

EFL Student L1 Preference Changes: Proficiency and Time

Eleanor Carson

Matsuyama University

Reference Data:

Carson, E. (2016). EFL student L1 preference changes: Proficiency and time. In P. Clements, A. Krause, & H. Brown (Eds.), *Focus on the learner*. Tokyo: JALT.

Recently, medium-of-instruction (MOI) research has burgeoned, with studies analyzing student preferences for teacher use of their L1 in class. However, one methodological problem plagues many studies. Cross-sectional data are gathered at a variety of periods during the academic year, but student preferences may change with experience and learning over the year (e.g., Burden & Stribling, 2003). Whether differing proficiency levels or changes over time have greater impact on student L1 preferences is unknown. Inconsistent findings prevent researchers from reaching confident conclusions. Seeking a resolution, I created and implemented a questionnaire for Japanese university EFL students to facilitate reliable collection of data on proficiency differences and preference changes over 1 academic year. L2, in this case English, proficiency was inversely correlated with student L1 preference differences, and L1 preferences decreased over time. Differences in proficiency level affected L1 preference variation more than changes over time. Implications are discussed.

授業中に教員が第一言語(L1)を使用することを学生が好むかどうかを調査する媒介言語に関する研究が昨今急増している。しかし、多くの調査では方法論上に問題がみられる。例えば、年度内に複数回データ収集をする横断的調査が行われていても、年度中に学習経験を積むことで学生の好みが変わる可能性が考慮されていない(e.g., Burden & Stribling, 2003)。また、習熟度の違いや経時的変化が、学生たちの好みはどう影響するかは不明である。本研究では質問表を作成し、教員のL1使用に対する日本人EFL学生の好みは年度内にどう変化するかについて調査を行った。その結果、学生の第二言語習熟度と様々な項目に関する教員のL1使用への学生の好みには反相関関係が見られた。更に、教員のL1使用への好みは経時的に減少した。習熟度の違いは、経時的変化に対してよりも、様々な項目に関する教員のL1使用への学生の好みに対してより多く影響を与えていた。

In EFL contexts, one of the decisions teachers have to make is whether and how to use students' L1 in class. Part of this choice rests on an awareness of student preferences for teachers' use of the L1. In previous studies of L1/L2 use, preferences, and attitudes in ESL and EFL contexts, cross-sectional data have been gathered at a variety of periods during the academic year (e.g., 1st semester, as in Schweers, 1999; 2nd quarter, Polio & Duff, 1994), or at unspecified times, as in Prodromou (2000) and Tang (2002). Although these studies have been valuable in clarifying some of the thorny issues in the debate, cross-sectional studies are limited. Student L1 preferences presumably change over the year, so student responses should change if they are given the same surveys at different points. Furthermore, cross-sectional studies can only give us a snapshot of a dynamic process. The aim of the current study is to clarify the dynamic nature of student MOI preference changes with proficiency and over time.

Background

In this paper I explore the influence of differing L2 proficiency levels and time on student L1 preferences and whether differing L1 preferences are influenced more by proficiency or time. Because student proficiency tends to increase over time (Webb & Chang, 2012), it would make sense to discover similar findings for changes in proficiency level and time. However, there are few studies that compare both variables. At this time, it is unknown whether *changes in L1 preferences* related to varying levels of proficiency (e.g., Carson & Kashihara, 2012) can be compared to *changes over time* (e.g., Burden & Stribling, 2003).

Carson and Kashihara (2012) administered a bilingual survey to 305 Japanese EFL university students about their preferences for teachers' use of Japanese in English classes. They found that for most variables, L1 preferences declined while L2 proficiency rose, but a U-shaped relationship existed for high-proficiency students regarding the introduction of new material, review of old material, and group work. The results of this study show a clear inverse relationship between students' L2 proficiency level and their L1 preferences.

Carson: EFL Student L1 Preference Changes: Proficiency and Time

Burden and Stribling (2003) surveyed 151 Japanese EFL university students over two semesters and found significant changes in their attitudes toward using English. They found that students were able to view English as a valuable means of communication and became more willing to accept an English-only (EO) methodology. This study's outcomes indicated that attitudes can change even after only fourteen 90-minute classes, supporting the possibility that responses to the same survey can indicate different results depending on the time in the academic year the survey is given.

