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Adaptation of a year-long CALL reading course to the Japanese university semester

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Abstract

This paper details the adaptation of the year-long CALL reading course *Effective Learning* to the Japanese university semester. Curriculum design considerations and challenges are presented, along with analyses of pre-course and post-course student performance on both the program-internal progress tests and the Reading section of TOEFL ITP tests. Results suggest that the only directly observable benefit of the current class implementation is improved performance on the program-internal progress test vocabulary sections at the midpoint and end of the course. Although the program-internal measure of reading speed for the most part increased on the progress tests, the difference for each class was not statistically significant. What was consistent was an overall decrease in average score from the first to second progress test reading sections. Additionally, performance on the reading sections of the pre- and post-course TOEFL ITP exams the students sit for showed an overall but non-significant trend of decline. The main cause of this decline is thought to be the limited contact time for the students enrolled in this class, although other possibilities are discussed.

1. Introduction

As a part of its ongoing General Education (GE) curriculum development, in 2006 Meiji Gakuin University's Center for Liberal Arts established an Academic Literacy component. Initially offered to the Political Science department, the component includes the courses Academic Literacy 1 (AL 1) and Academic Literacy 2 (AL 2). The primary goal of AL 1, conducted in Japanese, is to improve students' ability to compose academic papers based on current events discussed in class. A companion course focusing on English composition writing would have been ideal but was judged unfeasible for a one-semester course due to the low overall level of English of students taking these classes. It was therefore decided the focus of AL 2 would be English reading.

At the outset various western textbooks were examined, but it quickly became apparent that a one-semester English reading course did not justify the expense of a full reading text whose material could not possibly be covered in a single semester. Various online CALL software titles were also investigated, but most proved either cost-prohibitive or too comprehensive for a one-semester focused reading course. And while handhelds such as Apple's iPhone 5, Samsung's Galaxy S or the Window 7 phone might soon be feasible for use in class (see, for example, Thornton & Houser 2002), due to limited penetration of the student market smart phones with

full browsers are not yet a viable option, despite imaginative activities such as the information gap class work discussed in Kluge (2002). *Effective Reading*, programmed and administered by the company reallyenglish, marketed by Seibido Publishing, and specifically tailored to the Japanese university market, appeared to be the best balance of cost and content. It was also judged that a CALL title would hold considerable more appeal for students than a traditional print-based lecture/homework reading course.

Choice of materials for a reading class is by no means an idle decision. While a traditional print-based reading course is relatively easy to plan and administer, the various psychological and physiological changes accompanying the acquisition of literacy are in reality quite complex. The acquisition of a second language (L 2) in general involves extensive rewiring of the acquirer's brain circuitry, especially the regions involving language grammar (Sakai 2005). For learning to read in particular, both brain anatomy and activity undergoes change. As might be expected, the visual centers of the brain become more active due to the multitude of highly sophisticated eye movements required, but the activity of the spoken language network in the left hemisphere in general and the planum-temporale, the area of the brain involved in phonological encoding, in particular, are also enhanced (Dehaene et al. 2010).

While routinely taken for granted, controlled, coordinated eye movements are critical for fluent reading. Research on the choice of which words to focus on and which to skip while reading reveals how closely eye movements and attention are tied to the ongoing processing of language, including making rapid educated guesses at upcoming words (Brysbart, Drieghe, & Vitu 2005; Heinzle, Hepp, & Martin 2010; Reichle, Warren, & McConnell 2009). Because of the quite different nature of alphabetic and syllabic scripts, one might expect large differences in eye movements while reading English and a syllabic script such as Chinese or Japanese, and recent research does show differences in the eye movements of children reading Mandarin and English that can be attributed to orthography. However these orthography-related differences are much less pronounced for the more fluent university readers in the study (Feng, Miller, Shu, & Zhang 2009), indicating a coalescence of eye movements and control during skilled reading of either script. Also, a coalescence of L 1/L 2 cerebral activity has been observed in the form of Event-Related Potentials in Spanish/English bilinguals while reading anomalous or ambiguous sentences (Kotz, Holcomb, & Osterhout 2008)—again, evidence of similar control mechanisms involved in reading different languages.

