

The Effects of English as Foreign Language Proficiency on Lexical Retention of Iranian Learners

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Abstract

This study aimed at investigating the effects of English as foreign language proficiency on lexical attrition of Iranian learners in Nouroz holidays. For this purpose, 90 students studied English translation at Qazvin Azad University were selected. They were sophomore and were accessible for the present study. After administering a proficiency test (OPT), 60 students were selected according to the result of their OPT test for this study in which 25 students were male and 35 were female. In Time 1 administration and just before Nouroz vacation, OPT(Oxford Placement Test) was given to 90 participants to determine their level of proficiency and classify them into three high, middle, and low groups of proficiency level according to their scores on the test. Then, the devised test of receptive/productive vocabulary, modeled on The Vocabulary Levels Test, was administered to the same participants to measure their acquisition of nouns covered in their Reading Comprehension book. The receptive/productive vocabulary test is administered independently of the participants' final exam and before it. The results indicated that both types of tests were exposed to attrition. The results indicate that both types of tests were exposed to attrition. Therefore, the hypothesis that both receptive and productive word knowledge of learned vocabularies are more prone to attrition rather than retention after English disuse by Iranian learners over Nouroz vacation is confirmed.

Key words: lexical retention, proficiency, Nouroz holidays

1. Introduction

Second/foreign language students spend a lot of time and energy learning a new language. However, when instruction is over and/or out of class context for practicing their L2 skills diminishes, it has been seen that learners are prone to forgetting what has been acquired. As an EFL teacher, the researcher has recognized that if learners do not utilize their language

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over the summer vacation, their L2 capability dramatically declines by fall. In addition, if they do not utilize their L2 for longer periods of time, they will lose all L2 ability. Their ability to group words together into a sentence without thinking will go. They will be able to retain some vocabulary for a longer period of time, but at last that will mostly be also lost. Once they start to suffer from attrition, they will go through a period of time over which their oral skill is harshly impaired. Finally, their comprehension will impair as well. In other words, L2 attrition –decline in the school-learned L2 – impedes their L2 ability.

Meanwhile, the importance of vocabulary for language learning, particularly L2 learning, is of agreed-upon importance. McCarthy (1990, cited in Behjat-Mohammadi 2001) mentions that it is clear that words make probable the existence and growth of any language. He also claims that without words to express and transfer a wide range of meanings, communication in L2 is impossible. In addition, Lewis (1990, in *ibid*) considers increasing one's vocabulary as not only learning the definition of a bulk of words, but as acquainting with the phenomenon of human existence, depicting which verbally is merely possible via words. Native language (L1) attrition might take place in immigrants mostly speaking the dominant language of their new country, while second language (L2) attrition may occur in students learning an L2 in school, but not implementing it after instruction is over (Ross, 2002). There are different theories of language attrition, the most widely known of which is 'Regression Hypothesis'; it is originally ascribed to Jakobson (1941, in Weltens, 1987) and noted that "attrition is the mirror image of acquisition or learning" (p.31). That is, items acquired most completely are less likely to be lost. Some researchers (Godsall-Myers 1981; Hansen 1980; and Cohen 1975, in *ibid*) investigated this hypothesis to be partially true in their FL attrition researches. Schmid (2005) claims that level of attainment is more significant in studying L2 attrition than for adult Loss. Interestingly, numerous other studies have investigated the level of initial proficiency (i.e., proficiency at the time when instruction in or exposure to L2 ceases) to be the best predictor of language loss or retention (Reetz-Kurashige 1999, cited in Schmid 2005, p. 8).

1.2. Statement of the problem

Some language learners are more successful than others in second or foreign language learning, and some learners have individual learning behaviors that others do not. Over the past three decades, these discrepancies have created an attractive topic for researchers to pursue in the areas of second and foreign language acquisition. Foreign or second language learning strategies are specific language learning behaviors EFL (English as a Foreign Language) or ESL (English as a Second Language) students consciously use in order to improve their target language. Since the early 1970s, a great deal of research has been conducted on language learning strategies of good language learners (e.g., Chamot, 2005; Oxford & Ehrman, 1995; Rubin, 1975, and Stern, 1975, cited in Anderson, 2005). This study aimed at investigating the effects of initial foreign language proficiency on language attrition of Iranian EFL students.

