

A TIME TO CHANGE? EXPLORING THE TEMPORAL DIMENSIONS OF SLA

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Abstract: This paper investigates the impact of the temporal context of a short-term intensive language program based on interviews with 28 female Japanese college students and questionnaire data from 384 female Japanese college students. . Findings include statistically significant linguistic change (e.g., frequency of grammatical errors, lexical errors, incomplete utterances, inappropriate answers and topic changes), perceptual change (e.g., attitudes towards language learning, Canada and Canadians), and pedagogical change (e.g., program and classroom roles). Linguistic change appears to support a theory of language activation rather than language acquisition as well as increased fluency in language production.

Keywords: Second language acquisition, temporal dimensions, fluency, short-term programs, study abroad, linguistic change, Japanese

1. INTRODUCTION

This paper explores the impact of the context of a short-term intensive language program (STILP) on female Japanese college students in terms of linguistic, perceptual and pedagogical changes (LPPC). The primary focus of this paper is to attempt to identify and define temporally-based parameters on language acquisition in short-term programs such as the three-week period of the Camosun Osaka-Aoyama English Language Institute (COAELI).

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The study of short term intensive immersion programs offers a unique opportunity to investigate the inner workings of Second Language Acquisition (SLA) processes within a limited window of time. However, the study of linguistic, perceptual and pedagogical change within short-term language programs presents a set of unique problems for theoretical consideration. Specifically, the constructs proposed must be sufficiently (i) concrete (e.g., testable) to be employed within specified temporal constraints, (ii) comprehensive in nature (e.g., to capture the multidimensional nature of the language learning context), and (iii) operationalized in a manner consistent with current research in the field. This study employed both pre- and post-course questionnaires (administered to 384 program participants) and quantitative measures for measuring linguistic change in interview data (obtained from a subset of program participants).

2. SHORT-TERM LANGUAGE PROGRAMS

Research on study-abroad programs[1] (e.g., Clément, 1979; Clément, Gardner & Smythe, 1977a & b; Gardner et al., 1974; Gardner, Smythe & Brunet, 1977; Hanna & Smith, 1979; Hoeh & Spuck, 1975; Shapson, Kaufman & Day, 1981; Sikkema & Niyekawa, 1987; Tucker & Lambert, 1970) provides support for the hypothesis that language learners who have spent time in the target language culture demonstrate higher levels of "language proficiency" when compared with learners who have not had similar exposure to the target language culture.

Despite apparent interest in short term language programs, to date little research appears to have investigated short term intensive language programs from the perspective of the temporal dimension (e.g., language activation, language acquisition or language change over time). Robert Gardner has tentatively identified a target time period for such language changes, proposing that the possible superiority of brief experiences and the nature of these experiences are implicated in studies of intensive language programmes....(as)...more changes seem to be reported for programmes involving immersion for six weeks or less than for programmes lasting a year or more (Gardner, 1985: 106).

Although Gardner suggests that a primary factor in the apparent success of the STILP-type program may be the "novelty effect" (i.e., exitement over the new environment, etc, without time to become bored or for the reality, culture shock, etc of living in a foreign country to negatively impact learning), he does not explore the theoretical or pedagogical implications of this effect. This paper begins to address these issues.

Previous research on short term immersion programs has found the short immersion format to be effective in increasing positive attitudes towards the target linguistic/cultural group, lessening language anxiety, promoting positive attitudes towards the study of the language, increasing participation in second-language classroom activities, and improving linguistic competence [see discussion in Clément, 1979]. In fact, only a few studies have identified negative trait increases (such as anomie and ethnocentricism - e.g., Gardner et al, 1977; Lambert et al, 1963; or decreases in attitudes toward target cultures among low contact students - e.g., Cziko & Lambert, 1976) [see discussion in Gardner, 1985][2]. Findings

[1] Many of which are short term intensive language programs.

[2]These findings are consistent despite variations in the definition of "language proficiency". [See discussions in Scarcella et al. (1990) regarding definitions of "language proficiency].

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therefore can be grouped into three categories: (i) positive change, (ii) negative change, and (iii) no change. First, positive changes have been found with respect to: increased positive attitudes towards the other culture (e.g., Clément, 1979; Clément, Gardner & Smythe, 1977a & b; Gardner et al., 1974; Gardner, Smythe & Brunet, 1977; Hanna & Smith, 1979; Hoeh & Spuck, 1975; Shapson, Kaufman & Day, 1981; Tucker & Lambert, 1970), development and/or practice second language skills (e.g., Shapson, Kaufman & Day, 1981), perceiving self as more potent (e.g.,Hoeh & Spuck, 1975) and/or lessening of language class/ language use anxiety (e.g., Clément, 1979; Gardner et al., 1977; Gardner, Smythe & Clément, 1979). Secondly, negative findings include increased ethnocentrism (Gardner et al., 1977), decreased interest in study of foreign languages (Gardner et al., 1977), increased anomie (Lambert et al., 1963), reduced integrative orientation for learning French (Gardner et al., 1977), and decreased francophilia (Tucker & Lambert, 1970). And finally, findings of "No change" occurred in earlier studies (e.g., Hanna & Smith, 1979) or in control groups (e.g., Clément, 1979)[3].

Therefore, these findings suggest that not only will change be found to occur within the three-week temporal framework of the COAELI, but also that such change will be positive, especially in the socio-cultural domain. Due to the previous lack of focus on pedagogical change - and to some extent, linguistic change - in past research, the direction and degree of possible change within the three-week STILP is less certain. However, based on the research outlined above, it is hypothesized that change will be found in both of these areas, and that overall change will be positive..

