

Shocking Our Students to the Next Level: Language Loss and Some Implications for Teaching Chinese as a Foreign Language

Jeffrey J. Hayden
University of Hawai'i at Manoa

Abstract: This paper looks at the language loss of students studying Chinese as a foreign language (CFL). The data were gathered from 64 students studying CFL in a university setting. Reading proficiencies were established using the Computer Adaptive (Proficiency) Test for Reading Chinese (CATRC). Descriptive statistics show that while most students maintain reading proficiency levels between learning periods, some attrition is observed. However, in light of the data, it is argued that some programs and textbooks create a chasm between where they leave their students at the end of one level of instruction and where they expect students to be at the beginning of the next level. This chasm, as well as the approaches on either side, are believed to create additional difficulties for both students and teachers. The paper suggests that successful attraction to and maintenance of enrollment in college language instruction is directly related to student satisfaction as it is weighed by several factors including course load and speed.*

Keywords: Chinese language, foreign language, language learning, language attrition, reading proficiency, assessment, curriculum design.

Introduction

Literature review

As a field of inquiry, natural¹ language attrition research is quite young. Its 'conception' can be placed at a May 1980 conference in Philadelphia (Oxford 1982, Weltens and Cohen 1989, and Hansen 2001). Since that time, scholars researching language attrition have offered various definitions of what language loss is. Lambert and Freed (1982) broadly define language attrition as 'the loss of any language or any portion of language by an individual or a speech community.'

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¹ None of the definitions provided here apply in relation to language loss due to illness or injury, such as aphasia, which would fall more under the area of so-called 'pathological language loss'.

Similarly, Oxford (1982:160) says that “‘language loss’ refers to loss or attrition of skill in one’s native language (L1) or a second or foreign language (L2).’ A definition more specific to the purpose of this paper is offered by Gardner, Lalonde, and MacPherson (1985), where ‘second language attrition refers to the loss of proficiency in a second language due to lack of use over time.’² Their 1985 study looked at French as a second language students six months after leaving an immersion program in Canada. I essentially adopt their definition here as I am concerned with language loss over time, namely, a summer break of about three months.

Yoshitomi (1992) argues persuasively for a neurobiological and psycholinguistic basis for a model of second language acquisition and attrition. Basing much of her explication on Squire (as cited in Yoshitomi 1992), she concludes that ‘both language acquisition and attrition are consequences of neural plasticity’ (p. 311). In other words, the stimulation of neural connections determines the strength or permanence of something held in memory, and the stronger the connections, the less likely attrition will occur. Two separate but related hypotheses, the Reverse Order Hypothesis (ROH)³ and the Inverse Relation Hypothesis (IRH), are said to be characteristic of neurobiological language attrition. The ROH — or, more simply, ‘last learned, first forgotten’ — says that attrition is a more or less sequential reversal of learned material. It is suggested that by following a course of study backwards, one could virtually predict in what order someone who discontinues learning will lose what they had learned. Similarly, the IRH — or, more simply, ‘better learned, better retained’ — says that the more ‘secure’ learned material is held in memory storage, the less likely it will be for that material to be lost through attrition. Frequent input and rehearsal are examples of such stimulation that would increase connection strength, making learned material more robust.

Despite the increasing attention being given to second language attrition in western languages in the past ten years, and more recently to L1/L2 Japanese, very little has been done in terms of students of Chinese as a second or foreign language (CFL). In the field of cognitive linguistics, the evidence seems quite clear that the nature of Chinese characters is such that they increase demands on mental processing mechanisms and require more effort to learn and remember (Ning 2001, although I am unclear how concurrently exposing students to both traditional and simplified forms of Chinese characters minimizes cognitive load, as she suggests).

² Claiming to simplify matters, de Bot and Weltens (1995) identify ‘loss’ as an umbrella term that includes ‘attrition’. Andersen (1982), however, says that it is ‘attrition’ which is the general term under which falls ‘language loss’.

³ Also called the ‘regression hypothesis’ (de Bot and Weltens 1995, Hansen 2001).

This extra required effort during the learning process can be a good thing as Hansen and Chantrill suggest ‘that a literacy with a maximal neural distribution which Japanese [and Chinese] typifies, may be more likely to promote language retention than other literacies. (1998:281) Since we must now realize the additional cognitive load placed on students of CFL in learning Chinese characters, we must also consider, if we have not yet seen it firsthand, that unless they have been firmly learned by students, Chinese characters may be among the first casualties lost to non-use, or at the least become subject to what Lambert and Freed (1982:3) and Andersen (1982:111, 113) refer to in passing as ‘linguistic erosion’ or ‘linguistic reduction’.

