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Cantonese Cross-Linguistic Influence in English Argumentative Writing of Hong Kong Students: The Cohesion Evidence from Simultaneous and Sequential Bilinguals

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Abstract. Cohesion is an important part of English writing. However, previous research has shown that Hong Kong students can have difficulties with the frequency, choice and position of English connectives. Some of these difficulties may be related to cross-linguistic influence (CLI) from Cantonese. This study investigates Cantonese CLI-related cohesion errors in the English argumentative writing of Hong Kong Form 6 students. It compares simultaneous bilinguals, who are exposed to Cantonese and English from an early age, with sequential bilinguals, who normally learn English after Cantonese has already developed. A total of 70 to 90 students will take part in the study. They will be divided into three groups: simultaneous bilinguals, sequential bilinguals receiving explicit instruction, and a sequential bilingual comparison group. The study examines three main questions. First, it asks whether simultaneous and sequential bilinguals differ in their overall frequency of CLI-related cohesion errors. Then compares the two groups across four error types: additive conjunction, contrastive conjunction, connective combination, and sentence-initial connectives. Finally, explicit instruction may reduce these errors among sequential bilinguals. Participants will complete argumentative writing tasks before and after a four-week intervention. The study aims to provide a clearer understanding of Cantonese CLI in the English writing of Hong Kong bilingual students. It also helps to provide evidence about whether targeted instruction can help reduce these cohesion errors.

Keywords: cross-linguistic influence, cohesion, simultaneous bilinguals, sequential bilinguals, Cantonese

1. Introduction

Cohesion is an important part of written discourse because it helps different parts of a text connect with each other. Halliday and Hasan describe cohesion as a set of linguistic resources, including reference, substitution, ellipsis, conjunction and lexical cohesion, which create relationships within a

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text [1]. However, using more cohesive devices does not necessarily mean that a text is more coherent or of higher quality. Carrell argues that simply increasing the number of cohesive ties does not always improve the way a text is understood [2]. This is particularly relevant to second-language writing, as learners may use cohesive devices frequently but still have problems with their meaning, position or combination. For this reason, the present study focuses on in appropriate cohesive choices that maybe related to Cantonese cross-linguistic influence (CLI), rather than assuming that a higher frequency of cohesive devices means better writing.

This issue is particularly relevant in Hong Kong. Previous studies have reported problems with the use of logical connectives among Hong Kong students and other Chinese-background learners. Crewe examined the misuse and overuse of logical connectives in ESL writing and argued that connectives help organise relationships between different parts of an argument [3]. When they are used in appropriately, they can affect the meaning and organisation of the argument. Field and Yip compared internal conjunctive cohesion in the English writing of Form 6 Cantonese-speaking students and native English speakers. They found differences in the frequency, position and choice of conjunctive devices [4]. Zhang reported similar problems among Chinese university students, particularly the overuse of some conjunctions and their use in unsuitable contexts [5]. Chan also points out that learner errors can have different causes, including mother-tongue influence, incomplete knowledge of the target language and developmental factors [6].

However, there is still a gap in this area of research. Field and Yip compared Cantonese-speaking students with native English speakers, but they did not separate bilingual students according to their language acquisition background [4]. This may be important because Cantonese-English bilingual students can have quite different language-learning experiences. Simultaneous bilinguals are exposed to both languages from early childhood, whereas sequential bilinguals usually develop one language before receiving substantial exposure to the other. Previous research suggests that the timing and amount of language exposure can influence the relationship between the two language systems [7]. Although previous studies have examined simultaneous and sequential bilinguals in areas such as vocabulary, grammar and cognitive processing, less attention has been paid to their English writing, particularly cohesion. Research in Hong Kong has also generally treated Cantonese-speaking learners as one broad group.

A further issue is that an overall error frequency may hide important differences in error type. For this reason, the present study examines four specific categories identified from the literature: additive conjunction errors, contrastive conjunction errors, connective-combination errors, and unusual sentence-initial connective use. Additionally, the study includes an instructional intervention to examine whether explicit instruction can reduce such errors among sequential bilinguals.

