoyed them.

2. (Answer those who participated in the English blog writing.) The English blog was
   for English writing not useful. 1 -- 2 -- 3 -- 4 -- 5 useful.
   for the ability to think in English not useful. 1 -- 2 -- 3 -- 4 -- 5 useful.
   for communicating with classmates not useful. 1 -- 2 -- 3 -- 4 -- 5 useful.

3. Besides these, in what areas do you think that the English blog writing was, for you yourself, helpful (or not helpful). Write freely.

------------------------------------------------------------------------------Below are questions regarding both discussion forums and blog writing in Practical English II.

1. If you compare discussions and blog,

   Writing: more in discussions. more on the blog. (circle one)
   Reading: more in discussions. more on the blog. (circle one)
   Preference: I prefer discussions. I prefer blog. (circle one)
   usefulness for English learning:
   discussions are more useful. blogs are more useful. (circle one)

2. Regarding discussions and blog assignments, write freely any opinions and any points of improvement for future implementation you may have.

------------------------------------------------------------------------------Below are questions regarding the usage of real names and pseudonyms.

1. When comparing real name usage and pseudonym usage, I felt easier to participate
   with a real name. with a pseudonym. (circle one)
   I prefer using my real name. I prefer using a pseudonym. (circle one)

Write freely whatever you think about the usage of a pseudonym.