Purpose

The traditional methods of writing and rewriting characters for various types of homework, including making flashcards, are said to be tried and true. Yet, even the more creative teachers seem hard-pressed to find a less painfully mind-numbing endeavor to silence the cries and groans of their students. As de Bot and Weltens point out, language attrition research can impact foreign language curriculum planning, teaching, language course design and teaching methods (1995:152). Assuming that there is a point at which a student reaches critical mass and is unable to hold any more in a particular learning period, there is a practical need to investigate how much we can expect our students to manage during any given course of time. There is also a need to know how much of what has been taught will be lost or forgotten if and when students return to continue after three months of mental unwinding. Thus, there are two research questions guiding this study:

1. Do beginning and intermediate level CFL students experience any attrition in reading proficiency after a three-month break in language study? If so, to what extent?
2. Is there a disconnect between students’ reading proficiency levels after a three-month break in language instruction on the one hand and the instructional goals as set out by some beginning to intermediate programs and/or textbooks on the other?

These questions deserve investigation for two reasons. First, the questions have not been asked before in relation to Asian languages in general, nor in terms of foreign language reading proficiency. The majority of studies being undertaken

are still primarily focussed on attrition of spoken language skills such as phonology, vocabulary, grammar. Second, if students are experiencing attrition of language proficiency skills, this type of research could inform on the design of textbooks. Any evidence of attrition, or the lack thereof, the more closely first- and second-year textbooks of a series should be tied together to accommodate relearning of linguistic familiarities that may have been weakened. Interviewees of de Bot and Weltens (1995) suggest 'the use of familiar [content] rather than new materials' at the resumption of language study would make getting back into the language quite a bit smoother.

Despite some accounts of apparent gains in proficiency after such a short period as three months (de Bot and Weltens 1995), I hypothesize that there will be a slight but measurable degree of attrition among beginning and intermediate students. Thus, the purpose of this paper is to investigate the early stages of language attrition and to speculate on how that type of erosion impacts on students' experiences in transitioning from one level of language learning to another. This study takes into account two of the three methods identified by Ross (2001) in measuring learner levels, namely, proficiency and length of study, with no consideration of the method of skill inventory in this study.

When conducting the type of language attrition research that is undertaken here, Gardner (1982) identifies three time periods that one must keep in mind. Time 1 (T1) is generally defined as the point just before first exposure to the language occurs. Time 2 (T2) is defined as the end of a period of active learning. T1 and T2 taken together are seen as the 'Activation Period'. Time 3 (T3) is some point in time during what Gardner (1982) refers to as an 'Incubation Period' or what Bahrick (1984) terms the 'retention interval'. It is during the period of time between T2 and T3 (which could range anywhere from 3 months to 50 years, depending on the research study) where it is assumed that no stimulation of language content occurs. T3 could also be seen as a type of T1 in that it could signal (or just precede) another period of activated learning (T1-T2). These three points in time could be marked continuously throughout a student's language learning experience, as illustrated in Figure 1.

CHN401-402								T1	T2	
CHN301-302								T1	T2	T3
CHN201-202								T1	T2	T3
CHN101-102								T1	T2	T3

Figure 1. Tier progression of time (short-duration) in language acquisition and attrition research.

Method

Participants

64 college students at the University of Hawai'i took part in the first part of this study. These students came from four first-year and two second-year (second semester) sections of Chinese as a foreign language. All students were between 18-25 years of age. For this study, it is assumed that the first-year students had approximately 130 hours of Chinese language instruction, and the second-year students had about 270 hours.⁴

Materials

The instrument used to assess participants' reading proficiency was Professor Tao-chung (Ted) Yao's Computer Adaptive (Proficiency) Test for Reading Chinese (CATRC)⁵. The CATRC, is, as its name implies, a computer-adaptive test (CAT) that tests examinees' proficiency in reading Chinese. This test is a Macintosh-only set of HyperCard 'stacks' (a file associated with the HyperCard application). There are over 440 items in the CATRC item bank, roughly 40 items per level (as described in the ACTFL Chinese Proficiency Guidelines 1987) with more total items available at the Superior level (approximately 140).

Except for the Superior level, each level's set of items is stored in one HyperCard stack. The Superior level items are divided into seven stacks. The test randomly selects items to present to each examinee from the different stacks. When an examinee answers a question correctly, by way of an algorithm he or she is given an item of equal or greater difficulty; if the examinee answers a question

⁴ This was calculated at 70 class-hours per semester, with the first- and second-year students being given the test approximately two weeks (ten class periods) before the final. Student attendance records were not consulted.

⁵ A copy of this test may be requested by visiting <http://EALL.hawaii.edu/yao/catrc/>.

incorrectly, the program then randomly selects an item of similar or lesser difficulty. Through this process the application determines an examinee's reading proficiency level (much like the computer-based Graduate Record Examination).

The CATRC has been shown to be reliable and valid for all levels ranging from Novice-Low to Superior (in particular, see Yao 1994, 1995, Watanabe 1998, and Hayden 1998). Watanabe and Yao (1998) examined the validity of the CATRC by comparing it to the Preliminary Chinese Proficiency Test (Pre-CPT) and found high correlation (Watanabe 1998). In my experience, however, it is not a precision instrument. This goes hand-in-hand with what it purports to measure, namely, reading proficiency as defined by the ACTFL Reading Proficiency Guidelines for Chinese (1987). While it has been noted that the CATRC is actually a rather blunt tool, it is still useful for quick benchmarking. So until such time as either the ACTFL Guidelines or the CATRC can be more finely tuned, it stands as a rough and ready assessment device useful for obtaining a best guesstimate of a student's reading proficiency level in Chinese.

