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ABSTRACT

This study investigated the extent to which home exposure (HE) to the Chinese language affected the oral proficiency of students of intermediate-level college Mandarin Chinese. In fourteen hypotheses, it was predicted that HEs would perform at a higher level than would non-home-exposure students (NHEs). Students were given a simulated oral proficiency interview, evaluated according to American Council on the Teaching of Foreign Languages (ACTFL) proficiency guidelines. Error analysis of the taped interviews focused on features in five categories: fluency and complexity; phonology; semantics; syntax; and syntax and semantics. Subjects were 6 students with intermediate-level proficiency ratings enrolled in second- and third-year Mandarin courses; three were HEs and three were NHEs. Results confirmed five of the fourteen hypotheses, those relating to patterns in code-switching and errors in vocabulary, tone, pronunciation, and word order. It was found that while the ACTFL intermediate-mid and intermediate-high level criteria seemed to describe the subjects, there were some differences to which the ACTFL guidelines may not be sensitive, particularly the skills of the non-educated but native speaker. Implications for second language instruction are discussed. Contains 31 references. (MSE)

Does the Home Make a Difference? An Error Analysis of the Speech of Home-Exposure and Non-Home Exposure Mandarin Chinese Students

by
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Introduction

As a first year student of Mandarin Chinese, I was struck by the fact that many of my classmates could speak in a desired form after only one lecture. By contrast, I shied away from speaking, but did well on written tests. Subsequently, I found out that these classmates already had some Chinese background when they entered the first year. Many came from homes where other Chinese dialects were spoken, had studied Chinese in Chinese weekend school, or spoke Mandarin as children.

This type of student, whom I will call Home Exposure (HE), has been studied extensively in some languages, mainly Spanish. Several studies suggest that HE Spanish students come from various dialectal backgrounds , as well as varying degrees of Spanish knowledge (Fallis, 1978, Roca, 1992) and use of code-switching (Aparicio, 1983). These studies often prescribe curriculum geared towards students with previous exposure to the language (Aparicio, 1983), focusing on differences between dialects and emphasizing more cultural knowledge than is usually taught in remedial Spanish classes.

The phenomenon of Chinese HE students, although pervasive, is much newer. In many universities first year classes are over fifty percent HE (Tianwei Xie, Zhengsheng Zhang, David Tai, personal communication, December 10, 1994) Yet the effects of this situation on the classroom have not been studied extensively. In one of the few articles on Chinese HE students, Christensen and Wu report on a program where individualized teaching programs were successful in pinpointing specific difficulty areas for these students (which they term False Beginners) (1993). This type of program may help HE students gain mastery that they have lost from childhood. It also helps them progress faster than if they had been in a class with what Christensen and Wu call True Beginners. HE students progressed faster when given a suitable environment in which to progress.

Separating HE from non-home-exposure (NHE) students seems also beneficial for the NHE students. Christensen and Wu validate what I often felt in my first year Chinese class: "Because FBs (False Beginners) have knowledge of Chinese they often intimidate Western learners." Christensen and Wu claim that this often "throws off the balance of classroom instruction." It does seem intuitive that having students of similar levels and knowledge makes classroom teaching easier.

Although HE students tend to be more advanced in some areas, often they lack appropriate language knowledge in other areas. For example, many students with home background are not literate in their mother tongue. Also, HE students are known for their ability to be fluent in more "household" language (XixiangJiang, personal communication, December 6, 1994), but stumble, falter, and even fail in more academic language.

In languages with complex inflectional morphology HE students tend to have control of the inflections, almost to the degree of a monolingual speaker of that language, and at a level not expected from classroom learning (Zev Bar-Lev, personal communication, December 26, 1994). In observation of his children, native speakers of Hebrew, Bar-Lev notes that many of the errors that they made were developmental in type, due to over generalization of morphological rules, and not caused by interference from the second language.

Packard (Craig Packard, personal communication, December 10, 1994) sums up his observations from teaching Russian HEs:

> "It is very common for bilingual people to be fluent in social situations, especially in the home environment, but to have great difficulty in fluent self-expression in academic settings. It seems to be difficult for them to acquire new vocabulary and new (adult) language patterns as adults to deal with higher intellectual-type activity (such as literature, art linguistics, scientific method, etc.) Unless they've had wide exposure to other native speakers and lived an active community-oriented life, their language tends to be highly idiomatic, idiosyncratic, and sometimes even extremely eccentric (representing fossilized in-group speech patterns...)

Because these students sound fluent, yet produce nonstandard speech at times, it may be difficult to get an adequate idea of a particular HE student's level. In SOPI training (SOPI described below), raters are trained to listen "beneath the flow" of speech of exactly such speakers "to make sure they demonstrate other features of a level, and not to be taken in by the fluency alone." (Dorry Kenyon, personal communication December 6, 1994).

These students for the most part begin life with a language other than English as their L1. Moving to the United States, many then start learning English. Usually English becomes their dominant language as they enter school, as the HE student's English gradually becomes more specialized. Although most HEs continue to have some contact with the L1, either at home, at weekend school and during trips abroad, the degree to which the L1 continues to be the language of the house and family varies. Like most bilinguals, HEs are probably not "balanced" bilinguals, having different strengths and weaknesses in each of their two languages.

As students of their L1 in college, however, these students often bring with them background from their earlier language experience that helps them move ahead faster than other students. As Xie notes of Chinese HE students he has taught, their "grammatical and pragmatic sense is fine" and they learn quickly (personal communication December 10, 1994)

The differences between HE and NHE students are not only useful to examine for pedagogical and testing purposes, but also because differences may point to issues in the fields of language acquisition, bilingualism, and language attrition. In as far as the native speaker of the language is the ideal model of the foreign language learner, the bilingual HE speaker represents some clues to possible intermediary steps in acquisition. Bilingual speaker's language, showing either full control of certain structures, lack of knowledge of others, or fossilization, could shed light on the process of acquisition.

Besides the question of acquisition, an important question for bilingualism and language attrition is the extent to which the mother tongue can be re-learned after it has ceded dominance to an L2. By studying HEs we may be able to learn more about the process of acquisition of two languages, especially in the case of Chinese and English, two languages that are radically different. This knowledge could help shed light on how to better maintain two languages at once and to become more "balanced" in one's bilingualism.

One way to evaluate language abilities is with the American Council of Teachers of Foreign Languages (ACTFL) Proficiency Guidelines. Proficiency testing, using the ACTFL Guidelines, has grown in popularity among language teachers at the high school and college level. Based on a scale created for the Foreign Service Institute for evaluating language levels for professional diplomatic use, the ideal of the scale is the "educated native-speaker." For the purposes of high-school and college use, the ACTFL scale ranges from the Novice to the Superior level.

The scale is often used in the setting of the Oral Proficiency Interview (OPI), administered by a live interviewer. However, this method was impractical for many of the less commonly taught languages where an interviewer is often difficult to find. Thus the Simulated Oral Proficiency Interview (SOPI) was created to meet that need (Stansfield, 1989). This tape-mediated speaking test is also rated according to the ACTFL Proficiency Guidelines. The added benefit is that it can be administered to many students at one time through use of a language lab or similar facilities.

SOPI questions range from daily conversation discourse, such as describing what one does in the morning and giving directions, to more academic topics, such as hypothesizing and explaining one's opinion about a political problem, such as immigration. Questions are arranged in five pictures (P1-5), five topics (T1-5), and five situations (S1-5).