The present study therefore addresses three research questions: (1) Do simultaneous and sequential bilinguals differ in their overall frequency of Cantonese CLI-related cohesion errors? (2) Do they show different patterns across four specific CLI-related cohesion error types? (3) Can explicit instruction reduce these errors among sequential bilinguals?

2. Literature review

2.1. Cohesion and cohesive devices in English writing

Halliday and Hasan identify reference, substitution, ellipsis, conjunction and lexical cohesion as key cohesive resources in writing [1]. However, cohesion does not necessarily lead to coherence. Carrell [2] and Zhang [5] suggest that using more cohesive devices does not automatically improve writing

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quality. This study therefore focuses on both the frequency and appropriateness of cohesion errors, particularly the use of connectives.

2.2. Cohesion in Hong Kong student writing

Previous studies have found problems with connective use in Hong Kong student writing. Crewe [3, 8] reports misuse and overuse of logical connectives, while Field and Yip [4] found differences in the frequency, choice and position of conjunctive devices between Hong Kong Cantonese-speaking students and native English writers. Similar problems have also been reported among Chinese university students [5]. These findings suggest that students may have difficulty selecting connectives according to meaning and discourse position, rather than simply using too few or too many.

2.3. Cantonese CLI and specific cohesion error types

Cantonese cross-linguistic influence (CLI) provides one possible explanation for these patterns. The term CLI is used here because it does not assume that Cantonese is necessarily the learners' first or dominant language, which is particularly relevant when comparing simultaneous and sequential bilinguals. Chan and Arndt also indicate that second-language writing errors may have multiple sources; therefore, not every cohesion error will be treated as evidence of Cantonese CLI [6, 9].

Based on previous research and the present study's coding framework, four CLI-related cohesion error types will be examined: (1) inappropriate additive conjunctions, such as besides and moreover; (2) inappropriate contrastive conjunctions, such as however and on the other hand; (3) inappropriate connective combinations, such as "although...but"; and (4) unusual sentence-initial connective use. These categories reflect problems in connective choice, combination and positioning reported in research on Hong Kong and Chinese learners. Field and Yip, in particular, provide support for examining connective positioning, while Crewe highlights the importance of appropriate logical relationships between ideas [4, 8].

Importantly, these patterns will not automatically be classified as Cantonese CLI. Errors will only be included when the linguistic or discourse pattern is plausibly related to Cantonese and cannot be better explained by general English-learning difficulties. Ambiguous cases will be excluded from the CLI dataset.

2.4. Simultaneous and sequential bilingualism

Simultaneous bilinguals are exposed to two languages from early childhood, whereas sequential bilinguals acquire substantial exposure to the second language after the first language has already developed. Previous bilingual research suggests that CLI can occur in both groups, but its extent may vary according to language experience, input and language dominance. For example, van Dijk et al. found evidence of CLI in both simultaneous and early sequential bilingual children [10]. Cuza, Pérez-Leroux and Sánchez, Thordardottir, and Sabourin and Vīnerte also demonstrate that bilingual acquisition history can be associated with differences in language development and processing [11-13].

However, relatively little research has examined whether simultaneous and sequential Cantonese-English bilinguals differ specifically in English writing cohesion. This provides a basis for treating bilingual acquisition type as an important variable in the present study.

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2.5. Explicit instruction and research gap

Explicit instruction may help learners recognise differences between Cantonese and English and develop more appropriate connective use. The present intervention therefore directly targets the four CLI-related error types identified above through explanation, practice and feedback.

Overall, previous research has established cohesion problems among Hong Kong learners, but differences between simultaneous and sequential bilinguals remain underexplored. Evidence on whether explicit instruction can reduce specific Cantonese CLI-related cohesion errors is also limited. This study addresses these gaps by examining bilingual acquisition type, specific CLI-related cohesion patterns, and the effects of targeted instruction within one empirical design.

3. Hypothesis

We predict that: 1) Sequential bilinguals exhibit more pronounced Cantonese-influenced cohesive features than simultaneous bilinguals in English argumentative writing. 2) Explicit instruction on cohesive devices can reduce the frequency of Cantonese-influenced cohesion errors in sequential bilinguals.