In addition to eye movements and brain activity, skill in reading an alphabetic script has been linked to both activation and enhancement of phonemic processing. Specifically, learning to read an alphabetic script improves phonemic awareness among both children speaking a language written in that alphabetic script, as well as children and adults learning an L 2 written in an alphabetic script (Lieberman, Shankweiler, Fischer, & Carter 1974; Mann 1986; Read, Yun-Fei, Hong-Yin, & Bao-Qing 1986; see the discussion in Vihman 1996 pp. 173ff). Further, activation of the phonological network while reading aloud has been observed (Reynolds & Besner 2006) and has been extended to increased phonological processing of both L 1 and L 2 language (Dehaene et al. 2010; Leong 1991).

While one might argue that incoming college freshman should be skilled, fluent readers, experience suggests otherwise. Few students arrive at college equipped to deal with the large amount of reading in their L 1 they encounter. A more serious problem facing Japanese university EFL instructors is the distinct disdain for English many freshman have developed due to the rigorous Japanese entrance examination process. Student motivation is a particularly non-trivial issue in the Japanese GE EFL classroom, in terms of both integrative and instrumental motivation (Cook 2001 ch. 5). Further, L 1 reading motivation does not entail L 2 (English) motivation among Japanese HS students (Takase 2007); classes need to be taught in a manner that will capture students' imaginations and attention. Chino (2010) also notes how beneficial relatedness between students can be for both motivation and retention.

Closely tied to motivation is the notion of learning styles. The literature abounds in research on learning styles in both L 1 and L 2 classrooms. Although much of it is spurious at best and possibly misleading (Pashler, McDaniel, Rohrer, & Bjork 2009), in the upcoming years CALL and its derivatives may make the point of optimizing input to learning styles mute in any case—computers and game devices are more and more capable of providing output matching any learning style propensity. The many multimedia educational titles available for the Nintendo DS make it a viable self-study alternative to formal study. It is not hard to imagine a CALL laboratory with consoles that are future generations of these devices. The Nintendo Wii, Sony Play Station 3 and the new Kinect for Microsoft's Xbox 360 game machine also afford an amazing capability to integrate kinesthetic activities into educational software; e. g. the ASL tutor for Kinect under development by researchers at the Georgia Tech College of Computing.¹

All of the above leads one to conclude that CALL reading materials would do well to include, in addition to the obvious vocabulary and grammar exercises, eye training and phonemic and morphemic awareness exercises. These points will be returned to below in discussion of the *Effective Reading* software.

2. Course implementation

2.1. The *Effective Reading* program

Effective Reading is an example of Network-based language teaching (NBLT; see Jarrell 2002); it resides on the reallyenglish server and can be accessed via web browser from any Internet access point. We decided to utilize the beginning level of the program rather than the intermediate level, since the beginning level is designed to raise students' TOEIC score from 300 to 450 (converted TOEFL 400 to 452), and the average TOEFL ITP score of our GE incoming freshman tends to be in the low 400's. The program consists of two modules, Module A and Module B, each ending in a progress test. Each lesson of each module consists of a pre-reading activity, vocabulary, speed-reading and reading section. Introductions, help, course overview and definitions and part-of-speech information for target vocabulary are all given in both L 1 and L 2 (Japanese and English), making the program readily accessible to students, thereby facilitating uptake (Goh & Hashim 2006). The pre-reading skills focus also provides schema- and script-rich background

info (Cook 2001 p.91ff), important since the more background information students bring to a reading, the better their comprehension of that reading (Nakamura & Hirose 2009). The vocabulary training section contains English part-of-speech information, definitions, and glossed example sentences, as well as Japanese definitions. Glosses and example sentences are context dependent, with unrelated meanings of a given word suppressed; see e. g. Webb (2008) for discussion of the positive effects of contextual information. The extensive typing practice in English for these exercises is an added bonus.

Unfortunately the program does not utilize hypermedia annotations in the manner of *The Pop-up New Oxford Dictionary of English*, where definitions appear in a temporary window when the mouse hovers over a word; see AbuSeileek (2008) and Alessi & Dwyer (2008) for the discussion and benefits of hypertext glossing. There is also no phonics component; unfortunate since a blended whole-reading and phonics approach has been found to be the most effective at teaching reading of an alphabetic script (Rayner, Foorman, Perfetti, Pesetsky & Seidenberg 2002). Likewise there is no explicit morpheme training, also unfortunate considering the positive effects of calling common morphemes to the reader's attention seen in psychological studies (McKinnon, Allen, & Osterhout 2003).