The Chinese SOPI has been shown to have high reliability, showing a .91 correlation with the Oral Proficiency Interview (OPI) when scored by two independent raters (Stansfield, 1989). These tests have proven reliability in several other languages as well. The test makes no distinction for HE and NHE and can presumably judge both groups' language level equally well.

However, as explained above, there may be differences in speech between HE and NHE students. An error-analysis was previously used by Malone to see what the differences were in grammatical errors between levels of Spanish proficiency on the SOPI (1992). Malone found a relationship between errors of gender, formality and vocabulary and Intermediate, Advanced and Superior levels of proficiency. She found no relationship between verb tense errors and levels of proficiency.

For this study, an error-analysis of Chinese was done to take a preliminary look at possible specific differences between HE and NHE students. Students rated at the Intermediate level were chosen as an appropriate level to highlight differences. At this level the speaker creates with the language and has considerable ability to hold conversations on several topics. However, the student is not proficient enough to control all language situations. Thus it seemed that this would be the level at which many errors would appear.

Below are the ACTFL guidelines for the Intermediate level:

The Intermediate level is characterized by the speaker's ability to:

* create with the language by combining and recombining learned elements, though primarily in a reactive mode;
* initiate, minimally sustain, and close in a simple way basic communicative tasks;
and
*ask and answer questions.

The guidelines also allow for some variation even within the Intermediate level, operationalized as three sub-levels, low, mid, and high. They are as follows:

Intermediate-Low: Able to handle successfully a limited number of interactive, task-oriented and social situations. Misunderstandings still arise, but with repetition, the Intermediate-Low speaker can generally be understood by sympathetic interlocutors.

Intermediate-Mid: Able to handle successfully a variety of uncomplicated, basic and communicative tasks and social situations. Although misunderstandings still arise, the Intermediate-Mid speaker can generally be understood by sympathetic interlocutors.

Intermediate-High: Able to handle successfully most uncomplicated communicative tasks and social situations. The Intermediate-High speaker can generally be understood even by interlocutors not accustomed to dealing with speakers at this level, but repetition may still be required.

Hypotheses

In order to do a comprehensive error-analysis, several features in various aspects of Chinese were analyzed. The categories were chosen from a broad range of possible errors for L2 Intermediate level learners. Features are grouped in five categories showing difficulty in 1)fluency and complexity, 2)phonology, 3)semantics, 4) syntax, and 5)syntax and semantics.

1) The first category includes Morphemes Per Clause, False Starts and Lexical Code-Switching. This category includes features that relate with how fluent the speaker sounds and how complex and embedded the speaker's sentences are.

Morphemes Per Clause--Clauses, as counted in this paper (and described in the Methods section), center around a "main" verb. Thus, the more morphemes in a clause the more complex the clause because of complements to the main verb. For example, *wo xie de xin hen chang* --"The letter I wrote is very long" (there is no copula verb in the Chinese for this sentence) is more complex than *wo xie xin* --"I write letters."

It was hypothesized that because HEs are bilingual and have more experience with Chinese than NHEs they would be able to create more complex clauses, this feature contributing to their sounding more fluent.

False Starts--The fewer False Starts the more fluent sounding the speech. False Starts (also described further in the Methods section) occur when the speaker fails to produce the necessary words or when the speaker realizes that he or she made a mistake in the middle of an utterance. The process of re-starting an utterance once, sometimes twice or even more times, may cause the speech to lose coherence.

Although previous studies have found that bilinguals as children have lower levels of fluency (Torrance, in Cummins, 1977) many Chinese teachers find HE students to be highly fluent sounding. Because of their previous experience with Chinese, HEs would have a comfort level with Chinese not available to NHEs, reflected in fewer False Starts.

Lexical Code-Switching Errors--Code-switching has been found to be a common trait in bilingual children (Swain & Wesche, 1975). From personal experience as a HE Hebrew speaker, code-switching has been especially pervasive at home.

Although it is a common strategy used by bilinguals, the use of English words interspersed in Chinese interrupts the flow and disrupts the fluency of the speech. Code-switching occurs for two reasons in bilinguals. One reason is lack of knowledge of a word. The speaker falls back on the dominant language in which the word is more readily accessed. Another reason is strategic; Bilngual children may sometimes be more aware than others of the usage of language (Turian et. al, 1991) and may use code-switching as an emphatic device geared to the speakers audience.

Although code-switching is a strategy used by L2 learners as well, I hypothesized that HE would have more code-switching errors than NHE students. Because NHE students have not had as much of an opportunity to interact in Chinese in an uncontrolled

setting outside of the classroom, they have not had the chance to acclimate to using English words where they do not know the Chinese word. Part of the advantage that HE have is that they are also more familiar with the structure of the language, and thus may be able to more easily "slip-in" a word that although it is English, and fits in the Chinese sentence either morphologically or by class.

2) The second category of error, also related to the fluency and complexity of the utterance is the semantic category. This includes general vocabulary errors and modal errors. The meanings of words is acquired through repeated exposure to a word (Nagy & Gentner, 1990) and thus semantic errors of bilinguals may help validate the process of acquiring meaning through repeated exposure by the fact that HEs have more exposure to the language.

Vocabulary Errors--Errors in word choice, an obvious candidate for contributing to lack of semantic knowledge, can send the interlocutor into a direction not meant by the speaker and could cause much confusion in communication. These types of errors are often least tolerated by native speakers. Santos (1988) found that university professors rated lexical errors as most serious among a list of possible errors made by ESL students.

This error is not only related to the process of acquisition, but also to the process of language attrition in adults. Retrieval of vocabulary words is one of the first processes to show noticeable deterioration in adults (Olshtain, et al, 1991). This is true especially for infrequent specific nouns where there is a "reduction on accessibility" (Olshtain et al., 1991). However, it is difficult to determine whether HE speakers had at some point in their early language development acquired words in which they err and then forgot them , or never had acquired them in the first place.

Although the process of attrition may be more relevant to HEs than to NHEs, it is hypothesized that HEs will still make fewer vocabulary errors because of the importance

of collocation as part of the pragmatic aspect of learning appropriate vocabulary, an aspect of language that often is affected by interference from the L1 (e.g. **na gong che* -- "take a bus") (Seliger, 1991) Because of the pragmatic nature involved, learning of such collocations can be facilitated by being immersed in the target language's speaking community something which most NHEs have not yet had the chance to experience.

Modals--Modals tend to have meanings that are pragmatically restricted. For this reason these words are also better learned through repeated oral exposure. For example a typical mistake with the modal *ke yi* --"may, be able, can," would be using *ke yi* as "be able to get" as in *zai zhong guo ke yi mai zhei ben shu ma?* "Can I get this book in China?" (Tian, 1989, p.70)

Tian's book, specifically addressing commonly made mistakes by beginning Chinese students, shows the confusion between three modal verbs, *neng*, *hui*, and *ke yi*. All three have the dictionary definition of "can" but they suggest different modes, respectively: ability, possibility, and suggestion.

Other modals also tend to be confused by L2 learners, such as *ke yi* versus *ying gai* for "should." The nuances of different modal meanings may be more apparent in use for disciplining such as prohibiting children from misbehaving in some way. In this way HEs are exposed to the nuances of the meanings of the different modes. In contrast, in classroom language there does not seem to be as much opportunity for varied exposure to modal meanings as there could be in the home or in a native speaking community. Because it was assumed that HEs have had more exposure to the modals it was expected that they would have less difficulty using correct modals.