1.3. Significance of the study

“Language retention” is often used when the focus is on the linguistic skills which remain intact after a period of disuse (Murtagh, 2003). Some researchers like Oxford (1982) emphasize the role of initial level of L2 skill in L2 attrition. Referring to the typology provided by de Bot and Weltens (1995, cited in Weltens, 1987, p. 24), L2 attrition is the attrition of L2 in an L1 environment, or decline in school-learned L2.

1.4. Research question and hypothesis of the study

This study aimed at answering the following question:

RQ: Which one – receptive or productive word knowledge of learned vocabularies – is more prone to attrition after English disuse by Iranian learners over Nouroz vacation?

According to the purpose of the study, the following hypothesis was formulated:

H0: Both receptive or productive word knowledge of learned vocabularies are more prone to attrition after English disuse by Iranian learners over Nouroz vacation.

2. Literature review

An important point to consider when investigating the source of attrition effects is to what extent those effects are attributable to L2 influence. Although transfer from L2 is an important factor in attrition from both of the representational and computational point of views, it surely is not

responsible for all patterns of non-convergence between attrited and non-attrited speakers. At the level of representation, attriters' non-convergence can be driven language internally through the process of simplification (Seliger & Vago 1991). At the level of processing, the non-convergence can be caused by L2 interference when, according to the Activation Threshold Hypothesis, L2 options prevent the activation of L1 options and override them. At the same time, however, the non-convergence may also be due to other causes, i.e. general consequences of bilingualism.

Sorace (2005, 2011) and Sorace & Serratrice (2009) point out possible reasons why bilingual speakers (both L2 learners and L1 attriters) might exhibit more instability at interfaces than monolinguals. Firstly, bilinguals might be less efficient than monolinguals in integrating different types of linguistic/contextual information in real-time. Processing at and across interfaces is typically more costly than processing within the domain of syntax, as it requires the access and integration of representation of different levels (Burkhardt 2005, Pinango & Burkhardt 2005). Bilinguals, then, may experience increased difficulty at interfaces because their access to knowledge representations is less automatized, or their integration of the representations is less optimal (Sorace 2011, p. 15). Secondly, bilingual processing might be less efficient due to 'bilingualism per se, including executive control limitations in handling two languages in real time' (Sorace & Serratrice 2009, p. 199). Bilinguals might not have sufficient cognitive resources, unlike monolinguals, because of an additional language they have acquired. Also, as Wilson (2009) proposed, bilinguals may have difficulty in allocating resources effectively because of competition between the constraints of two languages. An effort to 'inhibit the language not in use' also may reduce processing resources available to bilinguals (Sorace 2011).

An effective way to determine whether attriters' non-target performance is due more to L2 influence or bilingualism itself is to test speakers with different L1-L2 combinations (e.g. Hopp 2007). If attrited speakers exposed to typologically distant L2s display similar patterns of divergence, it can be concluded that their indeterminacy with respect to particular grammatical structures is, to a great extent, a general consequence of bilingualism. In the current attrition literature, there are only a few studies that present a comparison of speakers of different L1-L2 pairings, particularly pairings of non-European languages. This study will contribute to the

investigation of the issue by presenting data from two L1-L2 combinations in which the L2s are typologically different.

Nevertheless, these findings do not imply that adult L1 grammar is not affected by attrition. A number of observational and experimental studies have observed signs of attrition with respect to various types of grammatical phenomena in different L1-L2 pairings. Some of the grammatical phenomena that have been reported to be affected by attrition are word order (Altenberg, 1991; de Bot & Clyne, 1994; Hutz, 2004; Schmid, 2002; Waas, 1996), gender assignment/plural marking (Altenberg, 1991; Keijzer, 2007), pronominal binding (Gurel¹, 2004), anaphora resolution (Tsimpli et al., 2004; Wilson, 2009), relativisation (Yagmur², 2004), etc.