A number of program variations and specific factors in short term programs have been studied. These variations and factors include:

(1) length of program - from one-day (e.g., Cziko & Lambert, 1976) and four-day socio-cultural excursions (e.g., Gardner et al., 1974; Clément, Gardner & Smythe, 1977a & b) to two-week (Clément, 1979), three-week (e.g., Hoeh & Spuck, 1975), four-week (e.g., Shapson et al., 1981), five-week (e.g., Gardner et al., 1977), and six-week intensive language programmes (Lambert et al., 1963).

As the COAELI study was based on a three-week language program with both sociocultural excursion and intensive language format characteristics, the context is consistent with the research described above.

(2) focus/purpose of program - main focusses include socio-cultural exposure (e.g., Clément, Gardner & Smythe, 1977; Cziko & Lambert, 1976; Gardner et al., 1974), or language development/practice (or linguistic orientation) (e.g., (Clément, 1979; Gardner et al., 1977; Hoeh & Spuck, 1975; Shapson et al., 1981; etc.) *The COAELI program included both socio-cultural exposure (e.g., extracurricular activities) and language development and practice.*

(3) format - variations include excursion, residential, homestay, SL/FL location, etc; number of hours in class; extent and form of extracurricular activity, amount of contact (allowed/possible) with target culture population. *The COAELI format was primarily residential (e.g., students stayed in the residences), with one optional 'home-stay' day-trip. Students were in class three*

[3] According to Gardner (1985), any apparent lack of change in such early research may be attributed primarily to methodological problems (e.g., use of questionnaires with insufficient numbers of items to obscure the purpose, anecdotal data collection techniques, etc).

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hours daily, with daily extracurricular activities. Contact with target culture population was allowed, but amount varied by individual due to the large number of students involved.

(4) attributes studied - changes in attitudes (e.g., Clément, 1979; Clément, Gardner & Smythe, 1977a & b; Gardner et al., 1974; Gardner, Smythe & Brunet, 1977; Hanna & Smith, 1979; Hoeh & Spuck, 1975; Shapson, Kaufman & Day, 1981; Tucker & Lambert, 1970), language use anxiety (e.g., Clément, 1979; Gardner et al, 1977; Gardner, Smythe & Clément, 1979), language aptitude/ability (e.g., Shapson, Kaufman & Day, 1981), and others. *In the COAELI study, a number of attributes were studied, including changes in attitudes, language use anxiety and language aptitute/ability, and others*

(5) methodology - questionnaires (e.g., Clément, Gardner & Smythe, 1977; Cziko & Lambert, 1976; Desrocher & Gardner, 1981; Gardner et al., 1977; Hanna & Smith, 1979; Hoeh & Spuck, 1975; Shapson et al., 1981), interviews (e.g., Hanna & Smith, 1979), peer ratings (e.g., Desrochers & Gardner, 1981), proficiency testing (e.g., Shapson et al., 1981), use of control groups (e.g., Clément, 1979; Shapson et al., 1981); differentiation between high/low contact participants (e.g., Clément, Gardner & Smythe, 1977a & b; Clément, Gardner & Smythe, 1977a & b; Cziko & Lambert, 1976). *Pre-course and post-course questionnaires were administered to students, and a subset of students were also interviewed.*

In addition, other factors investigated with respect to language acquisition in short term immersion programs have included attitudes towards French Canadian and/or French speakers (e.g., Clément, 1979; Clément, Gardner & Smythe, 1977; Cziko & Lambert, 1976; Desrochers & Gardner, 1981; Gardner et al., 1974; Hoeh & Spuck, 1975; Lambert et al., 1963; Shapson et al., 1981), French culture and/or life (e.g., Desrochers & Gardner, 1981; Hoeh & Spuck, 1975; Shapson et al., 1981), French or foreign language(s) (e.g., Desrochers & Gardner, 1981; Gardner et al., 1977), the self and other (e.g., Hoeh & Spuck, 1975), anomie (e.g., Lambert et al., 1963; Tucker & Lambert, 1970), ethnocentrism (e.g., Cziko & Lambert, 1976; Gardner et al., 1977), continued study of the L2 (e.g., Clément, Gardner & Smythe, 1977; Cziko & Lambert, 1976), motivations for learning languages (e.g., instrumental vs. integrative orientations, in Clément, Gardner & Smythe, 1977; Cziko & Lambert, 1976; Desrochers & Gardner, 1981; Gardner et al., 1977); parental attitudes towards French speakers, French culture, and/or French language (e.g., Clément, Gardner & Smythe, 1977; Desrochers & Gardner, 1981), personality traits or characteristics such as authoritarianism (e.g., Lambert et al., 1963) and francophilia (e.g., Tucker & Lambert, 1970), behavioural characteristics such as high/low contact (e.g., Clément, Gardner & Smythe, 1977; Cziko & Lambert, 1976; Desrochers & Gardner, 1981), motivational intensity to learn French (eg., Clément, Gardner & Smythe, 1977; Cziko & Lambert, 1976), evaluation and perceived utility/value of the (French) course or programme (e.g., Clément, Gardner & Smythe, 1977; Shapson et al., 1981), behavioural intention to use language (e.g, Desrochers & Gardner, 1981), behavioural intention to interact with French Canadians (e.g., Desrochers & Gardner, 1981), French (or language) use anxiety (e.g., Clément, 1979; Cziko & Lambert, 1976; Desrochers & Gardner, 1981; Gardner et al., 1977; Shapson et al., 1981), French language proficiency (e.g., Shapson et al., 1981), knowledge of French and English Canadian culture (e.g., Shapson et al., 1981), attitudinal/motivational attributes (e.g., Shapson et al., 1981), and self-ratings of French skill (e.g., Shapson et al., 1981). Change was observed on the majority of these factors.

