

Relationship between proximal interaction and self-rated motivation among Chinese heritage language learners in the U.S. University¹.

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Abstract

This study aims at investigating the relationship between proximal interactions and self-rated motivation among Chinese heritage speakers (CHS) in U.S. universities. Proximal interaction refers to the interactions between the individual and its immediate environments – classroom, family, community and media. It analyses the relationship between self-rated motivation and each proximal interaction, as well as the mediating effect of proximal interaction on personal characteristics and contextual factors. Results of this study will help accumulate knowledge for understanding CHS' level of motivations in relation to the environmental interactions.

Keywords: Chinese heritage language learners, motivation, proximal interaction.

Introduction

Heritage language education has drawn much attention in the United States. Demographic changes in the US, and the increase in economic opportunities in China have generated great interest in learning Chinese as both a heritage and a foreign language. According to the 2000 US Census², only 0.04% of all people who spoke a language other than English at home are Chinese. By 2011³ the number had risen to 4.8%, which makes Chinese the second-largest minority language in the US, after Spanish.

The National Security Language Initiative of January 5, 2006 is designed to dramatically increase the number of Americans who can speak critical-need foreign languages such as Arabic, Chinese, Russian, and Hindi. More students through K-16 are starting to learn Chinese, including Chinese heritage speakers. China's rising economy has persuaded more students who are not heritage speakers to make Chinese their second language. As there are more and more trading between the US and China, and people who speak both

¹ This paper originates from the study for my M.A. thesis, which was advised by Professor Wei Hong.

² US Census Bureau. Language use and English-speaking ability: 2000.

³ US Census Bureau. Language use in the United States: 2011.

English and Chinese exhibit a higher competence in business than other people by their linguistic abilities in communicating with people in these two different countries with different cultures.

Even though the number of heritage students is increasing, the learning environment and thus the learning outcome is not optimistic in several aspects. As Jia, Aaronson and Wu (2002) observed, as heritage language speaking children became young adults, the overwhelming majority of them have English as their dominant language but lose whatever proficiency in their heritage language they had had. Due to the lack of certified teachers, teaching materials, and funding, not all schools with foreign language programs will have courses designed for heritage students. Learning in the same classroom with the students who are learning Chinese as a foreign language, heritage speakers have advantages in listening and speaking, but L2 learners do better with tasks that tap into metalinguistic knowledge (Bowles, 2011; Montrul, 2011). These shortcomings could interfere with the language learning of both groups. Wen (1997) has suggested that universities in the United States cannot retain language students who are trying to learn languages such as Chinese and Japanese. Foreign language classes have been designed for foreign language learners, not for heritage language speakers who have different needs.

In order to understand why heritage speakers continue or do not continue learning their heritage language, researchers must identify the predictors of their learning motivation. According to Gardner (1985), Dörnyei (1990) and Noels (2005), greater motivation produces a greater likelihood of attaining high levels of L2 proficiency even when learning a difficult language such as Chinese. Krashen's (1982) concept of the affective filter signified the importance of motivation. Highly motivated learners are better equipped for success in second language acquisition. Conversely, low motivation, low self-esteem, and anxiety can prevent the learner's receipt of exterior language input and thus no learning takes place. Therefore, it is essential to investigate learners' motivation to promote long-term learning of Chinese as a heritage language.

Theoretical background

The term bioecology, originally socioecology, was proposed as a model for the study of human developmental behaviors or processes by Bronfenbrenner (1979). Instead of considering language learning as a skill comparable to riding a bike, language learning could be seen as a part of a developmental process. Heritage language learners are not only learning this language for a utilitarian reasons, in order to understand their own culture, identity and to develop their bilingualism and biculturalism.

Bronfenbrenner initially described the environment as a set of interacting structures, which could be identified as the microsystem, mesosystem, exosystem, and the macrosystem, and thereby provide a holistic framework for identifying potential influences on human behavior. L2 motivation (why people are learning the language) could be understood through the social ecosystem. The learner has the closest contact with the microsystem: family, peers, school, and community. The social contextual

factors at the microsystem level are similar to Dörnyei's (1990) situational factors. The mesosystem connects the structures in the microsystem, for example, between the learner's system and the family. The exosystem is a larger social system than immediate social context and the language learner does not have direct involvement with it. Examples are the workplace language environment of the learner's parents and other family social networks. The macrosystem consists of cultural values, customs, and laws. It includes what linguists describe as language ideology, which are the rules or laws that govern language like the promotion of the critical language learning.

