

Language Skill Attrition and Affecting Factors

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As globalization accelerates towards 21st century, foreign language education has drawn more attention than ever in most parts of the world for more effective worldwide communications. For that goal, learners, teachers, and employers make tremendous efforts, in terms of time and money, in acquiring communication skills in foreign languages. In Japan, for example, most college graduates have completed a eight- to ten-year study of English. Once they terminate their formal classroom instructions, however, they seem to lose their skills rather quickly in an environment where little necessity or opportunity to use the language exists. Does this well-recognized phenomenon need to be accepted, though with much chagrin, simply as the result of the notorious educational policy in Japan?

The question of what affects the gradual loss of language skills (attrition, hereafter), therefore, seems as valid as the question of what affects the effective acquisition of foreign languages. Maintaining and utilizing what has been learned should be of the utmost concern to learners and teachers, as well as to employers who pay for the language training of their employees who are sent out in the world of global economy. This paper will attempt to introduce research and results in language skill attrition in adult learners and discuss the implications for language learning and teaching.

Research and Results in Language Skill Attrition

The study of language skill attrition is a rather new field in applied linguistics. Major research started in 1980s as the inevitable consequence of language teaching and its accountability: how effectively foreign languages are learned and maintained in proportion to the time and money spent. The need for research was strongly felt particularly at government language schools in the U.S., especially in the foreign service or in the defense sectors. In 1980, the first conference on the subject was held at the University of Pennsylvania, supported by a grant from the U.S. government. The proceedings were subsequently published (Lambert & Freed, 1982) and have become the major impetus for language attrition research in the field. At the conference, different approaches to attrition research were laid out from participants' specific fields, e. g., child language acquisition, language shift and death in a speech community, neurological impairment and dementia, motivation and social factors, measurements for testing research hypotheses, and policy decisions for efficient language training for overseas business and diplomatic engagement. Since the 1980 conference, symposia and conferences have been held and major studies have been conducted. In the following section, several studies on adult learners' language skill attrition, along with this writer's research, will be introduced. The discussion of research results will be focused on two factors 1) the level of achievement and 2) attitudes/motivation and language use, as they seem to affect language skill attrition to a greater degree than other factors.

(1) The Effects of the Level of Achievement

In language skill attrition research, the following three basic questions are usually posed: (a) Why is the language susceptible to attrition? (b) How much and what is lost? (c) What is the rate of loss d) and are there certain aspects of the language which are more vulnerable to attrition?

At first sight, the question, "Why is language susceptible to attrition?" may sound trivial: once the study of foreign language has been discontinued and the language is not used, it is bound to be lost. Studies show, however, non-use in itself is not the only explanation. Godsall-Myers (1981) studied the attrition of low intermediate German college students. An inverse relation was found between the attrition rate (of mainly reading and writing) and the students' cumulative average in German class. The student who made a cumulative average grade of 1.5 (out of possible 4.0) suffered the highest attrition rate (26%), while the student who made the highest grade of 4.0 showed a nominal loss (4%).

A similar relationship between the attrition rate and proficiency level is confirmed in Bahrck's (1984) large scale study of the retention of Spanish among 773 participants, who were studying in high school/college or had completed courses one to 50 years prior to the research in the U.S. Participants took a Spanish proficiency test, which measured such skills as reading comprehension, vocabulary, grammar recall and word order. The results show that the retention curve fell during a period of three to six years, then remained flat for several decades, "the remainder is immune to further losses for at least a quarter of a century, and much of that content survives for 50 years or longer" (1984: 111), Bahrck reports. Combining the data on participants' language experience collected from a questionnaire, he concludes that several factors contribute to the retention of language skills: higher grades received in courses, larger number of courses taken, and longer period of study. In other words, the learner's high level of achievement and total amount of content seemed to promote better retention, i.e., caused less attrition.