Figure 2 shows a sample 'card' from the CATRC. At the very top center of the card in the (gray) title bar is the name of the stack (file), which happens to be the ACTFL proficiency level.⁶ In the top box (field) is the Chinese text. From levels Novice Low to (roughly) Intermediate Mid, examinees are presented with both simplified and traditional characters together on one card. For the levels Intermediate High and above an item will either be in simplified or complex characters, but not both. Also included in the upper box is a one-line English cue. The box on the bottom contains the multiple-choice item (all in English). Participants make their selection by using the mouse to click on the letter that corresponds to their answer. There is only one English question per Chinese text passage.

⁶ The only version of the test available was designed and written in the early to mid-1990s when there were only nine ACTFL levels (Novice Low-Mid-High, Intermediate Low-Mid-High, Advanced, Advanced Plus, and Superior). There are no plans to update this test to reflect the current ten ACTFL proficiency levels (modified from Advanced-Advanced Plus to Advanced Low-Mid-High in the late 1990s).

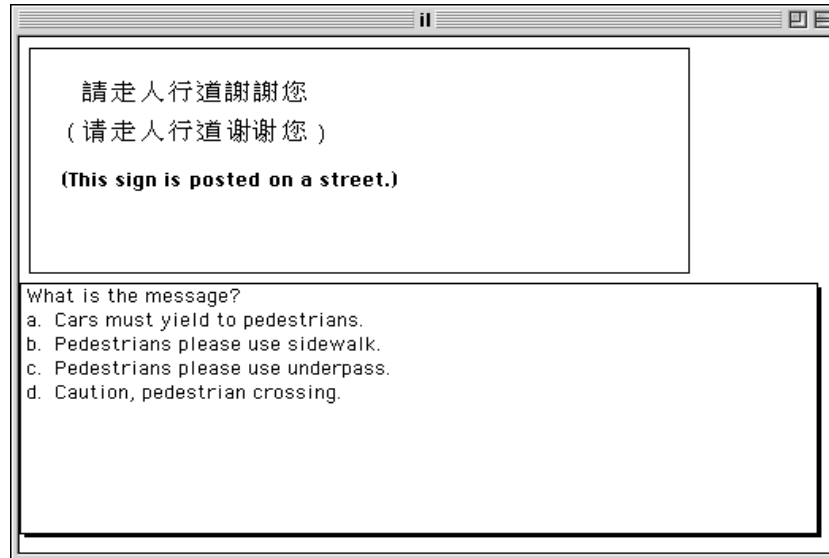


Figure 2. Sample card from Yao's CATRC (1998).

Procedures

At T2 near the end of the academic year (during the second semester of a two-semester first-year CFL course), 39 first-year students (23 male, 16 female) and 25 second-year students (11 male, 14 female) took the CATRC to assess their reading proficiency. Students were taken during regular class time period to the college Macintosh computer laboratory where the test is installed on each of the 15 Macintosh computers⁷. Students were guided to the initialization file, and then briefed as to how to best complete the test.

Since the test is computer-adaptive, each examinee essentially gets a different test from every other examinee. Also, since the items are not numbered, students have no sense of how many items they have completed or how many items they may have remaining. This element of uncertainty sometimes causes students to become restless after an extended period of reading items and answering questions with no apparent end in sight. It has proven beneficial, if not calming, to explain this format to examinees before they actually begin the test. Part of the pre-test explication includes mentioning that each examinee is given about 25-30 questions

⁷ The CATRC has been proven to work on any Macintosh computer, 68040 to G4, MacOS 7.1 through OSX.

on average and that each examinee will need about 30-45 minutes for the test to complete its assessment. This is usually sufficient to keep examinees dutifully focussed for the duration of the test. While there is no time limit to complete the test, once it has begun, it cannot be stopped; it must be run from start to finish in order to obtain a proficiency assessment; neither can examinees go back over previous test items.

At T3, 29 of the original 70 students were re-tested. After a three-month summer vacation, 41% of the first-year students (n=22; 13 male, 9 female) and 28% of the second-year students (n=7; 2 male, 5 female) returned in the fall for the beginning of the next academic year to complete the second half of the research. They again took the CATRC to determine whether evidence of attrition could be detected (by comparing the two ratings obtained at T2 and T3), and, if so, to what extent.

Analyses

The research approach used for this paper can be categorized following Clark's (1982:148) description as a 'prospective assessment situation'. Actually, while this type is defined as taking assessment at Time 2 (i.e. the end of a study period) and Time 3 (i.e. some point during the so-called incubation period), Time 3 in this study was done about three to four weeks after students had already resumed study during fall semester. This is similar to Kennedy's study of Latin students (as cited in Oxford 1982:161). This delay in assessment cannot be discounted as a reason for the narrow differences in the following data. The fact that students may have relearned what had gone dormant may have been good for the students but bad for the researcher.

