

What a CALL Environment Provides Students With

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Abstract

In a CALL setting, learners are supposed to spend more time working on their own at their own pace than in a traditional class, and it is possible to say that their learning outcome depends on their beliefs in learning and the degree of their involvement with the materials. Therefore, an argument of this kind seems to be substantial. The purpose of this research is to figure out learners' general beliefs in learning and their behaviors in a traditional class and in a CALL class, and to ascertain what a CALL environment provides a student with. I firstly profiled the participants based on their responses to the questionnaire about their beliefs and behaviors in a CALL environment using a cluster analysis, and described the tendencies of the groups comprehensively. Secondly, I ascertained whether the groups and their learning achievements have a statistical significance or not. The results show that four groups are appropriate, and the characteristics of each group are as follows: 1) the students do not like English and seem to be reluctant to learn English; 2) the students do not dislike English and think it important to communicate with other people in English, but are considered to be lazy about practicing listening and speaking; 3) the students like English and think it extremely important to speak English with other people, but are not interested in such practice as translation from Japanese into English or vice versa, nor learning English grammar; 4) the students like English, have strong belief about being good speakers of English and actually practice listening and speaking, but they are timid about speaking with other people. Despite the various tendencies, however, they all work diligently in a CALL class, with the result that a CALL environment would help and encourage them to practice listening, speaking, and learning and using grammar in English. In conclusion, in light of the results, a more effective help for individualized learning in a CALL class is also presented.

1. Introduction

In a CALL environment, students are supposed to spend more time working on their own at their own pace based on some online coursework or designated materials than in a traditional teacher-centered class. It means that CALL can foster learners' autonomy and also offer them opportunities to direct their own learning (Beatty, 2003, p.10). But if they do not pay attention to their learning process, the effectiveness of their learning might be limited however good the materials may be. It is based on the quality and quantity of involvement with which learners access information from the materials. Therefore one of the teachers' roles in a CALL class should be to help, encourage, and advise learners to continue active work.

2. Purpose of the research

The purpose of this research is to ascertain what a CALL environment provides students with, and to reconsider the role of teachers in a CALL class. For this purpose, I firstly profiled the participants based on their responses to the questionnaire about their beliefs and behaviors in a traditional class and in a CALL class, and described the tendencies of the groups comprehensively.

Secondly, I ascertained whether the groups and their learning achievements have a statistical significance or not.

3. Method

3.1 Participants and course configuration

The participants were 201 upper secondary school students taking EFL courses in Japan. They were taking a compulsory CALL class once a week. In the class, they mainly worked on designated CD-ROM material individually. The CD-ROM, *New Dynamic English* (DynEd International, 2000), was edited to mainly help students to improve their listening skills, to practice speaking skills, and to learn and use grammatical knowledge through listening and speaking activities.

3.2 Questionnaire on participants' beliefs and behaviors

The questionnaire was composed of 53 items, but they included a wide variety of beliefs and behaviors. After considering the purpose of this research, 16 of them were selected (see Table 1). Eight of them (Questions 1 to 3, 5 to 7, 9 and 10) were about beliefs from Horwitz's Beliefs About Language Learning Inventory (BALLI) (1987). They were adopted after modification for Japanese learners. Three of them (Questions 4, 8, and 32) were about beliefs the researcher thought necessary for this research, two of them (Questions 14 and 27) were about behaviors the learners usually exhibited outside the CALL environment, and the rest of them (Questions 19, 20, and 22) were about behaviors they displayed in the CALL setting.

Table 1 Items of questionnaire

Beliefs from BALLI (modified for Japanese learners)	
Q01	I believe that I will learn to speak English very well.
Q02	It is necessary to know about English-speaking cultures in order to speak English.
Q03	One of the most important things to learn English is learning vocabulary words.
Q05	I feel timid about speaking English with other people.
Q06	One of the most important things to learn English is learning the grammar.
Q07	One of the most important things to learn English is learning how to translate Japanese into English.
Q09	It is important to practice repeatedly with cassette tapes, CDs, etc.
Q10	It is easier to read and write English than speak and understand it.
Beliefs added by the researcher	
Q04	I feel that it is important to speak English with other people.
Q08	One of the most important things to learn English is learning how to translate English into Japanese.
Q32	I like English.
continued on the next page	
Behaviors usually exhibited outside the CALL environment	
Q14	When learning vocabulary words, I care about correct pronunciation of words.
Q27	I practice reading and speaking aloud.
Behaviors displayed in the CALL environment	
Q19	In the CALL environment, I practice speaking English aloud when indicated to do so.
Q20	In the CALL environment, I practice listening repeatedly when having difficulty

	understanding English.
Q22	I enjoy studying in a CALL environment, using computers.