The above discussion of longevity in Bahrck's study centers on receptive skills, particularly the recall and recognition of lexical items. He calls the content which escapes forgetting for more than 25 years the *permastore-content*. In responding to Bahrck's findings, Neisser (1984) offers a different interpretation from a cognitive psychological perspective. He explains that

Bahrick's subjects, instead of acquiring a set of isolated items, have discovered a structured system of relationships for Spanish, also called a schema or a grammar, a structured mental representation of complex information. For example, recall of a Spanish word was not a simple reproduction of a previously memorized word, but rather it was like a problem solving response that involves deeper processes of memory retrieval. Thus, information tied into this extensive and redundant cognitive structure was resistant to forgetting, but less well connected pieces of information were more vulnerable to loss, as observed in Bahrick's subjects. Neisser also postulates that "some response strengths reach a critical threshold during learning; beyond that threshold, they become immune to interference or decay" (1984: 33). Here, his argument is based on Ausubel's subsumption theory, a process of relating new material to an existing cognitive field, thus making learning more meaningful and more resistant to loss (Brown, 1987: 65-69).

Other research findings give additional support to the inverse relationship. In Europe, Weltens, De Bot and Van Els (1986) and Weltens (1989) conducted a longitudinal study on the attrition of French by Dutch secondary-school students who terminated formal instruction after four and six years. Their major research question was the level of initial proficiency and its relationship to attrition rates during the two- and four-year periods of non-use. The researchers limited their study to the attrition of receptive skills (listening and reading) as they received the most emphasis in the Dutch secondary-school system. Students' language skills were measured at three points in time: at the end of formal language instruction, and again after each of two consecutive two-year intervals of non-use. The results show that attrition sets in rather quickly in the first two years, as seen in Bahrick's study, and then levels off; but receptive skills in general remain fairly stable among these students with high proficiency (the results of long periods of study), even after four years of non-use. The only area where heavy attrition was observed was in grammar (morpho-syntactic rules) and in vocabulary. Their findings may also show

certain linguistic subsystems that are more susceptible to attrition than others.

One study that investigated the attrition of Japanese learners is conducted by Clark & Jorden (1984). Their subjects studied Japanese in an intensive language program in the U.S. Subjects were divided into two broad groups of attrition and non-attrition. Their analysis of data show (a) certain patterns of skill specificity in attrition — the proficiency level of speaking and reading declined, while that of listening remained fairly stable; (b) greater current use of Japanese is reported among non-attriting students; (c) even short immersion exposure to Japanese enable quick recovery of large amounts of original proficiency; and (d) there may be a critical support which keeps the level from lowering, a point “below which attrition is rapid and extensive, but at and above which, a large proportion of the initially acquired material is retained” (1984: 58).

(2) The Effects of Attitudes/Motivation and Language Use

Attitudinal/motivational variables have been integral parts of Canadian bilingualism research, which focus on social factors, as they are considered to be important measures of achievement in French by English speaking Canadians. In their landmark study of these variables, Gardner and Lambert (1959) concluded that “those individuals who had a favorable attitude toward French Canadians, who wanted to learn French in order to become closer psychologically to the French Canadian community, and who worked hard to learn French, would be successful” i.e., achievement is related to ability as well as motivational characteristics. Other studies since then have come out with comparable results. Gardner (1979) found the level of motivation to be the major factor for achievement, and attitude to be the major basis for motivation. These two factors seem to provide a long-term foundation for achievement and extracurricular activities. With these findings in mind, Gardner proposed in the 1980 conference that social factors should be included as predictor variables in attrition research. Edwards’ (1976) studies on second language retention

among Canadian federal government workers in the capital area show a significant loss in speaking among English-dominant employees, during 12 months after their training in French, while French-dominant workers retained their proficiency in English. In another study, Edwards (1977) indicates the environment of language use as a strong factor of language retention in addition to competence and motivation. In the workplace, English-dominants, who lacked high initial levels and a perceived need to use the second language, used French only in basic routine tasks at work and experienced loss. French-dominants, on the other hand, who had a high initial level in English and used it in all situations did not suffer attrition. Attitudinal/motivational factors are still at work in Edwards' studies in that they influence the extent to which individual learners seek out opportunities to use the second language. A later study by Gardner et al. (1985) concludes that language use is related more to competence than to attitudes in that skilled individuals tend to use the second language more confidently and more often than those who are less skilled.