4. Methods

4.1. Participants

A total of 70 to 90 Form 6 students from one or two Hong Kong secondary schools will participate in this study. All participants will be divided into three groups based on their bilingual acquisition type and intervention assignment: (1) simultaneous bilinguals, defined as children exposed to both Cantonese and English from birth (before age 3;0), who develop functionally differentiated systems with little systematic interdependence between the two languages[11]; (2) sequential bilinguals assigned to the intervention group, defined as those whose exposure to English begins between ages 3 and 7, after the L1 (Cantonese) system is partially established, making them more susceptible to cross-linguistic influence[11]; and (3) sequential bilinguals assigned to the comparison group (no intervention), with the same bilingual background as the intervention group. Each group will consist of approximately 25 to 30 participants. To ensure comparable English proficiency, participants will be selected based on their HKDSE English Language scores, with only those within a similar score band being recruited. All participants will have normal hearing and no known language or learning disabilities. Their bilingual type will be confirmed through the language background questionnaire. The sequential intervention and comparison groups will be formed by randomly assigning sequential bilinguals to one of the two conditions.

4.2. Materials

Four sets of materials will be used in this study: the writing prompts, the language background questionnaire, the error classification framework, and the instructional materials for the intervention.

Writing prompts. Two argumentative writing prompts will be used. For the pre-test, all participants will write on the prompt adopted from Field & Yip: "Do the pressures of living in a big city outweigh the pleasures [4]?" For the post-test, the sequential intervention and comparison groups will write on a different prompt adopted from Zhang: "The Importance of Planting Trees [5]." The use of different prompts for the pre-test and post-test is intended to reduce practice effects that might otherwise arise from repeated exposure to the same topic.

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Language background questionnaire. A language background questionnaire will be administered to all participants to confirm their bilingual type classification. The questionnaire will cover age of first regular exposure to English, language(s) used at home, in kindergarten and primary school, and in daily social interactions, as well as self-rated proficiency in Cantonese and English across listening, speaking, reading, and writing.

Error classification framework. Cohesion errors will be classified into four specific types that have often been found in earlier studies on Hong Kong students' English writing: (1) additive conjunction errors, (2) contrastive conjunction errors, (3) connective-combination errors (e.g., although...but), and (4) sentence-initial connective errors.

1.Additive conjunction errors (e.g., overuse of "besides, moreover, furthermore"): documented by Field as a typical pattern of Hong Kong student writing, showing a "piling on" of additive devices [7].

2.Contrastive conjunction errors (e.g., misuse of "on the other hand, however, but"): examined by Field & Yip and Crewe, where contrastive markers are often used without real contrast [4, 8].

3.Connective-combination errors (e.g., "although...but" co-occurrence): come from Cantonese syntax, which allows two conjunctions together, as documented by Field & Yip and Chan [4, 6].

4.Sentence-initial connective errors (e.g., fixed placement of "however, therefore, moreover" at the start of a sentence): identified by Field & Yip as a syntactic position transfer from Cantonese, where connectives are almost always placed at the beginning of clauses [4].

These four error types will be coded separately to see if simultaneous and sequential bilinguals show different patterns in specific CLI-related cohesion errors (RQ2).

Instructional materials for the intervention. The intervention will include explicit instruction on the four categories of conjunctive cohesion (additive, adversative, causal, and temporal), with clear explanations of their meanings and appropriate usage, guided practice exercises that focus on finding and fixing the targeted error patterns (e.g., misuse of "besides" as an additive, erroneous co-occurrence of "although…but", fixed sentence-initial placement of connectives, and overuse of additive devices), example essays with marked cohesive devices and error correction tasks, and feedback sheets that explain common errors and their origins from Cantonese.

The intervention will run over four weeks, with one 45-minute class per week. Each class will focus on one certain error pattern and will include explicit instruction, guided practice, and feedback.

4.3. Procedure

This experiment will use a three-group pre-test/post-test design. All three groups will take the pre-test, but only the two sequential groups (intervention and comparison) will take the post-test. In the pre-test phase, all three groups will complete a 45-minute timed argumentative writing task in their usual classroom. The writing prompt will be taken from Field & Yip: "Do the pressures of living in a big city outweigh the pleasures [4]?" Participants will be instructed to write an essay of about 250 words without dictionaries or reference materials

Following the pre-test, the sequential intervention group will receive a one-month instructional intervention on cohesive devices. The intervention will include explicit instruction, guided practice, and feedback sessions. The simultaneous group and the sequential comparison group will not receive the intervention.