3.3 Instructions

The students were instructed to respond to the items on a 5-point Likert scale (1 = “strongly disagree to 5 = “strongly agree”).

3.4 Learning achievements

Learning achievements were measured by the mastery test attached to the CD-ROM material. It was compiled mainly from the questions to measure learning outcomes by listening and choosing one from among the four options.

4. Analyses and Results

The mean score and standard deviation of each item of the questionnaire are shown in Table 2. The mean score and the standard deviation of the mastery test was 241.09 out of 300 and 30.67 respectively.

Table 2 Mean score and standard deviation of each item of the questionnaire

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q14	Q19	Q20	Q22	Q27	Q32
M	3.29	3.84	4.15	4.29	3.62	3.56	3.63	3.46	3.60	3.57	3.23	4.32	4.18	3.50	2.84	3.51
SD	1.34	1.15	1.10	1.10	1.30	1.19	1.20	1.19	1.27	1.42	1.46	1.01	0.91	1.29	1.35	1.44

A cluster analysis (the Ward method with the squared Euclidean distance technique) was carried out to profile the students based on their responses to the questionnaire. The result indicated that the students should be categorized into four groups: Cluster 1 (n=29), Cluster 2 (n=58), Cluster 3 (n=31), and Cluster 4 (n=83). To confirm the validity of the grouping, one-way ANOVA's were conducted for all the variables. To determine the significant differences, Tukey's multiple comparison techniques were carried out as the post hoc test. The results confirmed that the group difference was significant at the .05 level in 15 items out of 16. Therefore the grouping was thought to be proved.

Next, the four groups were compared on the learning achievements measured by the mastery test. The one-way ANOVA indicated that there was a statistically significant difference among the four groups' achievements. Post hoc multiple comparisons were conducted with Tukey's Method. The results showed that the group difference in the score was significant at the .05 level between Cluster 1 and Cluster 4, and between Cluster 2 and Cluster 4. The mean score and standard deviation of each item in each cluster are shown in Table 3, and the former are displayed in Figure 1. The mean score and standard deviation of the mastery test in each cluster are shown in Table 4.

Table 3 Mean score and standard deviation of each item in each cluster and significant differences among clusters

		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q14	Q19	Q20	Q22	Q27	Q32
Cl.1 (29)	M	1.48	3.55	3.72	3.03	4.10	3.21	3.21	3.00	2.86	4.34	2.66	3.83	3.93	3.59	1.93	1.62
	SD	0.63	1.21	1.28	1.70	1.11	1.32	1.37	1.25	1.43	0.94	1.45	1.34	0.84	1.45	1.16	1.08
Cl.2 (58)	M	3.28	3.21	3.84	4.29	3.72	3.28	3.24	3.14	3.36	2.79	2.00	4.26	4.09	3.29	2.10	3.14
	SD	1.32	1.18	1.23	0.96	1.25	1.28	1.23	1.19	1.25	1.53	1.06	1.09	0.96	1.48	0.93	1.22
Cl.3 (31)	M	4.13	3.97	3.87	4.9	2.81	3.13	3.1	2.77	3.68	2.65	4.58	4.29	4.06	2.81	3.74	3.97
	SD	1.09	1.33	1.36	0.30	1.42	1.28	1.35	1.31	1.22	1.50	0.77	0.90	1.12	1.11	1.21	1.22
Cl.4 (83)	M	3.61	4.34	4.61	4.51	3.67	4.05	4.25	4.11	4.00	4.18	3.78	4.54	4.37	3.88	3.33	4.25
	SD	1.02	0.72	0.56	0.74	1.23	0.84	0.70	0.75	1.08	0.90	1.15	0.79	0.78	1.02	1.27	1.02
The results between clusters p<.05		1<2 1<3 1<4 2<3	1<4 2<3 2<4	1<4 2<4 3<4	1<2 1<3 1<4 2<3	3<1 3<2 3<4	1<4 2<4 3<4	1<4 2<4 3<4	1<4 2<4 3<4	1<3 1<4 2<4	2<1 3<1 2<4 3<4	1<3 1<4 2<4 4<3		1<4 ns	2<4 3<4	1<3 1<4 2<3 2<4	1<2 1<3 1<4 2<3 2<4