3) The third category of hypotheses relates to phonology. There are two of these phonological features, errors in tones, related to the prosodics of the language, and errors in pronunciation of initials and finals. Although both of these errors have to do with

phonology, they function differently in HE and NHE speakers, as will be explained in the hypotheses below.

Although there are some cases of people who never acquire correct phonology, nevertheless, overcoming a "heavy" accent shows a certain level of acquisition. Incorrect phonology can interfere with ability to understand what is otherwise a well formed utterance, especially true with tones (e.g. *shui jiao*--dumplings, *shui jiao* --glue, *shui zhao* --sleep). Mispronunciation of initials and finals can also cause confusion. Many times in Taiwan, I heard confusion between *shi* --"ten" and *si* --"four" and this was despite that the words also have different tones.

Errors in Tone--Tones have been found to be particularly difficult for American students of Chinese. Miracle (1989) found that students studying for almost two semesters had an overall error rate of 42.9% of their tones. (Miracle makes no mention of whether HE students were excluded as subjects). Shen (cited in Miracle) found even more tone errors in his first semester students than Miracle had found in his second semester students. This may point to an effect of tones improving with length of study and exposure. Because HE students have had a longer exposure time to Chinese and its phonological system, it was expected that they would have fewer errors than the NHE group.

Errors in Pronunciation of Initials and Finals--Influenced by various dialects, many Chinese people speak Mandarin with an accent. Most of the dialects do not have the Mandarin retroflex initials, *zh, ch* and *sh*, and some dialects do not have the *-eng* final.

For many HE students coming from non-Mandarin speaking dialects there could be phonological interference from their native dialect or from their parents' native dialect. Although standard Mandarin is taught in most schools, influence from the home environment may override the teaching at school. Brcic and Jeftic, in a study of Yugoslav children in Denmark found that most of the children's mother-tongue language

learning came from their parents and not from supplementary school. Thus, although many HE have attended weekend school where Mandarin is the norm, their home-dialect may have had more influence.

The NHEs, on the other hand have not been exposed to dialects that may cause interference. Moreover, Chinese initials and finals do not usually cause Americans difficulty. Even the retroflexes have similarities in English syllables, *zh* is similar to "j" in "Jack", *ch* is similar to the "ch" in "cheesecake", *sh* is similar to the "sh" in "shoe", and *r* is similar to the "r" in "red". Therefore it was hypothesized that HE will have more errors in this area of pronunciation.

4) The following category is the syntactic category. Syntax is often acquired more readily in a natural environment than in classroom learning. Although interference may still occur, it is less likely to occur when the speaker has had more extensive experience with the language. This category includes Word Order, Verb Construction Errors, and Copula Errors.

Word Order Errors--Word order is a common syntactic mistake. One of the processes in the acquisition of the second language of bilinguals is rule generalization--generalizing from the grammar of one language to that of the second language. According to Corder, the major types of rule generalization are in word order (cited in Seliger, 1991) (a famous example "Long time no see," borrowed from Chinese pidgin, follows Chinese word order). Meyer, et al. (1984) found that amongst faculty at a university, word order mistakes on English essays by ESL learners were judged least acceptable among sentence-level errors.

Chinese sentence structure tends to be a STPV language (Subject, time-specific time rather than duration, place, verb) whereas English is SVTP (e.g. *Wo ming nian yao dao zhong guo da lu qu*---I next year will to Mainland China go). Several other word

order differences exist, such as placement of a prepositional phrase (*Wo gen ta qu da lan qiu* -I with her go play basketball). Because of HEs previous exposure it was hypothesized that they would be more accustomed to hearing and speaking in Chinese word order, and would make fewer Word Order Errors.

Verb Construction Errors--Although Chinese verbs do not have inflections, various particles can be used to show aspect and direction. For example *zhan qi lai* --"stand up" and *ta zai wai mian zhan zhe* --"She is standing outside." *Zhan* is the main verb "stand" and *qi lai* and *zhe* are the various aspects, the showing the beginnings of an action and duration respectively.

Errors in negative aspect were also tabulated in this category (*Wo mei you mai fei ji piao* --"I haven't bought the airplane ticket"). Positive aspect marker *le*, tabulated in a separate category explained below, was deemed its own category because of its convergence with other *le* particles (see "Aspect and Current Relevant State *le*" section). Because even monolingual native speakers are not usually aware of the various *le* functions it seemed that the *le* s should be judged in one category.

As can be seen, verb construction in Chinese is sufficiently different from English verbs that it was hypothesized that HEs would have fewer errors due to previous exposure.

Copula Errors--The copula in English is pervasive in environments where it would not be found in Chinese (e.g. "I am hungry," *wo hen eh* -- I adverbial modifier hungry or *wo eh le* --I hungry CRS*le*) . Because the copula in English is so generally used it was expected that there will be some transfer effect. However, this was expected to be stronger in NHEs and therefore HEs would have fewer copula errors.

5) The last category includes specific grammatical morphemes that are both syntactic and semantic. The usage of these particles follows syntactic rules, however, and they have specific semantic nuances that can change the meaning of an utterance or at least add a layer of meaning. This can be seen in the first feature of this category.

Jiu/cai--*Jiu* and *cai*, having the complementary functions of expressing "earlier than expected" and "later than expected," are often taught together in Chinese courses (Kubler, 1988). Both *jiu* and *cai* have various other meanings. Li and Thompson cite several uses for *jiu*: a sentence-linking element meaning "then," in a simple sentence to mean "immediately" or "soon," and as an emphatic particle (1981). It may also mean "only." *Cai* also has various meanings: "just now" or "only then."

Both these words add an extra nuance meaning and are used beyond the basic sentence structure. Thus use of these morphemes can be avoided by students not ready to use it productively. For example, *Qi dian wo dao* means "I'll arrive at seven." By adding *cai* , the meaning becomes more specific: *Qi dian wo cai dao* --"I'll arrive at seven (which is later than I would have thought or wanted to)."

Although *jiu* and *cai* are taught in the first year, the concept is so dissimilar from English that these two words are not easily acquired by English speakers. Tian also introduces these two words together in his book of proper usage (1989). However, as used by natives, the two words are as pervasive as, for example, the copula in English. Therefore it seems that HE students may have had considerable experience using it, either receptively or productively, and for this reason, I hypothesized that HEs would make fewer errors using it.

Locative Errors--Locating objects in space requires a much different structure in Chinese than in English. Locatives in Mandarin "frame" the word using the form "at" noun phrase locative particle (Li & Thompson, 1981). For example *zai zhuo zi shang* -- at

table on. This is a structure that, unlike the above mentioned *jiu* and *cai* , cannot be avoided when talking about location, and both HEs and NHEs would be forced to use it. However, because HEs have had previous exposure to this structure, I hypothesized that they will make fewer errors than NHEs.

De Use Errors--Among the many uses of *de* two types were analyzed. The first, the *de* used in associative phrases (Li et al., p. 113) links two noun phrases (*xue sheng de zuo ye*--the student's book) and shows possession. Possessive *de* is taught early in Chinese language course and is relatively productive even among beginning students.