Tian and Macaro (2012) used experimental methods to compare 117 Chinese university EFL student learning gains following instruction in three different conditions. All participants were stratified into four proficiency levels and randomly assigned to one of three conditions: non-code-switching, in which they received lexical focus-on-form information in English; code switching, in which they received lexical focus-on-form information in their L1 (Mandarin); and a control group, with no explicit lexical instruction. Students received pre- and postintervention vocabulary tests, and intervention occurred over 6 weeks. Finally, a delayed postintervention vocabulary test was conducted 2 weeks later to see if intervention effects lasted. They found that both lexical focus-on-form and teacher code-switching had a beneficial effect, but no differences were found among different proficiency levels. Because all students were drawn from a population with intermediate English proficiency, the authors suggested that proficiency levels might have been too homogenous. The results of this study showed that even over a short time, learning gains are superior under code-switching conditions compared to English-only conditions, at least regarding lexical focus-on-form. This study indicated that time is an important factor.

Research Questions

- RQ1. Does proficiency influence student L1 preferences at the beginning of an academic year, and if so, how?
- RQ2. Do student L1 preferences change over time, and if so, how?
- RQ3. Is there a difference between L1 preference changes due to proficiency and time?

With these three research questions in mind, I designed and administered a questionnaire to investigate the dynamic nature of students' attitudes towards Japanese use in the English classroom as they changed for differing proficiency levels and over time.

Method

Participants

Participants were 752 EFL students from 13 universities in western Japan. An equal number of males (50%) and females (50%) participated. Most participants were 1st-year students (84%), were not English majors (85%), and were recruited from EFL courses in which speaking was a major component (82%). The earliest available TOEIC scores were used to group students into four proficiency ranges: Group 1 < 300, $n = 111$; Group 2 = 300-399, $n = 198$; Group 3 = 400-499, $n = 124$; Group 4 ≥ 500 , $n = 80$). Scores ranged from 170 to 925.

Instrument

I developed the instrument used in the current study. The entire scale includes 40 items (see Carson, 2014), translated into Japanese, for which participants chose options ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The construction and testing of this instrument is described in Carson (2015). During its construction, piloting, and refinement using factor analysis, responses to items fell within seven L1 preference factors. I have called the combination of seven factors SPIL, for *Student Preferences for Instructional Language*. Reliability was high for the pilot version (including extraneous items; Cronbach's $\alpha = .92$) and for the current data, (Cronbach's $\alpha = .901$).

The seven L1 preference factors are grouped within two general characteristics: learning target factors and para-learning target factors. The two major categories are described below, and the SPIL items for each factor are listed in the Appendix. EFL university students prefer that teachers use their L1 to assist learning English in the following situations.

Learning Target Factors

Using the L1 to help

- Grammar (F2): by defining new words and introducing grammar;
- Tests (F4): by checking that students understand the requirements for reports and tests;
- Review (F5): by supporting the review of previously learned concepts, vocabulary, and grammar;
- Comprehension (F6): by helping students understand the teacher's use of English in class.

Para-Learning Target Factors

Using the L1 to help

- Emotions (F1): by encouraging students when they feel lost, or when supporting their confidence;
- Teacher L1 ability (F3): by being able and willing to use Japanese in class;
- Culture and society (F7): by discussing topics like social and cultural issues in countries in which English is the dominant language.

All factors will be referred to by their names, except *factor* will be replaced by F#.

Procedure

Participants were selected by convenience sampling. That is, I asked colleagues to administer the questionnaire to their students in class. Participation was voluntary and anonymous. Students were tracked over time using their student numbers. Data collection took place in the early weeks of April (Time 1), the final weeks of July (Time 2), and the final weeks of January (Time 3) at the discretion of each teacher participant during the 2013-2014 academic year.

