

Developing writing fluency and lexical complexity with blogs

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The researchers utilized student blogs in an integrated CALL program for low proficiency, low motivation Japanese university language learners in a seven-day intensive English course in September 2004. The program included tasks completed both on computers and in traditional classrooms. In this paper, the researchers describe learner gains in writing fluency by comparing the number of words and word frequency levels in student blogs at the beginning and at the end of the program. On the first day, the student blog entry average word count was less than 35 words over a 20-minute period. Nearly all words produced fell within the most frequent 1000 word level. By the end of the CALL program there was nearly a 350% increase in the number of words used in students' blog entries, as well as a substantial increase in the number of 2000 word level and even lower frequency level words.

As a form of online diary writing, blogs have become extremely popular in the past few years and have been increasingly promoted as a form of alternative assessment not only in writing classrooms for native speakers (Barrios, 2003) but also for second language learners (Campbell, 2003; Ward, 2004; Johnson, 2004; Pinkman, 2005) and as a form of "diary introspection" for teachers (Suzuki, 2004). Few of the plethora of blog-related studies have examined the role blogs might play in an integrated CALL curriculum, and none have offered quantitative results as to the fluency benefits of blogging. This paper will present results from a seven-day intensive CALL-based intensive EFL program implemented at a four-year private university in western Japan in September 2004. Over the course of the program, students performed a variety of CALL tasks, including web listening, reading and vocabulary-building. Learners posted email messages to the class freewriting blog during a 20-minute timed session every morning of the program, and in the process improved their writing fluency: they more than tripled their writing output, while at the same improving their lexical frequency levels.

Background

A total of 21 seniors participated in the program in September 2004 before the start of the regular fall semester. Attending the program was required for them, as all had failed to join an Australia or New Zealand study abroad program, a graduation requirement of the Faculty of Foreign Languages. The students scored fairly low in general on the TOEIC examination, with overall scores ranging from a low of 150 to a high of 370, and were generally perceived by previous instructors as being essentially uninterested in learning English. Since the program was to be held for only seven days, with about five and a half hours of class time each day from 9:00 a.m. to 3:30 p.m., the instructors (the researchers of this paper) decided to eschew textbooks in favor of a blend of CALL tasks and traditional classroom tasks. In a survey done the first day of the program, the instructors discovered that only two students had ever used computers in a high school or university classroom, and more than half of the 21 students in the program rarely used computers at all. Keeping this in mind, the instructors decided on several appropriate CALL tasks, and designed a program curriculum focusing on fluency and improving student interest in English.

Rationale for blogging as a CALL task

A great difficulty in designing an integrated CALL program is determining which tasks are appropriate in order to achieve desired learning outcomes. The instructors strongly felt that all computer based tasks used in the program they developed should not only complement each other as much as possible but also enhance the learning that took place within the traditional classroom component of the program, so that a seamless flow of language learning opportunities would be created. For this reason all the tasks, both CALL and regular classroom tasks, were chosen based upon seven criteria of task appropriateness. Six of the criteria used were initially proposed by Carol Chappelle (2001), while the instructors conceived of the seventh and final criterion themselves. The criteria were:

1. Language Learning Potential
2. Learner Fit
3. Meaning Focus
4. Authenticity
5. Positive Impact
6. Practicality
7. Enhancement

A brief explanation of the criterion "enhancement" is necessary at this point, since to the best of the researchers' knowledge this is the first time the concept has been introduced. It was previously stated that the instructors believed that any CALL program must integrate computer tasks with classroom tasks and activities to the overall benefit of the students. The seventh criterion, enhancement, reflects this belief, as it requires that any CALL task selected provide some potential enhancement or benefit over more traditional pedagogical approaches. There is little justification in using computers simply because they are available, if a regular classroom activity would be either superior or at least equally effective, taking into account cost, time and potential technical problems. In short, only that which can best

be done with computers ought to be done with computers.

The present paper focuses specifically on one CALL task which was central to the overall curriculum—web logs, or blogs, used as a kind of online diary to promote writing fluency. This task was selected for several reasons.