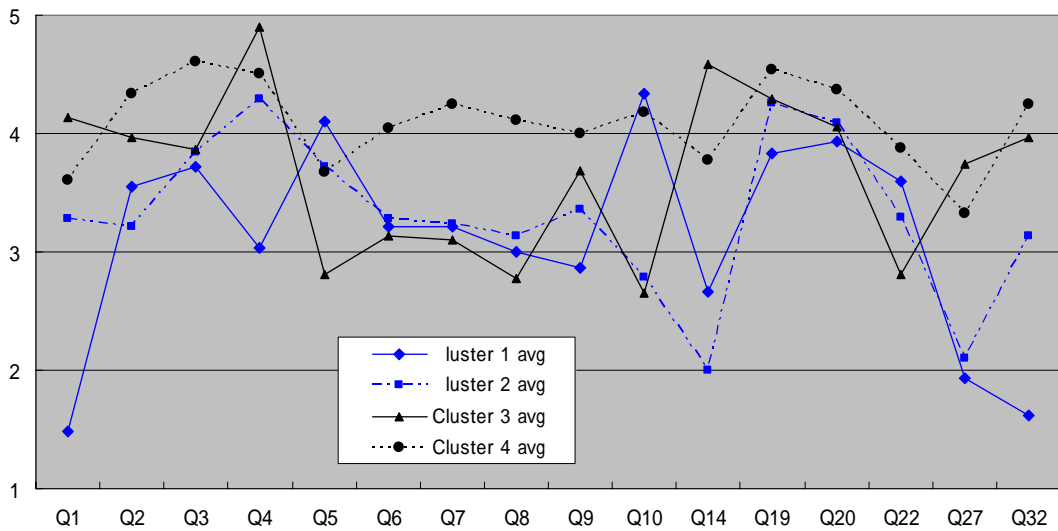


Table 4 Mean score and standard deviation of mastery test in each cluster

		test
Cl.1 (n=29)	M	227.10
	SD	27.24
Cl.2 (n=58)	M	233.07
	SD	34.74
Cl.3 (n=31)	M	243.19
	SD	29.80
Cl.4 (n=83)	M	250.80
	SD	25.84

5. Discussion

The students in Cluster 1 did not like English (Q32), nor did they believe that they would learn to speak English (Q1). They felt timid about speaking English with other people (Q5), and they thought it was easier to read and write English than speaking and understand it (Q10). Furthermore, they did not practice reading aloud or speaking aloud outside the CALL environment (Q27). In short, they are considered to be reluctant to learn English and be poor at speaking and listening. In the CALL environment, however, they comparatively practiced speaking aloud (Q19) and listening repeatedly (Q20). Therefore, the CALL environment seemed to help students in Cluster 1 practice more (see Figures 1 and 2).

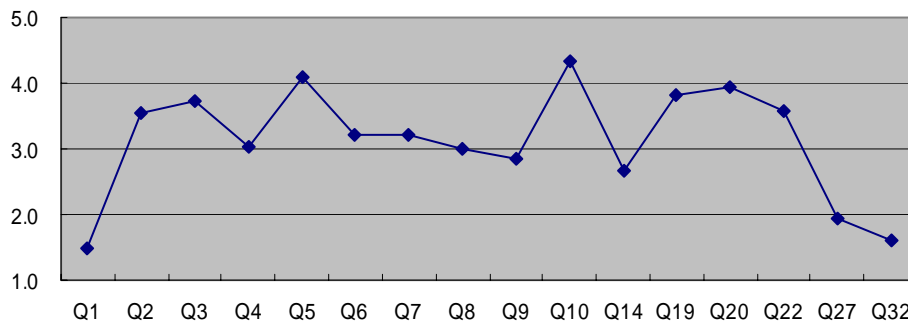


Figure 2 Mean score of each item in Cluster 1

The students in Cluster 2 believed that speaking English with other people was important (Q4), but they did not pay attention to accurate pronunciation of words (Q14), nor did they usually practice reading or speaking aloud (Q27). They seemed to think communication with other people important but did not work seriously. Besides, they felt timid about speaking with other people (Q5). But in the CALL environment, they practiced speaking and listening in earnest (Q19 and Q20). Therefore, it was possible to say that the CALL environment encouraged them to practice speaking and listening (see Figures 1 and 3).