Bronfenbrenner has revised and reassessed his socioecological model. He argues that in contrast to accepting their contextual influences, people interact with them. The Process-Person-Context-Time model (PPCT) has become the foundation of his mature theory (Bronfenbrenner, 2005; Bronfenbrenner & Evans, 2000; Bronfenbrenner & Morris, 2006). Process consists of the individual's activities and interactions with the environment, such as child-child activities, father-child interaction, and reading. The term person comprises biological and genetic aspects such as age, gender, parents' education and psychological characteristics. The last element is time, which evaluates any change in behavior. The key elements and their properties of the bioecological model are defined in Bronfenbrenner and Ceci's (1994).

Using the bioecological model for human development, heritage language learners' motivation and continuation of learning could be explained in these dimensions. First, motivation for language learning is a type of psychological process closely related to language developmental behavior, which is formed and shaped through the interaction between the language learner and the environment. For example, interactions between the student and language classes, heritage language communities, and families, as well as the media interaction, confined to the Chinese language and culture context including music, TV programs, and internet, are the key of their learning motivation. Second, personal characteristics and environmental contexts are mediated by proximal processes or interactions. Third, time differentiates the effects of proximal process, personal characteristics, and environmental contexts. The factor of time will not be included in this study.

Objectives

The purpose of this study is to propose a theoretical framework for researching variables of motivation for language learning. It will contribute to the discussion on the motivation of Chinese heritage learners by using a new model: the bioecological model. This model encompasses previously identified factors under the umbrella of individual cognitive psychology, the contextual approach and the dynamic view. The elements of the bioecological model are process, person, context and time. As this is a cross sectional study, time is not considered here.

This study was carried out with two goals in mind: 1) to examine the relationships among various factors influencing Chinese heritage learners' motivation; and 2) to propose a new theoretical framework and test the applicability of a new theoretical model.

There are three major hypotheses in bioecological model, and the present study will focus on two: the proximal process (similar to dynamic interactions in previous studies)

increases the motivation for language learning, and that personal psychological characteristics and contextual factor are mediated by the proximal process.

Methodology

The participants in this research study are college students in the United States who have been identified as heritage students of Chinese. College students who met both of the following conditions were sent the questionnaire: 1) those who are or were enrolled in Chinese language classes; 2) those who had been exposed to Chinese (Mandarin, Cantonese, Hokkien⁴, Hakka, Shanghainese, Gan, Xiang, and Min) language and culture at home.

The questionnaire was administered through Qualtrics, a web-based survey software program. The questionnaire was distributed on November 10, 2014 and closed on December 10, 2014. Several items from the literature (Dörnyei, 1998; Gardner, 1985; Li & Lu, 2008; Comanaru & Noels, 2009) were adopted in this study, and several new questions were added. The questionnaire consisted of 42 items.

SPSS (Statistical Package for the Social Sciences) was used to analyze the data. In this study, descriptive statistics were used to give a general impression of the participants. A general linear regression was used to identify significant variables by entering proximal process factors, personal attributes, and contextual factors individually. All significant factors of proximal process were computed into a single variable representing the proximal process or proximal interaction. Lastly, the variable of proximal interaction was added to each regression model which was identified as significant from the second step. This procedure identifies the mediating effects of proximal interactions on each personal and contextual factor.

Results

37 participants started the survey and 28 completed it, yielding a response rate of 75.7%. After five incomplete surveys were excluded, information from 23 respondents was subjected to data analysis.

The age of the respondents ranged from 18 to 22 years. At the time of completing the questionnaire, 22 of the participants were enrolled in college; one participant had graduated in May 2014. Of the 23 respondents, 21.7% were freshman, 43.5% were sophomore, 21.7% were juniors, and 8.7% were seniors. They reported exposure to six Chinese dialects or languages: Mandarin, Cantonese, Hokkien, Taishanese, and Fuzhounese (figure 1). Twelve respondents (52.17%) had been exposed only to Mandarin, two respondents (8.7%) had been exposed only to Cantonese, and nine (39.13%) had been exposed to more than two. Of these nine, four had been exposed to Mandarin and Cantonese (17.4%), two had been exposed to Mandarin and Hokkien (8.7%), one had been exposed to Cantonese and Taishanese (4.3%), and two had been exposed to Mandarin, Cantonese and Fuzhounese (8.7). Most respondents (56.52%) reported language exposure from both parents and grandparent, 34.78% of the

⁴ Hokkien represents Taiwanese in the original questionnaire, which was intended to be Taiwanese Hokkien when designing the questionnaire. Often it is referred as Taiwanese, it is spoken by 70% of the population in Taiwan.

respondents reported language exposure only from one or two family members, and two reported no language exposure at home. Five of 23 respondents were not enrolled in a Chinese language class at the time of the study. Three participants stated that they did not plan to continue taking Chinese language classes, meaning that 86.96% of the respondents did plan to do so.