Each lesson also contains visually entertaining speed-reading exercises for eye movement practice, critical for both avoiding eye fatigue and for fluent reading.² CALL software can provide such exercises, a very difficult thing to teach in any engaging manner with traditional texts. There are also chunking exercises for fluency improvement in both self-paced and automatic modes, although their benefit might be limited for our students due to their beginning level (Kondo-Brown 2006).

Lesson tests are short, typically consisting of 6 questions. Possible answers are randomized to discourage straight memorization of answers; however, there are only three possible answers, and correct answers and feedback are given to the students as soon as they submit the test. Although perhaps three choices is suitable for entrance exams, where the test taker answers the question only once (Shizuka, Takeuchi, Yashima, & Yoshizawa 2006), our implementation of the program encourages students to repeat tests they have not done well on. Unfortunately only two passes through the questions are enough to deduce all correct answers. We solve this problem by giving students credit for only the first time they take a lesson test if they took it during class hours in an attempt to remove the motivation for cheating.

2.2. Curriculum design & administration

As noted above, *Effective Reading* is designed as a one-year, two-semester course. However, half of the students enrolling in our AL 2 course take it Spring semester, the other half Fall semester since it is a one-semester course that complements the one-semester AL 1 course. To this end we proceed through the Module A lessons at the average rate of 2 lessons per week, taking Progress Test 1 about the middle of the semester. We then proceed through Module B lessons at an average rate of three lessons a week, with students taking Progress Test 2 during the last scheduled class session. They then sit for a GE TOEFL test during the scheduled exam

period.

Of note is the different teaching styles of the various instructors in charge of this course since its inception. Instructors have been from the start given leeway to adapt the course to their teaching styles and methods, and instructor attitudes have ranged from ridged enforcement of an all-English environment to a virtually bilingual classroom (see Cook (2001) ch. 6 for discussion of the issues involving use of L 1 in the EFL classroom). Some utilized assigned seating on a regular basis to stop chatter and prevent cheating, while others let students sit where they may and tolerated some amount of talk during class—again, see Chino (2010) for discussion of inter-student relatedness.

Also highly instructor-dependent have been the use of additional materials to fill any free class time and/or given as homework. These have included encouraging students to access EFL web sites, communicative-based activities unrelated to the software, posting messages on a class blog, and vocabulary exercises directly based on the course lessons to help maintain necessary awareness of covered vocabulary (Saunders 2002; Thornton & Houser 2002). Likewise use of the administrator's section email function for contacting students has been put to use by various instructors to various degrees.

Finally, a series of appr. 70 graded readers with CD-ROM were made available and advertised to students, but actual use by AL 2 students has been disappointingly low.

While the efficacy of these activities will not be explored here, they are worth mentioning and pursuing as a way to maintain student interest in both receptive and productive vocabulary use (Kawauchi 2010) since studies have indicated that despite increasing amount of total time on an activity, preparatory vocabulary work can increase reading comprehension (Alessi & Dwyer 2008).

2.3. Difficulties encountered

Difficulties encountered in administering the class include many that are issues in any class, CALL or not—chatting with friends rather than working, texting on mobile phones, copying of assigned written homework and of a neighbor's in-class work, helping each other with tests, etc. For the AL 2 classes, perhaps the most fundamental problem is that they are departmental requirements where registration but not credit is required for graduation. In addition the general lack of motivation for studying English of these students was confirmed by the inclusion of the intermediate level of the course during academic years 2006 and 2007 at no cost to the student. Once these students completed the one-semester AL 2 course, they were given free access to the intermediate level of *Effective Reading* during the following semester. Of some 120 students who received complimentary accounts, only one student accessed the course during the six months their account was valid, and that student did not so much as attempt to pass one full lesson.

Another administrative consideration is that students registered for this class are blocked into sections based on student number rather than streamed by ability. While this has the positive effect of students developing intra-class relationships, since many of their compulsory classes are assigned the same way, it presents instructors with the challenge of teaching a mixed-

level reading class. The wide-ranging ability levels can be observed in the tables and graphs of test scores in § 4.

