



Examining the Effect of Immersion Education on Article Acquisition for Chinese Learners of English

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ABSTRACT. This article is trying to study about article acquisition, for bilingual students under the circumstances of immersive education. The purpose of the study is to find out if the immersive environment of language education will either cause a positive impact on language acquisition. In this study, a public survey is provided to a number of bilingual Chinese students in both America and China, aged around 18 and have experienced immersive education of English. The survey consisted of 2 parts, the first half studies about the participants' experience over immersive education of English, and the second half provides some questions about article usage. The study tries to relate the experience of immersive study with the ability of using articles properly in English. This study is closely connected to language acquisition, which could be helpful if a positive result towards relationship between immersive education over language and language using skills could be drawn.

Keywords: Immersive Education, Universal Grammar, Article Acquisition, Bilingualism

1 Introduction

The article is a linguistic property that describes the type of words precede noun or noun phrases to indicate the whether the reference's entity [1]. Studies have revealed that learning articles in a second language (L2) with an article-less first language (L1) background can be a challenge [2]. A previous study conducted by Cho examines L1 Korean Speakers' Acquisition of English Definiteness using an acceptability judgement task. Cho's study reveals novel and illuminating conceptual issues that suggest new avenues for future research on the acquisition of definiteness [3]. The present study expands the investigation of second-language learners' acquisition of English definiteness to Mandarin Chinese, a language with no articles. Additionally, whether the learning environment will play a role in definiteness acquisition will be investigated specifically from the aspect of Immersion Learning. This work advances pedagogical approaches by illuminating ways to improve language learning outcomes, specifically in article acquisition for Chinese learners of English.

1.1 Immersion Education

Language immersion, or simply immersion, is a bilingual language education technique in which two languages are used for instruction in a variety of subjects [4]. Though the pedagogical method of immersing students in a second language instructional setting has been commonly used for a long period of time, research specifically looking at the immersion education with a long-term evaluation starts from a study conducted in Canada at the end of the 19th century [5]. These pioneering programs, where English-speaking students were put into schools using French as a medium of instruction, were being recognized as the initial definition of the term “Immersion education” [6]. The current understanding towards Immersion Education has now been expanded from looking at the specific study first conducted in Canada by Cummins to the unique approach in language learning that provides language learner a foreign language setting, whether this learning behavior happens inside or outside classroom. This learning strategy has also been adopted with new technologies and teaching methodologies as time progresses. In addition, parallel to linguistic immersion environment, such approach of education was also employed in the field of music teaching, proposed by Japanese violinist and pedagogue Shinichi Suzuki, aiming to bring out children’s full musical talent [7,8].

1.2 Universal Grammar

How does L1 and L2 influence each other has been commonly discussed in the field of linguistics, psychology, and education. A shared assumption on the parallels between L1 and L2 acquisition is that the parallels can be of great importance for the general human language system [2]. By adopting the Universal Grammar theory and its transition to another language, Ko et al. hypothesized that if the L2 learners have full access to semantic Universal Grammar, there will be no difference in learning articles for learners with or without an article-less L1. The basic postulate of Universal Grammar (UG) is that there are innate constraints on what the grammar of a possible human language could be. When linguistic stimuli are received in the course of language acquisition, children then adopt specific syntactic rules that conform to UG [9,10]. Here, whether there is full access to Universal Grammar can be investigated by comparing the common errors made by native speakers and foreign language learners. If the L1 learners are producing similar errors which the L2 learners with various backgrounds also produce, we can conclude that there is no L1-L2 parallel in performance. And the comparison thus supports all language learners are at the same starting point and have similar portions of biological advantages in talent while learning a new language. Inversely, if the L1 language transfer to L2 with partial access to Universal Grammar in L2 acquisition, speakers of article-less L1 will have a greater chance to misinterpret definite description as demonstrative descriptions.

1.3 Article Acquisition

In English, different types of definiteness are distinguished through articles but not distinguishing noun phrases (NP). Thus, there will be two possible feature combinations [+definite, +anaphoric] and [+definite, -anaphoric]. While in article-less languages like Korean and Mandarin Chinese, demonstrative phrases can perform all or some function of definite articles. A previous study conducted by Jacee Cho explained how Korean learners of English understand different types of articles in English differently [3]. Cho pointed out that even at an advanced level, article-less L1 learners continually omit or misuse articles. While Korean and Chinese are both languages with no indefinite articles, we would like to further adapt Cho's study to investigate the acquisition of articles for Chinese learners of English, specifically looking at the population with immersive learning experiences.