However, despite the use of interviews in some of the studies noted above, little quantitative analysis appears to have been done addressing the issue of identifying specific areas of

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linguistic change with respect to the temporal dimension in short term programs. In fact, much of the research which does profess to investigate language change does so from the *microlinguistic* perspective (i.e., perspective of acquisition of specific linguistic features over time - e.g., Major, 1994)[4], or aspects of oral production (i.e., speech rate - e.g., Griffiths, 1990; Lennon, 1990), rather than from a *macrolinguistic* perspective, which would combine both word and discourse level features of speech. For example, Griffiths (1990: 312) maintains that temporal variables of particular interest of L2 pedagogy are speech rate (SR) and pause phenomena (PP) such as pause duration, distribution, and frequency. However, I would suggest that these measures are microlinguistic and therefore should not be considered representative of overall language change[5]. Therefore, in order to identify, or at least narrow, potential critical windows for language and/or attitudinal change, a more rigourous and comprehensive approach is necessary. By combining both microlinguistic and macrolinguistic perspectives by use of questionnaire and interview formats, this study attempts to overcome some of the limitations outlined above in analyzing linguistic, perceptual and pedagogical change. Specifically, in order to analyze linguistic change (i.e., development or change in oral production) within the three-week time period, a structured quantitative method was chosen to facilitate and identify changes which could occur in microlinguistic and/or macrolinguistic features at one week intervals (e.g., Interview #1 to Interview#2, Interview #2 to Interview#3, Interview #3 to Interview#4), two week intervals (e.g., Interview #1 to Interview#3, Interview #2 to Interview#4), or three-week intervals (e.g., Interview #1 to Interview#4).

Lennon (1990) offers a convincing argument for developing a measure of fluency which is clearly operationalized, and therefore of particular interest to the COAELI study. He proposes that fluency can be used in both a broad sense and a narrow sense (pp. 389-90):

> *broad sense*: - cover term for oral proficiency (e.g., being fluent in a foreign language is a mark of social accomplishment)
>
> *narrow sense* - one component of oral proficiency (e.g., correctness, idiomaticity relevance, appropriateness, pronunciation, lexical range); also can be used diagnostically by teachers (e.g., fluent but grammatically inaccurate , or speak correctly but not very fluently); readily extends to cover other elements of oral proficiency

Lennon further clarifies the definition of fluency, commenting:

> fluency differs from the other elements of oral proficiency in one important respect...whereas such other elements as idiomaticness [sic], appropriateness, lexical range, and syntactic complexity can all be assigned to linguistic knowledge, *fluency is purely a performance phenomenon* [my emphasis]; there is...no fluency store ...(However)...*dysfluency markers...make the listener aware of the production process under strain* [my emphasis] (p. 391)

Four categories or features of fluency variables that Lennon (1990: 392-3) cites as having previously applied to SLA fluency include:

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[4]And not within a STILP context

[5]Temporality can also be interpreted in a formal linguistic sense (e.g., use of tense, aspect, etc), however this interpretation is not to be considered in this context.

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temporal variables: e.g., speech rate in words per minute or syllables per minute; length and positioning of silent pauses; length of fluent speech runs between pauses; frequency and distribution of filled pauses; repetitions; self-corrections),

rhetorical features: e.g., pauses, which may be defined with respect to spurts or information units , or longer episodes ; Lounsbury s juncture pauses and hestitation pauses)

lexical versus syntactic fluency: e.g., repetition coupled with pause immediately before content word => lexical search; false starts, incomplete clauses, and retracings from previous clause boundary => syntactic planning problems)

paralinguistic features: e.g., eye contact, gesture, hesitation [to signal need for assistance], co-operation [eg., shadowing, duetting]).

In the COAELI study, items based on Lennon s categories (1), (2) and (3) were incorporated into the analysis of interview data collected in the COAELI study to capture and differentiate important features of the interaction. Together these categories cover both microlinguistic and macrolinguistic contexts. For example, Category (1) type variables, or microlinguistic variables, employed in the analysis included Mean Length of Utterance (MLU), Total Number of Utterances (per Student per Interview), Range (Difference between maximum/minimum length of utterance per student per interview). In addition, macrolinguistic dimensions are represented in Category (2) type variables, including Topic Change and Inappropriate Responses, and Category (3) type variables, including Number of Grammatical Errors, Number of Lexical Errors[6], and Incomplete Responses.

Finally, a definition critical to the discussion of STILP-type programs must be addressed. The distinction between *language acquisition* and *language activation* becomes potentially problematic if students in STILPs are found to have studied the target language prior to taking part in programs because the extent to which any observed change in language production is taken as evidence of *language acquisition* (as opposed to language *activation*) must be limited to clear examples of linguistic skills or new lexicon known to have been unknown prior to the STILP experience. In other words, subjects with considerable foreign language exposure to reading and writing, but little oral practice[7], may be described as primarily possessing "literacy knowledge" (e.g., used for reading and/or writing), or passive knowledge, of the language (Ellis, 1994). Hence, they should not be considered "true beginners". Observed language change could therefore be considered language activation, rather than language acquisition. If then the STILP constituted an "activation" of passive knowledge (learning) or "reactivation" of rarely used "lapsed" active knowledge, we would predict a relatively rapid change in language production as re-activation occurs (perhaps in the microlinguistic level) rather than a slower development which would be necessary for language acquisition (e.g., completely novel material to be acquired). Or in fact, both processes may occur. For example, an initial rapid change/increase in lexicon, etc may occur, with a later, more gradual change in general language production also being found.

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[6]Note that Grammatical Errors and Lexical Errors can be categorized as either microlinguistic or macrolinguistic. As that particular distinction is not crucial to the analysis, they are listed only in one category herein.

[7]Typical of many FL situations, especially in Asia.

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In order to address these issue, in the COAELI study, the extent and type of previous exposure to the English language and/or English language training was assessed on the pre-course questionnaire. Previous experience with Canadians and Canada was also tested to evaluate possible effects of previous cultural and linguistic knowledge on change within the three-week COAELI.