Other difficulties are specific to most computer rooms, chief among them being the room layout (Jarrell 2002). Rows of fixed computer desks allow little room to maneuver between students when rendering individual assistance—a non-trivial factor, since the room itself shapes the nature of the class interaction among the students and between students and the instructor, in what Lincoln & Guba (1985) called “mutual simultaneous shaping” (Johnson & Brine 2000). Also, in our computer rooms instructors have no way of monitoring students access activity other than standing at the back of the room to look at the screens.

Another difficulty noted in Jarrell (2002) was a lack of computer literacy among incoming freshman, also a problem when these classes were first administered. In 2006 it was not uncommon to have a student sitting down in front of a computer for the first time, requiring basic mouse and keyboard instruction. In contrast recent students have proven quite computer savvy. Instructors have remarked on difficulties keeping students’ attention due to students’ focus on the computer; they can routinely be observed checking their email, browsing their favorite web site, etc. Lastly, as with any secure login, there are always students requiring instructor assistance in reissuing or resetting their password.

Other difficulties are specific to this course. During the first class students set up their account using the registration code contained in the accompanying printed textbook. Even though students are told in the online course syllabus and at their orientation that they must purchase the text before class, some inevitably show up for class without it and must be sent to the bookstore to purchase their copy.

A second course-specific challenge is the default passing score of 80% required on the 12 lesson tests in order to take the each progress test. 80% (4 of 6 questions) proves difficult if not impossible for very low-level students. Judging from access time stamps in the lesson test data it is apparent that some students memorize the correct answers displayed as feedback; in some cases three accesses of the same lesson within a 5-minute span resulted in an initial score of 0 climbing to 100 by the third attempt. Relatedly, the default pass setting of 80% also applies to the progress tests at the end of each half of the course. In more than one case a student attempted Progress Test 1 three times and still could not achieve a passing score, a detriment to individual motivation. We routinely request that the level setting be dropped to 0% before the first progress test so students can continue into the second half of the program unimpeded. The danger, of course, is that an automatic dropping of the level to ensure student progress may take away any personal motivation to excel at the course.

Finally, students can either chose automatic or manual text display in the text chunking exercises; in the manual advancement mode occasionally students need to be discouraged from having “clicking contests” to see who can fly through the text the quickest. While entertaining, it defeats the benefits of the exercise as well as unnecessarily fatiguing the mice.

3. Methods

As an initial examination of the efficacy of the course, students' performance the two *Effective Reading* progress tests were examined. As an external measure, students' performance on the reading section of the three TOEFL tests they sit for were also examined. The use of the TOEFL scores provided a look at Pre- and Post-class conditions for each class each semester, and, for the course Spring semester, any observable attrition by comparing Post-class and Delayed conditions (Spring and Fall semester scores).

Data was analyzed with the statistical program JMP on an Apple Mac Pro. Students scoring 31 on the Reading section of any of the three TOEFL exams were excluded since this is the minimum score of the reading section, given even to students who have been observed sleeping during this section of the test. Likewise excluded were any students who did not take both progress tests from the reading program. This left the data for 327 of 527 students for Spring and Fall academic years 2006 through 2009, eight classes in all. The number of students in each class is given in all tables in § 4.

The mean scores and standard deviations for all five reading test scores were generated. For this initial examination of the data, only within-class comparisons were made; between-class comparisons are left for future work. Also, due to the suspected non-parametric nature of the data between semesters, specifically wide-ranging variance, Matched Pair analyses and Wilcoxon Signed Rank tests were used to compare the Spring and Fall semester data for each class.