Several confounding issues may have affected the results. The first issue was with students who worried about how long the test was taking to finish. Since the testing sessions were held during regular class hours, many students became preoccupied or otherwise distracted as time drew closer to the end of class, especially if they had another class immediately following. The average time for students at the first- and second-year levels at T2 was 34:32 and 38:57, respectively, while the average times at T3 for the same groups were 29:36 and 25:57. Students were told that they were free to leave the testing center once they had completed the test. This may have led to the second issue. During the testing sessions it was obvious that several students were simply randomly selecting

answers (at least one student selecting the same single choice, e.g. 'c', for each item) in order to finish more quickly (needless to say this also skews the data).

Results

The individual results of each Computer Adaptive (Proficiency) Test for Reading Chinese (CATRC) taken at T2 and T3 for both first- and second-year students can be seen in Table 1. The mean proficiency level for the first-year group remained the same, while the mean proficiency level of the second-year group decreased over the summer. This suggests some underlying potentially negative change that needs to be clarified in a future study. The reason for the decrease in the second year group can most likely be largely attributed to the small resulting sample size at T3, where at T2 there were 25 participants, which dropped down to just 7 at T3. As is the nature of participant mortality in research studies, it is unknown for sure why those students did not return for third-year language instruction.

From Table 1 we see that the average reading levels at the beginning of the summer for First-year went from roughly 4.9⁸ to roughly 4.6 at the beginning of the fall semester, and Second-year went from 5.4 at the beginning of the summer to 4.8 at the beginning of the fall semester. Curiosities in the above table include the fact that five students finished the First-year level at either an Advanced or Superior level and two Second-year students were assessed at the Superior level at the end of the academic year.

⁸ Averages were figured by converting the ACTFL levels to a numerical representation of 1 through 9 as follows: Novice (1=Low, 2=Mid, 3=High), Intermediate (4=Low, 5=Mid, 6=High), Advanced (7=Advanced, 8=Advanced Plus), and Superior (9). These numerical representations are also used in Figures 3, 4, and 5, below.

Table 1. Losses and Gains in Reading Proficiency as Measured at Time 2 and Time 3.**

CHN102-201				CHN202-301			
ID#	RP-T2	-/=/+	RP-T3	ID#	RP-T2	-/=/+	RP-T3
102	IL	-	NM	204	IH	-	NM
104	IL	-	NM	218	S	-	AL
118	IL	-	NM	221	S	-	IH
119	AP	-	AL				
125	AP	-	NM				
101	IL	=	IL				
103	IM	=	IM				
109	IM	=	IM				
110	IM	=	IM				
114	IL	=	IL				
117	NH	=	NH				
120	NM	=	NM				
122	NH	=	NH				
128	AP	=	AP				
130	S	=	S				
132	IM	=	IM				
105	IL	+	IM	206	NM	+	IL
108	AL	+	S	207	NH	+	IL
112	IM	+	AL	210	IL	+	IM
116	NH	+	IL	225	IM	+	IH
135	IM	+	IH				
140	NH	+	IL				

** The above abbreviations are of the ACTFL Proficiency Levels, where NL=Novice Low, NM=Novice Mid, NH=Novice High, IL=Intermediate Low, IM=Intermediate Mid, IH=Intermediate High, AL=Advanced, AP=Advanced Plus, and S=Superior. The symbols '-/=/' indicate whether there was a decrease ('-'), no change ('='), or increase ('+') in assessed reading proficiency. 'RP-T2' and 'RP-T3' are assessed reading proficiency (RP) levels at Time 2 (T2) and Time 3 (T3).

Discussion

The question as to whether and to what extent beginning and intermediate level CFL students experience any attrition of language skills, specifically reading

proficiency, after a three-month break in language study, has, to a certain extent, been addressed and answered in this study. Based on the results of the CATRC, students overall seemed to maintain their proficiency, though the data does seem to give indication of general erosion. While a majority of students showed neither loss nor gain in their reading proficiency level, there are quite possibly certain extenuating circumstances that influence the data. Most importantly, perhaps, there was no incentive for the students to do their best on the first administration as they were simply told that it was being used as a diagnostic assessment of the program. Consequently, it was noticed that many students were simply clicking on the same answer for all items and finishing much faster than previously recorded time ranges. For the second administration, however, students were told that performance on the test could affect their ability to continue to take the course they were enrolled in if they did not reach a certain level (which was unspecified). As a result, students were generally much more focussed during the post-test.

Still, at this point I believe it is possible to speculate on the psychological effects of what happens when students' potentially weakened reading proficiencies are mismatched with curricular expectations that are somewhat higher. A popular saying has it that 'nothing comes from nothing', and, by extension, if no learning is undertaken, then no knowledge or skills will be developed. Similarly, common sense alone would seem to predict that students' reading proficiencies in CFL will not increase after a period of disuse.