Another kind of *de* occurs in modifying phrases in the relative clause (*wo xie de lun wen hen duan*--The research paper I wrote is very short). *De* can also appear with some adjectives in the relative clause where it acts as a nominalizer (*wu liao de shu*--boring book). The confusion for nonnative speakers comes when adjectives appear as simple attributives where the *de* is not used (*ta shi hao ren*--She is a good person) (Tian, 1989). It seemed that HEs would be better at knowing when to use the *de* particle and would make fewer *de* errors.

Aspect and Current Relevant State *le*--The two *le* particles have various uses--aspect *le* marks a completed event and appears directly after the verb. Current Relevant State (CRS) *le* appears at the end of a situational clause and has five uses that involve clarification of the current state (Li & Thompson, 1981). This marker appears at the end of an utterance. However, when the verb also appears at the end of the sentence, it is difficult to distinguish which of the of the two functions is being used, for example *Xiao Huang kuai yao lai le!* -- Little Huang is coming! (p. 296). The *le* particle could be either perfective or CRS, noting the Little Huang has come or that this is a new situation. Thus, the two functions were analyzed in one group.

Another reason to group the two *le* s together is because there seems to be a phonological component to them that seems more easily "acquired" than "learned." As mentioned above, the native speaker is not usually aware that *le* has various functions and thus in a natural environment, both types of *le* may be acquired together. Moreover, as Li and Thompson suggest "to a Mandarin speaker, the sentence without the *le* sounds incomplete" (p. 288). Because of exposure, HEs will have an intuition that *le* s are needed and would use them more often than NHEs. NHEs probably learned *le* in their first year, but the function is sufficiently different from the English grammar to hypothesize that NHEs will not have completely acquired its use yet. Therefore, it was hypothesized that HEs would have fewer errors in this aspect of the grammar because of more native-like acquisition.

Methods

Subjects: Subjects were 6 students of Mandarin Chinese who had received Intermediate ratings (there were two Intermediate-Highs and one Intermediate -Mid in each group) on the Chinese SOPI. All six were currently in the final month of second and third year Chinese courses at a mid-western university at the time of taking the SOPI. Subjects were categorized as either belonging to the HE or NHE group depending on whether they had spoken Chinese in the house, as determined by answers to the warm-up questions on the SOPI. Subjects were later contacted for further clarification, answering a questionnaire.

Subjects in the HE group all had Chinese in the home as children, although the extent and variety of the exposure to Chinese differed. All three had also gone to Chinese school. Of the three NHEs, none had previous home exposure, although one had studied Chinese in high school. All subjects were female.

Procedure: A Chinese native of Taiwan and the researcher transcribed tapes of answers to the SOPI. A Chinese person from the Mainland was also on hand for clarification. Categories for error analysis were chosen from a range of features of language proficiency, ranging from phonological to syntactic.

First "Total Morphemes" was calculated. A morpheme was actually either a Chinese morpheme (thus *xi huan-* ---"to like" is two morphemes) or an English word ("police station" would count as two morphemes, "stores" would be counted as one "morpheme"). Chinese morphemes may or may not stand alone as a word and this seemed too susceptible to judgment as to what constituted a Chinese word in specific utterances. This is why it was deemed necessary to do a morpheme count instead of a word count.

An utterance had to have an initial and final sound in order to be counted as a morpheme. For example "d" would not counted as a morpheme, but "do" would be even if it was actually a mispronunciation of *tou* for example. "Do" would then be counted as a morpheme in the False Start category.

The same Taiwanese judge listened for errors in tone. She was aware of some differences between Mainland Mandarin and Taiwan Mandarin and both pronunciations were judged correct. The same judge and the researcher listened for mispronunciations. Although errors were expected to be in the initial retroflex consonants, other mispronunciations were also included, such as errors in pronunciation of morpheme finals, such as *pen* for *peng*.

Clauses were judges as modifiers of a verb. In Chinese this may or may not includes a subject, as the subject is often dropped when understood from context. An examples of clauses from NHE1's speech sample follow: *Zai qi dian zhong ta qi chuang* (1) *ta qi chuang hen zao* (2) *ta hen ley* (3) -- He wakes up at seven o'clock (1). He wakes up very early (2) He is tired (3). And another example: *Wei le xue wen fa* (1) *wo shang xue* (2)--I go to school (1) to study grammar (2). Some verbs were more

complicated, for example modals. Modals were not considered main verbs of a clause. Verbs such as *xiang* --want, think [e.g. *ta men xiang* (1) *wo de da xue hen you yi si* (2) NHE2] and *jue de* --feel, think that [e.g. *wo jue de* (1) *ni xuan shi jie shang ye* (2) HE3] were tabulated as main verbs.

False Starts were judged as unfinished sentences and the words or phrases that were repeated twice or more with out a syntactic purpose. For example, he following utterance contains three False Starts; All underlined words were considered part of a False Start clause: *yi zhi zou dao le dao le di yi di yi ge lu di yi tiao lu ni ke yi wang you zhuan* "go straight till you arrive arrive at the first the first street the first street make a right " (HE1 P4). Utterances that were unfinished at the end of a passage because of time constraints were not counted as False Starts. because presumably the subject would have been able to finish the utterance given the time.

The same Taiwanese judge also judged for all other vocabulary and grammar mistakes. Vocabulary errors included nonsense words (*zhui zhuan* HE1 P1) and vocabulary errors (e.g. *zou* --"walk, go" for *qu* --"go") . Circumlocutions where it was obvious that a vocabulary word was missing were also judged as error (e.g. *dian ying de di fang* "movie place" for *dian ying yuan* "movie theater") .

Although circumlocution may not hinder communication, it is obvious that the subject cannot produce a vocabulary word in the instance it is used. Although it may be argued that this is an effective strategy for communication and thus not be counted as errors. However, this is justified by the fact that even Advanced and Superior level speakers are allowed circumlocution and some errors according to the ACTFL Guidelines. Thus, for the sake of analyzing Intermediate level speech this was deemed suitable. Wrong measure words and missing words or morphemes were also tabulated as errors.

A Mainland Chinese person was consulted in areas where the researcher deemed that there may have been some room for a judgment call. For example, in *wo zhemme ben*

"I'm so stupid"(HE3 S3) was judged as wrong pragmatic usage of *ben* by the Taiwanese judge. However, the Mainland Chinese said it was acceptable usage. Therefore because it was acceptable for a Mainlander, the subject was given benefit of doubt. Errors in word order, locatives, modals, verb construction, copula, *de*, *le* and *jiu/cai* errors were also tabulated. However,

Results

Results of the error-analysis show that HEs and NHEs differ in several areas. For the most part, the raw numbers show that HEs performed better than NHEs on several features. However, Chi-square tests showed that some of the differences between the two groups could have been due to chance and that these Intermediate level students did not produce enough tokens of some of the features in order to be able to differentiate between the two groups.

Table 1: Total Morphemes, False Starts, and Total Morphemes Minus False Starts of HE and NHE Subjects

		Total Morphemes	**Clauses**	**False Starts**	**Total Morphemes No FS, No LO**	**Total Morphemes Per Clause**
HE	1	1363	195	11.9(80)	1231	1.8
	2	1609	227	17.7(119)	1382	2.1
	3	1958	250	11.1(75)	1736	2.6
	Total	4930	672	40.8(274)	4349	6.5
NHE	1	1491	198	14.1(101)	1307	1.8
	2	1887	248	15.5(111)	1663	2.3
	3	2120	268	24.6(66)	2000	2.8
	Total	5498	714	38.9(278)	4970	7.0

Note: False Starts frequency per 100 clauses, raw data in parenthesis

As can be seen from Table 1, HEs used fewer morphemes in their SOPI answers than the NHEs(4930 morphemes to 5498 morphemes). Grouping the morphemes into clauses also shows that the HEs were less verbose than the NHEs with 672 clauses to NHEs 714 clauses.