Analysis

The data were analyzed as follows. First, to assess the effects of proficiency level on L1 preferences, a series of one-way ANOVAs was used to search for significant differences between group means for each of the seven factors. Second, to evaluate changes over time, a series of repeated-measures ANOVAs was employed to uncover significant differences at 3 times for each of the seven factors. For all ANOVAs, effect sizes were also calculated to enable comparison of meaningful differences, that is, differences or changes that could be noticeable in class and so are of practical interest. Finally, statistical results of the one-way ANOVAs (proficiency) and repeated-measures ANOVAs (time) were examined to compare response means across proficiency levels and time to identify the presence of patterns.

Results

Results are reported according to each of the three research questions they address. RQ1 addresses differences in student L1 preferences for each factor according to each of four

proficiency levels, RQ2 is concerned with changes in student L1 preferences for each factor over time, and RQ3 compares differences due to proficiency and changes over time.

RQ1: 7 Factors across Four Proficiency Levels at Time 1

Of the 752 student participants, 513 were able to report TOEIC scores at some point in the academic year. Means for each factor and for each of the four proficiency groups are compared in Figure 1.

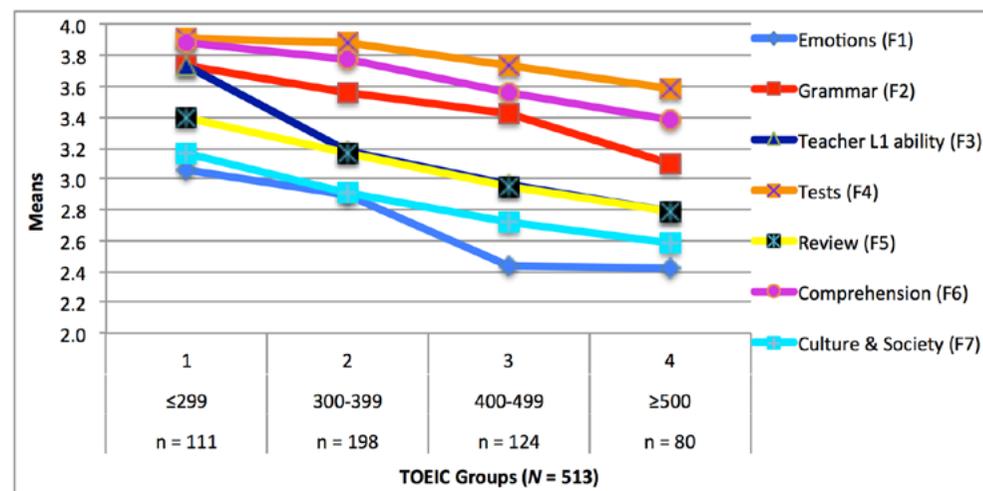


Figure 1. Decrease in L1 preferences across four proficiency levels. Means are from 5-point Likert items from 1 (*strongly disagree*) to 5 (*strongly agree*); (F#) = factor number.

All L1 preference factors decreased as students' proficiency levels increased. Students preferred the most Japanese support for tests (F4), followed by comprehension (F6), and then grammar (F2). All of these factors were still above the neutral point of 3.0, even for Group 4, which had the highest proficiency level. On the other hand, students wanted less Japanese support for review (F5), culture and society (F7), and emotions (F1). All of these factors were at or below the neutral point of 3.0, suggesting that students did not perceive as much need for Japanese support for these aspects of English learning as for the previously mentioned factors.

One-way ANOVAs were used to find out if the L1 preference mean differences between proficiency groups were significant. The independent variable was proficiency,

Carson: EFL Student L1 Preference Changes: Proficiency and Time

in four levels, and the dependent variable was responses to Likert items for each of the seven L1 preference factors. There were no extreme outliers, as assessed by visual inspection of boxplots. L1 preference responses were normal for emotions (F1), teacher L1 ability (F3), review (F5), and culture and society (F7), but negatively skewed for grammar (F2), tests (F4), and comprehension (F6), as assessed by visual inspection of normal Q-Q plots. With large sample sizes (as was the case here), even fairly skewed distributions—as long as the groups are similarly skewed—are not always problematic (Sawilowsky & Blair, 1992). There was homogeneity of variances for all seven factors, as assessed by Levene’s test for equality of variances ($p > .05$).