Figure 3 shows the estimated progress *traditional* students might make in a given language program. This model assumes that at the beginning of language study these students tend to start off equally at '0' (what Ross 2001 calls the 'ideal classroom'), essentially knowing nothing and unable to function in or with the language. At the end of the first academic year for this particular program, the students have on average reached an Intermediate Low proficiency level, with some students actually only attaining a Novice High level.

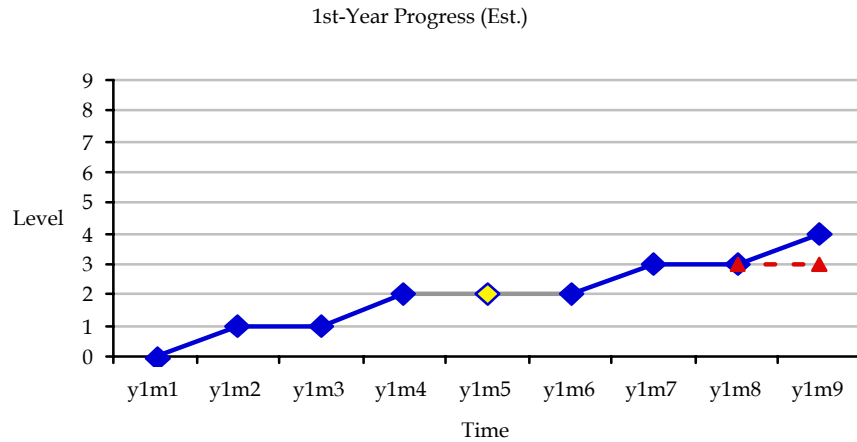


Figure 3. Estimated average reading proficiency progress of first-year CFL students. (Note: y='year', m='month'.)

Figure 4 shows the estimated progress second-year students make over the course of an academic year. Notice that some will begin the term at or below the proficiency level they reached by the end of the previous term that ended just three months before.

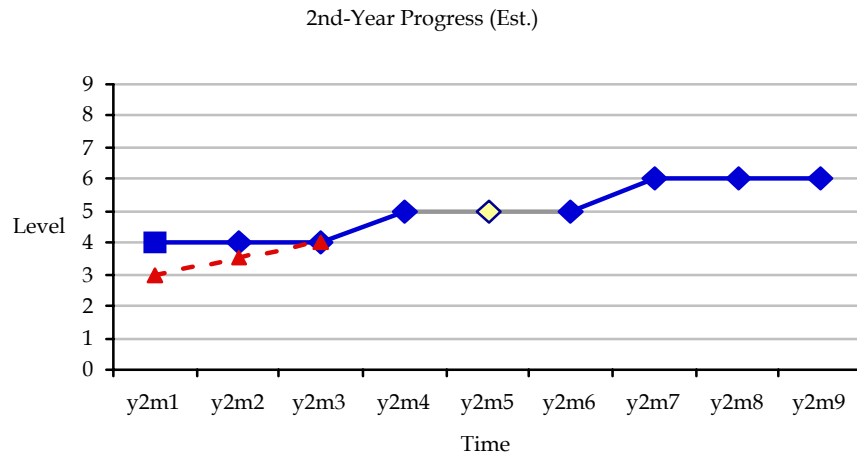


Figure 4. Estimated average reading proficiency progress of second-year CFL students. (Note: y='year', m='month'.)

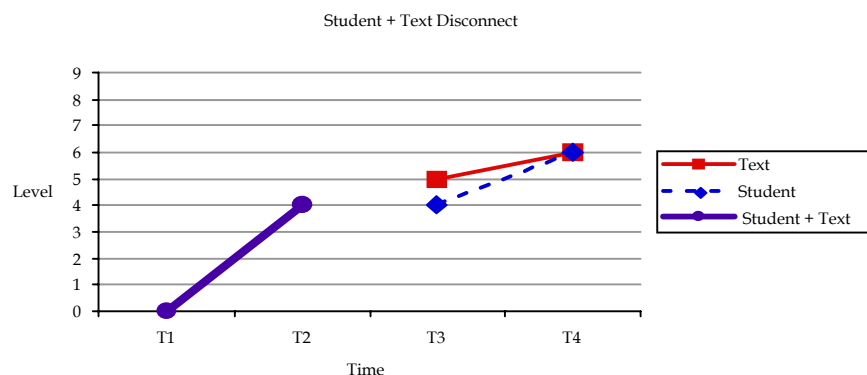


Figure 5. Example of possible disconnect between curriculum and student proficiency. (T1-T2 = First-year Chinese study, T3-T4 = Second-year Chinese study)

Looked at another way, in Figure 5 above, following a student going from T1 to T2 (i.e. First-year Chinese), the proficiency levels that we might see students attain progress in step with the proficiency levels covered in the textbook. However, at T3 (when the average student returns from an extended period of time away) we see that the curriculum actually seems to have continued while the student (who typically does not study during the three months of vacation) remains or even drops from where they had left off. This has been noted by Ross (2001), who says

Learners do not retain all of the information that they learn in the beginning level, and beginning level courses typically do not introduce all of the possible basic information about Chinese. Therefore, at the end of the beginning level and the start of the intermediate level, the learner has a foundation with gaps. (p. 5)