Studies discussed thus far seem to point to one prominent factor which affects language skill attrition the most — the level of initial achievement — and other factors affecting attrition to varying degrees. What is the “threshold level” or “critical mass,” then, that would resist attrition? As there was no existing research on this particular question, the writer's study attempted to find the answer to this question.

The Threshold Level, Motivation, and Language Use for Attrition/Retention of Japanese Oral Proficiency

The specific motivation for the research came from the nature of an MBA program in which the writer had been involved. The two-year program required the students to attain (or retain if the level had been already acquired at the time of admission) the Superior level of ACTFL (American Council on

the Teaching of Foreign Languages) oral proficiency (the ability to participate in most formal and informal conversations on practical, social, professional, and abstract topics) in the language of their concentration area in the world, where they spent two summers immersed in the language. Students, as well as the school administration, were concerned as to whether the foreign language environment in the U.S. affected their acquired speaking proficiency during the academic year. Although the researcher was aware of the subjective tendency in testing and measuring speaking skills, it was expected that a qualitative study, in the form of multiple-case study of seven (three first-year and four second-year) students in the Japanese program might reveal some common factors in attrition/retention of speaking skills. The change in speaking skills, attitude/motivation and language use was measured by comparing two points in time: the beginning of the academic year (Time 1) and the end (Time 2). Data for students' Japanese particle use, sentence structures (complexity, length, accuracy), and fluency (pauses and repairs) were collected from tapes of ACTFL Oral Proficiency Interview (OPI) Test conducted by certified testers. Those for attitude/motivation and language use were collected through six interviews with individual students. A brief summary of data analysis is presented in the chart.

The OPI ratings show that during T1 (Time 1) and T2 (Time 2) three students (S1, S2, S4) experienced attrition in their overall speaking proficiency, while four (S3, S5, S6, S7) retained their levels. However, a closer look at the features of attrition (changes in the ability to use features were observed from the interlanguage viewpoint — how close or far a learner is from the target language norm) reveals a complex nature of language skill attrition/retention. Even among attriters, some features were retained (sentence structure in S1, particle use in S2), while non-attriters showed certain decline in some features (S3, S5, S7 in sentence structure, S3 in fluency). Even a certain amount of improvement was observed among all non-attriters. All these may point to the dynamic nature of interlanguage.

A similar complexity was found in the relationship between the changes in individual students' proficiency level and that of their attitudes/motivation and language use. Even though all students had started with high degree of motivation and language use and most non-attriters kept their levels high (S3, S5, S7), there were exceptions: one non-attriter's (S6) levels were

Summary of Results

		S1	S2	S3	S4	S5	S6	S7
OPI Rating	T1	2	2+	2+	3	3	3	3
	T2	1+	2	2+	2+	3	3	3
		At	At	Rt	At	Rt	Rt	Rt
(Features)								
	Particle Use	At	Rt	Im	At	Rt	Rt	Im
	Sentence Structure	Rt	At	seAt	At	seAt	Im	At
	Fluency	At	At	seAt	seAt	Im	Rt	Im
	Attitude/Motivation	Lo	Hi	Hi	Lo	Hi	Md	Hi
	Language Use	Md	Md	Hi	Lo	Hi	Lo	Hi

Codes:	1+	Intermediate High
	2	Advanced
	2+	Advanced High
	3	Superior
	At	attrition
	seAt	semi-attrition
	Rt	retention
	Im	improvement
	Hi	High
	Md	Mid
	Lo	Low