Results of the ANOVAs are presented in Table 1. All factors differed significantly across the four proficiency groups. Differences were assessed for effect size to see if the differences were large enough to be meaningful. In descending order, effect sizes were medium for emotions (F1), grammar (F2), review (F5), and teacher L1 ability (F3). Small effect sizes were found for culture and society (F7), comprehension (F6), and tests (F4). All differences were large enough to be meaningful and observable in EFL classes.

Table 1. One-Way ANOVAs Summarized for 7 Factors and Proficiency Groups at Time 1

Factors*TOEIC	df1	df2	F	p	η_p^2
Emotions (F1)	3	509	14.58	.000*	.079
Grammar (F2)	3	509	12.99	.000*	.071
Teacher L1 ability (F3)	3	509	11.60	.000*	.064
Tests (F4)	3	509	3.77	.011*	.022
Review (F5)	3	509	12.37	.000*	.068
Comprehension (F6)	3	509	7.46	.000*	.042
Culture and society (F7)	3	509	8.93	.000*	.050

* $p < .05$ = significant

Note: (F#) = Factor number; η_p^2 = Partial eta squared, or effect size; small = .02; medium = .06; large = .138 (Cohen, 1988).

An examination of paired comparisons between L1 preference response differences for each factor and proficiency level (see Table 2) reveals where significant differences occurred. Although few significant differences emerged between proficiency levels that were close together (for example, Group 2 and Group 1), differences were significant for all factors for the groups that had the largest difference in proficiency (Group 4 and Group 1) and also between the most proficient groups (Group 4 and Group 2, but not Group 3 and Group 1). Thus, L1 preference differences were more pronounced in Groups 3 and 4 than in Groups 1 and 2.

Table 2. Paired Comparisons of Differences Between Proficiency Groups at Time 1

DIF (I-J)	Grps 2-1	Grps 3-1	Grps 4-1	Grps 3-2	Grps 4-2	Grps 4-3
Emotions (F1)	X	O	O	O	O	X
Grammar (F2)	X	O	O	X	O	O
Teacher L1 ability (F3)	X	O	O	O	O	X
Tests (F4)	X	X	O	X	O	X
Review (F5)	X	O	O	X	O	X
Comprehension (F6)	X	O	O	X	O	X
Culture and society (F7)	O	O	O	X	O	X

Note. (F#) = Factor number; 0 = significantly different; X = not significantly different. Adjustment for multiple comparisons: Bonferroni. Significant at $p < .0125$; Alpha = $p < (.05 / 4 \text{ comparisons})$.

RQ2: Seven Factors at Three Times

Participants’ L1 preferences were also assessed to see if they changed over time. All students were grouped together rather than by proficiency level, as the point being examined was change over time, not change with different proficiency levels. Means are compared in Figure 2.

Carson: EFL Student L1 Preference Changes: Proficiency and Time

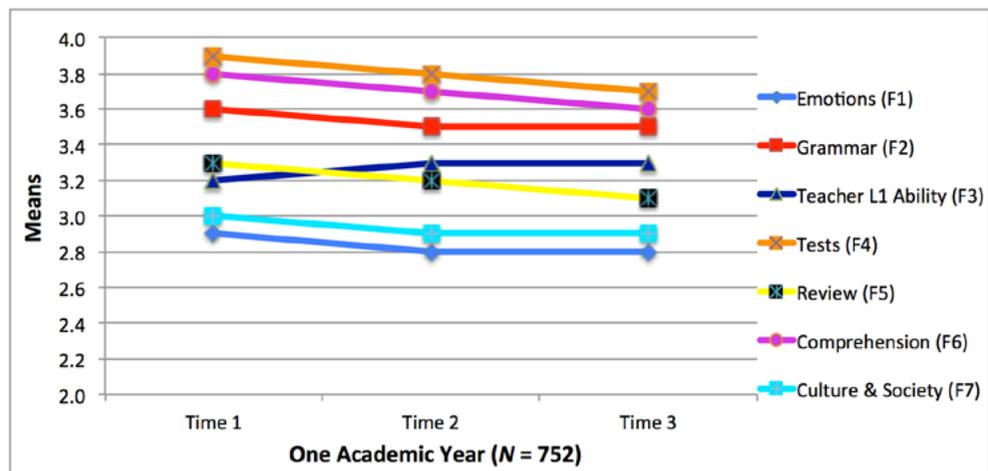


Figure 2. Decrease in L1 preferences across one academic year. Mean scores are from 5-point Likert items from 1 (strongly disagree) to 5 (strongly agree); (F#) = Factor number; Time 1 = April; Time 2 = July; Time 3 = January.