In the first year, then, a first-year Chinese language textbook may propel a student up through three or four proficiency sub-levels (Novice Low-Mid-High and, occasionally, Intermediate Low), but then the second-year textbook may start higher and only increase by two or three sub-levels (Intermediate Low-Mid-High). Ross (2001) alludes to this when she states that '[t]he relatively consistent level of difficulty in the central texts ... suggest in the past 50 years we have not appreciatively changed our evaluation of the reading level and reading skills that define intermediate Chinese.' (p. 16)

In a sense, this notion that intermediate texts do not seriously consider filling in gaps is consistent with the now classic picture of language acquisition as represented by an inverted pyramid (Omaggio Hadley 2001:13), where the proficiency of a student is filled from the point at the bottom, goes through a learning of the basics, and gains in both vocabulary and grammar, as well as increases in the range of one's linguistic awareness. However, this inverted pyramid does not appear to take language attrition into consideration, and to a certain extent misrepresents a traditional student's progress as continuing without interruption or gaps.

There should be a natural and gradual progression of proficiency that students are guided through if they are to maintain a positive attitude towards their language learning experience. As it is, many programs and textbooks seem to take a less-than-realistic approach and instead appear to see only the final proficiency level they want the student to reach. If the final proficiency we want our students to attain becomes our only focus, we may have lost sight of one of our primary roles as teachers and facilitators.

Some programs adopt a textbook series that ends at one level at the end of an academic year (e.g. Intermediate Low), but begin at a higher level the following year (e.g. Intermediate Mid). Because of this, we see the introduction of a chasm that students are required to traverse. The resulting shock suffered by the students has the potential to negatively impact the motivation and attitude of those students as they continue from proficiency level to proficiency level, rather than positively influencing, and ideally bolstering, the language they do acquire.

Given what we know about language loss/attrition, it almost seems counter-intuitive to expect our students to be at a higher level of proficiency than they had when they left our classroom. Yet, many programs and textbooks seem to ignore previous experience when making decisions about intermediate level content. In order to alleviate this type of shock to the student, a simple solution would be to work into the syllabus a period of time (from at least three to up to five or six class days) devoted to the review of key vocabulary and grammatical structures that returning students had been exposed to in the language program's first year curriculum. Berko-Gleason suggests and Andersen supports the hypothesis that the most recently learned material would be the first to be lost (as cited in Olshtain 1989). Bahrick (1984) similarly echoes such a hypothesis in his study. This review process could serve a dual function for newly-placed students in familiarizing them with the program they have just joined.

As facilitators, teachers need to periodically, if not frequently, reinforce a ‘can-do’ attitude among students. Empathizing with the students’ feelings that Chinese is difficult, teachers could agree with the students, but add the encouragement that the students are accomplishing much and the teacher is proud to see them making such great progress. One type of presentation that I have found my students can readily grasp is that given in Tables 2 and 3.

Table 2. Estimated Time Needed to Reach Oral Proficiency Levels[†]

	8 weeks (240 hrs)	16 weeks (480 hrs)	24 weeks (720 hrs)	32 weeks (960 hrs)	44 weeks (1320 hrs)	64 weeks (1920 hrs)	80-92 weeks (2400-2760 hrs)
3+					SPN		
S 3					GER		CHN
AH 2+			SPN		RUS		
A 2		SPN	GER RUS		CHN		
IH 1+	SPN	GER	CHN				
IL-I M 1		RUS CHN					
NH 0+							

[†] Based on Average Language Aptitude in an ‘Ideal’ Context; (i.e. 5 days per week, 6 hours per day = 30 hrs per week)

Note: 1 week = 30 hours/5 hours per day; 16 weeks = 1 semester, 44 weeks = ~3 semesters/1.5 years, 92 weeks = ~6 semesters/3 years.

FSI Language Groups:

Group I: Afrikaans, Danish, Dutch, French, Haitian Creole, Italian, Norwegian, Portuguese, Romanian, **SPANISH**, Swahili, Swedish

Group II: Bulgarian, Dari, Farsi, **GERMAN**, Greek, Hindi, Indonesian, Malay, Urdu

Group III: Amharic, Bengali, Burmese, Czech, Finnish, Hebrew, Hungarian, Khmer, Lao, Nepali, Philipino, Polish, **RUSSIAN**, Serbo-Croatian, Sinhala, Thai, Tamil, Turkish, Vietnamese

Group IV: Arabic, **CHINESE**, Japanese, Korean

(from Omaggio Hadley 2001:26)

Table 2 presents a general picture of ‘professional language learners’, in this case, military personnel. This chart indicates how much they are expected to accomplish in a given span of time compared with languages of other groups (as defined in terms of increasing difficulty for a native speaker of English). For example, at the Defense Language Institute (DLI), personnel are expected to reach an Advanced Chinese proficiency level in about ten months, while the same level for Spanish is accomplished in just four months.