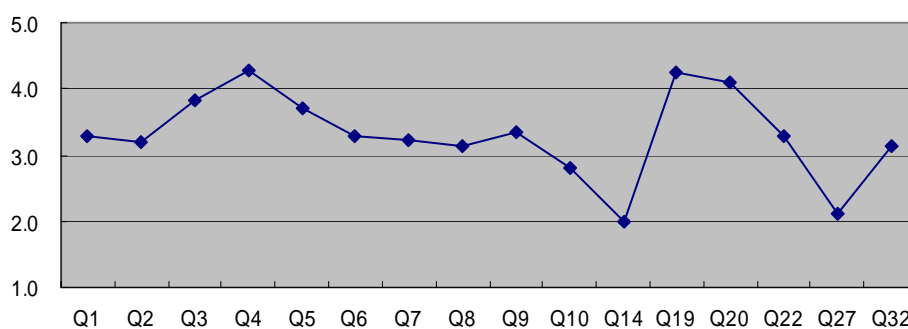


Figure 3 Mean score of each item in Cluster 2

As for the students in Cluster 3, they strongly believed that they would learn to speak English (Q1) and that speaking English with other people was enormously important (Q4), and they did not feel timid about speaking English with other people compared to those in other groups (Q5). They actually paid much attention to accurate pronunciation of words (Q14), and practiced reading and speaking aloud (Q27). They were thought to be ideal communicators among the groups (see Figures 1 and 4). However, they made light of traditional practice such as training in leaning and using grammatical knowledge (Q6, Q7, and Q8). To become really good communicator, the knowledge and usage of grammar would be important, and the designated CD-ROM material fostered their activities for learning and using grammar (Q19 and Q20), with the result that the CALL setting would help them to practice in the field of their indifference.

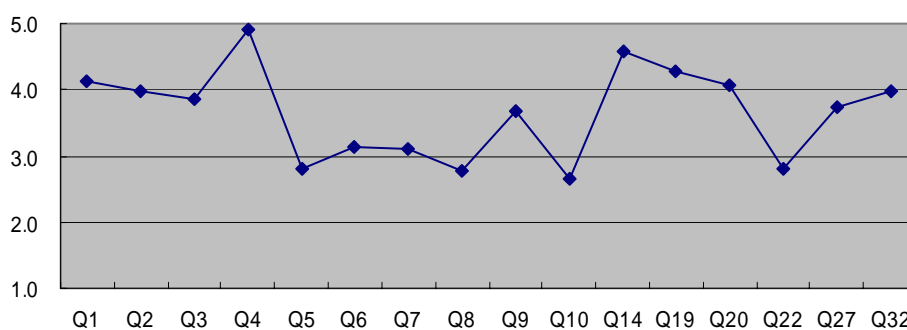


Figure 4 Mean score of each item in Cluster 3

The students in Cluster 4, liked English very much (Q32), believed that they would learn to speak English (Q1) and that speaking English with other people was very important (Q4), thought it very necessary to know about English-speaking people's cultures (Q2) and English grammar (Q6), and also thought that it was easier to read and write it than to speak and understand it (Q10). They paid much attention to accurate pronunciation of words (Q14). However, they felt timid about speaking English with other people (Q5). They were considered to be serious learners of English but not to be good communicators (see Figures 1 and 5). For these students, the CALL environment might provide a lot of opportunities to compensate for their lack of practicing speaking,

and also boost their self-confidence to speak.