In Cho's Research, definite NPs are classified into four categories as shown in Figure 1: Direct anaphoric definites appear in a typical anaphoric context in which new referents are presented as indefinite NPs and assume the form of definite NPs in the second mention, as in (13). The second category, taxonomy anaphoric definites, is identical to the first but does not refer to the same noun phrase. As being seen here, the anaphoric NP and the antecedent are not identical but having relatively tight lexical relationship (14). Anaphoric bridging definites are a kind of anaphoric definites whose antecedents are implied by their meaning. The play is not referenced earlier and has no specific antecedent in clause (15). However, the "play" refers to the previously unmentioned direct object. The noun "ring" in (16) has neither an explicit nor an implicit antecedent. Its definitive interpretation is supported by evidence and common understanding. Cho's work refers to this sort of definite NP as non-anaphoric bridging definites [3].

- (13) Anaphoric definite NPs (same head noun antecedent)
Harold got a microwave for Christmas. He put the microwave next to his new toaster.
- (14) Taxonomic anaphoric definite NPs (lexically associated antecedents)
Howard wrote a book. He sent the novel to three publishers already.
- (15) Anaphoric bridging NPs (implicit antecedents)
Hillary was performing for the first time. So, her parents attended the play.
- (16) Non-anaphoric bridging definite NP (situational uniqueness)
Brad just proposed. His fiancée accepted the ring happily.

Fig. 1. Sample questions for NP identifying [3]

1.4 Proposed Study

The purpose - the broad question - of our research is to find out the effect of learning in an immersive environment on Chinese learners of English. The specific question is whether the length of time spend in a foreign language context influences the Chinese learners' accuracy in using English articles.

The study may conclude that immersion in a foreign language has no effect on the capacity of language learners to acquire articles, independent of their exposure to English. Or alternatively, the immersion learning of article language English exhibits correlation on the learner's accuracy in using English definite articles. These potential results can be of tremendous significance because they provide fresh insights into how teaching methods can be modified to improve learning outcomes in Chinese English learners' article acquisition.

2 Methods

2.1 Participants and Procedures

The participants in the study will be 50 undergraduate students in China and 50 undergraduate students in the USA to keep a relatively similar standard level. All participants' native language will be Chinese only, but also should have experienced immersive education of English to some extent. All participants will be required to finish a questionnaire with two parts. The first half of the questionnaire will include questions about the participants' immersive learning background, while the second half of the questionnaire will consist of questions related to English article using proficiency.

2.2 Method and Design

The first half of the test will include 10 questions, which will ask for the participant's background of immersive environment learning of English, such as time spent in an English-only environment each day and the conditions of it. One possible factor might be whether the participants were taught by native English speakers or not; another factor could be other exposures to English based media, such as TV series, English-based novels, or English songs. The second half of the test will include 40 questions (20 targets, 10 controls, 10 fillers), while the target questions will refer to Cho's study, namely direct anaphoric definite ($n=5$), taxonomic anaphoric definite ($n=5$), anaphoric bridging definite ($n=5$), and nonanaphoric bridging definite ($n=5$) [3].

All participants will be provided with 2 sentences and asked to what extent these two sentences are related. As this being an online survey, a four-point scale and an "I don't know" option is provided as possible answers to the questions and will be given in the form of multiple-choice questions. The four-point scale was designed to evaluate the acceptability of the two sentences, while choosing a 4 means the two sentences are totally acceptable to be considered as related and choosing a 1 means these two are totally unacceptable (3 means to some extent acceptable and 2 means to some extent unacceptable). As 1 and 2 are chosen as answers, the participants are encouraged to

make some comment as an explanation of the answer. Figure 2 demonstrates four samples of each type of condition.

1) Direct anaphoric definite condition:

a. Carl and Lewis went to see a movie yesterday. Later they talked about the movie for a week.

b. There's a new movie in the cinema now. *Scarlett is going to see a movie this weekend.