3. HYPOTHESES

(1) Change will occur in the linguistic, perceptual and pedagogical variables over the course of the three-week COEALI

(2) Linguistic change will occur in Mean Length of Utterance (MLU), Range (e.g, total number of words per student per interview), Number of Grammatical errors, Number of Lexical errors, Number of Incomplete responses, Number of Inappropriate responses, and Number of Student-initiated topic changes.

(3) Change will be found in the attitudinal/perceptual questionnaire items (such as Perceptions of Canada and Canadians); this change will reflect an increase in positive attitude.

(4) Change will be found in the pedagogical questionnaire items (such as Perceptions of Program, Perceptions of Language Learning, Perceptions of Classroom Roles, and Perceptions of Class Activities; this change will reflect an increase in positive attitude.

4. METHODOLOGY

4.1 Subjects

Interview. The subjects in the interview component of the study were 28 female Japanese college students between the ages of 17-19. This interview cohort were chosen from a larger group of 384 female Japanese college students in 14 ESL classes participating in the 1993 Camosun Osaka Aoyama English Language Institute (COAELI) (e.g., two students per class). Subjects were chosen by the program adminstration to take part in four interviews during the three week COAELI.

A third of the interviewees (32.1%) had made at least one visit to an English speaking country previously, and 4 subjects (e.g., 7.1.%) had made 2-5 visits. Approximately half of the students spoke at least two languages. With the exception of one group, all interviewees participated in at least three of four interviews. The majority of subjects participated in all four interviews.

Questionnaire. The subjects in the questionnaire component of the study were 384 female Japanese college students in 14 ESL classes participating in the 1993 Camosun Osaka Aoyama English Language Institute [COAELI]. The majority of subjects (98.2%) were 18 or 19 years old, spoke one language (56.7%)[8], had studied ESL for 6-9 years (96.5%), were English majors (92.8%), had never visited an English speaking country previously (72.6%), had rarely

[8] A substantial minority (39.6%) indicated that they spoke two languages.

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or never studied about Canada (49.7%), had never visited Canada before (97.9%), had never or rarely met Canadians in Japan (77.8%), and never had a Canadian teacher in Japan (75.6%).

4.2 Procedure

Interview procedures. Interviews took place on four separate occasions, approximately once a week for three weeks. Interviews ranged from 5-15 minutes in length. The later interviews were generally longer. Interviews were both videotaped and audiotaped. Student interview questions included basic information (e.g., name for identification) . Other questions which reappeared include pedagogical questions (e.g., what did you do/learn in class last week, what was your favourite activity), language development (e.g., Do you find it easier to speak English now) and experiential topics such as shopping, food and meeting people (e.g., Have you met any Canadians?). [See list of questions - Appendix #1].

In addition to the basic questions, the semi-structured format of the interviews allowed additional topics to be introduced and developed. As the purpose of the interviews was to collect both linguistic and perceptual/attitudinal data, additions and modification to the Base questions were expected. Topics and issues which arose in earlier interviews were introduced into later interviews (e.g., discussion of family, career, extracurricular, activities, etc) [See list of questions/topics - Appendix #3].

4.3 Analysis

Interview analysis. Interviews were transcribed manually analysed for occurences of variables of interest. Statistical analysis was done in SPSS for Windows. Measures of linguistic change included: Mean Length of Utterance (MLU), Range (e.g, total number of words per student per interview), Number of Grammatical errors, Number of Lexical errors, Number of Incomplete responses, Number of Inappropriate responses, and Number of Student-initiated topic changes. These terms are defined below.

Examples of Grammatical Errors (from Interview data): including inappropriate tense marking, inappropriate omission of determiners, prepositions, etc)

Example 1: KO: We went to Empress
Example 2: OT: We sung song
Example 3: KK: I play tennis and skating
Example 4: Y: I want to...good speaker
Example 5: M: I went to downtown, walk a lot.

Examples of Lexical Errors (from Interview data): including word choice inappropriate or inaccurate in Standard English to question posed

Example 1:
Interviewer: What did you do downtown?
KK: Rocks, wax
Interviewer: Ah, the wax museum
Example 2:
Interviewer: What did you learn in class?
KU: Canadian style
Interviewer: What is 'canadian style'

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KU: Slug
Interviewer: Slang, not slug.
Example 3:
Interviewer: Is it easier to speak English now?
Y: More easy
Example 4:
Interviewer: Did you buy anything?
E: T-shirts, lips
Interviewer: Lipstick?

Examples of Incomplete Responses (from Interview Data): including sentence fragments which occurred where (i) inappropriate (e.g., where a native speaker would not typically use them, even in conversation); (ii) of a form native speakers would not use (for example, where transparently due to lack of vocabulary)

Example 1:
Interviewer: What else did you do last night?
R: Farewell
Interviewer: Farewell dinner?
Example 2:
Interviewer: What is the story?
KK: Princess, eats apple, die
Example 3:
Interviewer: What did you buy?
A: These jeans, very cheap.

Examples of Inappropriate Responses (from Interview Data): including responses not related to question posed or previous direction of question.

Example 1:
Interviewer: What time have you been going to bed?
K: 10 minutes
Example 2:
Interviewer: What did you buy?
S: CD
Interviewer: Which one?
S: Someone
Example 3:
Interviewer: Have you gone to restaurants in Victoria?
H: Sandwiches

Examples of Student-initiated topic change(from Interview Data): including topic changes initiated by Interviewee (student) either (i) after answering Interviewer posed question, or (ii) instead of answering Interviewer posed question

Example 1:
Interviewer: How was your week?
R: Monday is movie night.
Example 2:
Interviewer: Are you a good squash player?
KK: No. I went to the Oak Bay Beach Hotel.

In order to identify significant time periods in the language acquisition/language activation processes in a STILP, three statistical test were used: paired t-tests, intervariable correlations (e.g., Pearson's r), and repeat-measures ANOVA.