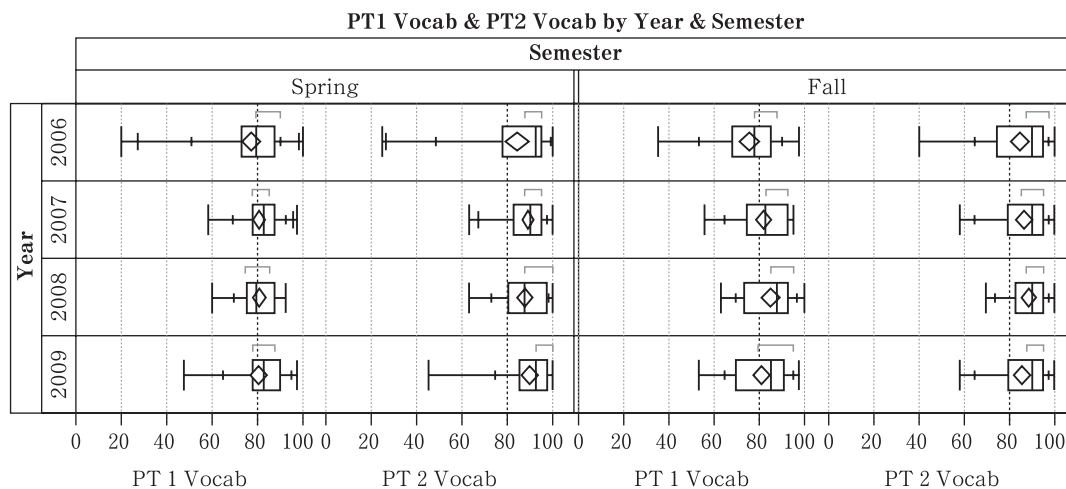
4. Results & Discussion

4.1. Progress Test scores, Vocabulary section

The following table gives the means and standard deviations for the vocabulary section of each progress test (PT), by year and semester.

Table 1 PT vocabulary score means and standard deviations.

Year	Semester	N	PT 1 Vocabulary		PT 2 Vocabulary	
			Mean	Std Dev	Mean	Std Dev
2006	Spring	51	77.5	15.2	84.4	18.6
	Fall	39	75.6	14.0	85.2	13.7
2007	Spring	53	81.2	8.82	89.4	7.47
	Fall	39	82.0	10.4	86.9	11.2
2008	Spring	36	81.1	8.55	87.6	9.68
	Fall	33	84.7	10.1	88.8	8.65
2009	Spring	39	80.8	11.0	90.0	11.3
	Fall	37	81.2	12.2	86.1	11.3



The same results are given in Figure 1. Separate quantile box plots are given for each class's scores on each progress test vocabulary section; e.g. the Spring 2006 class scores are represented by the upper left two boxes, with Progress Test 1 vocabulary (PT 1 Vocab) the left graph of the two and Progress Test 2 vocabulary (PT 2 Vocab) the right. Boxes contain median lines and 95% confidence diamonds. The left and right edge of the boxes give, respectively, the first (25%) and third quartiles (75%); outer and inner fences give, from the left, .5%, 2.5%, 10%, 90%, 97.5% and 99.5% quantiles. The down-turned square bracket in each plot is the shortest half, the most dense 50% of the data points. A dashed line at 80 points has been inserted to facilitate comparison between semesters.

In all cases the improvement from PT 1 vocabulary (PT 1 Vocab) to PT 2 vocabulary (PT 2 Vocab) is observable by comparing both the median (medial box line) and the mean (center of the confidence diamond) of each box. The improvement in vocabulary score from PT 1 to PT 2 was statistically significant (Wilcoxon signed rank, $P < .0001$) for all pairs except for Fall 2009 which was significant at the $P < .05$ level.

The observed improvement may be due to acclimation of the students to the progress test format, or it may be a function of the specific vocabulary contained in each progress test. This will be investigated at a future time using the Vocabulary Levels Test (Schmitt, Schmitt, & Clapham 2001; Webb 2008) or a similar measure. In any case, the improvement in vocabulary scores is obvious and consistent across all semesters for all four years.

4.2. Progress Test scores, Reading section

Table 2 gives the means and standard deviations for each progress test reading section. Upward trends are marked with an up arrow in the PT 2 Reading Mean column; downward trends are indicated with a down arrow. Differences significant under the Wilcoxon signed rank test at the $P < .05$ level are marked with one asterisk; those significant at the $P < .001$ level are marked with two asterisks.

Table 2 PT reading score means and standard deviations.

Year	Semester	N	PT 1 Reading		PT 2 Reading	
			Mean	Std Dev	Mean	Std Dev
2006	Spring	51	66.0	15.1	63.2 ↓	13.6
	Fall	39	63.6	16.9	57.4 ↓ *	17.4
2007	Spring	53	70.3	12.1	63.4 ↓ **	10.4
	Fall	39	72.9	11.1	63.7 ↓ **	9.04
2008	Spring	36	66.0	15.7	59.9 ↓ *	11.7
	Fall	33	74.9	12.0	63.4 ↓ **	10.3
2009	Spring	39	75.0	10.6	65.2 ↓ **	10.5
	Fall	37	69.1	16.4	62.2 ↓ *	13.8

Table 3 PT reading word-per-minute means and standard deviations.