Total Morphemes No False Starts and No Leftovers stands for the number of morphemes subtracting the number of morphemes in the False Starts and minus the morphemes from sentences that were unfinished due to running out of time mid-sentence(these were only 18 morphemes in the HE category and 33 morphemes in the NHE category). This category also shows that HEs were less talkative than the NHEs.

Although most of the error counts tended towards confirming the hypotheses, the hypothesis for False Starts was disconfirmed and HEs did not produce fewer False Starts. In terms of frequencies HEs actually had more False Starts(40.8 False Starts per 100 clauses to NHEs 38.9 False Starts per 100 clauses). However, this difference was not found significant(x^2=0.203, df=1, p<.01)(see appendix for Chi-Square values).

HEs also did not produce more complex speech as judged by Morphemes Per Clause(6.5 Morphemes Per Clause to NHEs 7.0 Morphemes per Clause). The small difference in the raw score was not found significant(x^2=0.011, df=1, p<.01).

Thus fluency and complexity of speech as measured by False Starts and Morphemes Per Clause seems to show that HEs of this sample are not more fluent and do not talk at a more complex level than NHEs despite their home background and presumed higher level of acquisition.

Table 2: Lexical Code Switching of HE and NHE Subjects

		Lexical Code-Switching
HE	1	5.8(29)
	2	1.6(8)
	3	6.2(31)
	Total	13.8(68)
NHE	1	1.0(6)
	2	0.9(5)
	3	2.1(12)
	Total	4.1(23)

Notes: Lexical Code Switching Errors per 1000 morphemes
Vocabulary Errors do not include Lexical Code Switching Errors

As can be seen in Table 2 HEs also produced more Lexical Code-Switching Errors than NHEs(13.8 English Morphemes per 1000 morphemes vs. 4.1 English Morphemes per 1000 morphemes). This difference between the two groups was not due to chance as tested by a Chi-Square test(x^2=28.517, df=1, p<.01). Thus lexical code-switching seems to be a more productive coping skill among Intermediate HEs than Intermediate NHEs. As related to fluency, this finding also shows that possibly the code-switching aspect of HE speech affects how fluent they sound. However, strangely enough, using more English words in one's speech would seem to make one sound less fluent and native-like.

Table 3: Vocabulary Errors and Modal Error of HE and NHE Subjects

		Vocabulary Errors(no Code-Switching)	Modal Errors
HE	1	1.8(9)	1.0(7)
	2	9.1(45)	0.1(1)
	3	7.3(36)	1.0(7)
	Total	18.2(90)	2.0(15)
NHE	1	6.5(36)	0.1(1)
	2	10.1(56)	1.4(10)
	3	16.1(89)	0.8(6)
	Total	32.9(181)	2.3(17)

Note: Vocabulary error frequencies per 1000 morphemes
Modal error frequencies per 100 clauses

The hypothesis for vocabulary errors, confirmed by the subjects tested here, shows that HEs have more control of meanings of Morphemes and a larger vocabulary than NHEs. HEs erred 18.2 morphemes per 1000 morphemes whereas NHEs erred 32.9 morphemes per 1000 morphemes(x^2=19.139, df=1, p<.01). Thus HEs had fewer instances of using the wrong word and fewer need to use circumlocution to refer to objects and concepts.

However, the hypothesis that HEs would have more control over modal meanings was not confirmed. HEs erred 2 times per 100 clauses and NHEs erred 2.3 times per 100 clauses. As expected this difference was not found significant(x^2=0, df=1, p<.01). These Intermediate students still may not have full control of the modals, and the data suggests that the longer exposure of the HEs did not give them an advantage in using modals.

Table 4: Tone Errors and Pronunciation Errors in HE and NHE Subjects

		Tone Errors	Pronunciation Errors
HE	1	1.9(95)	0.4(21)
	2	2.1(102)	2.7(133)
	3	1.4(67)	3.9(194)
	Total	5.4(264)	7.0(348)
NHE	1	3.7(205)	0.6(34)
	2	3.2(175)	0.2(9)
	3	5.2(284)	0.6(34)
	Total	12.1(664)	1.4(77)

Note: Frequencies per 100 morphemes

Although the data confirmed the hypotheses on Tone Error and Pronunciation Error, the magnitude of the difference was surprising. As predicted, HEs made fewer tone errors than NHEs(5.4 errors per 100 morphemes versus NHEs' 12.1 errors per 100 morphemes). This difference was found not due to chance(x^2=113.233, df=1, p<.01).

Also confirmed by the data, HEs made many more pronunciation error than the NHEs: 7.0 errors per 100 morphemes to NHEs 1.4 errors per 100 morphemes(x^2=201.776, df=1, p<.01).

Thus it seems that the HEs are very near to monolingual speaker in their tone production. They also speak with dialectal interference, also similar to many native speakers. The NHEs still have nonnative tone production, although they have improved over Miracle and Shen's students. Like most American students of Chinese, the NHEs spoke with a "standard" Mandarin accent with regards to pronunciation of initials and finals.

Table 5: Word Order Errors, Verb Errors and Copula Errors of HE and NHE Subjects

		Word Order Errors	Verb Errors	Copula Errors
HE	1	0.2(2)	0.8(6)	0.1(1)
	2	0.7(5)	0.7(5)	0.5(4)
	3	1.0(7)	0.3(2)	0.4(3)
	Total	1.9(14)	1.9(13)	1.1(8)
NHE	1	0.9(7)	0.5(4)	0.4(3)
	2	1.8(13)	0.9(7)	0.5(4)
	3	3.3(24)	1.5(11)	0.7(5)
	Total	6.1(44)	3.0(22)	1.6(12)

Note: Frequencies per 100 clauses

As can be seen from Table 5, HEs made fewer Word Order Errors, 1.9 per 100 clause versus 6.1 per 100 clauses. The difference was confirmed by the Chi-square test, $x^2=13.319$, df=1, $p<.01$. Thus it seems that the HEs in this sample have had a better acquisition of Chinese word order, making few mistakes. Although, NHEs also made relatively few mistakes, it can be seen that they still do not have full control of certain Chinese structures.

HEs also had fewer Verb Errors(1.9 errors per 100 clauses vs. 3.0 errors per 100 clauses) and Copula Errors(1.1 errors per 100 clauses vs. 1.6 errors per 100 clauses). However, these differences were not confirmed by Chi-square analysis($x^2=1.783$, df=1, $p<.01$ for the Verb Errors and x2=0.585, df=1, $p<.01$ for the Copula Errors).

Although the Word Order hypothesis was confirmed, the data from the SOPI test did not confirm that HEs have more control over syntactic features due to their background in the other two syntactic features. It seems that HEs may have to acquire or re-acquire many verb constructions. They also have an equal amount of interference from the English copula as the NHEs. However this seeming similarity could be due to small token number of errors.