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5. RESULTS: AREAS OF LINGUISTIC CHANGE (INTERVIEW DATA)

5.1 Results - Change over Time (Significant Time Periods) - Paired Ttests

Total Number of Utterances per Student per Interview

Table 1: Total Number of Utterances per Interview

Time frame	t-value	df	2-tailed significance
Interview 1 -> Interview 2	*-3.97*	*20*	*.001*
Interview 1 -> Interview 3	*-5.11*	*22*	*.000*
Interview 1 -> Interview 4	*-2.63*	*24*	*.015*

Statistically significant increases in total number of utterances per interview can be seen between Interview #1 and Interview #2 ($p<.01$), Interview #1 and Interview #3 ($p<.000$), and Interview #1 and Interview #4 ($p<.05$). No significant difference were found between Interview #2 and Interview #3 , Interview #3 and Interview #4, or Interview #2 and Interview #4.

Range - Difference between maximum/minimum number of words per utterance per student per interview

Table 2: Range

Time frame	t-value	df	2-tailed significance
Interview 1 -> Interview 4	*-2.67*	*25*	*.013*
Interview 1 -> Interview 3	-2.03	23	.054

The only statistically significant increase in range per interview can be seen between Interview #3 and Interview #4 ($p<.05$). However, it is interesting to note the possible interactions between Interview #1 and Interview #3.

Grammatical Errors - Changes in Number of Grammatical Errors across Interviews

Table 3: Grammar Errors

Time frame	t-value	df	2-tailed significance
Interview 1 -> Interview 3	*-2.83*	*24*	*.009*
Interview 1 -> Interview 4	*-2.72*	*25*	*.012*
Interview 2 -> Interview 3	-1.89	21	.073

Statistically significant increases in number of grammatical errors can be seen between Interview #1 and Interview #3 ($p<.01$), and Interview #1 and Interview #4 ($p<.05$). A possible interaction between Interview #2 and Interview #3 was also identified.

Lexical Errors- Changes in Number of Lexical Errors across Interviews

Table 4: Lexical Errors

Time frame	t-value	df	2-tailed significance
Interview 1 -> Interview 2	*-2.61*	*22*	*.016*
Interview 1 -> Interview 3	*-3.67*	*24*	*.001*
Interview 1 -> Interview 4	*-2.69*	*25*	*.013*

Statistically significant increases in number of lexical errors can be seen between Interview #1 and Interview #2 ($p<.05$), Interview #1 and Interview #3 ($p<.01$) and Interview #1 and Interview #4 ($p<.05$). No significant difference were seen between Interview #2 and Interview #3 , Interview #3 and Interview #4, or Interview #2 and Interview #4.

Incomplete responses- Changes in Number of Incomplete Responses across Interviews

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Table 5: Incomplete Responses

Time frame	t-value	df	2-tailed significance
Interview 1 -> Interview 2	*-3.90*	*22*	*.001*
Interview 1 -> Interview 3	*-6.39*	*24*	*.000*
Interview 1 -> Interview 4	*-3.71*	*25*	*.001*
Interview 3 -> Interview 4	*2.34*	*23*	*.028*

Statistically significant increases in number of incomplete responses can be seen between Interview #1 and Interview #2 ($p<.01$), Interview #1 and Interview #3 ($p<.000$), and Interview #1 and Interview #4 ($p<.01$). A statistically significant decrease can be seen between Interview #3 and Interview #4 ($p<.05$).

Inappropriate responses

No statistically significant changes in number of inappropriate responses were evident.

Student-initiated topic change - Changes in Number of Student-initiated topic changes across Interviews

Table 6: Student-initiated Topic Change

Time frame	t-value	df	2-tailed significance
Interview 1 -> Interview 4	*-2.14*	*24*	*.043*
Interview 2 -> Interview 4	*-2.16*	*21*	*.042*

Statistically significant increases in number of topic changes can be seen between Interview #1 and Interview #4 ($p<.05$), Interview #2 and Interview #4 ($p<.05$). No significant difference were found between Interview #1 and Interview #2 , Interview #1 and Interview #3, Interview #2 and Interview #3, or Interview #3 and Interview #4.

5.2 Discussion - Change over Time (Significant Time Periods) - Paired T-Tests

Findings appear to support the hypothesis that language production increases over the three-week period of the COAELI. For example, the a positive change was seen with respect to total number of utterances across Interview #1 to Interview #4. Specifically, (i) production was seen to increase gradually over time (e.g., increases in number of utterances, range and MLU), and (ii) an inverse relationship between increased fluency (e.g., number of utterances, range, MLU, etc) and decreased accuracy (e.g., increased numbers of grammatical and lexical errors, incomplete and inappropriate responses) was found.

In general, it appears that change occurred gradually over the three-week period as little significant change was seen between later "adjacent" Interviews (e.g., Interview #2 and Interview #3, or Interview #3 and Interview #4) because statistically significant changes in adjacent interviews only occurred with respect to number of Incomplete responses (e.g., Interview #3 and Interview #4) and Number of Student-initiated topic changes (e.g., Interview #2 and Interview #4)[9]. However, three apparent time or temporal periods appear significant. First, between Interview#1 and Interview#2 (e.g., the first week of the program), change consistent with language activation, and perhaps with language fluency, was seen. For

[9]Student-initiated topic changes were only found in Interviews #3 and 4. This finding suggests macrolinguistic changes to be temporally later-occurring.

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example, an increase in the total number of utterances was found, together with increases in number of lexical errors (e.g., increased attempts to communicate).