In the post-test phase, immediately after the intervention, the two sequential groups will complete a second writing task on the post-test prompt, adopted from Zhang: "The Importance of Planting Trees [5]," under the same timed conditions. This design allows pre-test data from all three groups to

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address RQ1 and RQ2 (bilingual type differences), while the pre-test/post-test comparison between the intervention and comparison groups addresses RQ3 (the effect of explicit instruction). All essays will be anonymised and coded prior to analysis to ensure rater blindness.

4.4. Data analysis

Frequency and types of Cantonese-influenced cohesive errors will serve as the primary measurements.Each instance will be identified and classified by trained raters into four specific types: (1) additive conjunction errors, (2) contrastive conjunction errors, (3) connective-combination errors (e.g., although...but), and (4) sentence-initial connective errors. Inter-rater reliability will be established using Cohen's Kappa (target$\kappa > 0.80$) on approximately 20% of the essays, with discrepancies resolved through discussion or adjudication by a third rater; unresolved cases will be excluded from the final CLI analysis.

Error frequencies will be normalised per 100 words to control for differences in essay length. Three sets of analyses will be conducted to address the three research questions. For RQ1, independent samples t-tests will compare the simultaneous group with the combined sequential groups on total CLI-related cohesion errors per 100 words. For RQ2, separate independent-samples t-tests will compare the two groups on each of the four error types, with Bonferroni correction applied across the four comparisons. For RQ3, a 2×2 mixed-design ANOVA will be conducted with Group (intervention vs. comparison) as the between-subjects factor and Time (pre-test vs. post-test) as the within-subjects factor; a significant Group×Time interaction would indicate that the change in error frequency differs between the two groups, with follow-up simple main effects analyses and Bonferroni correction. Effect sizes (partial$\eta^2$for ANOVA and Cohen's d for t-tests) will be reported for all significant results.

5. Expected results and conclusion

If sequential bilinguals produce significantly more Cantonese-influenced cohesive errors than simultaneous bilinguals (RQ1), this would be consistent with the interpretation that sequential bilinguals exhibit stronger cross-linguistic influence at the cohesive level.

If the two bilingual groups show different patterns across the four specific error types (RQ2), this would suggest that CLI effects are not uniform across all error categories; some patterns may be more strongly associated with sequential bilingualism than others.

If the sequential intervention group shows a significantly greater reduction in error frequency from pre-test to post-test compared to the sequential comparison group (RQ3), this would be consistent with the claim that explicit instruction can help reduce error patterns that reflect Cantonese cross-linguistic influence, although residual errors may persist.

6. Significance and limitations

6.1. Significance

This study makes several contributions to the field. Theoretically, it adds bilingual type as a new variable in research on L2 writing cohesion, broadening the scope of cohesion studies beyond the traditional ESL learner framework. By comparing simultaneous and sequential bilinguals, the study enables a better understanding of how different acquisition histories may relate to different patterns of cross-linguistic influence in writing. Pedagogically, if sequential bilinguals do show more obvious

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cohesion errors caused by cross-linguistic influence, and if instructional intervention proves to be effective, then our findings would offer empirical grounds for designing and implementing tailored teaching strategies in Hong Kong secondary schools.

6.2. Limitations

Several limitations should be acknowledged. First, the sample is limited to Form 6 students from one or two Hong Kong secondary schools, so it may not represent the broader population. Second, the study only focuses on argumentative writing; findings may not apply to other genres. Third, the one-month intervention is quite short; long-term effects cannot be confirmed. Fourth, the study relies on written work rather than process data, so it does not show the cognitive processes behind learners' cohesive choices. Fifth, although the coding criteria are designed to identify CLI-related errors, it is still hard to avoid unclear grouping. Future research could deal with these limitations by including a wider range of participants, examining multiple genres, extending the intervention period, and using think-aloud methods to tract the process.

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