Note: the ACTFL scale is translated into the numerical FSI (Foreign Service Institute) for the ease of description.

lowered and one attriter's (S2) levels remained high. During the interviews with the researcher, S6 showed his frustration for limited opportunities to use the language and his decision to focus more on job interviews than studying Japanese. Yet he made the Superior level in the OPI at the end. Possible interpretations could be, though subjective, may be that his initial level was high (stable) enough not to be affected, or that these features did not affect the OPI rating in his case. S2, on the other hand, clearly stated that he still had high motivation, but switched his study focus from speaking to reading, since he had judged that speaking would improve more quickly in Japan during the second summer immersion. Among attriters, the initial levels of S1 and S2 were lower than Advanced Plus (2+), and they generally declined in the selected features, motivation and use. S4, whose initial achievement was Superior (3) and showed decline in all areas, received lower rating (2+) at the end. On the other hand, one of the four non-attriters, S3, managed to retain her level (2+). It could be that her high motivation and language use helped her retain the level.

In regard to the relationship of the attrition phenomena among different language skills, the results from the ETS Japanese Proficiency Test in listening and reading showed that these receptive skills were more robust than speaking skills, as reported in Clark and Jordan (1984). Three attriters in speaking (S1, S2, S4) not only retained these skills, but also improved to some extent.

The above discussion seems to conclude that the answer to the question of initial achievement appears to be, within the limited scope of this study and in the case of Japanese speaking skills, the Advanced High (2+) on ACTFL scale or above with sustained high level of attitude/motivation and language use.

Conclusion and Implications to Language Learning and Teaching

The research results assured that the contents of the MBA language program was at the appropriate level for the students' maintenance of their

speaking proficiency in the FL environment. At the same time, they indicated a promotion of more rigorous language use, particularly for students with lower level.

The implications for foreign language learning in general would seem to be that the attainment of the “critical mass” or “threshold level” that would be resistant to attrition is paramount, especially for those who seriously intend to acquire a foreign language (or languages) for lifelong purposes. Although there is no research report regarding what the critical level would be for English and other languages, the above research results of Advanced High (2+) or above, the ability “to satisfy the requirements of a broad variety of everyday, school, and work situations” (ACTFL, 1986), could be a guideline to some extent. This seems to be an enormous task for both learners and teachers in the present state of language education in Japan, where most secondary school students study English for entrance examinations, and then at college, except for majors, they either study it as required language or begin to study other languages as electives. Yet, if the long-term effectiveness of foreign language learning and teaching were to be evaluated, the goal should be the acquisition and retention of the level that would survive for years even after the end of formal instruction at school.

It is this writer’s experience teaching Japanese in colleges in the U.S., that students who start from the beginning level, do attain the level, even in Japanese, at the end of four years of formal instruction. In most cases, students spend a year abroad to be immersed in the language, to build the critical mass, so to speak. It would be surely not impossible for eager Japanese students who supposedly have acquired the basic knowledge, if not skills, of English to reach the level in the post-secondary study, given a proper training during the four college years.

Within the limited knowledge and experience the writer has in Japanese university system, it looks obvious that more intensive language courses need to be offered to those students interested in acquiring higher levels. In terms

of course design and pedagogy, an integration of course design throughout the training period and a proficiency oriented approach from the very beginning would be effective. When all the courses are integrated, students can expect to improve their level faster as they progress with gradation; and when their proficiency is tested periodically, they will know where they are toward their goals, and they will be more motivated to study as the results.

In the Japanese environment where exposure and use of foreign languages are severely limited, studying in the target language country may need to be included in the language program for a massive buildup of language content.

As a further study, research findings could be applied to our students' attrition/retention of foreign language. Students (except for literature majors) could be tested at the end of second year to show their level of proficiency attained; and the same students could be tested at the end of third year, and again at the end of fourth year to show attrition. From the results, we might be able to re-evaluate the long-term effectiveness of language teaching in our institution.

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