



Backwards Cross-Linguistic-Influence (CLA): A Reverse Impact from L3 to L2 the CASE of English(L2) and Arabic(L3) Lexical Delay

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Abstract. In this article, an experiment testing the lexical delay in L2 through the L3 acquisition (taking English as L2 and Arabic as L3) will be introduced. A quantitative method will be conducted to measure if there is a lexical delay in English after learning Arabic after a year. Also, some adjustment of the test will be made to better apply to the experiment. All the participants will do a test twice (before Arabic acquisition and after a year of learning Arabic) and a control group will be set up to make the contrastive analysis. Afterwards, we will see if there is a delay and what kind of the delay is. This experiment, though highly preliminary, attempts to get a deeper insight into this filed.

Keywords: cross-linguistic-influence, multilingualism, code-switching.

1 Introduction

Currently speaking, the third language acquisition has been increasingly popular with the ever-rapid development of economic globalization, along with the world ethnic integration. In the field of cross-linguistic-influence (CLA), the interaction between L1 and L2 has been widely theorized and studied, with relatively a small quantity of research focusing on the multilingual interaction. Moreover, some scholars consider the L3 acquisition as a complete expansion or copy of L2 acquisition, which is not appropriate. While in the study of multilingualism, the impact from L2 to L3 is more stressed, because the process of third language acquisition is easily affected due to the diversity of L2. According the previous research, it is widely accepted that psychotypology (a critical factor in determining the transferability of items across languages) and L2 status are the main sources for interlanguage transfer in the aspects of lexicon and morphology, with other factors, including recentness of learning/use, proficiency levels of non-primary languages playing a big role in the L3 acquisition [1]. While what is easily neglected is that due to the lability of L2 (compared with L1), the interaction between L2 and L3 will possibly be more dynamic, thus the reverse impact from L3 to L2 deserves more attention as well. In this research, LexTALE (a quick and valid lexical test for advanced learners of English) will be conducted [2].

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M. F. b. Sedon et al. (eds.), *Proceedings of the 2024 3rd International Conference on Social Sciences and Humanities and Arts (SSHA 2024)*, Advances in Social Science, Education and Humanities Research 851, https://doi.org/10.2991/978-2-38476-259-0_10

2 Literature review

According to Sanz, C, the third language acquisition should be separately studied with multilingual perspectives due to the number of variables involved and their multiple interactions, making L3 acquisition a highly complex phenomenon [3]. This perspective put great emphasis on the CLI in a multilingual context, making third language acquisition an independent domain instead of an expansion of second language acquisition (SLA). According to V.J. Cook, the interaction of languages may have a passive impact, which he called multicompetence [4]. In his research, he found there is a main center in one person's linguistic system, which he named "black box". All the linguistic input comes to this black box before analysis. So languages in one brain are not separate, and they belong to one linguistic system, which indicates that interactions between them are possibly common. Later, he develops a multicompetence model in which he describes the language learning as a continuous integration—from separation to interconnection and ultimately comes to integration. One lexical system for multiple languages and competence between languages indicates that L2 lexicon seems not to be stable to some extent through the process of L3 acquisition. Besides, it is generally accepted that code-switching plays an important role in the language output. According to AM Proverbio, the language performance suffers when switching between languages is indispensable [5]. Moreno has studied the mechanisms of code switching through an ERP study, finding that the change to an item translated in a language different from that being processed (called "code switching") was less costly than the change to an unexpected word within the same language [6]. Some previous studies also confirmed that interference effects from language changes also exist lexically. Bilinguals and multilinguals are relatively difficult to recognize words in one language when these were immediately preceded by words from another language (the "basic language priming" effect), suggesting that switching languages influences word recognition processes [7].