First, the use of students' blogs met the seven criteria for CALL task selection. The blogs provided students with real **learning** opportunities to improve not only their written English but also their reading in English, as students were asked to read their classmates' blogs and respond to them. As Zamel (1992) wrote, "Just as reading provides 'comprehensible input' for writing, writing can contribute comprehensible input for reading" (Zamel, 1992, p. 480). The use of blogs **fit** with students' interests and varying English levels, as they didn't have to write to any standard or level above or beyond their own ability. The instructors explained to the students that grammar and syntax were not being evaluated and that the only requirement for blog entries was that they write their honest opinions about the blog topics. Blogs also met the third criterion, **meaning**, as the students were responsible for making sure to write their blog entries clearly enough for their classmates to understand. (See "The class blog procedure" below for a description of the blog comment process.)

The blogs provided both students and teachers with an **authentic** task, as blogs are now common and have become a relevant and credible forum for people to express their opinions and share information throughout the world. In 2004, for example, the *Merriam-Webster Dictionary* added "blog" as both a verb and a noun, calling "blog" the "word of the year." Recently, *The New York Times Magazine* reported that over 32 million Americans read blogs and that blog advertisements earned bloggers an estimated \$100 million during 2005 (Thompson, 2006). In Japan, as of May, 2005, there were more than 3.35 million blogs and over 16 million Japanese people were visiting blogs at least once a month, according to the online blog news site *The Blog Herald* (2005). One can hardly find a more authentic CALL task than blogging. The fifth criterion, **impact**, was also met, as the blogs provided students not only with opportunities to acquire and use new vocabulary but also with new and useful computer skills. This impact reaches far beyond the classroom as it enables students to use computers and blogs for their own interests in either English or their first language. Blogging met the criterion of **practicality** in that it imposed no extra financial burden on either the university or the students. Finally, blogs met the criterion of **enhancement** in that they were much more practical to use than paper-based diaries. Unlike notebooks, blogs cannot be forgotten at home, are more easily accessible (only one person at a time can read a diary while an entire class has simultaneous access to one student's blog), and are more easily commented on. Moreover, blogs are more motivating for students because they allow a familiar pedagogical task in the English language classroom to seem fresh when presented in the new medium of the Internet.

The final reason that blogging was chosen as a task was that it provided the instructors with a timely, efficient means of evaluating whether the learning goal of improving writing fluency was achieved. Writing fluency was chosen as a program goal largely because the instructors felt that the limited time available in the seven-day intensive program made it very difficult, if not impossible, to effect any measurable and positive improvement in the students' written grammar and syntax. However, the researchers did believe that improvements in writing fluency could be realized in such a short program.

The class blog procedure

There are many ways to set up a blog for classroom use. Johnson (2004) describes how to set up individual blogs in order to give students access as users to a main "class blog." As students in this program were relatively low proficiency, in the interests of time-effectiveness and simplicity, the instructors set up a class blog to which students could post messages via email. The free blogger.com service was used, primarily because of the "comment" feature that allowed students to comment freely on each other's posted messages.

During the first class students set up personal email accounts in either Microsoft MSN/Hotmail or Yahoo! Email. Each morning thereafter students received a blog topic emailed to them from the instructors. Students spent twenty minutes freewriting an email message and then emailed their freewrites to the class blog. This time limit was strictly enforced by the instructors for several reasons. First, limiting the time made it difficult for students to rely on online dictionaries to find vocabulary and check their spelling; it also promoted the goal that self-expression was to be more important than grammar and spelling. Second, the 20-minute time limit encouraged students to begin writing immediately, rather than discussing the topic verbally with their friends. Third, the instructors had a great deal of material and activities to introduce during the program and preferred not to spend the majority of the time with student blogs.

As noted above, blogging was the main writing component of the blended CALL program, but there were other CALL activities as well. These activities, including web listening, use of online concordances, online grammar puzzles and quizzes, videos, and face-to-face pair and group discussions, were arranged using a Wave Model to enhance the recycling of comprehensible input. The Wave Model, first introduced in outdoor language education by Martin (2002), provides language instructors with a model of constantly occurring and recurring language targets that interact, support, and enhance one another over a period of time. For example, in this integrated CALL program, careful use of the Wave Model to arrange CALL tasks ensured that listening activities on the computer in the morning would be followed by speaking activities in the regular classroom in the afternoon, and the following morning students would revisit many of the same themes by writing on related topics in their blog entries. This use of the integrated CALL environment through the Wave Model allowed for constant revisiting and recycling of lexical items, as learners began to express the previous lesson's input in their own written blog output.