2) Taxonomic anaphoric definite condition:

a. I bought some fruits yesterday. The fruit store sent the apples to my house this morning.

b. Bricks stored some fruits in his fridge. *Claire doesn't like to eat apples very much.

3) Anaphoric bridging definite condition:

a. Carmen was watching a show last night. She found the show very entertaining.

b. Lily was listening to a song on her way home. *She found a song that's attractive to her.

4) Nonanaphoric bridging definite condition:

a. Cooper is cleaning his bedroom. He's making up the bed now.

b. Irving walked into the canteen. *He asked for a waiter to order his meal.

Fig. 2. Sample questions for NP distinguish (Self-graphed)

In target questions, the use of “the” shall be considered as appropriate, while the use of “a” is inappropriate. But in the control group, the use of “the” and “a” will be counter-balanced, while use of “the” will be inappropriate and use of “a” will be appropriate. (See Figure 3) Filler questions will be included to distract participants from article use.

(5) a. Kristen is moving to a new city. She is looking for a new apartment to live in there.

b. Adonis is so thirsty after a football match. *He wants to get the bottle of water.

Fig. 3. Sample counter-examples for NP distinguish (Self-graphed)

3 Results

The survey will generate differences in time spent in English immersive environment and the overall accuracy of the 4-type article usage. The anticipated possible patterns of findings are shown below.

3.1 Possible Pattern of Finding 1 (PPF 1)

Participants who experience longer immersive second-language learning time perform with higher accuracy in using English articles. There is a significant positive correlation between accuracy in English article usage and immersive English learning time: the longer they are exposed to pure English content, the more precise they will be when using articles in English (as shown in Figure 4). This could be proof of the benefit of English immersive environment for Chinese learners, which verifies the alternative we identified above. Chinese learners can learn English articles better when immersed in an English-only environment.

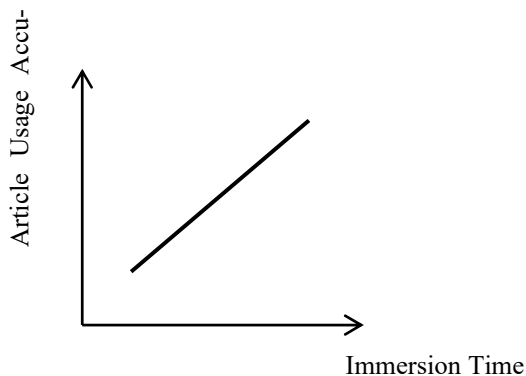


Fig. 4. PPF 1 (Self-graphed)

3.2 Possible Pattern of Finding 2 (PPF 2)

Participants who experience longer immersive second-language learning time show no difference in accuracy in English article usage, compared with those who experience shorter time. There is no significant correlation between accuracy in English article usage and immersive English learning time: participants with longer time exposed to pure English content do not necessarily perform better when using English articles but are at almost the same level compared to those with shorter time (as shown in Figure 5). This finding shows that immersive English environment may not be greatly helpful for Chinese learners. With or without it, the outcomes will have almost no disparity.

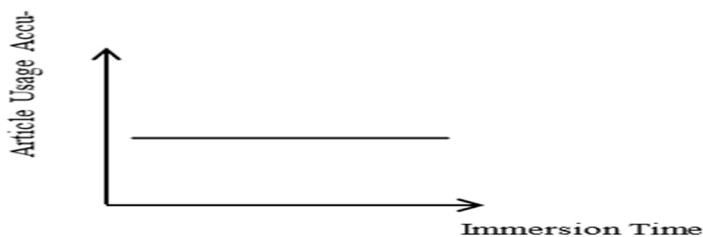


Fig. 5. PPF 2 (Self-graphed)

3.3 Possible Pattern of Finding 3 (PPF 3)

Participants who experience longer immersive second-language learning time do perform with higher accuracy in using English articles at first. Such trend could continue for a certain period of time. There is a significant positive correlation between the two variables during this interval, which is of the similar pattern as that of PPF 1. The length of time experiencing such trend could vary, therefore it is necessary to replicate this research process and obtain multiple results in order to get a convinced conclusion. However, after experiencing a turning - whether it is a smooth one or a sharp one - the whole pattern began to level off, resembling to that of PPF 2: the time spent in immersive learning environment no longer affects corresponding accuracy of English article usage after that certain amount of time (as shown in Figure 6). This pattern of finding could be proof of the benefit of English immersive environment for Chinese learners to some extent. Nevertheless, such finding also presents a limit for the immersion learning methods, that is, English immersion education could be useful for a while, but not always. After a potential time interval, this approach of learning may do no help as well. If so, the determination of that turning point would be of great importance. This research may also generate other patterns of finding that are not listed here if it is indeed conducted.