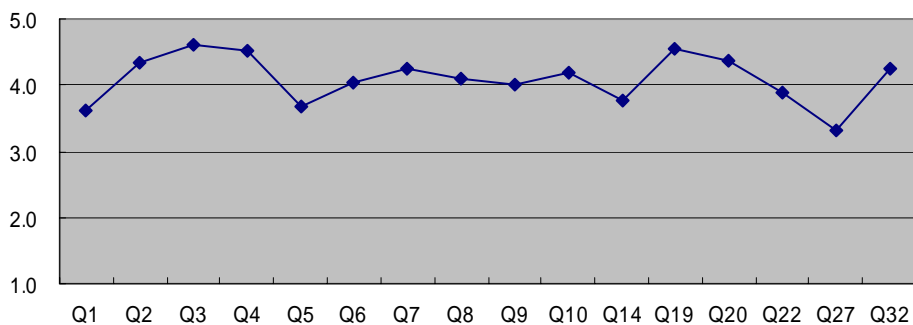


Figure 5 Mean score of each item in Cluster 4

As for the results of the proficiency test, the mean scores of the students in Cluster 1, Cluster 2, Cluster 3, and Cluster 4 were 227.10, 233.07, 243.19, and 250.80 out of 300 respectively. The scores between Clusters 1 and 4, and between Clusters 2 and 4 were found to be statistically significant at the .05 level. The more learners liked English and the more strongly they thought it important to practice repeatedly with tapes or CDs, the higher scores they got.

6. Conclusion

This study aimed to identify the learners' beliefs and behaviors, and to consider what a CALL environment provides students with. For this purpose, I collected the data about learners' beliefs and behaviors, analyzed them with a cluster analysis, divided the students into understandable groups, and discussed the effectiveness of CALL toward the students in each group.

The students in Cluster 1 did not like English, did not think that they would learn to speak English, nor practiced hard in traditional class, but practiced speaking aloud and listening repeatedly in CALL class. CALL might provide the students reluctant to learn English with can-do spirits. The students in Cluster 2 thought it important to speaking English but did not work hard in a traditional class, while in a CALL class they practice speaking and listening hard. CALL might provide the students unwilling to practice with real practice. The students in Cluster 3 liked English, had strong belief about being good speakers of English and actually practiced listening and speaking, whereas they were thought to be lack of traditional grammatical practice, so CALL might provide the students with opportunities to learn and use the grammatical knowledge. The students in Cluster 4 liked English, had strong belief about being good speakers of English and actually practiced listening and speaking, but they were timid about speaking with other people. CALL might provide the students with opportunities to develop their confidence in speaking.

In this way, the results indicate that the CALL environment may provide a lot of opportunities for working individually for the students who have disadvantageous characteristics like those in Clusters 1 and 2. The results also indicate that the CALL environment may help students who feel timid about speaking like those in Clusters 1, 2, and 4 to practice more, and encourage them to

engage in speaking English.

In that situation, CALL settings lessen teachers' traditional roles and teachers can afford the time to assign other work. Then, what kind of work would educators do in a CALL class?

As the Ministry of Education, Culture, Sports, Science and Technology (MEXT) (2003) showed in the course of study for upper secondary school, overall objectives are "to develop students' practical communication abilities such as understanding information and the speaker's or writer's intentions, and expressing their own ideas, deepening the understanding of language and culture, and fostering a positive attitude toward communication through foreign languages." They also suggested in an Action Plan to Cultivate "Japanese with English Abilities" (2003), "in order to be able to "make use of English", it is necessary not only to have knowledge of grammar and vocabulary but also the ability to use English for the purpose of actual communication." The keywords are thought to be "practical communication abilities" and "actual communication." No matter how good a CALL environment may be, and no matter what it may provide students with, it would be regrettable that the activities in a CALL class might be no more than artificial, not real. Therefore, it would be required to lead learners to actually communicate with others.

Taking advantage of the time given in a CALL class, teachers could watch individual students learn more carefully, and could advise, encourage, help them to sustain the students' interest in learning on a personal basis. Through the assistance, educators would become the guide for learners to the real world of communication, which is one of the most important roles of educators.

References

- Beatty, K. (2003). *Teaching and researching computer-assisted language learning*. London: Pearson Education.
- DynEd International. (2000). *New Dynamic English (Version 3.0)* [Computer software]. Burlingame, CA: DynEd International.
- Horwitz, E. K. (1987). Surveying student's beliefs about language learning. In A. Wenden & J. Rubin (Eds.), *Learner strategies in language learning* (pp. 119-129). London: Prentice Hall.
- Ministry of Education, Culture, Sports, Science and Technology (MEXT). (2003). *Regarding the establishment of an Action plan to cultivate "Japanese with English abilities."* Retrieved July 20, 2005, from http://www.mext.go.jp/b_menu/houdou/15/03/03033101/001.pdf
- Ministry of Education, Culture, Sports, Science and Technology (MEXT). (2003). *The course of study for foreign languages*. Retrieved July 20, 2005, from <http://www.mext.go.jp/english/shotou/030301.htm>