More recently, many studies have attempted to find out patterns of syntactic attrition by testing specific linguistic or psycholinguistic models such as Minimalism or the Activation Threshold Hypothesis, with a focus on a specific grammatical phenomenon including anaphora resolution, reflexive binding, etc. Tsimpli, Sorace, Heycock & Filiaci (2004) conducted an experimental study on the use of overt/null subjects with a group of Greek and Italian speakers who had a long-term exposure to L2 English and attained near-native proficiency. Within the Minimalist framework (Chomsky, 1995), Tsimpli et al. (2004) hypothesized that interpretable features, which are “read” by the conceptual/intentional systems of cognition, are vulnerable to attrition, whereas uninterruptable features which are relevant to parametric variation across languages remain intact. Greek-English bilinguals of Tsimpli et al. (2004)’s study exhibited attrition in a production task involving pre-/post-verbal subjects, by showing a significantly stronger preference for preverbal subjects than monolingual control speakers. Italian-English bilinguals also behaved differently from their monolingual counterparts in the interpretation of overt pronouns in subordinate clauses: while the monolingual speakers strongly preferred a new referent (i.e. a referent other than the matrix subject or complement), the Italian-English bilinguals did not show any preference. Both of the Greek or Italian groups, however, did not show signs of attrition regarding formal (uninterpretable) aspects of subjects. These results were in support with Tsimpli et al.’s hypothesis that attrition affects only grammatical phenomena that are regulated by interpretable features.

The regression hypothesis, proposed by Jakobson (1941), is one of the oldest theories that have been used to account for attrition. The hypothesis, to put it simply, is that language loss mirrors

language acquisition. That is, what is acquired late is first to be lost. The hypothesis was originally formulated based on symmetry between child language acquisition and language loss in aphasia. However, there has been a claim that the regression hypothesis is not likely to hold with respect to aphasia, since pathological language disorder is typically non-progressive in nature and is generally characterized as partial impairment rather than across-the-board deterioration (de Bot & Weltens, 1991; Kopcke & Schmid, 2004). Therefore, many studies have instead focused on parallels between acquisition and non-pathological language loss, i.e. attrition.

3. Method

3.1. Research design

Since the present study aims at applying the findings to develop language learning in Iranian context, it is considered applicable. The design of this study is experimental in nature in which the effects of English as foreign language proficiency on lexical attrition or retention of the Iranian EFL learners were investigated.

3.2. Participants

The initial sample population was 90 students that studied English translation at Qazvin Azad University. They were sophomore and were accessible for the present study. After holding a proficiency test (OPT) 60 students were selected according to the result of the OPT test for this study in which 25 students were male and 35 were female. These participants had studied sufficient English both at high schools for four years and in university for one year. They were regarded to be at the level of intermediate.

The participants were adults with the age limit of 19-21. The advantage of this age range was that the students' educational background would provide them with similar prior knowledge required for general English. They were both male and female. All of the participants were native speakers of Persian.

3.3. Instruments

3.3.1. Homogeneity Test

3.3.2. Language Background Survey

3.3.3. The receptive/productive vocabulary test

3.4. Data collection procedure

In a pilot study, the Vocabulary Levels Test for passive vocabulary size (Nation, 1983, 1990) and the Vocabulary Levels Test for active vocabulary size (Laufer & Nation, 1995) together with the devised receptive/productive test were administered to 10 students that were similar to the participants of the study regarding age and proficiency. These students were approximately at the same level of EFL proficiency as the target sample. The K-R 21 formula (Hatch & Farhady, 1982) was used to find the reliability of the devised receptive/productive test. Moreover, the Pearson Product-Moment correlation formula (ibid) was used to find the correlation coefficient between the Vocabulary Levels Test and the devised receptive/productive test as a measure of criterion-related (concurrent) validity of the latter. The reliability and validity of the tests (receptive & productive) are found independently. The In Time 1 administration and just before Nouroz vacation, OPT(Oxford Placement Test) was given to 90 participants to determine their level of proficiency and classify them into three high, middle, and low groups of proficiency level according to their scores on the test. The participants, informed of no penalty for wrong answer, completed the test in one hour. It was followed by the Language Background Survey to be answered by participants. Then, the devised test of receptive/productive vocabulary, modeled on The Vocabulary Levels Test, was administered to the same participants to measure their acquisition of nouns covered in their Reading Comprehension book. This textbook is taught to all participants in their Reading Comprehension course (2). But as assumed that they certainly learned the new nouns. The receptive/productive vocabulary test is administered independently of the participants' final exam and before it. They are told how to answer the two sections (receptive and productive); to complete the abbreviated words in the productive test and to match the three words in the left column with their synonyms or definitions in the right column in the receptive test. It should be mentioned that the productive test preceded the receptive one. In order to measure the amount of lexical attrition due to a period of disuse during Nouroz vacation, at the beginning of the New Year the same receptive/productive vocabulary test (Time 2 test) was administered to only 60 participants. The manner of administration of receptive/productive test was the same as in Time 1.