The data were assessed to see if they were appropriate for a series of repeated-measures ANOVAs, one for each of the seven L1 preference factors. The dependent variable for each ANOVA was the factor, and the independent variable was time (Time 1, Time 2, and Time 3). There were no extreme outliers, as assessed by visual inspection of boxplots. Response distributions were normal for emotions (F1), review (F5), and culture and society (F7), but negatively skewed for grammar (F2), teacher L1 ability (F3), tests (F4), and comprehension (F6), as determined by visual inspection of normal Q-Q plots. Because sample sizes were large, and the skewed factors followed the same pattern, I decided to proceed with repeated-measures ANOVAs for all seven factors over three times.

Results indicate that most L1 preference factors decreased over the year, except for teacher L1 ability (F3; see Table 3). All factors remained in the same positions relative to each other at Times 1, 2, and 3, except for two factors: review (F5) began higher than teacher L1 ability (F3), but the two factors had reversed positions by Time 2 and diverged further by Time 3. Although all ANOVAs revealed significant differences for each factor over time, the effect sizes were small for comprehension (F6), tests (F4), and review (F5). All other differences were trivial for effect size over time.

Table 3. One-Way Repeated Measures ANOVAs for Seven Factors Over Three Times

Factors*Time	df1	df2	F	p	η_p^2
Emotions (F1)	2	1502	7.03	.001*	.009
Grammar (F2)	2	1502	13.10	.000*	.017
Teacher L1 Ability (F3)	2	1502	4.21	.015*	.006
Tests (F4)	2	1502	17.78	.000*	.023
Review (F5)	2	1502	15.93	.000*	.021
Comprehension (F6)	2	1502	21.78	.000*	.028
Culture and Society (F7)	2	1502	5.63	.004*	.007

* $p < .05$ = significant

Note: (F#) = Factor number; η_p^2 = Partial eta squared, or effect size; small = .02; medium = .06; large = .138 (Cohen, 1988).

Comparisons of paired differences between factors over three data collections are presented in Table 4. Most significant changes happened in the first semester.

Table 4. Paired Comparisons of Differences Between Factors Over Three Times

Factors	Semester 1	Semester 2	Year
Emotion (F1)	O	X	O
Grammar (F2)	O	X	O
Teacher L1 ability (F3)	X	X	O
Tests (F4)	X	O	O
Review (F5)	O	X	O
Comprehension (F6)	O	X	O
Culture and society (F7)	O	X	O

Note. (F#) = Factor number; 0 = significantly different; X = not significantly different. Adjustment for multiple comparisons: Bonferroni; significant at $p < .0167$; Alpha = $p < (.05 / 3 \text{ comparisons})$.

Carson: *EFL Student L1 Preference Changes: Proficiency and Time*

RQ3: L1 Preference Changes by Proficiency Versus Time

I was unable to track changes in proficiency over time because most participants only took one TOEIC test during the academic year. Therefore, to answer RQ3, I compared the results from statistical analyses of RQ1 and RQ2 to identify patterns (see Table 5). By comparing and contrasting variation due to proficiency and time, it became clear that differences between proficiency levels affected L1 preferences more strongly than time. On one hand, language preference patterns were similar for proficiency and time in two ways. L1 preferences decreased as proficiency levels increased and over time. Furthermore, differences between all factors were significant for proficiency level and time. On the other hand, L1 preference patterns differed for proficiency and time in several ways. For proficiency, most effect sizes for differences between L1 preferences were medium and therefore likely to be noticeable in class. For time, effect size changes were small for three factors and trivial for the other four and thus less likely to be noticeable in class than for differences due to proficiency level. Finally, L1 preferences decreased more for proficiency than over time.