After students finished their email messages, they sent the messages to the blog email address for posting. Messages appeared on the class blog website within a few minutes and students then read their classmates' email postings and chose two or three to comment on, writing one or two short sentences for each comment. The class blog was also used on Day 4 of the program for students to post a longer, self-researched entry about their favorite movie actor. This assignment was related to a web listening activity not detailed in this paper, which allowed students to revisit the vocabulary targets learned through the listening task. The instructors viewed the class blog and related writing activities primarily as a tool to promote writing fluency and self-expression (Zamel, 1992; Knutson, 2000). As such, students' email postings were edited neither for content nor for grammar mistakes.

Although many researchers in task-based teaching have pointed out that a focus on accuracy, while not necessary for students to communicate effectively, is beneficial (Long

& Robinson, 1998; Skehan, 2003), the instructors felt that such a focus would undermine program goals due to: a) the students' low proficiency, b) their low motivation to study English, c) their relative lack of experience and/or possible anxiety about using computers in English, and d) the short timespan of the program. Therefore, the goal of fluency in blog writing seemed far more important as a method of encouraging meaningful interaction among students and so increasing student motivation.

A definition of “writing fluency”

The researchers discovered that, surprisingly, there was no viable definition specifically for writing fluency available in current ESL/EFL literature. H. D. Brown does refer to fluency activities as “saying or writing a steady flow of language for a short period of time without any self- or other correction at all” (Brown, 1994, p. 113). Although this explanation is helpful, it is not appropriate as the basis for a definition of writing fluency when applied to most CALL studies focusing on writing. Brown's explanation could lead to the erroneous conclusion that the longer the flow of language, and the more words produced, the more fluent the writer is. When writing is done with computers, as is likely to be the case in CALL programs, any word count increase may be attributable in whole or in part to an improvement in students' typing speed throughout the duration of the program rather than to a true development of writing fluency. Brown's explanation also ignores critical factors such as lexical complexity and text comprehensibility. If lexical complexity and comprehensibility are not taken into account, students could conceivably be identified as having improving their writing fluency merely on the strength of having written the same simple sentence repeatedly over the timed period.

In order to avoid these problems this paper defines fluency in writing as the number of words produced in a specified time frame, together with lexical frequency, irrespective of spelling and content, provided that the writer's meaning is readily understandable. The term “lexical frequency” has been used to describe the difficulty level of words based on the frequency with which they normally occur in written English (Laufer & Nation, 1995; Goodfellow, Lamy & Jones, 2002). The less frequently a word normally appears, the more difficult it is considered to be. Although any increase in the bare word count could conceivably result from students becoming more familiar with typing on computers, increased computer familiarity would not explain an increase in the number of low-frequency words (lexically more complex vocabulary items) occurring in student writing. By considering the lexical frequency of words in combination with the number of words produced, the definition ensures that an increase in writing fluency cannot be attributed solely to improved computer skills.

This definition is useful for two other important reasons. First, it effectively distinguishes fluency from accuracy and proficiency which, although related, are not one and the same. Grammatical accuracy and proficiency are important in evaluating L2 writing in general; however, they are problematic when evaluating L2 writing fluency. This is most clearly understood if a group of native English speakers is taken as an example. While the native speakers are all considered to be fluent writers in their native language, it is unlikely that they will share the same level of grammatical accuracy or proficiency in their writing. Some L2 instructors may hesitate to take a similar view in regard to L2 writers although logically they should do so. Second, writing rarely, if ever, results in error-free production without

periods of reflection and frequent editing. If students are not provided time to reflect on and edit their writing, one can hardly justify attaching importance to grammatical accuracy and proficiency.

Results

Word count results

A simple word count of the students' blog entries showed an overall increase in words produced from the beginning of the seven-day program through the end of the program. As noted in Table 1, the average word count for student email postings to the class blog was a mere 31.5 on the first day of the seven-day program. By the end of the program, this number had jumped dramatically to an average of 121.9 words, representing an overall increase of nearly 350%. This is an astounding increase over such a short period, especially considering the low proficiency level and low motivation of the students involved. The highest individual student increase was from 31 to 185 words, or almost 600%, while the lowest word count increase was a mere nine words (from 53 to 62). One must take into account, however, that students' proficiency as measured by TOEIC score, as well as individual differences in motivation and interest in the blog topic, may have been factors influencing the total number of words produced. Nevertheless, all students exhibited a gradual increase in the number of words written in their blog entries throughout the program.