Table 3. Estimated Time Needed to Reach Oral Proficiency Levels for Chinese (Group IV)^{††}

	16 Weeks (~75 hrs)	32 Weeks (~150 hrs)	64 Weeks (~300 hrs)
A 2			
IH 1+			CHN202
IL-IM 1		CHN102	
NH 0+	CHN101		

^{††} Based on Average Language Aptitude in a ‘Real’ Context (essentially 5 days per week, <1 hour per day = <5 hours per week)

Note: 16 weeks = 1 semester, 32 weeks = 2 semesters (1 year),

64 weeks = 4 semesters (2 years); 1 week = <5 hours/<1 hour per day.

Table 3 shows what proficiency levels traditional students of Chinese as a foreign language can potentially attain after one, two, and four semesters, respectively.

The design and implementation of this study has generated issues that may be taken up in future research. The first, as Clark (1982) points out, and as is still the case twenty years later, is that there is yet to be developed a reading proficiency test that provides precise and detailed information about a student’s proficiency level. Additional questions that need to be asked in relation to language attrition are, for example, What effect do student attitudes and motivation have on language retention or loss? What happens to language skills when students become over-

whelmed with a course load? What happens to students' attitudes and motivational orientations if faced with an increased workload?

Conclusion

Typically there are two main vacation periods that break up ongoing academic study: winter break and summer break. The first is roughly one month in length, and the second is about three months long. Both of these periods away from instruction, which may be the only exposure most students have to the language in the first place, can affect varying degrees of language loss in students that can either be considered as 'incubation' periods, 'retention' intervals, or 'erosion' phases. As Lowe (1982) reports, general loss of language skills usually follows the order of first speaking (productive), then understanding (receptive comprehension), and then reading (also receptive comprehension). In particular, students at the lower levels who experience longer breaks in language instruction require more review of material.

Considering the results of the pre-experimental study⁹ conducted in this paper, especially in terms of participant mortality, there is strong indication of the influence of a two-year foreign language requirement on students' motivation for continuing to take CFL courses. Only 41% of first-year students and only 28% of second-year students returned in the fall for the beginning of the next academic year and the next level of Chinese language instruction.

One challenge that faces many college first- and second-year Chinese as a foreign language (CFL) programs is how to attract and keep students while maintaining a desired level of quality and rigor. This can be especially difficult when students have a variety of options to choose from and can easily switch to a more 'accommodating' language. Students at colleges with foreign language requirements (typically two years) built into their undergraduate degree programs, will generally choose a path of least resistance. This may be shown, as cited in Yang (2003), by the fact that in 1999, 23% and 53% of students in Chinese and Japanese, respectively, were taking the language to satisfy requirements, compared to 83%, 77%, and 82% of students in French, German, and Spanish, respectively. Similarly, many students of Chinese, heritage and non-heritage alike, still only

⁹ Oxford (1982) notes that the majority of language attrition research she reviewed falls into three design categories: either pre-experimental, quasi-experimental, or descriptive research and case studies. (p. 165) Cohen (1986) agrees with Oxford (1982) and further says that "pre-experimental" [studies] ... do not meet the stringent requirements of experimental research and, as a result, are subject to criticism on the grounds of methodological inadequacy. On the other hand, given their qualitative thrust and descriptive benefit, such studies have provided insights for other studies.' (p. 155)

plan to take the required minimum. How to make those two years enjoyable, as well as ensuring that the students actually walk away having learned something, lies at the heart of the issue discussed here.

提要：本文主要探討在學漢語為外語的學生中之語言流失問題。數據是從六十四個在美國大學環境裡學漢語為外語的大學生收集而分析的。每一個學生的閱讀能力水平是用夏威夷大學的姚道中教授創造的中文閱讀（水平）電腦適性測驗 (CATRC) 來評量的。雖然描述性統計分析顯示大部分的學生在學期與學期之間能保持他們已達到的閱讀能力水平，但也可以看到語言流失的現象。根據數據，某些中文課程與課本的設計中顯示出一種現象，即在學生於一學年末達到的水平與教師認為學生於次學年初仍保持的水平之間存在著一條鴻溝。這條鴻溝，以及學生和教師試圖跨越該鴻溝的種種措施，也可能給學生和教師們帶來更大的困難。本文提到吸引與支持學生繼續選修大學語言課的成功與否跟以課程負擔、速度等為因素的學生滿意度有密切的關係。

References

- ACTFL Chinese Proficiency Guidelines. 1987. *Foreign Language Annals* 20.471-487.
- Andersen, Roger W. 1982. Determining the linguistic attributes of language attrition. *The loss of language skills*, ed. by Richard D. Lambert and Barbara F. Freed, 83-118. Rowley, MA: Newbury House.
- Bahrlick, Harry P. 1984. Fifty years of second language attrition: Implications for programmatic research. *The Modern Language Journal* 68.105-118.
- Clark, John L. D. 1982. Measurement considerations in language attrition research. *The loss of language skills*, ed. by Richard D. Lambert and Barbara F. Freed, 24-43. Rowley, MA: Newbury House.
- Cohen, Andrew. 1986. Forgetting foreign language vocabulary. *Language attrition in progress*, ed. by Bert Weltens, Kees de Bot, and Theo van Els, 143-158. Dordrecht, Holland: Foris.
- de Bot, Kees, and Bert Weltens. 1995. Foreign language attrition. *Annual Review of Applied Linguistics* 15.151-164.
- Edwards, A L. 1996. Reading proficiency assessment and the ILR/ACTFL text typology: A reevaluation. *The Modern Language Journal* 80.350-361.
- Gardner, Robert C. 1982. Social factors in language retention. *The loss of language skills*, ed. by Richard D. Lambert and Barbara F. Freed, 24-43. Rowley, MA: Newbury House.