Table 5. L1 Preference Differences Compared Between Proficiency Levels and across Time

Between proficiency levels	Over time
All decrease with increase in proficiency	All decrease over time, except student preferences for teachers to use L1
All significantly different	All significantly different
All meaningful, i.e., influential in class	Only 3 L1 factors changed meaningfully, i.e. influential in class
Strongest differences:	Strongest changes:
Emotional support (F1)	Comprehension (F6)
Grammar and vocabulary (F2)	Tests and reports (F4)
Review of previously learned material (F5)	Review of previously learned material (F5)

Discussion

Most students in this study preferred some L1 support in English class, confirming findings reported in previous studies (Burden & Stribling, 2003; Carson & Kashihara, 2012). The amount of Japanese support they preferred was influenced by two variables: proficiency level and learning in class over time.

Effect of Different Proficiency Levels on Differences Between Factors

All levels preferred the most L1 support for the following learning target factors: tests (F4), comprehension (F6), and grammar (F2). All beginner-level and false beginner-level students needed more Japanese support than those at higher levels. The factors that exhibited the biggest decrease between proficiency levels were emotions (F1), grammar (F2), and review (F5). The rapid decrease in preferences for L1 support for emotions (F1) was surprising because not only did students at all levels of proficiency prefer support for emotions (F1) the least, but also this factor decreased the most as proficiency levels increased. These results echo similar findings by Carson and Kashihara (2012). It is possible that, following acceptance into university, anxiety levels decreased compared to high school, and this decrease was particularly noticeable when students were at higher proficiency levels because successful English production in communication classes bolstered their morale. Student preferences for grammar (F2) probably dropped quickly across proficiency levels because most participants were enrolled in communication classes, in which grammar played a minor role. Although low-proficiency students reported that it was helpful to use L1 support for review (F5) of previously learned material, L1 preferences during review dropped rapidly both as proficiency levels increased and over time, supporting previous findings (Burden & Stribling, 2003; Carson & Kashihara, 2012).

Changes Over Time

More changes occurred in the first semester than in the second semester. The strongest changes over time occurred with decreases in L1 preference regarding learning target factors for comprehension (F6), tests (F4), and review (F5). This suggests that as students became accustomed to their teachers, they were able to comprehend the teacher more easily. Similarly, as students gained experience with tests, they did not prefer as much L1 support later to prepare for them. The findings support similar short-term findings for the effects of time (Burden & Stribling, 2003; Tian & Macaro, 2012). This implies that use of Japanese support should be reduced over time, especially in the first semester.

Carson: EFL Student L1 Preference Changes: Proficiency and Time

Proficiency Versus Time

The third major finding of this study was that the strongest changes occurred between proficiency levels rather than over time. This finding supports similar results regarding strong proficiency effects (Carson & Kashihara, 2012) and is at variance with stronger findings for time than proficiency (Tian & Macaro, 2012). Tian and Macaro's participants may have been too homogenous in terms of proficiency, although differences in methodology suggest a heightened ability to detect differences across time in their experimental study. In view of these results, it seems clear that all low-proficiency students need bilingual support, although bilingual support could be optional for high-proficiency students. Furthermore, these results reinforce the usefulness of cross-sectional studies of proficiency, though the timing of data collection should be specified.

Suggestions for Educators

At all proficiency levels and times during the academic year, students prefer some Japanese support with tests, comprehension, and grammar. Preferences for L1 support decrease quickly as students increase in proficiency. Thus, with lower levels, teachers could allow students to prepare with Japanese support using bilingual scaffolding while formulating English output.

The results of this study indicate that most changes in student preferences for L1 use occurred in the first term. Thus, teachers could use bilingual scaffolding in the first semester and introduce communicative strategies and repair strategies in the second semester. Learning about these strategies could assist students in shifting away from being passive recipients of information about English to becoming self-reliant producers of English.

One implication that can be drawn from the current findings and recommendations is that students need a transition period between high school classes, which rely heavily on L1 support for teaching that targets entrance exams, and more communicatively oriented university classes, with their reduced L1 support. Teachers should wean students away from being *fed* information by assigning *self-directed* projects, speeches, presentations, and debate where appropriate.