Similarly, a second period of significant change appears at the end of the second week (between Interview #1 and Interview #3) with increases in Number of Utterances, Grammatical Errors, Lexical Errors, Incomplete Responses) - although this change may have been influenced by the significant change seen between Interview #1 and Interview #2 with respect to common variables (e.g., Number of Utterances, Lexical Errors, and Incomplete responses). Finally, a third period of significant change appears between Interview #1 and Interview #4 (e.g., Number of Utterances, Range, Grammatical Errors, Lexical Errors, Incomplete Responses, and Student-Initiated Topic Change). These changes are again consistent with language activation and increased fluency at the expense of accuracy. Although, again, this change may have been influenced by the significant change seen between Interview #1 and Interview #2 with respect to common variables (e.g., Number of Utterances, Grammatical Errors, Lexical Errors). Other possible influence include a newness effect at Interview#1, and the influence of the interview process itself.

Therefore, an inverse relationship between increased fluency (e.g., number of utterances, range, MLU, etc) and decreased accuracy (e.g., increased numbers of language errors) appears to hold across the three-week period. General increases in speech production resulting in increased error production is consistent with an inverse relationship between fluency and accuracy in the language of language learners (e.g., Lennon, 1990).

5.3 Results - Change over Time (within-variable) - Repeat Measures ANOVA

Table 7: Change over Time (within variable) - Repeat Measures ANOVA

Variable	Mean [I1]	Mean [I2]	Mean [I3]	Mean [I4]	F	Sig F	df
Range	6.619	8.333	9.167	9.269	3.21	.030	3
Grammar	0.956	1.782	2.160	2.039	4.35	.008	3
Lexicon	0.130	0.696	0.840	0.731	3.43	.023	3
Incomplete	0.391	1.521	2.040	1.385	7.62	.000	3
Utterances	12.381	19.047	23.130	20.320	3.74	.003	3

Using a repeat measures ANOVA, statistically significant within-variable change ($p<.05$ to $p<.000$) was seen in five of the variables of interest: Range ($p<.05$), Number of Grammatical errors ("Grammar")($p<.01$), Number of Lexical Errors ("Lexicon") ($p<.05$), Number of Incomplete Utterances ("Incomplete") ($p<.000$), and Total Number of Utterances ("Utterances")($p<.01$). Overall, the means for the majority of variables increased from Interview #1 to Interview #3, and then decreased from Interview #3 to Interview #4 . Means were highest in Interview#3 for Number of Grammatical errors , Number of Lexical Errors, Number of Incomplete Utterances, and Total Number of Utterances, although the significance of this tendency was not measured.

5.4 Discussion - Change over Time (within-variable) - Repeat Measures ANOVA

The ANOVA results appear to identify a temporal threshold at Interview #3 at which point means appear tomaximize in Number of Grammatical errors ("Grammar"), Number of Lexical Errors ("Lexicon"), Number of Incomplete Utterances ("Incomplete"), and Total Number of Utterances ("Utterances"). However, the mean for Range was highest at Interview #4. These

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findings appear to support the previous (paired t-test) results in identifying a gradual increase over time, with a significant temporal period, or threshold, occurring between Interview #1 and Interview #3 (e.g., within the first two weeks of the COAELI)[10].

5.5 Results - Within-Interview Correlations

Table 8: Within-Interview Correlations - Interview #1

Variables	Pearson's *r*	Cases (n)	Significance (p)
MLU/Grammatical errors	.7094	28	.000
MLU/Range	.8413	28	.000
Range/Grammatical errors	.7256	28	.000
Range/#Utterances	.4539	28	.015
#Utterances/Grammatical errors	.5184	28	.005
#Utterances/#Inappropriate responses	.4079	38	.031

In Interview #1, Mean Length of Utterance (MLU) correlated ($p<.000$) positively with Number of Grammatical Errors and Range. Significant positive correlations were also found between Range and Grammatical Errors, Range and Number of Utterances, and Number of Utterances and Number of Inappropriate Responses ($p<.05$)

Table 9: Within-Interview Correlations - Interview #2

Variables	Pearson's *r*	Cases (n)	Significance (p)
Range/Grammatical errors	.5281	20	.017
#Utterances/#Inappropriate responses	.5383	19	.017
MLU/Range	.6965	21	.000

Positive correlations between Range and Grammatical errors, and Number of Utterances and Number of Inappropriate responses were significant (at $p<.05$). MLU and Range were also strongly correlated ($p<.000$).

Table 10: Within-Interview Correlations - Interview #3

Variables	Pearson's *r*	Cases (n)	Significance (p)
Incomplete response/Grammatical errors	-.4690	25	.018
MLU/Grammatical errors	.5286	25	.007
MLU/Range	.7835	24	.000
Range/Grammatical errors	.7463	24	.000
Range/#Utterances	.6240	23	.001
#Utterances/Grammatical errors	.4995	23	.015
#Utterances/Lexical errors	.5543	23	.006

Mean Length of Utterance correlated ($p<.01$) positively with Number of Grammatical Errors and Range ($p<.000$). Significant positive correlations were also found between Range and Grammatical Errors ($p<.000$), and Range and Number of Utterances ($p<.01$) . In addition, the first statistically significant negative correlation ($p<.05$) was seen between Number of Incomplete responses and Number of Grammatical errors. Statistically significant positive relationships were also detected between Number of Utterances and Number of Lexical errors ($p<.01$) and Number of Incomplete responses and Number of Grammatical errors ($p<.05$).

[10]This peaking of production at Interview #3 may also reflect the impact of acculturation, or culture shock (e.g., Ellis, 1994).

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Table 11: Within-Interview Correlations - Interview #4

Variables	Pearson's *r*	Cases (n)	Significance (p)
Incomplete response/MLU	-.6142	22	.002
MLU/Range	.7863	22	.000
Incomplete response/Range	-.5193	26	.007
Range/Grammatical errors	.5510	26	.004
#Utterances/Grammatical errors	.5275	25	.007
#Utterances/Lexical errors	.5174	25	.008
Topic change/Inappropriate response	.4048	25	.045

In Interview #4, in addition to similar results on many of the variables discussed above, strong negative correlations were seen between Number of Incomplete responses and Mean Length of Utterance ($p<.01$), and between Number of Incomplete responses and Range ($p<.01$). A statistically significant positive correlation ($p<.05$) was also found between Number of Student-Initiated Topic Changes and Number of Inappropriate Responses.