Table 6: *De* - particle errors, *Le* -particle Errors, and *Jiu/Cai* Errors of HE and NHE Subjects

		***de* Errors**	***le* Errors**	***jiu/cai* Errors**
HE	1	0.0(0)	0.5(4)	0.0
	2	0.8(6)	0.2(2)	0.5(4)
	3	0.0(0)	0.4(3)	0.8(6)
	Total	0.8(6)	1.3(9)	1.4(10)
NHE	1	0.1(1)	0.2(2)	0.2(2)
	2	0.9(7)	0.1(1)	0.1(1)
	3	0.1(1)	0.8(6)	0.0(0)
	Total	1.1(9)	1.1(9)	0.4(3)

Note: Frequencies per 100 clauses

In the semantic/syntactic category hypotheses were not confirmed possibly due to the small number of tokens(Locative Errors were thrown out of the analysis due to fewer than five tokens of error). Although HEs had fewer *de* Errors(0.8 errors per 100 clauses vs. NHEs' 1.1 errors per 100 clauses), the frequency data for *le* and *jiu/cai* Errors show a surprising trend towards HEs making more errors(1.3 *le* errors per 100 clauses vs. 1.1 NHE errors and 1.4 *jiu/cai* errors per 100 clauses vs. 0.4 NHE errors). Unfortunately none of these results were confirmed by Chi-square analysis(scores not reported in appendix) possibly due to small token number. Thus it seems that HEs and NHEs have equal acquisition of the three semantic/syntactic morphemes tested.

Discussion

Table 1: Summary of the Hypotheses

Category	Feature	Confirmed?	Category	Feature	Confirmed?
Fluency and Complexity	Morphemes Per Clause	no	Syntactic	Word Order Errors	yes, NHEs more
	False Starts	no		Verb Construction Errors	no
Semantic	lexical Code-Switching	yes, HE more		Copula Errors	no
	Vocab Errors	yes, NHEs more		*jiu/cai* Errors	no
	Modal Errors	no	Syntactic and Semantic	Locative Errors	no
Phonology	Tone	yes, NHs more		*de* Errors	no
	Pronunciation	yes, HE more		*le* Errors	no

Of the fourteen original hypotheses, five were confirmed. These were lexical code-switching, vocabulary errors, tone errors, pronunciation errors and word order errors. In this sample, subjects tended to use English words as a strategy for maintaining communication more often than NHEs did. They also had fewer vocabulary errors, tone errors and word order errors. It is possible that in the areas of vocabulary acquisition, tone acquisition, and word-order acquisition HEs' previous exposure to Mandarin may have had a positive effect in earlier acquisition. These HEs also seem highly affected by dialectal pronunciation of their parents, as seen in their frequent mispronunciations.

The fact that the HEs in this sample did not exhibit more complex speech through more morphemes per clause and did not show a higher ability to use continuous speech reflects that these factors may not be differentiating factors of HEs and NHEs. Although the HEs are bilingual they still use sentences as simple as those used by NHEs. They also tend to stammer and hesitate as much as the nonnative learners. As far as can be generalized from this small sample, possibly fluency is not affected by the longer exposure that bilinguals have had. This similarity may be a consequence of the testing

situation. Several teachers pointed out that HEs are fluent sounding, but possibly only in a non-academic setting. The subjects taking the SOPI test may have viewed the situation in terms of academics, and possibly speech sample from naturally occurring conversations would show differences.

The fact that HE speakers had fewer vocabulary errors points to what teachers already felt: that HEs generally do have a better pragmatic sense. The category of vocabulary errors included many words where a correct choice needed to be made between words with similar dictionary meanings, but different pragmatic uses.

Code-switching also shows semantic and pragmatic knowledge, or lack thereof. Code-switching is sometimes used as a pragmatic strategy to fashion one's speech to the audience. However, it seems in the case of this sample that the subjects were relying on code-switching as a strategy for easier access to a word. This is seen by the types of English words found, "accident," (HE1), "housebrother," (HE2) and "graduate school," (HE3) These words are words not usually learned in first year Chinese, and usually not in second year either.

I was interested in seeing how a more difficult topic was handled across all subjects: As an example, I checked whether all subjects felt the need to use the word "resume" in T3, explaining to a person from Mainland China how to find a job. All HEs and NHE1 used the English word "resume." NHE2 and NHES 3 talked about writing letters to companies, but not about making or giving out resumes. Possibly use of the word "resume" could signal a higher level strategy, where the subject felt comfortable enough with the language to talk about more complicated topics, but nonetheless lacked the vocabulary .

It is surprising that although the general vocabulary error differences were found to be significantly different, modal errors, also semantically based, showed no difference. It may be a possibility that modal knowledge taps into more of syntactic area of language than general vocabulary acquisition.

At the same time, it seems that HEs have acquired Chinese word order better than the classroom taught NHEs. However, they have not acquired verb construction, copula and copula use any better than NHEs. Possibly this could point to word order as being acquired before various manipulations of discrete verb constructions are acquired. In regards to the copula, it may be possible that HEs are as equally affected by interference of the English copula as NHEs are. However, a larger sample of errors would be needed to reach a conclusion.

In the semantic/syntactic category, tokens tended to be few showing that both groups were in control of these structures. In the case of *de* use this seems to be the case since there were many opportunities to use the associative phrase *de* and the nominalizer *de*. This construction, taught early on in Chinese language instruction, may be more easily acquired than others in Chinese. This may be surprising in light of the fact that this construction shows the left-branching nature of Chinese in contrast to the right-branching of English. Just as Lust and Chien found evidence for a universal in child acquisition of branching in Chinese structure of coordination (1984), that L2 learners acquire this structure early may point to the same universal. However, it could also point to the fact that use of *de* is so prominent in Chinese that a student must learn it quickly in order to continue his or her studies in the language.

In the case of locative errors it seems that SOPI questions may not offer the kind of topics needed to produce them. As was seen in the results, no difference was found for *le* and *jiu/cai* use. However I suspected that the NHEs may be avoiding the structure all together rather than producing them erroneously. Therefore a count of the number of attempts of using these morphemes was done shown in Table 2 below.

Table 2: *Le* and *jiu/cai* Attempts by HEs and NHEs

		le Attempts	*jiu/cai* Attempts
HE	1	2.2 (15)	0.1 (1)
	2	2.8 (19)	4.1 (28)
	3	1.1 (8)	4.0 (27)
	Total	6.2 (42)	8.2 (56)
NHE	1	0.7 (5)	0.0 (0)
S	2	0.1 (1)	0.7 (5)
	3	1.1 (8)	0.7 (5)
	Total	1.9 (14)	1.4 (10)

Note: Frequencies per 100 clauses

It can be seen that the HEs used the *le* particle more than three times the amount that the NHEs used it, and they used *jiu/cai* more than five times the attempts of the NHEs. This may point to a possible method for further research that may yield more robust results than an error analysis. Seeing whether HEs use the avoidance strategy in some form would also be an interesting avenue of study to show the extent of their bilingualism.

In the process of coding, it seemed that there may be different questions on which the two groups of subjects performed variably. This seems to point to another route for further research, analyzing the differences between various questions that may tap into various domains of knowledge. Two of these domains could be the so-called "household" language domain and the academic language domain, as hinted to by foreign language teachers. These may highlight more differences between the bilingual HEs and the nonnative NHEs.