In a recent study conducted by King Tat Daniel Fung and Victoria A. Murphy, a quantitative test was carried out, measuring whether learning a new language (French) has an impact on the old language (English) [8]. Two groups of people are included. Participants in the first group use French as L2 and English as L1 (n=21), and people in the other group use French as L3 and English as L2 (n=9). Grammatical Judgement and Proofreading was applied to evaluate the accuracy on tense-aspects of English morphology. By making contrastive analysis of the two groups, the experiment indicates that L3 learners make more errors (mainly in past simple and present perfect) compared with L2 learners. This study facilitates the development of backwards cross-linguistic influences to a large extent, since it confirms that the impact from a new language to an old language may differ due to the number of languages. The backwards CLI from L2 to L1 and from L3 to L2 should be studied separately. Although the significance of viewing L3 acquisition separately has been widely accepted by people, research on cross-linguistic influences in multilingualism is limited. Most of the CLI studies focus on the bilingual context. When it comes to multilingualism, the impact from L1/L2 to L3 captures more attention. The study of reverse impact from L3 to L2 is in the emerging stage, while more and more people are using more than two languages. To bridge

the gap, more experiments should be done to explore whether other factors influence this interaction, such as language distance, proficiency in each language, individual differences, and language environment. It is hoped that people can make new progress in this field soon.

3 Research questions

1. Does learning L3 facilitate or impede L2 lexically? To what extent does this phenomenon is?
2. If there is a lexical delay in L2 through the learning process of L3? How severe the problem is?

4 Methodology

4.1 A bird's review

In this study, a quantitative experiment will be conducted to test L2 lexicon and responding time, using LexTale to evaluate their performance twice (before and after L3 acquisition), along with a qualitative method (questionnaire) as a plus to see the lexical change in L2 and the interference between the two languages.

4.2 Sampling frame

20 participants (10 male and 10 female) who are going to begin their Arabic acquisition will be randomly chosen in Beijing Foreign Studies University (BFSU). In the process of selecting participants, people who are going to learn a new language (except Arabic) and who do not use English as L2 will be excluded. Besides, people who have an English environment outside of the university and prepare intentionally for English test (IELTS or TOFEL) will be ruled out. And I will set up a control group which consists of 20 participants who also intend to begin their college life in BFSU while do not take any language as a major. Similarly, exclude those who have the intention to begin their L3 acquisition in spare time and those who have an English environment or intentionally enhance their English proficiency to a large extent. Before learning Arabic, participants completed a vocabulary test (LexTALE) to assess their current vocabulary level and reaction time. In the original language test, there was no time limit or record for each vocabulary question, so to better evaluate the response time, I will record the time for participants to answer each question based on the original test question. After completing this test, the participants began to learn Arabic and completed a follow-up test every other month. The return visit test consists of a questionnaire that evaluates learners' self-perception of their language level during the Arabic-learning phase. In this process, I also need to ensure that the participants do not engage in other language learning activities and that their language environment remains relatively stable. A year after learning Arabic, participants were given a second vocabulary test, which also

recorded their vocabulary level and reaction time, collected data, and processed it to draw conclusions.

4.3 Why English and Arabic?

Before starting each experiment, researchers need to have a clear understanding of their situation and available resources for the experiment to be viable. At present, most of the trilingual learners I can contact are such students, to better recruit participants. In addition, previous research has shown that the linguistic distance between English and Arabic is relatively distant [9], so the possibility of "harmony" between the two languages may be less, in other words, the interaction between English and Arabic (especially in the negative aspects) may be more obvious. I speculated that the choice of these two languages might have made the data differences more obvious, and thus the experimental results more accurate.

4.4 Why this college (BFSU) and why all the participants come from here?

This university is a relatively representative language university in China. Initially, BFSU has a high requirement for students' English level, and most of the students who enter here have an English level above the average level, so they can better adapt to the vocabulary test (LexTALE). And students who study Arabic here are assured of adequate and sustained Arabic input and effective trilingual acquisition. In addition, BFSU has non-language majors, and students in these majors take the same English courses as students in language majors. Therefore, the English input of all participants could remain relatively similar during the year, to minimize the influence of different English inputs on the experimental results.