Table 1. Blog entry word counts over the seven-day program

	<i>Day 1</i>	<i>Day 2</i>	<i>Day 3</i>	<i>Day 4</i>	<i>Day 5</i>	<i>Day 6</i>	<i>Day 7</i>
Total words	567	1141	1293	1960	1630	2329	1951
Avg per Ss	31.5	57.1	61.6	93.3	81.5	110.9	121.9

Day 4 stands out as having a particularly high word count, which is likely due to students having researched the previous day about their favorite movie actor. The fact that the students had additional information on which to express their opinion, along with additional planning time, most likely were the causes for the rapid increase in word count. The total word count for Day 7 is noticeably lower than that for Day 6 and is largely due to technical difficulties experienced by six students who were unable to upload their blog entries. It must be noted though that some of the overall increase in word count is likely attributable to students becoming more accustomed to typing and computer use, or resulted simply from the repetition of the writing task (Bygate, 1996).

A one-way ANOVA for repeated measures¹ was performed to statistically compare the increase in word counts using blog entries from Day 2 and Day 6. The blogs from Day 1 and Day 7 were not chosen for comparison because students were introduced to email and the blog on the first day of the program, which could have unduly influenced their blog entries that day; and on the final day a number of students had difficulty sending email to the blog, possibly leading to frustration which may have affected their word counts. More-

over, the topics for Day 2 (“Your Dream”) and Day 6 (“Your Dream Vacation”) were similar enough to allow for a meaningful comparison. Overall word counts for Day 2 were 1141 ($N = 20$), and for Day 6, 2329 ($N = 21$). Three of the 22 student blog entry word counts for Day 6 were excluded from analysis: two blog entries failed to appear on the class blog on Day 2 because of technical difficulties, and one student voluntarily quit the program after Day 3, making $N = 19$ pairs of student blog entry word counts for the ANOVA analysis (See Figure 1). The means and standard deviations are presented in Table 2 below. The results of the ANOVA indicated a significant difference between the number of words in Day 2 and Day 6, $F(1, 18) = 40.93, p < .01, \eta^2 = .70$. Despite the rather small n -size, the F score and the effect size are substantially large, indicating the strength of the p value and allowing us to hypothesize that even with a larger n -size the results of the blog activities would have remained significantly beneficial for the development of writing fluency.

Figure 1. Word counts from Day 2 and Day 6 blog entries.

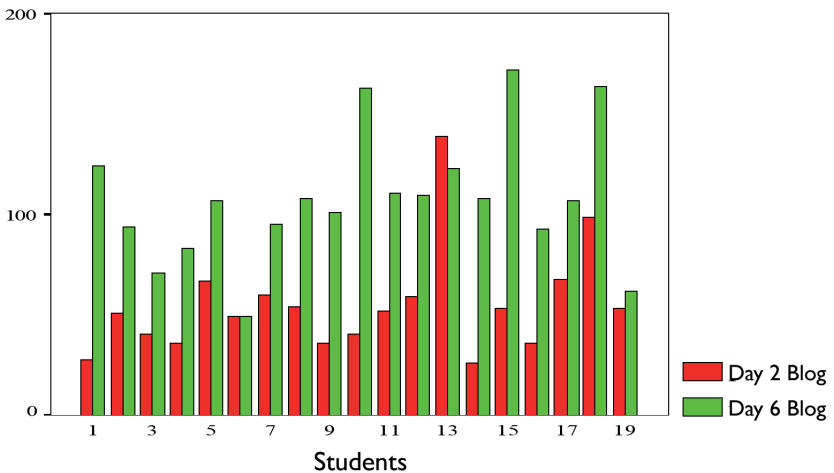


Table 2. Descriptive statistics for Day 2 and Day 6 blog entries

Blog entry	<i>M</i>	<i>SD</i>	<i>Skew</i>	<i>Kurtosis</i>
Day 2	55.16	26.31	2.07	5.32
Day 6	107.63	32.47	0.46	0.28

Lexical frequency level results

The researchers measured Day 2 and Day 6 student blog entry lexical frequency levels by copying all non-proper noun words² into the online version of the RANGE program (VocabProfiler, <http://www.lex Tutor.ca/vp/>). VocabProfiler analyzes words used in text into

four levels: 1 to 1000 most common word families, 1001 to 2000 most common word families, 570 academic word families, and offlist, meaning words not appearing on any of the previous three lists. These “offlist” words are often called “low frequency,” and hence more difficult, words. An analysis of student blog entries revealed not only that word counts increased by the end of the program, as mentioned previously, but that the students tended to use a greater number of less frequently occurring words by the end of the program (See Table 3). In other words, the students used more difficult lexical items at the end of the program than they did at the beginning. At the start of the program, students used an average of 2.5 words per blog entry in the 1001-2000 word level, whereas by the end they were using an average of 4.6 words. Additionally, the average number of academic and offlist words in student blog entries increased from 3.4 to 6.5.