On a 1 to 7 scale, students' self-rated motivation is 5.61, with a standard deviation of 1.118. The majority of heritage language learners rated their motivation as relatively high; only 13% described it as neutral and somewhat low.

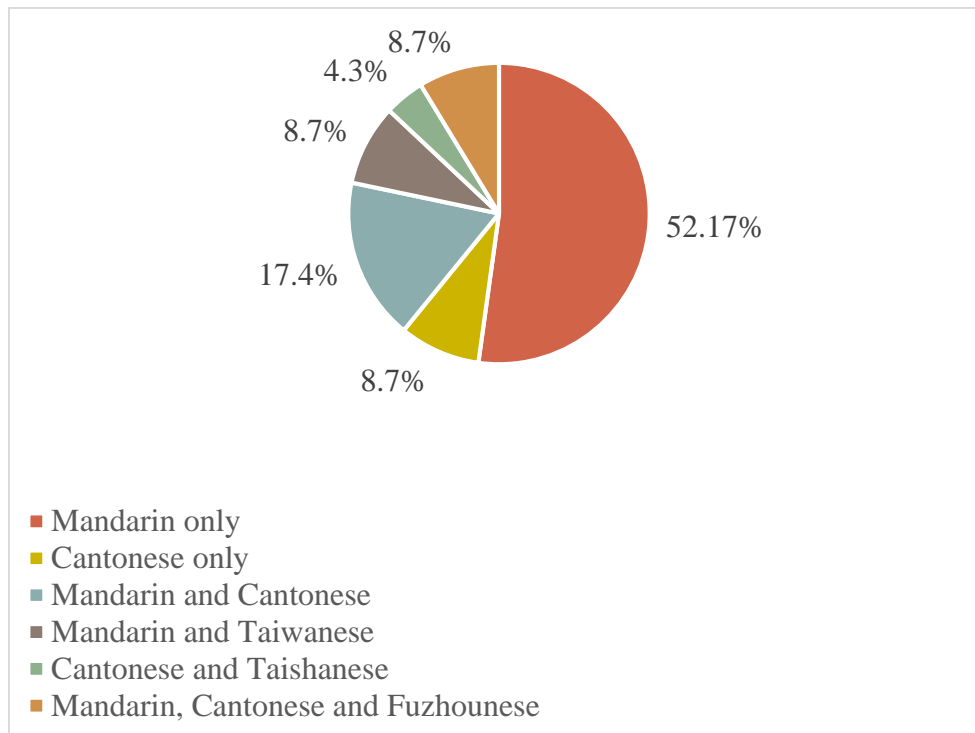


Figure 1 Types of language exposures

The results of several simple linear regressions were showed in the following. Each considers the correlation of the independent variable eliminating other intervening influences. At the confidence level of .01, ten variables are found significantly having an effect on self-rated motivation of Chinese heritage speakers: Community interaction ($\beta = .677$, $R^2 = .458$, $P = .000$), Media interaction ($\beta = .584$, $R^2 = .344$, $P = .003$), Classroom interaction ($\beta = .558$, $R^2 = .311$, $P = .006$), Self-confidence ($\beta = .558$, $R^2 = .318$, $P = .006$), Competence ($\beta = .598$, $R^2 = .358$, $P = .003$), Course-specific ($\beta = .589$, $R^2 = .374$, $P = .003$), Friends ($\beta = .643$, $R^2 = .414$, $P = .001$), online social network ($\beta = .581$, $R^2 = .337$, $P = .004$) and economy ($\beta = .427$, $R^2 = .182$, $P = .042$).

From the results of the simple linear regressions, significant factors are kept for further analysis. Three interaction factors will be computed into the single variable of proximal interaction ($\beta = .741$, $R^2 = .549$, $P = .000$) representing respondents' interactions with their proximal environments. The mediation effects of proximal interactions on the prediction of self-rated motivation by two significant personal attributes and three significant contextual factors are examined.