4. Result

This study aimed at investigating the effects of English as foreign language proficiency on lexical attrition/retention of Iranian learners. The data collection procedure was carefully performed and the raw data was entered into SPSS (version 19.0) to compute the required statistical analyses in order to deal with the research questions and hypotheses of the study. This chapter describes the detailed statistical analyses conducted throughout the research and answering the research questions of the study based on the obtained results .

4.1. Results of pilot study

Reliability statistics

In order to assess the reliability indices for tests that were used in this study, a group of 20 EFL learners who were similar to the main population of the study participated in the piloting stage. The results as represented in Table 4.1, revealed the reliability estimated.

The correlation between Devised Receptive Test and Standard Receptive Test is significant at the 0.05 level ($r = .959$, $p = .000$). In addition, the correlation between Devised Productive Test and Standard Productive Test is significant at the 0.05 level ($r = .995$, $p = .000$). So according to the results both tests are valid, too.

The results of the pilot study show that both tests have acceptable reliability.

Table 4.1

Concurrent validity

		Standard Receptive Test	Standard Productive Test
Devised Receptive Test	Pearson Correlation	.959**	.711*
	Sig. (2-tailed)	.000	.021
	N	10	10
Devised Productive Test	Pearson Correlation	.684*	.995**
	Sig. (2-tailed)	.029	.000
	N	10	10

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

4.2. Analysis of the research question

The research question of this study aimed at exploring which one – receptive or productive word knowledge of learned vocabularies – is more prone to attrition after English disuse by Iranian learners over Nouroz vacation.

The second question of the study is investigated as follows:

Table 4.1

Paired samples statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Post Productive Vocabulary test	67.5000	60	10.03637	1.29569
	Pre Productive Vocabulary test	73.8500	60	9.55240	1.23321
Pair 2	Post Receptive Vocabulary test	67.3000	60	9.95464	1.28514
	Pre Receptive Vocabulary test	73.3500	60	9.64422	1.24506

Table 4.2

Paired samples test

	Paired Differences					t	Df	Sig. (2-tailed)
	Mean	SD	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 Post Productive – Pre Productive	-6.35000	7.78052	1.00446	-8.35992	-4.34008	-6.322	59	.000
Pair 2 Post Receptive – Pre Receptive	-6.05000	6.45040	.83274	-7.71631	-4.38369	-7.265	59	.000

Productive Test

$$\text{Eta squared} = t^2 / t^2 + N - 1 = (-6.322)^2 / (-6.322)^2 + 60 - 1 = .40$$

A paired-samples t-test was conducted to evaluate the impact of the intervention on students' scores on the Productive Vocabulary test. There was a statistically significant decrease in the scores from Pretest ($M=73.85$, $SD=9.55$) to Posttest [$M=67.50$, $SD=10.03$, $t(59)=-6.322$, $p<.0005$ (two-tailed)]. The eta squared statistic (.40) indicated a large effect size.

Receptive Test

$$\text{Eta squared} = t^2 / t^2 + N - 1 = (-7.265)^2 / (-7.265)^2 + 60 - 1 = .47$$

A paired-samples t-test was conducted to evaluate the impact of the intervention on students' scores on the Receptive Vocabulary test. There was a statistically significant decrease in the scores from Pretest ($M=73.35$, $SD=9.64$) to Posttest [$M=67.30$, $SD=9.95$, $t(59)=-7.265$, $p<.0005$ (two-tailed)]. The eta squared statistic (.47) indicated a large effect size.

The results indicated that both types of tests were exposed to attrition. Therefore, the second hypothesis that both receptive and productive word knowledge of learned vocabularies are more prone to attrition after English disuse by Iranian learners over Nouroz vacation **is confirmed**.