Year	Semester	N	PT 1 WPM		PT 2 WPM	
			Mean	Std Dev	Mean	Std Dev
2006	Spring	51	185	158	195 ↑	185
	Fall	39	147	138	141 ↓	149
2007	Spring	53	74.5	29.2	82.6 ↑	51.9
	Fall	39	81.2	30.1	99.5 ↑ *	66.2
2008	Spring	36	86.5	33.0	114 ↑	89.4
	Fall	33	87.5	60.2	94.6 ↑	68.0
2009	Spring	39	88.7	78.8	94.3 ↑	67.5
	Fall	37	102	83.4	130 ↑	142

All Progress Test 2 reading score means (PT 2 Reading Mean) for each class show a downward trend when compared to Progress Test 1 (PT 1 Reading Mean), with all but the Spring 2006 difference being statistically significant.

Table 3 gives the mean scores and standard deviations for the words-per-minute measure based on the average time taken for the student to complete each progress test's reading selections. As before trends are marked with arrows; an asterisk denotes significance at the $P < .05$ level.

Although presented here, this measure should not be taken as an absolute measure of class reading speed, since it is based on the time from clicking the start button in the reading exercise until clicking on the button to access the questions, and students are free to switch back and forth between the questions and text at will. Students skimming the texts for the minimal time required, switching to the questions, and then switching back and forth while reading more carefully as a test-taking strategy will have very high reading rates. These potential outliers have not been removed from the data set for this preliminary analysis.

Figures 2 and 3 give the same data in the form of quantile box plots. (See § 4.1 for detailed information about each plot.)

While in general the word-per-minute measure did increase somewhat, the only class where

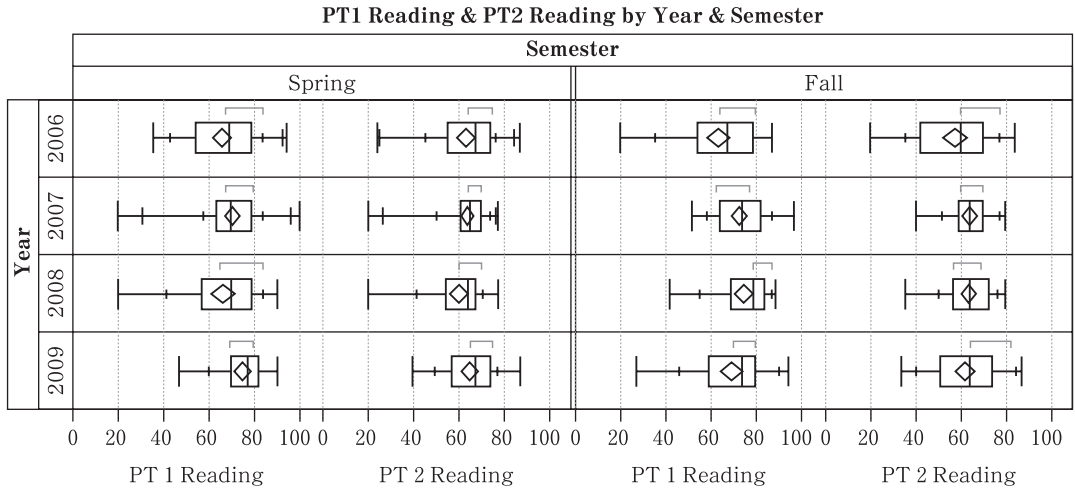


Figure 2 PT reading score quantile box plots.