The statistical results show the regressions of competence and proximal interactions, course-specific and proximal interactions, friends and proximal interactions, social network and proximal interactions, and economy and proximal interactions. The decrease of the coefficients was examined in all five significant personal traits and contextual factors after proximal interactions were added to the model. Table 1 depicts the change in the six factors. It shows the coefficients and significance levels of two significant personal psychological factors and four significant contextual factors, as well as the comparisons of regression results after the addition of proximal interaction to each test. The social network factor became insignificant in predicting self-rated motivation. It is easy to observe that the coefficients of all other five significant variables decreased greatly. The R square almost doubled for each variable, and even tripled for the variable of economy. This supported the finding that proximal interactions have more weight in predicting self-rated motivation than personal attributes and contextual factors.

Table 1 Personal Attributes and Contextual Factors with and without Proximal Interactions

	Without proximal interaction			With proximal interaction		
	β	R ²	P	β	R ²	P
Self-confidence	.558	.311	.006*	.345	.654	.023*
Competence	.598	.358	.003*	.346	.648	.028*
Course-specific	.589	.347	.003*	.342	.646	.030*
Friends	.643	.414	.001*	.356	.643	.033*
Online Social network	.581	.337	.004*	.238	.588	.186
Economy	.427	.182	.042*	.294	.633	.046*

* P-value < .05 is significant.

Discussion

The findings of this study suggest that community interaction, media interaction, classroom interaction, self-confidence, competence, course-specific, friends, online social network and economy are significant predictors of Chinese heritage language learners' motivation; family interaction, autonomy, teacher, family, school requirement, community, and social ideology are not. The results indicate that proximal interactions mitigate the predictive power of all other personal and contextual significant factors: self-confidence, competence, course-specific, friends, online social network and economy. This supports the hypothesis that personal and contextual factors' effect on motivation for heritage language learning could be mediated by proximal interactions.

Therefore, in examining, interpreting, and predicting heritage language learners' motivation, it is important to differentiate the contextual factors of family, friends,

community (also known as social milieu) from proximal interactions with family, friends and community. Family members who might or might not speak the heritage language, along with the community's heritage language practices constitute the language learners' objective language environments. At the same time, proximal interactions measure the extent to which language learners interact with family, friends, and community in the target language. Furthermore, interactional factors have more power to predict Chinese heritage language learners' motivation, and mediated the influence of personal and contextual factors, as shown in their decreased coefficients. If the students have no interaction with the Chinese language or culture, even if that community has a rich linguistic and cultural life, learners' motivation is less likely to be influenced by it and more likely to be shaped by the interactions.

Among all three variables of significant proximal interactions, community interaction explains the most, with a coefficient of .677. This result definitely supports the new service-learning program incorporating community interactions with language learning, because engagement with the heritage language community increased heritage language learners' motivation. Schwarzer and Petró (2005) also found that students' community engagement reinforced their motivation for undertaking further language learning; students' experiences in community-based or service-learning contexts may very well open the door for some heritage language speakers to continue with formal instruction in the language. Even though the goal of service-learning is not related solely to language learning and language pedagogy, it could motivate heritage language speakers to acquire literacy in their heritage language. Moreover, the service-learning program recognizes the importance of proximal interactions with the environment when researching human behaviors, and indirectly supports of the bioecological model.

Two of the new findings are the significant positive correlations between media interaction and self-rated motivation, and between online social network and self-rated motivation. The former looked at the influence of frequently intake of Chinese music, TV programs and films, and viewing and posting on online social networks. Chinese heritage language learners who engage frequently in these behaviors are more likely to have a higher self-rated motivation in language learning. The frequency of Chinese language use on online social networks was also measured. Both the context and the interaction are significant, and the interaction did mitigate the predictive power of context over heritage language learners' motivation. Media materials have been widely discussed in teaching technologies, but not in the research on motivation. Online social networks have barely been mentioned in research, even though such networks are a large part of these students' lives. A new way of influencing the language learners' behaviors in order to stimulate continued learning of the heritage language should consider online social networks, not only by providing heritage language and culture on these platforms but also facilitating interactions.