4.3. Discussion

Productive knowledge attained faster than receptive knowledge because there was a more rigorous criterion set in productive test. a low level of receptive knowledge is enough for success on receptive test, but a low level of productive knowledge does not suffice for success on productive test (Mondria & Wiersma, 2004). Participants did not differ significantly in terms of attrition of productive vs. receptive word knowledge of the acquired nouns as far as their proficiency levels were concerned. It seems that while each of these variables (proficiency level, receptive and productive word knowledge) plays a role in EFL lexical attrition individually, they are not interrelated. In other words, we cannot infer less or more EFL lexical attrition resulting from their interaction.

According to Aitchson(1994) and channell (1988), it has been unknown whether different levels of L2 general proficiency have any effects on the nature of relationship of receptive and productive vocabulary. Scherer (1957, cited in Weltens, 1987) contends that students' mental activity after the course finishes, resulting in gain.

Another framework for attrition is the interlanguage (or cross-linguistic influence) hypothesis, according to which attrition is a consequence of L1 transfer. In other words, the assumption of the hypothesis is that modifications in L2 system are ‘entirely or in parts due to the first language ‘taking over’ ’ (Schmid 2002, p. 14).

Hypothetically, attrition may take place in the absence of L2 input, such as in the ‘desert island’ situation (Sharwood Smith & van Buren 1991, p. 22). However, as attrition in real life occurs mostly in language contact situations, and therefore transfer from L1 is indeed a crucial factor in L2 attrition, as demonstrated in most, if not all, attrition studies to date.

Nevertheless, the interlanguage hypothesis itself is not sufficient to account for attrition, since attrition effects are not always attributable to L1 influence. Some changes in the L1 system may be induced language-internally, rather than externally (Seliger & Vago 1991, p. 10), often leading to a reduction in registers and morphological complexity (e.g. loss of case-marking and allomorphs) (Schmid, 2002).

The language change hypothesis, or the ‘Simplification’ framework, is an approach that focuses on such internally-induced changes in L1. Its assumption is that ‘the loss of a particular structure or linguistic feature is determined by that item’s complexity’ (Kopcke & Schmid 2004, p. 16). In other words, linguistic structures with high complexity are more likely to be simplified in the course of attrition than structures with low complexity.

As Kopcke & Schmid (2004) notes, the problem of the language change hypothesis is that it lacks explanatory power in itself. It does not provide the definition of complexity, making it impossible to determine which structures are more complex. Moreover, it does not account for various approaches based on UG and generative frameworks provide more systematic accounts for attrition than the interlanguage hypothesis or the language change hypothesis. The common assumption of the UG-based approaches is that attrition is not a random loss of language, but is a systematic process guided by a set of rules, i.e. Universal Grammar.

5. Conclusion

This study aimed at investigating the effects of Initial English as Foreign Language Proficiency on Lexical Attrition/Retention of Iranian Learners after Nouroz vacation. The results of the study show that the initial level of L2 proficiency (high, mid, low) of Iranian EFL learners before

Nouroz vacation results in different degrees of attrition/retention of learned vocabularies and also both types of tests in this study(receptive and productive tests) were exposed to attrition.

This study, like other studies, has some implications for different individuals including EFL teachers, researchers, and curriculum designers.

1. They had better assess productive as well as receptive aspects of word knowledge using, for example, the test format using in the present study.
2. The learners should be encouraged not to quit exposing to EFL during vacation, the continuous involvement in L2 learning process.
3. The teachers can utilize learning tasks in the classroom in which may enhance retention of both productive and receptive knowledge.

Since, the field of L2 attrition is relatively a new one in applied linguistics, more studies are needed to be conducted to explore the further details in this field. The following suggestions can be the subjects for further study:

1. Investigating the possible effects of different L2 vocabulary teaching methods on its long term retention.
2. Looking at other possible variables such as, cognitive style variables, motivation for and attitudes about L2, L2 skills of the teachers which may influence the amount and rate of L2 attrition.
3. Considering attrition of different elements of L2 lexicon including dichotomies such as specific vs. general words, abstract vs. concrete words and frequent vs. infrequent words.
4. Exploring attrition in other aspects of L2 linguistic knowledge such as, phonology.

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