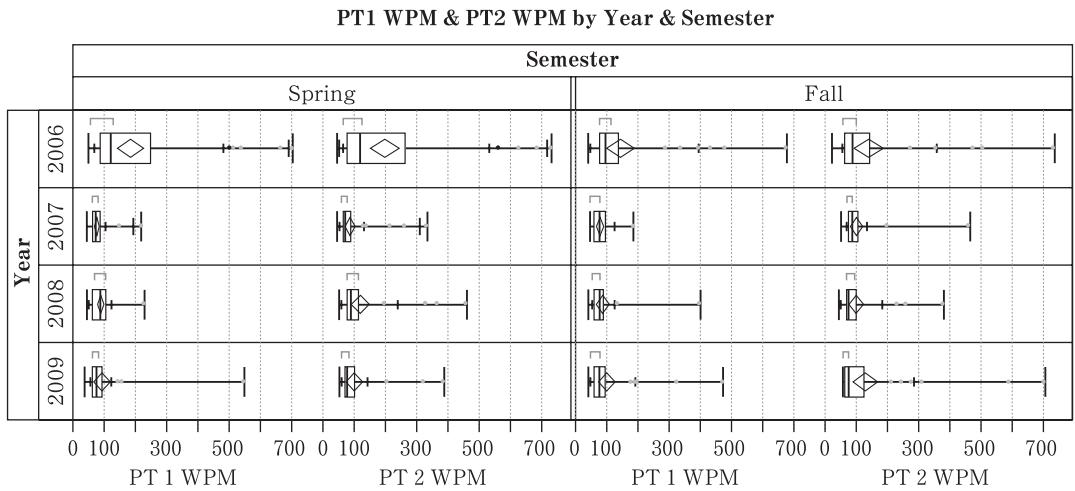


Figure 3 PT wpm score quantile box plots.

this difference reached significance was Fall 2007 (Wilcoxon signed rank T_s 172.0, $P < .05$). Again, the inclusion of outliers (including students skimming the text and then accessing the questions) may well have skewed these results as indicated by the large tails on the box plots. And while the general increase in reading speed is tempting to take as a sign of improved reading ability, the scores on the reading questions tell a different story.

The reading section scores for PT 1 were consistently lower than the reading section scores for PT 2, for all classes. This decrease in reading section scores of each class was statistically significantly for every class except Spring 2006, as can be seen in Table 2 above, and highly significant for half of the classes.

This result is in line with the results of Cheng & Good (2009), who found that while Taiwanese L1 glosses in or next to English text improved performance on vocabulary recall tests, the presence of glosses did not result in improved reading comprehension. Results of that study were

tentatively attributed to the low overall English level of the students, a similar situation to ours. Further analysis of the factors affecting this consistent decline in reading sections scores is left for future analysis, including analysis of the questions in the reading selections of each progress test.

We now turn to the results of the reading section of the students' three TOEFL ITP exams as an external measure of reading development.

4.3. TOEFL Reading section scores

Table 4 give the students' results on the reading section of the three TOEFL exams at the beginning of the year (T 1 Reading), the Spring semester exam (T 2 Reading), and the Fall semester exam (T 3 Reading). Again, upward trends are marked with an up arrow; downward trends with a down arrow. Only trends for the pre- and post-class conditions are indicated in the Mean column of the each class; i. e. the T 2 Reading Mean column for Spring semester classes and the T 3 Reading Mean column for Fall classes. Median differences attaining significance under the Wilcoxon ranked sign test at the level of $P < .05$ are marked with an asterisk, at the level of $P < .001$ with double asterisks.

While both the Spring 2006 and the Fall 2007 classes did show improvement between the Pre- and Post-class conditions, only the Fall 2007 class showed a significant improvement (Wilcoxon signed rank $T_s = -292.5$, $P < .0001$). No other differences were significant.