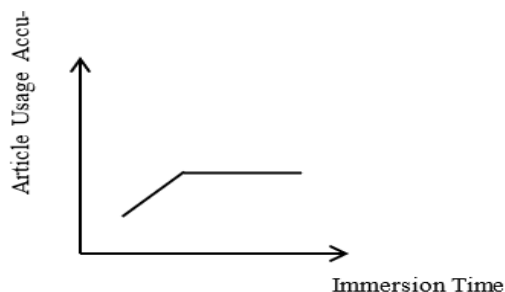


Fig. 6. PPF 3 (Self-graphed)

4 Conclusion

There are still some noticeable deficiencies in the proposed study. Such limitations include personal preferences and age. Some people may prefer to use more 'the' than regular 'a' to refer to an object, not because they do not have good command of article usage, but because it's simply their habit. This research has certainly not included all age groups, which may generate some bias. Also, since some of the data the research collected are based on self-report, the result may not be perfectly accurate due to mis-reporting. Furthermore, this paper only examines the effect of the time of immersive education on English article usage, without reversing the two variables and examining the effect of the latter on the former. The group of study recommend future researchers studying this topic to re-examine the correlation between the time spent in immersive learning environment and the accuracy of English article usage in the way this research does not, in order to attain a relatively complete understanding of this educational

method. This study is just a tiny portion of Bilingualism. The research group only focus on Chinese learners in an English immersive environment, and the subject of learning is confined to English articles. Therefore, future research could explore further either on this very topic or other topics studying various languages and learning subjects, which may lead to an overall conclusion on the effect of immersive second-language learning. This research aims to successfully combine second-language immersion with educational methods, which could also be employed by further studies. Once the immersion learning for second language acquisition proved to be effective, it could be promoted to more teachers and students so that they can both achieve their goals efficiently. Such educational approaches could also lead to further exploration of Bilingualism.

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All authors contributed equally to this work and should be considered co-first authors.

6 References

1. Master, Peter. (1997) The English article system: Acquisition, function, and pedagogy. *System*, 25 (2): 215-232.
2. Ko, H., Ionin, T., Wexler, K. (2010). The role of presuppositionality in the Second language acquisition of English articles. *Linguistic Inquiry*, 41(2): 213–254.
3. Cho, J. (2016). The acquisition of different types of definite noun phrases in L2-english. *International Journal of Bilingualism*, 21(3): 367–382.
4. Nanchen, Giliane. (2017) Second language performances in elderly bilinguals and individuals with dementia: The role of L2 immersion. *Journal of Neurolinguistics*, 43: 49-58.
5. Tedick, D. J., Johnson, R. K., Swain, M. (1997). Immersion Education: International perspectives. *The Modern Language Journal*, 82(4): 585.
6. Cummins, J. (1998). Immersion education for the millennium: What have we learned from 30 years of research on second language immersion?. In: *Second Katoh Gakuen International Symposium on Immersion and Bilingual Education*. Numazu. pp. 34–47.
7. Thibeault, M. D. (2018) Learning with Sound Recordings: A History of Suzuki's Mediated Pedagogy. *Journal of Research in Music Education*, 66(1): 6-30.
8. Suzuki, S. (1968) *Nurtured By Love: A New Approach to Talent Education*. Warner bros. Publication, Miami.
9. Chomsky, N. (1965) *Aspects of the Theory of Syntax*. MIT Press, Cambridge.
10. Chomsky, N. (2010) Tool Module: Chomsky's Universal Grammar. https://the-brain.mcgill.ca/flash/capsules/outil_rouge06.html.

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