Limitations and Future Research

In this study, proficiency was measured using TOEIC score ranges because the TOEIC is a popular measure of student proficiency used in Japan, and the results can be easily understood by educators. A limitation is that most students only provided results for one TOEIC test, which made it impossible to measure changes in proficiency over time. Re-

garding recommendations for future longitudinal research on proficiency effects, there is almost certainly an interaction between proficiency and time, which would make a useful topic. Additionally, the TOEIC test is expensive and time consuming to administer, so a more convenient proficiency test could be used—preferably one that measures productive as well as receptive skills. Future studies of proficiency and time should use a different and repeatable measure of proficiency. Furthermore, more research is recommended with intermediate and advanced EFL students, to clarify whether the inverse relationship between proficiency and L1 preferences continues at high proficiency levels regardless of the increased difficulty of the material they study (see Carson & Kashihara, 2012). It would be ideal if proficiency testing were undertaken within the institution. First, all participants should take the test under the same conditions. Second, researchers should gather more precise proficiency data, which would enable them to classify participants into groups of equal sizes. More precise scores would improve a study's validity.

Three other suggestions unrelated to research involving proficiency emerge from the current study. First, the time in the academic year when data is collected should be reported for cross-sectional studies. Next, as was highlighted above when comparing the effects of proficiency versus time (Carson & Kashihara, 2012; Tian & Macaro, 2012), learning gains should be assessed over time using experimental methods to try to control for as many extraneous variables as possible. Finally, qualitative data could be collected and assessed to shed additional light on the reasons that students' preferences changed. Quantitative surveys of large groups can be usefully complemented by qualitative studies of smaller groups or cases.

Conclusion

The aim of this study was to clarify the dynamic nature of students' preferences for their teachers' use of the students' L1 while they are studying the L2. The results show that L1 preferences decreased with increasing proficiency, that L1 preferences changed over an academic year, especially during the first semester, and that preferences were more affected by students' level of L2 proficiency than by study over one academic year. Preferences were stronger for learning targets such as comprehension than for para-learning targets (e.g., L1 support of emotions such as confidence). Students were unenthusiastic about being supported emotionally in Japanese. Finally, I recommend that teachers use L1 support for low-proficiency students, especially through bilingual scaffolding of new material, and as they decrease L1 support, increase teaching of communication strategies and repair strategies so that students can become active producers of English in EFL classes, rather than passive learners.

Carson: EFL Student L1 Preference Changes: Proficiency and Time

Acknowledgments

I am indebted to my adviser, Chiaki Iwai, for his encouragement and guidance during the development and naming of the SPIL. I am grateful for the commentary by Julia Kawamoto, and the anonymous reviewers on earlier versions of this paper. Finally, I would like to thank the teachers and students who generously agreed to participate in the data collection for this study.

Bio Data

Eleanor Carson has been teaching English in Japan for over 10 years. She holds a BA and an MA from Brock University, Canada, and is currently pursuing a PhD in Applied Linguistics at Hiroshima City University. In 2008, she began teaching English at several universities in Hiroshima and is currently teaching English full-time at Matsuyama University. Her research interests include motivation, language-learning strategies, and L1 use in EFL contexts. She can be contacted at <eleanor_carson@hotmail.com>.

References

- Burden, P., & Stribling, P. (2003). Attitude change towards mother tongue usage in conversation class. *The Language Teacher*, 27(1), 3-8.
- Carson, E. (2014). Teachers and students : At L1 odds in the EFL class. In N. Sonda & A. Krause, *JALT2013 Conference Proceedings* (pp. 248-258). Tokyo: JALT.
- Carson, E. (2015). Introducing a new scale: Student preferences for instructional language (SPIL). *JACET-CSCRB (Japanese Association of College English Teachers: Chugoku-Shikoku Chapter Regional Bulletin) 2015*, 12 (Pre-print version), 34-51.
- Carson, E., & Kashihara, H. (2012). Using the L1 in the L2 classroom: The students speak. *The Language Teacher*, 36(4), 41-48.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Polio, C. G., & Duff, P. A. (1994). Teachers' language use in university foreign language classrooms: A qualitative analysis of English and target language alternation. *The Modern Language Journal*, 78, 313-326.
- Prodromou, L. (2000). From mother tongue to other tongue. *TESOL Greece Newsletter*, 67, 7-8. Retrieved from <https://www.teachingenglish.org.uk/article/mother-tongue-other-tongue>
- Sawilowsky, S., & Blair, R. (1992). A more realistic look at the robustness and type II error properties of the *t* test to departures from population normality. *Psychological Bulletin*, 111, 352-360.
- Schweers, C. W. (1999). Using L1 in the L2 classroom. *English Teaching Forum*, 37(2), 6-9.