4.5 Why LexTALE?

LexTALE a short test designed to test English vocabulary and proficiency. In previous experiment, this test has proved to be valid [10]. LexTALE consisted of 60 yes/no items (40 words, 20 nonwords) selected from the 240 items of an unpublished vocabulary size test (called "10 K") [11]. This test is suitable for this experiment because of its short time and strong effectiveness. Taking the test too long may tire the participants' brains and affect their reaction times, which in turn affects the results.

5 Procedure

1. Ensure reliable ethical approval is obtained before the entire experiment begins.

2. Pilot test is not indispensable. The test and questionnaire will be tested on five people (from the same background as the participants) before the formal experiment begins to test whether this form of vocabulary test is suitable for the participants and whether the questionnaire content is reasonable. If problems arise, the experimental method will be optimized or changed.

3. Do the pre-test online (5 min). 40 participants will take the test over two days. Participants will have no time limit to complete the 60 vocabulary questions, but the answers to each question will be recorded.

4. Track their language learning process by questionnaire. (once a month)

5. Do the post-test after a year

6. Analyze the data

At present, there are mainly three ways to analyze the results of this test, and I choose the one with more comprehensive evaluation method and more accurate data analysis—ISDT [12]. Through this analysis method, and after comparing with the control group, the direct feedback on the change of English vocabulary can be obtained after comparing and analyzing the experimental results before and after learning Arabic. After the two tests, data were collected on the reaction time of correct answers respectively, and the average reaction time was calculated. If the reaction time of the experimental group increased while that of the control group was relatively stable, it indicated that the phenomenon of language delay of L2 vocabulary may exist in the process of trilingual acquisition. The above analysis method is the main method of this experiment. The questionnaire was conducted to track the participants' language behavior to ensure that they did not have any other special language learning, and to record the participants' self-perception of the changes in their second language level during the process of trilingual acquisition. This self-perception may not be completely accurate, because there are many factors that affect language, and the participants' mood in the initial stage of language learning may also affect their assessment of the real second language level. However, if plenty of people report that their feelings about the change in second language level are obvious, it may indicate that this is a potential problem, and more experiments may be needed, and the data from this experiment will hopefully provide some subtle help for future experiments.

6 Conclusion

If the experimental group had a significant increase in lexical response time while the control group had a similar response time as a year ago, that means backwards cross-linguistic-influence (CLA), which is a reverse impact from L3 to L2 exists and it is reflected in the second language lexical delay. If not, this means that trilingual learning does not affect the response time of second language vocabulary. This research uses a combination of quantitative and qualitative analysis to assess changes in L2 vocabulary after learning Arabic as a trilingual. If all goes well, some new aspects of reverse language influence will be better understood.

I am learning Arabic as a trilingual, and the original intention of this study is derived from my personal experience and practical observation. At BFSU, 101 languages are taught, and many students who are learning a third language have reported to me that they also face the problem of deteriorating English vocabulary. What's more, before trilingual acquisition, many people regard trilingual as an independent language system, that is, after learning trilingual, the level of the mother tongue and the second language is the same as before. As a result, when learners find that a certain degree of

degradation has occurred in the second language, it is too late to do anything to compensate. Through this study, I sincerely hope that more people will be aware of a series of additional influences that trilingual learning may bring, to adjust their learning methods and strive to develop more scientific learning strategy in the learning process, to further improve the efficiency and effect of language learning.

In this experiment, there are still many confounding factors that are not eliminated, such as previous English level, differences in time and energy spent on Arabic, personal differences and so on. In addition, the participants were inevitably exposed to different English inputs over the course of the year, and each person's memory was different, and the experiment did not consider natural forgetting. This experiment focuses on 18-year-olds who are about to start learning Arabic as a major. However, the age distribution of language learners is quite wide, and the purpose of language learning is not the same. Differences in age, time and energy invested in trilingual learning, and different stages of trilingual learning may lead to changes in the interaction between languages. In addition, the type of language may also affect the outcome of cross linguistic influence. This experiment only selected a small part of the population, which may lack some representativeness. Despite these shortcomings, I still hope that this experiment can bring some new help to the academic research.

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