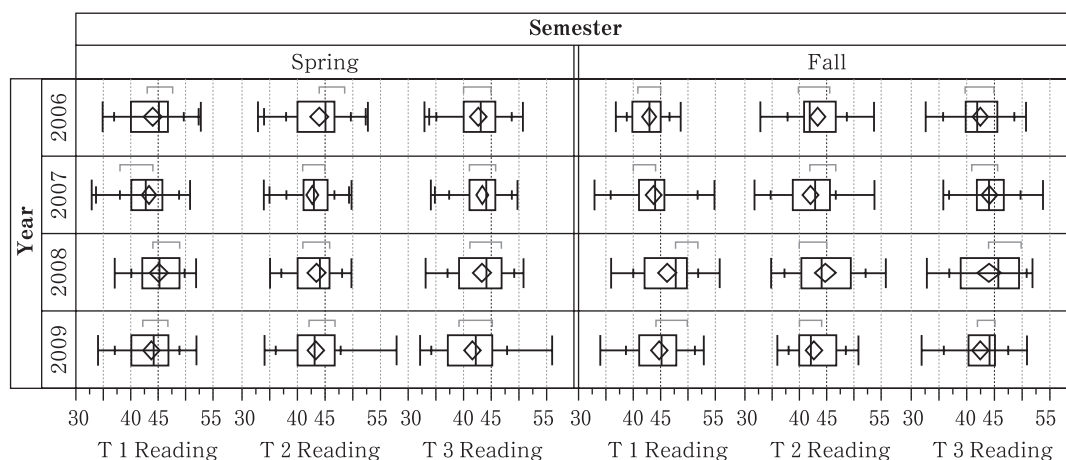
Although the Spring 2007 class posted a slightly higher mean score on the third exam, the delayed condition, the difference was not statistically significant. The other Spring classes show the more expected pattern, a mean decrease in score from T 2 Reading to T 3 Reading, but again none reaching significance.

Figure 4 gives the same data in the form of quantile box plots. (See § 4.1 for detailed information on each plot.) A dashed line has been inserted at 45 to facilitate comparison.

This overall downtrend for most classes is not unexpected. Compared with a typical day's activities in their L1, their exposure to English through their two English Communication classes and this one reading course—three classes total per week out of a typical total of 15 classes—is simply not sufficient for any meaningful progress in English to be made. In addition,

Table 4 TOEFL Reading section means and standard deviations.

Year	Semester	N	T 1 Reading		T 2 Reading		T 3 Reading	
			Mean	Std Dev	Mean	Std Dev	Mean	Std Dev
2006	Spring	51	44.0	4.68	44.1 ↑	4.89	42.9	4.57
	Fall	39	43.0	3.14	43.5	4.75	42.7 ↓	4.25
2007	Spring	53	43.4	4.27	42.8 ↓	3.38	43.5	3.97
	Fall	39	43.7	5.10	42.3	4.82	44.3 ↑ *	4.33
2008	Spring	36	45.1	3.93	43.4 ↓	4.14	43.3	4.57
	Fall	33	46.3	4.89	44.7	5.57	44.3 ↓	5.72
2009	Spring	39	43.7	4.43	43.4 ↓	4.58	41.5	5.52
	Fall	37	44.7	4.74	42.7	3.88	42.6 ↓	4.21

T3 Reading & 2 more by Year & Semester**Figure 4 TOEFL reading score quantile box plots.**

the health of the student at the time of the test, fatigue from lack of sleep or long commutes, relationships between the student and family, friends, etc., not to mention the sheer fatigue due to the length of the test, may well affect students in immeasurable adverse ways.

All in all, the conclusion to be drawn from the above data is that the vocabulary section of the program is achieving its goal of improving students' performance on the vocabulary covered by the lessons. It is not, however, providing an obvious improvement in reading comprehension as measured either program-internally or via the TOEFL reading exam. Perhaps other external measures of reading ability better suited to the students' level of ability would produce more tangible results.

5. Conclusion

This paper has presented a preliminary look at the test scores of students taking a focused, one-semester English reading CALL course. Student performance on the two program-internal progress tests and reading sections of the pre-class and post-class TOEFL tests were presented. Results indicate that the program's vocabulary exercises did consistently help students improve on tests of that vocabulary. And while reading fluency as measured by the program-internal measure of reading speed did display an upward general trend, scores on both the reading section of the program's progress tests and the pre- and post-class TOEFL exams suggest a general attrition of English reading comprehension. This is most likely due to the demands placed on incoming freshman by their other compulsory GE and major requirements, all taught in Japanese. As a last note, it is possible that the reading eye exercises contained in the program are providing currently unquantifiable yet real improvements in students' L1 reading fluency.

Further work will include a more thorough look at the factors affecting performance in the course, examining other means of testing that may better reflect these students' English reading ability, and ways to increase their English contact time without impinging on an already

crowded schedule more than the credits given for the course warrant.

Notes

- 1 <http://www.joystiq.com/2010/12/20/kinect-hacks-american-sign-language-recognition/>
- 2 One popular exercise in the speed reading section displays three words for a split second. Students must scan the row quickly and make a forced-choice decision on whether or not they are identical.

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