Surprisingly, neither the contextual variable of family nor family interaction was examined as significant predictors of Chinese heritage learners' self-rated motivation. Family members' language practice at home had no significant correlation with Chinese heritage language learners' self-rated motivation. The result is not consistent with Wen's (2011) comparative study of heritage and non-heritage learners on their Chinese motivation for language learning. In her study, family influences as part of social milieu

were demonstrated to show a positive relationship with Chinese motivation for language learning. However, one study exhibited inefficiency of parents' efforts on Chinese heritage students' motivation of learning the language (Zhang & Slaughter-Defoe, 2009). Schwartz's (2008) study of Russian-Jewish immigrants in Israel reached a similar result: parents' language ideology had no impact on their children's command of the heritage language. She ascribes this conclusion to demographic, social and cultural factors which were reportedly conducive to the use of Russian.

I agree that environmental factors other than family influence might play a bigger role in the motivation of learning a heritage language. Interactions with other proximal environments, like close friends, community and media, might mediate the influences of family factors. Since this study sample was limited to college students, searching for and establishing an identity is their main developmental undertaking. Identity is shaped by their interactions with the environment or by their own psychological traits but not necessarily been passed by the family. Future investigation into the reasons that make family heritage and interactions significant or insignificant for heritage motivation for language learning, could reveal the effect other proximal interactions, environmental factors and identity developmental status.

It is noteworthy this group of Chinese heritage language learners have a unique background and history. Students' background is always related to their learning motivation. Students from China do not necessarily have Mandarin as their heritage language; they might speak Fuzhounese, Cantonese or Taishanese, none of which are linguistically connected to Mandarin. Ignoring the linguistic foundation of these students might jeopardize their motivation to learn and their acquisition of language proficiency. Their linguistic background merits attention because speakers of different heritage languages have different means of language acquisition. For speakers of Cantonese and English, Mandarin Chinese is their third language; for speakers of Cantonese, Taishanese, and English, Mandarin is their fourth. The similarity of these students with the commonly defined heritage language learner is that both have the target language cultural experiences and understanding. In terms of linguistic background, the students who spoke Mandarin as children have different linguistic structures from those who did not. These differences must be acknowledged and respected in the classroom.

Even more complicated are the different competences in four domains. Heritage students who speak Mandarin have an advantage in listening and speaking, but need more instruction in reading and writing. In contrast, heritage students who have only a cultural understanding do not have an advantage when it comes to listening and speaking, but there is a possibility that they have some degree of reading and writing skill. Because Mandarin is used in China's textbooks and government documents. Students who attended school in China might have been able to read and write Mandarin. As competency in four domains among heritage speakers was beyond the scope of this study, it merits future research.

Limitations and future research

One of the limitations in this study was the small sample size. The larger the sample, the more statistically accurate it is in reflecting the population from which it was drawn. With a sample size of 23, the results of this study cannot reliably represent all Chinese

heritage language learners in the US. In addition, because of the online questionnaire the numbers of participants from the Midwest and the East Coast are unknown. An accurate geographical representation of the population therefore cannot be generated from this study.

Another limitation of the study is the data analysis. Simple linear regression was operated for each variable of interest, which means that other factors were assumed constant, even though the purpose of this study was to test the mediation of proximal interactions over other variables. Further research is needed to find the mediating effect for all predictors in one comprehensive model together, where the mediating effect of proximal interaction on personal and contextual factors could be observed. To solve this problem statistically, structural equation modeling is a powerful statistical technique to identify complicated relationships among all predictors. This will be more meaningful for comprehensive practices.

The variables in this research were generated from previous studies for this experimental study on the applicability bioecological model. However, a focus group of Chinese heritage speakers could be used to generate a more reliable questionnaire for the main concept of proximal interactions. For example, questions about classroom interactions, family interactions, community interactions and media interactions are identified from the literature on motivation for language learning. It is not specifically for the population of heritage language learning or Chinese heritage language learning. Thereby, interviews and discussion, feedback from the focus group of Chinese heritage speakers could identify potential unknown but crucial proximal interactions. In addition, as a special case of Chinese heritage language learning, other unidentified questions might be elicited from the focus group. A focus group might result in the production of a more comprehensive and reliable questionnaire.

Conclusion

As a theory-driven study, this study was generated from the literature on a theoretical framework that could explain a complicated system of influential factors on motivation for language learning. Bronfenbrenner's bioecological model, widely used in developmental psychology was applied this study of heritage language speakers' motivation for language learning. Heritage speakers' motivation is inherently related to their interactions with the target culture. Heritage language learners fit the bioecological model that examines the relationship among proximal interaction, personal characteristics, contextual factors and time for interested behaviors.

The findings support the mediating effect of proximal interactions on important personal and contextual factors. It will call attention to the importance of interactional factors in relation to personal and contextual background, especially the interaction in classroom, community and social media.

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