- Gardner, Robert C., R. N. Lalonde, and J. MacPherson. 1985. Social factors in second language attrition. *Language Learning* 35.519-540.
- Ginsberg, Ralph B. 1986. Issues in the analysis of language loss: Methodology of the language skills attrition project. *Language attrition in progress*, ed. by Bert Weltens, Kees de Bot, and Theo van Els, 19-36. Dordrecht, Holland: Foris Publications.
- Hansen, Lynne. 1999. *Second language attrition in Japanese contexts*. Oxford: Oxford University Press.
- Hansen, Lynne. 2000. Language attrition: A comprehensive bibliography. <http://www.byuh.edu/courses/lang/attritionbiblio/intro.htm>
Retrieved July 17, 2003.
- Hansen, Lynne. 2001. Language attrition in contexts of Japanese bilingualism. *Studies in Japanese bilingualism* ed. by Mary Goebel Noguchi and Sandra Fotos, 353-372. New York: Multilingual Matters Ltd.
- Hansen, Lynne, and Ching-Fen Chantrill. 1999. The effects of literacy on the attrition of L2 Chinese by English-speaking adults. *Proceedings of the Third Pacific Second Language Research Forum*, ed. by Peter Robinson, vol. 1, 279-286. Tokyo: PacSLRF.
- Hayden, Jeffrey J. 1998. The influence of a semester abroad on reading proficiency: A descriptive study. *Journal of the Chinese Language Teachers Association* 33.13-24.
- Lambert, Richard C., and Barbara F. Freed. (eds.) 1982. *The loss of language skills*. Rowley, MA: Newbury House.
- Lambert, Richard, and Sarah J. Moore. 1986. Problem areas in the study of language attrition. *Language attrition in progress*, ed. by Bert Weltens, Kees de Bot, and Theo van Els, 177-186. Dordrecht, Holland: Foris.
- Lowe, Jr., Pardee. 1982. The U.S. government's foreign language attrition and maintenance experience. *The loss of language skills*, ed. by Richard D. Lambert and Barbara F. Freed, 176-190. Rowley, MA: Newbury House.
- Ning, Cynthia Y. 2001. Second language studies and college-level Chinese language textbooks in the U.S. *China Review International* 8.34-56.
- Ohlstein, Elite. 1989. Is second language attrition the reversal of second language acquisition? *Studies in Second Language Acquisition* 11.151-165.
- Omaggio Hadley, Alice. 2001. *Teaching language in context*. Boston, MA: Heinle & Heinle.
- Oxford, Rebecca L. 1982. Research on language loss: A review with implications for foreign language teaching. *The Modern Language Journal* 66.160-169.

- Park, Siwon. 1999. Testing the EFL skills and text hierarchy of the ACTFL Reading Guidelines. *Masters Abstracts International*, 38.329. (UMI No. AAT 1397400)
- Ross, Claudia. 2001. Evaluating intermediate Chinese textbooks. *Journal of the Chinese Language Teachers Association* 36.1-22.
- Watanabe, Yuichi, and Tao-chung Yao. 1998. Examining the validity of the Computer-Adaptive Test for Reading Chinese. Paper presented at the Second Annual College wide Conference for Students in Languages, Linguistics, and Literatures, University of Hawai'i, Honolulu, HI, March 1998.
- Weltens, Bert. 1987. The attrition of foreign language skills: A literature review. *Applied Linguistics* 8.22-36.
- Weltens, Bert, and Andrew D. Cohen. 1989. Language attrition research: An introduction. *Studies in Second Language Acquisition* 11.127-133.
- Weltens, Bert, Kees de Bot, and Theo van Els. (eds.) 1986. *Language attrition in progress*. Dordrecht, Holland: Foris.
- Weltens, Bert, and Marjon Grendel. 1993. Attrition of vocabulary knowledge. *The bilingual lexicon*, ed. by Robert Schreuder and Bert Weltens, 135-156. Amsterdam: John Benjamins.
- Yang, Jean Sook Ryu. 2003. Motivational orientations and selected learner variables of East Asian language learners in the United States. *Foreign Language Annals* 36.44-56.
- Yao, Tao-chung. 1995. A computer-adaptive test for reading Chinese (CATRC): A preliminary report. *Journal of the Chinese Language Teachers Association* 30.75-85.
- Yoshitomi, Asako. 1992. Towards a model of language attrition: Neurobiological and psychological contributions. *Issues in Applied Linguistics* 3.293-318.