Table 3. Total word count and per student average word count by frequency level

<i>Word count</i>	<i>1000 word lvl</i>		<i>2000 word lvl</i>		<i>Academic words</i>		<i>Offlist words</i>	
	<i>Day 2</i>	<i>Day 6</i>	<i>Day 2</i>	<i>Day 6</i>	<i>Day 2</i>	<i>Day 6</i>	<i>Day 2</i>	<i>Day 6</i>
Total words	912	1746	49	87	10	20	56	103
Avg. per Ss	48.0	92.0	2.6	4.6	0.5	1.1	2.9	5.4

Discussion

The researchers theorized that by using blog tasks as part of an intensive English CALL program, they would promote writing fluency by encouraging students to recycle vocabulary and to notice their language use. This recycling and noticing of vocabulary became evident in student blog postings later in the seven-day program. For example, after an online concordance task in which students looked up vocabulary items, students then participated in a non-CALL diamond ranking activity (Fellner, 2005) using the words from the concordance activity and discussing their opinions about the relative importance or unimportance of the vocabulary. In their blog entries the following day, students used many of the same vocabulary items, despite the fact that the instructors never explicitly told students which words to use while writing, nor even encouraged them to use vocabulary items from the online concordance activity. Students noticed the words incidentally, and autonomously chose to use them in their writing production, supporting the conclusion of Pinkman (2005) that blogs can be an effective method of promoting learner autonomy.

Based upon word counts and lexical frequency, it is clear that students showed an improvement in their writing fluency by the end of the seven-day program. The increase in vocabulary output during the 20-minute timed sessions each day of the seven-day program cannot be attributed to the result of a “writing process,” as there were no drafting, editing, and revising phases involved. Furthermore, responses made by the instructors and classmates to the student blog entries (using the “comment” feature in the class blog) were directed primarily at the content of the student blog entries, not at correcting vocabulary phrases or grammatical accuracy. This focus on the language meaning rather than the language structure, stemming from the instructors’ belief that primarily communicative writing

would encourage students to write expressively, resulted in overall improved writing fluency for the 21 students in this study.

While word counts dropped between Day 6 (2329 words for all 21 students) and Day 7 (1951 words for 15 students), the average per student blog entry still increased from 110.9 (Day 6) to 121.9 (Day 7). It is reasonable to assume that the total number of words would in fact have been higher had the other six students been able to post their messages. Comparing the average number of words per student against the total number of words for all students allows us to estimate a projected total had there been no technical problems (See Figure 2). The increased word counts do not illustrate an exponential learning curve, but may suggest a typical "recursive" learning curve, which surges ahead, falls back, and surges ahead once more. However, due to the limited timespan of the program (seven days) it is impossible to state this with any certainty. The researchers would be remiss in neglecting to point out that it is doubtful whether the daily average word counts would have continued to increase at such a dramatic rate had the program extended over a significantly longer period of time, such as an entire academic semester. After all, the human hand can only type so fast. Unfortunately it is beyond the scope of this paper to predict at what point any leveling off of word counts may occur.

The improvement in writing fluency is also evidenced by the increased use of lower frequency occurring words. The researchers believed that bare timed word counts would not be an adequate measure of any improvement in writing fluency, as this would be to ignore the type of vocabulary items used. To remedy this, the researchers also examined lexical frequency. Words that normally occur less often were considered to be more linguistically complex. The researchers postulated that any effect of the blog task in improving writing fluency could be best shown if there were evidence that both the number of more complex vocabulary items and the overall word counts had increased. Whether the more complex vocabulary items were learned during the course of the program, or simply represented the