As a preliminary look, two questions which seemed to fit within each of the aforementioned two domains were looked at separately from the other questions. A preliminary search showed that there may be interesting differences between the two.

Two Advanced level questions, T2 and T3 were broken down for a closer look at possible differences between HEs and NHEs, shown below.

Table 3: T2 and T3 Compared

T2--comparing eating at home with eating in restaurants versus

T3--explaining the steps involved in finding a job in the U.S.

		Clauses	False Starts	Lex Code-Switch	Vocab Errors	Modal Errors
HE	1	12/20	15/4	0/1	3/2	3/2
	2	23/16	9/9	0/2	3/5	0/0
	3	23/17	5/6	0/3	2/11	0/1
	Total	58/53	29/19	0/6	8/18	3/3
NHE	1	15/13	4/11	0/1	0/9	0/2
	2	15/23	5/4	0/0	9/6	0/0
	3	20/20	5/1	0/0	10/9	1/1
	Total	50/56	14/16	0/0	19/24	1/3

T2--comparing eating at home with eating in restaurants versus

T3--explaining the steps involved in finding a job in the U.S.

		Tone Errors	**Pron Errors**	**Word Order Errors**	**Verb Constr Errors**	**jiu/cai Errors**
HE	1	12/3	0/1	0/0	0/1	0/0
	2	10/0	16/11	1/0	0/0	3/5
	3	1/5	21/13	1/1	0/1	3/0
	Total	23/8	21/13	2/1	1/1	6/5
NHE	1	13/7	0/1	0/2	0/1	0/0
	2	16/19	1/0	2/1	0/1	0/0
	3	25/16	2/1	2/3	0/0	1/0
	Total	54/42	3/1	4/6	0/2	1/0

As can be seen, it seems that there may be differences to be pursued in False Starts. It seems that HEs may have a difference, using more hesitations in the

"household" language that in which teachers suggest they are so proficient. There also may be a difference in relying on Lexical Code-Switching in more academic language. For the HEs there also may be a difference in vocabulary knowledge. As can be seen, they had many more vocabulary errors in the more academic language task. However, these figures are given here only as a suggestion for possible research since further analyzation would be needed to decide which SOPI questions utilize which speech domains.

It may also be interesting to look at the background of the three HEs in this group more closely. The questionnaire showed a varied HE group. HE1 was born in the Philippines of Fukinese speaking parents. Up to age nine she spoke Fukinese and Philipino at home and attended a Mandarin school where she learned English, Mandarin, and Filipino. Her parents continue to talk to her in Fukinese and sometimes Mandarin, although she talks to them only in English. She was enrolled in second year Chinese at the time of the test and had never spent an extended period of time in a Chinese speaking country.

HE2's background is just as varied. Her father is from Guanxi province and her mother is a Mainland (Shandong Province) Taiwanese (Mainlanders who followed Chiang Kai Shek's Nationalist to Taiwan). She speaks English at home, although her mother claims that her first language was Chinese. As HE2 relates, her parents spoke only Mandarin to daughter number one, and a combination of Mandarin and English to daughter number two. By the time daughter number 3 (the subject) was born, the family was speaking English most of the time. She did attend weekend school for three years, where most of class time was spent learning and re-learning the Taiwanese system of the pronunciation alphabet. In college she began her Chinese studies in the second semester of first year Chinese and at the time of the test was studying in the end of her second year of Chinese. She also spent two months in Taiwan on a summer program with other Chinese-Americans.

HE3 was in Beijing for a year of study at the time of this research so I could not contact her personally. However, her close friend answered some questions about her. HE3's parents are from Taiwan and the Mainland and they speak Mandarin at home. According to the friend, HE3 started her Chinese college studies in the third year of Chinese, which is the class she was enrolled in at the time of the SOPI. She took summer Chinese classes and spent some extended period of time in Taiwan as a child.

There are a few points that may be of interest about the NHES as well. All come from English speaking homes. NHE2, who had three years of high school Chinese, started her college studies in the second semester of Chinese. She was enrolled in second year Chinese at the time of the SOPI. The two other NHEs were in third year Chinese and both had also spent a year in Beijing. Also of interest is that NHE3 was considerably older than the other subjects, having graduated from college in 1987. At the time of taking the SOPI, she was a graduate student.

Although statistical work is done on the frequencies of the groups as a whole, there were some outlying numbers in the data showing the variety of performance within the two groups. HE1, besides being the least verbose of all subjects, also had false start frequency, pronunciation error frequency and *jiu/cai* attempts that seem to fit more in the NHES group. HE2 had low lexical code-switching frequency, fitting more with the NHEs. She also made the only *de* errors found in the HE group. HE3 stands out only in that she had the few *le* attempts, only slightly more than the highest NHEs frequency.

The HE subjects in this study are a little studied group--they fit somewhere on the continuum of bilingualism, but are studying their L1. Can it be said that language loss occurred and that they are relearning what they had once acquired? It seems more likely that their Chinese development was arrested at some point or never developed in some domains. Further research would be required to confirm teacher intuition about the

nature of these domains. What is clear however is that despite their background, these HEs have not yet reached Advanced or Superior level, the level probed for by the SOPI.

Aside from code-mixing and a heavy accent, HEs knowledge and use of Chinese seems to be better in the area of vocabulary and word order knowledge. They also use markers *le* and *jiu* more often than NHEs, showing a certain comfort with forms different from English. This comfort level and difference is not reflected in the ACTFL guidelines. What is reflected, however, is that there are errors that may interfere with the ability of native speakers to understand, reflected in the errors that HEs did make.

Pronunciation errors may or may not interfere with a native person's ability to understand (as far as Chinese people from different regions understand each other), and may even indicate nativeness. However, the other errors made by the HEs suggest interference from English and lack of knowledge of Chinese. The vocabulary errors suggest an inability to talk in formal settings, and about topics probed by the Advanced and Superior SOPI questions. Although most words can be understood from context despite incorrect tones, when in combination with other problems these errors could cause many misunderstandings. Grammar errors can show an inability to expand and elaborate due to inability to mechanically connect ideas.

Thus the subjects in this sample, both HEs and NHEs seem to be described accurately by the Intermediate-Mid and Intermediate-High criteria However, there are some differences to which the ACTFL Guidelines may not be sensitive. The first indication that the ACTFL Guidelines may not be adequate for all students is the fact that they are geared to probing for qualities which make one an "educated native speaker." Therefore the scale may not be applicable to a non-educated, yet native speaker. Barnwell (1989) discusses the implications of this point as it came up in a rater training session for Spanish OPI:

> "several participants had trouble with our trainer's insistence that good Anglos might be placed higher than people who used Spanish every day of their lives for communication with family and friends." (p.45)

Thus the ACTFL scale may not show the full range of performances of HEs who may be limited in their L1 use in some domains, but proficient in others.

Another factor in the variable performance of the HEs may be the simulated nature of the SOPI, originally created to remedy the lack of live raters in the less commonly taught languages. Some subjects may not be able to overlook the mechanical nature of talking to a tape recorder and may feel awkward talking to a tape and causing the feeling of an unrealistic environment. . This may explain the shorter speech samples of the HEs (4930 morphemes to 5498 morphemes). Barnwell's further informal observation "suggests that the native-speakers react unfavorably to 'real-life' situation:"

> "A native speaker provides only short simple responses in such situations, whereas the nonnative gets fully into the spirit of the thing and often becomes garrulous...This effect is not surprising since the nature of language is a basic tool of thought and an integral part of the person's culture. While for the nonnative it is no more than a skill to be exhibited."(p.45)

This may indicate that HEs hover somewhere in between natives and nonnatives. They may have some sense that an OPI-like test, or any language test for that matter, does not utilize the functional purpose of language. Thus they may not be as comfortable pretending in a situation as their NHEs counterpart may be. HEs may have some intuitive sense for the language from their early exposure to it.