5.6 Discussion - Within-Interview Correlations

The level at which significance was found, type and number of statistically significant intra-interview relationships between linguistic features of interest to this study were seen to vary by interview, although certain similarities were evident. First, as Mean Length of Utterance (MLU) increased, the number of Grammatical Errors, Lexical Errors, and Inappropriate Responses also increased. As noted previously, these results appear consistent with fluency increasing at the expense of accuracy. Second, a strong relationship exists between Mean Length of Utterance, Range, and Number of Utterances. The latter finding, however, may simply be an artifact of the relationship between the variables. In other words, Mean Length of Utterance is essentially incorporated into Range, and Number of Utterances.

Thus, results in Interview #2 were similar to those in Interview#1, although fewer significant correlations were found overall. Similarly, Interview #3 findings were generally to those in Interview #1, with three exceptions. The first statistically significant negative correlation ($p<.05$) was seen between Number of Incomplete responses and Number of Grammatical errors, and statistically significant positive relationships were seen between Number of Utterances and Number of Lexical errors ($p<.01$) and Number of Incomplete responses and Number of Grammatical errors ($p<.05$) - all of which appears consistent with increased fluency resulting in decreased accuracy.

Finally, in Interview #4, in addition to similar results on many of the variables discussed above, strong negative correlations were seen between Number of Incomplete responses and Mean Length of Utterance ($p<.01$), and between Number of Incomplete responses and Range ($p<.01$). A statistically significant positive correlation ($p<.05$) was also seen between Number of Student-Initiated Topic Changes and Number of Inappropriate Responses. The fact that Topic Changes were only detected in Interview#3 and 4 is interesting from two perspectives. First, it suggests a development of strategic competence (e.g., being able to change to topics student can and wants to discuss), and second, the degree of change may appear skewed.

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6. QUESTIONNAIRE DATA

6.1 Questionnaire procedures

Questionnaires were completed by all 384 subjects in their ESL classes on the first and last days of the course. Pre and post-course questionnaires were bilingual (English/Japanese) to avoid limited English proficiency on non-language items as a performance factor. Questionnaire items were categorized into Perceptions of Canadians, Perceptions of Program, Perceptions of Language Learning, Perceptions of Classroom Roles, and Perceptions of Class Activities [See summary of items - Appendix #2]. Students responded to Likert-style items on computer scan forms.

6.2 Questionnaire Analysis

Questionnaire data was entered via computer scan forms into SPSSx. Subsequent analysis was completed in SPSS for Windows. Pooled data was analyzed using Paired T-tests.

6.3 Results - Questionnaire data

Table 12: Areas of Significant Perceptual Change in Student Questionnaire Results

	Pretest	Posttest	T-score	2-tailed sig
Perceptions of Canadians	27.01	29.65	10.95	.000
Perceptions of Language Learning	13.44	15.89	9.84	.000

Statistically significant positive Perceptual change ($p<.000$) was found with respect to Perceptions of Canadians and Perceptions of Language Learning.

Table 13: Areas of Significant Pedagogical Change in Student Questionnaire Results

	Pretest	Posttest	T-score	2-tailed sig
Perceptions of Classroom Roles	13.57	12.60	-5.38	.000
Perceptions of Program	21.30	17.71	-18.33	.000
Perceptions of Class Activities	17.80	17.57	-1.06	n/s

Statistically significant negative Pedagogical change ($p<.000$) was found with respect to Perceptions of Classroom Roles and Perceptions of Program. No significant change was evident with respect to Perceptions of Class activities.

6.4 Discussion - Questionnaire data

The apparent inverse relationship between Perceptual Change (positive, increase) and Pedagogical Change (negative, decrease) may reflect the differences between general expectations of the STILP experience (especially the extracurricular aspects such as meeting people, learning and practicing language with Canadians, etc) which were met and/or exceeded, and specific expectations of the classroom experience (e.g., teacher/student role expectations, use of techniques, etc) which were either not met or negatively evaluated. It is suggested that these results reflect a discrepancy between student expectations of a traditional (Japanese) classroom with a focus on literacy skills (e.g., reading, writing, tests) and the reality

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of the socio-culturally and orally focussed STILP classroom (e.g., games, songs, interviews, etc) in which they found themselves[11].

7. CONCLUSIONS - TIME AND CHANGE IN SLA

This paper investigated the impact of the temporal context of a short-term intensive language program based on interviews with 28 female Japanese college students and questionnaire data from 384 female Japanese college students. Change was identified within linguistic, perceptual (attitudinal) and pedagogical dimensions. Findings included statistically significant linguistic change (e.g., frequency of grammatical errors, lexical errors, incomplete utterances, inappropriate answers and topic changes), perceptual change (e.g., Perceptions of Canadians, Perceptions of Language Learning) and pedagogical change (e.g., Perceptions of Classroom Roles, Perceptions of Program). Change in language production appeared to be a gradual process in which the greatest degree of change was seen in comparison with initial language states at Interview #1. Linguistic change appears to support a theory of language activation, rather than language acquisition, with relatively major changes in number of utterances and increase in language diversity (albeit not accurate use) occurring within the first week. Overall, *increases in language production resulted in increased fluency, and decreased accuracy.*

Due to the highly homogeneous subject population, further research on more diverse populations is needed. Further research to isolate specific linguistic areas of change is also of critical importance.

[11]It should also be noted that "negative" change does not necessarily imply negative perceptions of Classroom roles or Program. In fact, these results may reflect differences between expected prevalence of certain types of experiences and activities.