- Tang, J. (2002). Using L1 in the English classroom. *English Teaching Forum*, 40(1), 36-43. Retrieved from <http://eca.state.gov/forum/vols/vol40/no1/p36.htm>
- Tian, L., & Macaro, E. (2012). Comparing the effect of teacher codeswitching with English-only explanations on the vocabulary acquisition of Chinese university students: A lexical focus-on-form study. *Language Teaching Research*, 16, 367-391. <http://dx.doi.org/10.1177/1362168812436909>
- Webb, S. A., & Chang, A. (2012). Second language vocabulary growth. *RELC Journal*, 43(1), 113-126. <http://dx.doi.org/10.1177/0033688212439367>

Appendix

Seven Factors and Their Items

(Item numbers are to the left of the items)

Learning Target Factors: Using the L1 to help ~

Factor 2: Grammar

- 7 Define new vocabulary
- 8 Compare different words that seem similar (for example, *accident* and *incident*)
- 9 Show when a word has more than one meaning
- 10 Introduce new phrases
- 11 Introduce new slang and casual expressions
- 12 Introduce new grammar
- 13 Translate examples of grammar from English to Japanese
- 14 Translate examples of grammar from Japanese to English
- 15 Show when English words or phrases match Japanese words or phrases
- 16 Explain when English words or phrases are different from Japanese words or phrases that seem similar (for example, *have a cold* is different from *kaze o motte*; but it should be *kaze o hiite iru*)

Factor 4: Tests

- 23 Give instructions about reports or exams
- 28 Check my understanding of important assignments
- 29 Check my understanding about test-taking procedures (for example, if I can use notes)

Carson: *EFL Student L1 Preference Changes: Proficiency and Time*

30 Check my understanding about test instructions and format (for example, *multiple choice or open-ended format*)

Factor 5: Review

- 17 Show how borrowed words have a different meaning in English (for example, *sumaa-* to in Japanese does not mean *thin* in English.)
- 18 Review the major points of the previous lesson
- 19 Review vocabulary or expressions already learned
- 20 Review words with more than one meaning
- 21 Review borrowed words
- 22 Review slang and casual expressions

Factor 6: Comprehension

- 24 Help me when I do not understand the English words
- 25 Help me when I do not understand the teacher's explanation
- 26 Help me when I want to ask questions but do not know the English words
- 27 Help me when I want to answer questions but don't know the English words

Para-learning target Factors

Using the L1 to help ~

Factor 1: Emotions

- 31 Tell me when I have done something well
- 32 Help me to feel more comfortable
- 33 Help me to feel more confident
- 34 Help me to feel less tense
- 35 Help me to feel less lost

Factor 3: Teachers' use of Japanese

- 1 That my teacher knows and understands Japanese
- 2 That my teacher can answer my questions in Japanese if I don't know how to ask or understand the answer in English.
- 3 That my native English-speaking teacher has been successful at learning Japanese because he or she can be a good model for me. (If I have a Japanese teacher, go to 8)
- 4 That my native English-speaking teacher has been successful at learning Japanese because he or she can know where my problems will be.
- 5 That my teacher uses Japanese in class because it helps me to learn English
- 6 That I can use Japanese in English class to help me learn English

Factor 7: Culture

- 36 Joke in class
- 37 Talk about English-language cultures
- 38 Talk about famous English-speaking celebrities
- 39 Talk about social issues in English-language societies
- 40 Compare cultural differences between Japanese- and English-language societies

Note. This data is adapted from Appendix B in Carson (2015).