For this reason it seems that there is a need for different teaching strategies for this type of student. Aside from Christensen and Wu's unique program, most Chinese language programs do not take into account the differences between HEs and NHEs, causing, as one teacher claimed "an uncomfortable compromise" (Zhengsheng Zhang, personal communication, December 14, 1994). A teacher must teach to the level of students with no background, yet keep lessons interesting enough for those students with some background.

Although further research needs to be done on the exact nature of differences between HEs and NHEs, it is clear that current pedagogical methods should differentiate between the two groups, especially in the lower levels where NHEs are first being exposed to a language so different from English.

Despite the variety in their knowledge, HEs have enough basic knowledge to start formal Chinese studies from a different perspective. Because of the variation found even within the small sample used here, a larger sample would be needed to further investigate whether the findings of this paper are generalizable to a large proportion of HEs. If generalizations were found to be true, these could serve as a basis for native speaker Chinese programs that would allow HEs to progress faster. The Spanish program of Roca et al. could serve as a model. Such a program would teach these semi-bilinguals to recognize interference from their dialects (phonological as well as semantic and grammatical), and would push them faster to a higher level, possibly allowing them to skim through the Intermediate level to the Advanced much quicker.

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Appendix

Tables 1 & 2: Overall Chi-Square Values for Features Based on Total Morphemes

		Total Morphemes No FS, No LO	Lexical Code-Switching	Tone Errors	Pronunciation Errors	Vocabulary Errors	Total
HE	o	4349	68	264	348	90	5119
	e	4359.7	42.6	434.1	198.8	83.7	
NHE	o	4970	23	664	77	89	5823
	e	4959.3	48.4	493.9	226.2	95.3	
Total		9319	91	928	425	179	10942

Total Morphemes No FS, No LO	Lexical Code-Switching	Tone Errors	Pronunciation Errors	Vocabulary Errors
0.026	15.144	66.652	111.975	0.474
0.023	13.329	58.582	98.411	0.416
				X^2=365.032
				df=4, p<.01

Table 3 & 4: Overall Chi-Square Values Based on Clauses

		Total Clauses	Word Order Errors	Modal Errors	Verb Errors	Copula Errors	Total
HE	o	672	14	15	13	8	722
	e	653.6	27.4	15.1	16.5	9.4	
NHE	o	714	44	17	22	12	809
	e	732.4	30.6	16.9	18.5	10.6	
Total		1386	58	32	35	20	1531

Total Clauses	Word Order Errors	Modal Errors	Verb Errors	Copula Errors
0.517	6.553	0.0	0.742	0.208
0.462	5.867	0.0	0.662	0.184
				X^2=15.195 df=4, p<.01

Tables 5 & 6: Chi-Square Values for Morphemes Per Clause

		Total Morphemes No FS, No LO	Morphemes Per Clause	Total
HE	o	4349	6.5	4355.5
	e	4349.2	6.3	
NHE	o	4970	7.0	4977.0
	e	4969.8	7.2	
Total		9319	13.5	9332.5

Total Morphemes No FS, No LO	Morphemes Per Clause
0.0	0.006
0.0	0.005
	X^2=0.011 df=1, p<.01

Table 7 & 8: Chi-Square Values for False Starts

		Total Clauses	False Starts	Total
HE	o	672	274	946
	e	676.5	269.5	
NHE	o	714	278	992
	e	709.5	282.5	
Total		1386	552	1938

Total Clauses	False Starts
0.029	0.075
0.028	0.071
	X^2=0.203 df=1, p<.01

Tables 9 & 10: Chi-Square Values for Lexical Code-Switching

		Total Morphemes No FS, No LO	**Lexical Code-Switching**	**Total**
HE	o	4349	68	4417
	e	4374.3	42.7	
NHE	o	4970	23	4993
	e	4944.7	48.3	
Total		9319	91	9410

Total Morphemes No FS, No LO	**Lexical Code-Switching**
0.146	14.990
0.129	13.252
	X^2=28.517 df=1, p<.01

Tables 11 & 12: Chi-Square Values for Tone Errors

		Total Morphemes No FS, No LO	**Tone Errors**	**Total**
HE	o	4349	264	4613
	e	4195.2	417.8	
NHE	o	4970	664	5634
	e	5123.8	510.2	
Total		9319	928	10247

Total Morphemes No FS, No LO	**Tone Errors**
5.638	56.616
4.616	46.363
	X^2=113.233 df=1, p<.01

Tables 13 & 14: Chi-Square Values for Pronunciation Errors

		Total Morphemes No FS, No LO	**Pronunciation Errors**	**Total**
HE	o	4349	348	4697
	e	4492.1	204.9	
NHE	o	4970	77	5047
	e	4826.9	220.1	
Total		9319	425	9744

Total Morphemes No FS, No LO	**Pronunciation Errors**
4.558	99.939
4.242	93.037
	X^2=201.776 df=1, p<.01

Tables 15 & 16: Chi-Square Values of Vocabulary Errors

		Total Morphemes No FS, No LO	**Vocabulary Errors**	**Total**
HE	o	4349	90	4439
	e	4313.6	125.4	
NHE	o	4970	181	5151
	e	5005.4	145.6	
Total		9319	271	9590

Total Morphemes No FS, No LO	**Vocabulary Errors**
0.290	9.993
0.250	8.606
	X^2=19.139 df=1, p<.01

Tables 17 & 18: Chi-Square Values for Word Order Errors

		Total Clauses	**Word Order Errors**	**Total**
HE	o	672	14	686
	e	658.4	27.6	
NHE	o	714	44	758
	e	727.6	30.4	
Total		1386	58	1444

Total Clauses	**False Starts**
0.280	6.701
0.254	6.084
	X^2=13.319 df=1, p<.01

Tables 19 & 20: Chi-Square Values for Modal Errors

		Total Clauses	Modal Errors	Total
HE	o	672	15	687
	e	671.5	15.5	
NHE	o	714	17	731
	e	714.5	16.5	
Total		1386	32	1418

Total Clauses	Modal Errors
0.0	0.0
0.0	0.0
	X^2=0.0 df=1, p<.01

Tables 21 & 22: Chi-Square Value of Verb Errors

		Total Clauses	**Verb Errors**	**Total**
HE	o	672	13	685
	e	668.1	16.9	
NHE	o	714	22	736
	e	717.9	18.1	
Total		1386	35	1421

Total Clauses	**Verb Errors**
0.022	0.900
0.021	0.840
	X^2=1.783 df=1, p<.01

Tables 23 & 24: Chi-Square Value for Copula Verb

		Total Clauses	**Copula Verb Errors**	**Total**
HE	o	672	8	680
	e	670.3	9.7	
NHE	o	714	12	726
	e	715.7	10.3	
Total		1386	20	1406

Total Clauses	**Copula Verb Errors**
0.004	0.297
0.004	0.280
	X^2=0.585 df=1, p<.01