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Appendix #2

Description of Student Questionaire Items

Perceptions of Canadians

I think Canadians are friendly/polite/honest/ helpful/considerate/superficial/rude/similar t o Japanese people

Perceptions of Program

- I expect to learn about: Canada;Canadians;more English;practice English; Canadian youth culture; meet Canadians; e my beliefs challenged

Perceptions of Language Learning

- I think: learning languages/English; learning to read/write/speak/understand spoken English; understand Canadian ure;making friends with Canadians; speaking English to shop clerk/teacher/Japanese people; having an accent; understanding glish TV; having good Listening/Speaking skills

Perceptions of Classroom Roles

- I think the teacher will want me to: be polite; sit quietly; volunteer answers; co-operate w/other students; compete ther students; will correct my pronunciation/grammar

Perceptions of Class Activities

- I think the teacher will: use music/games; have us work in groups/pairs/read in English/write in English; give us nework/tests

Appendix #3

Topics Discussed

Subtopics	Number of Times Topic Mentionned
Name	30
How are you?	20
Age	14
Visiting Canada	15
Sightseeing: General	15
Sightseeing: Butchart Gardens	5
Shopping: General	55
Shopping: Clothes	22
Food: Canadian	24
Food: Chocolate	9
Food: Japanese	20
Canadian people/friends	31
Interviewing Canadians	11
Studying/speaking English	68
Visiting other countries	4
What did you do last week or How was last week	37
Things done last week...Dancing	4
Things done last week...Skating	8
Things done last week...Singing	15
Things done last week...Music	4
Things done last week...Swimming	4
What did you do/learn...In class	27
What...doing next week	10
Family...In Japan	5
Family...Future	4
Family...Host family	22
Jobs	13
Goodbye dinner	7
Expectations...Canada/Victoria	6
Differences... Canada/Japan	14
Come back again?	10
Changes in COAELI	14
Scheduling meetings	35

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Appendix #2

Description of Student Questionaire Items

(1) Perceptions of Canadians

I think Canadians are friendly/polite/honest/ helpful/considerate/superficial/rude/similar t o Japanese people

(2) Perceptions of Program

- I expect to learn about: Canada;Canadians;more English;practice English; Canadian youth culture; meet Canadians; have my beliefs challenged

(3) Perceptions of Language Learning

- I think: learning languages/English; learning to read/write/speak/understand spoken English; understand Canadian culture;making friends with Canadians; speaking English to shop clerk/teacher/Japanese people; having an accent; understanding English TV; having good Listening/Speaking skills

(4) Perceptions of Classroom Roles

- I think the teacher will want me to: be polite; sit quietly; volunteer answers; co-operate w/other students; compete w/other students; will correct my pronunciation/grammar

(5) Perceptions of Class Activities

- I think the teacher will: use music/games; have us work in groups/pairs/read in English/write in English; give us homework/tests

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ISBN: 0 08 043 438X

REFERENCES

Clément, R. (1979). Immersion and residence programs: Their effects on attitude and anxiety. *Interchange, 9*, 52-58.

Clément, R., Gardner, R.C., and Smythe, P. (1977a). Motivational vairables in second language acquisition: A study of francophones learning English. *Canadian Journal of Behavourial Science, 9*, 123-133.

Clément, R., Gardner, R.C., and Smythe, P. (1977b).Inter-ethnic contact: Attitudinal consequences. *Canadian Journal of Behavourial Science, 9*, 205-215.

Cziko, G., and Lambert, W. (1976). A French-English school exchange program. *Canadian Modern Language Review, 32*, 236-42.

Desrochers, A, and Gardner, R. (1981). *The social psychology of inter-ethnic contact and cross-cultural communication.* Quebec: International Centre for Research in Bilingualism. Laval University.

Ellis, R. (1994). *The study of second language acquisition.* Oxford University Press: Oxford, UK.

Gardner, R.C. (1985). *Social psychology and second language learning.* Edward Arnold: London.

Gardner, R.C., Kirby, D., Smythe, P., Dumas, G and Zelman, M. (1974). Bicultural excursion programs: Their effects on students stereotypes, attitudes, and motivation. *Alberta Journal of Educational Research, 20*, 270-277.

Gardner, R.C, Smythe, P., and Brunet, G. (1977). Intensive second language study: Effects on attitudes, motivation and French achievement. *Language Learning, 27*, 243-261.

Griffiths, R. (1990). Speech rate and NNS comprehension: A preliminary study in time-benefit analysis. *Language Learning, 40(3)*, pp. 311-336.

Hanna, G. and Smith, A. (1979). Evaluating summer bilingual exchanges: A progress report. *Working papers on Bilingualism, 19*, 29-58.

Hoeh, J., and Spuck, D. (1975). Effects of a three phase acculturation process on language skill development and social and personal attitudes of high-school French students. *Foreign Language Annals, 8*, 221-226.

Lambert, W., Gardner, R., Barik, H.., and Tunstall, K. (1963). Attitudinal and cognitive aspects of intensive study of a second language. *Journal of Abnormal and Social Psychology, 60*, 44-51.

Lennon, P. (1990). Investigating fluency in EFL: A quantitative approach. *Language Learning, 40(3)*, pp. 387-417.

Major, R. (1994). Chronological and stylistic aspects of second language acquisition of consonant clusters. *Language Learning, 44(4)*. pp. 655-680.

Scarcella, R., Andersen, E., and Krashen, S. (1990). *Developing communicative competence in a second language*. Newbury House: New York.

Sikkema, M., and Niyekawa, A. (1979). *Design for cross-cultural learning.* Intercultural Press: Yarmouth, Maine.

Shapson, S., Kaufman, D. and Day, E. (1981). Evaluation study of a summer immersion programme for secondary students. *Journal of Multilingual and Multicultural Development, 2*, 65-81.

Tucker, G. and Lambert, W. (1970). The effect on foreign language teachers of leadership training in a foreign setting. *Foreign Language Annals, 4*, 68-83.

ISBN: 0 08 043 438X