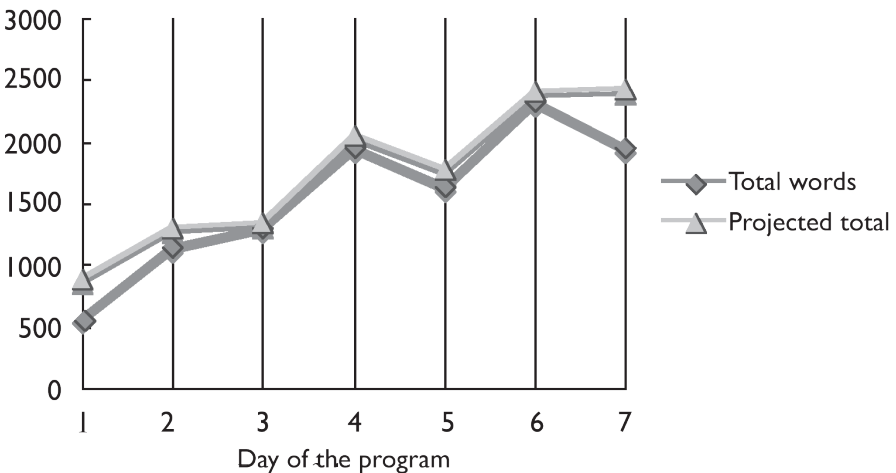


Figure 2. Blog total word counts per day: actual versus projected

activation of words that had been learned previously, or whether the students were simply giving more attention to vocabulary choices, is of little importance when discussing improvements in writing fluency. The most important issue is that learners were able to bring more of their "vocabulary knowledge into communicative use" (Laufer & Nation, 1995, 308).

Although the quality of the language used in the blogs may not have shown advanced English proficiency, the concepts expressed in the blog posts were quite complex and mature. It may very well have been the first time these students had ever attempted to write complex thoughts and ideas using English as their medium of expression. Instructors of lower proficiency EFL university students, such as the students in this program, should keep in mind that lack of complexity in English expression does not reflect lack of complexity in thought. It would seem safe to assume that instructors who respect the maturity of their students can be rewarded by students becoming more motivated and determined to improve their expressive ability in English.

An intended and welcome benefit of having students write blog entries was that, although focused on writing, the task provided students with more opportunities for meaningful negotiation through the "comment" feature available on the blog site. This interactive aspect of commenting on their classmates' posted messages was clearly one of the most interesting aspects for students. As the program progressed, the instructors witnessed many students demand that their classmates write comments on certain posts – students would often stand up and walk to another student's computer to find out why their classmate hadn't responded yet to a posted message. The potential immediacy of feedback was also cause for frustration, which sometimes occurred because student emails and comments often took several minutes to appear on the class blog. However, this seemed to create a kind of "facilitating" anxiety, as it made students more anxious to write blog entries and to write comments in English. For students who had previously showed an apparent lack of motivation to study English, this must be regarded as a significant improvement.

Conclusion

This paper examined improvements in writing fluency achieved by using blog freewrites among a group of low proficiency, low motivation students in a short intensive English CALL program. The blog writing activity was chosen by the instructors as a suitable CALL task as it met the seven criteria used to determine task appropriateness: language learning potential, learner fit, meaning focus, authenticity, positive impact, practicality, and enhancement. Based on the definition of writing fluency as the number of words produced in a specified time frame, having regard also to lexical frequency, the researchers examined both word counts and the number of lower frequency occurring words produced by the students from the beginning of the program until the end. Student blog entry word counts nearly quadrupled from an average of 31.5 on the first day to 121.9 on the final day of the program, and the average number of lower frequency words used per student also increased by nearly doubling from six to twelve. Based on this data it seems logical to conclude that students' writing fluency improved significantly throughout the duration of the program.

The program lasted for only seven days, which may be one factor that supported a continual increase in the number of words in the blog entries. In the future, it would be in-

interesting to discover for how many days this increase could continue and after what length of time a tapering off, or a plateau effect, might occur.

Notes

1 – A repeated measures paired samples *t*-test was attempted, but the skewness of blog entries in Day 2 indicated an abnormal distribution. Since the *t*-test is highly sensitive to skewness, the data was instead analyzed using a repeated measures ANOVA. See Green and Salkind (2005), p. 162-166.

2 – Proper nouns include names of people, places, and things, and are not considered part of the 1000 or 2000 high frequency word levels because the use of proper nouns may differ according to learner background or interest. For example, a student writing about her dream vacation wrote the words Okinawa and Hawaii several times, words which according to VocabProfiler are "offlist" low frequency words. Despite the fact that the researchers eliminated all proper nouns such as these offlist words, the number of low frequency words nonetheless increased during the course of the program.

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