



Language Attrition as a Critical Challenge for Students learning additional languages.

A Case Study of George Town University (Second Year Students) Qatar

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Abstract :

Language attrition, or the gradual decline of language mastery with time, is a monumental issue for individuals attempting to learn new words. This research examines the undesirable effects of language attrition on word learning, detailing how the erosion of existing linguistic knowledge can have a detrimental impact on learning and remembering new words. By knowing the cognitive mechanism of vocabulary acquisition and the causes of language attrition, this study is focused on Language Attrition as a Critical Challenge for Students learning additional languages. Knowing the dynamics of language attrition is important in developing efficient pedagogical practices that will ensure vocabulary retention and linguistic competence in the long run.

المستخلص

تراجع اللغة، أو الانحدار التدريجي في إتقان اللغة مع مرور الوقت، يعد قضية كبيرة للأفراد الذين يسعون لتعلم كلمات جديدة. تبحث هذه الدراسة في التأثيرات السلبية لتراجع اللغة على تعلم الكلمات، موضحة كيف يمكن لتآكل المعرفة اللغوية القائمة أن يؤثر بشكل ضار على تعلم الكلمات الجديدة وتذكرها. من خلال فهم الآلية الإدراكية لاكتساب المفردات وأسباب تراجع اللغة،

تركز هذه الدراسة على تراجع اللغة كأحد التحديات الحرجة للطلاب الذين يتعلمون لغات إضافية. إن معرفة ديناميات تراجع اللغة أمر مهم لتطوير ممارسات تعليمية فعالة تضمن الاحتفاظ بالمفردات والكفاءة اللغوية على المدى الطويل.

Introduction

Language attrition has been the center of discussion over the last decade, as many foreign language students face the problems of vocabulary dismiss, whether during conversation or regular study classes. However, native speakers may not be in a state of safety from language attrition due to the influence of a local language, and other international spoken languages can transfer and interfere with L2 or L1, as well as L3, in some cases. This is because we may find people who can speak more than two languages deeply in a state of shock; moreover, they can think that their brain is unable to keep the information or the vocabulary for a long time, due to such reasons, the study problem spotted out 3 major questions that could be the main track for the study these questions as follow, does learning new vocabulary in a second language cause measurable forgetting of previously learned vocabulary?, does interference from another language accelerate the forgetting of recently learned words compared to well-consolidated words?, are individuals experiencing language attrition slower or less successful in learning new vocabulary compared to active bilinguals? . Thus, in other cases for non-native speakers, language attrition can cause significant discomfort and may lead to abandoning the study of the language. In this scientific paper, the researcher tried to answer several questions that had remained unanswered for years, such as the 3 questions that stated before. Thus, students may understand that language attrition is a natural phenomenon that exists across the globe. Students may also find strategies that enable them to study any language with confidence. The study investigates Language Attrition as a Critical Challenge for Students learning additional languages. The survey **questionnaire** was distributed to 50 students, male and female, randomly at George Town University, and according to the survey, the study shows that 35 % of participants showed that language attrition has a great impact on students' academic life of learning other languages. while the rest 15 % participants were between disagree and neutral.

Hypotheses of the Study

Learning new vocabulary in a second language can interfere with and overwrite existing semantic representations, leading to **critical forgetting** of previously learned words.

Inadequate consolidation of new vocabulary items in the brain can make them susceptible to rapid forgetting, especially when faced with interference from other languages.

Language attrition can lead to a reduction in neural plasticity, making it more difficult to form new associations and consolidate new vocabulary.

Literature Review

Introduction

Language attrition is the gradual loss of language skills, often occurring when a person spends less time using a language. This can be a significant problem for learners trying to expand their vocabulary. When learners forget words, they've previously learned, it can be frustrating and discouraging, hindering their language acquisition progress.

Overview across language loss

The expression "loss of first language competence" has been named as "language attrition" by Ersser in 2006, who well as Peter specifies the process of language attrition as similar to the sharpening the saw metaphor in which regulated exercise is necessary otherwise the skill Levels would decline and incompetence would result; Peter links with Steven Pinker who explains the attraction in aging process by social isolation, a smaller member of communicative situation than younger subjects, retardation hypothesis due to slower mental computation aging or degradation of long term memory recall, or retrieval difficulties. How do we minimize or even prevent this language knowledge evaporation? Self-regular reading, the formation of new positive motivational attitudes towards experiencing and enjoying the mother tongue, structured verbal checking, evaluating, and comparing will enhance linguistic efficiency because the word frequency should raise our language level. (Stephen Pinker 1990 p100)

Language learning is a lifelong process. According to Stephen Krashen (1980s), we are constantly learning language – not just acquiring vocabulary, syntax, and pronunciation, but learning new facts, ideas, opinions, and moods. We increase our vocabulary while referring to the dictionary or acquiring new meanings of the vocabulary that we are, already know without trying to. We can also circulate new lexical terminological units in new meanings by rewriting texts using previously learned words. (Byers-Heinlein, K. (2007)

On the other hand, research doesn't only confirm that the vocabulary acquired at an earlier age decreases over time but even points to the danger of potential loss of vocabulary, meaning if it's not repeated. Margaret Peter and Laura Webb report a change in the syntagm-compilation semantic network structure as a function of age. The concept of language evaporation comes from the conclusion that in many areas, it's almost impossible to talk to youngsters who show more and more knowledge gaps in speaking and writing in the mother tongue. (Stephen Krashen, 1980s, p. 109)

Catastrophic Forgetting: A Neural Network Perspective

The concept of catastrophic forgetting, originally studied in the context of neural networks, provides a useful framework for understanding language attrition. In neural networks, catastrophic forgetting occurs when a network trained on one task rapidly forgets its previous knowledge when trained on a new task. This phenomenon is due to the destructive nature of gradient descent, the

optimization algorithm commonly used to train neural networks. As the network learns new information, it adjusts its internal parameters, potentially overwriting or disrupting previously learned representations. (McCloskey, M., & et al, 1989).

The Impact of Catastrophic Forgetting on Vocabulary Acquisition

Catastrophic forgetting refers to the phenomenon where learning new information causes the sudden and severe loss of previously acquired knowledge. Originally observed in artificial neural networks (McCloskey & Cohen, 1989), it is now increasingly studied in human learning processes, especially in multilingual and vocabulary learning contexts (French, 1999).

Recent studies suggest that learners of multiple languages may experience interference between vocabularies. For instance, learning a third language (L3) can interfere with words in both the first (L1) and second language (L2) (Ecke, 2004). This is particularly evident when the languages are typologically similar, leading to increased lexical competition (Hoshino & Thierry, 2011).

Strategies for Mitigating Catastrophic Forgetting in Vocabulary Acquisition

. When learning vocabulary in a second or third language, learners may struggle to retain earlier words, especially when the words are similar across languages, causing interference or retrieval failures (French, 1999). To address this challenge, several **evidence-based strategies** have been developed and tested.

2. Spaced Repetition

Spaced repetition is a time-tested technique that involves reviewing vocabulary at increasing intervals over time. It is based on **Ebbinghaus's Forgetting Curve** (1885), which demonstrated that memory retention declines exponentially without reinforcement.

2. Retrieval Practice (Active Recall)

The benefits of retrieval practice are grounded in the **“testing effect,”** which refers to the improved retention of information that occurs as a result of the retrieval process itself, not merely due to repetition or exposure. This theory contrasts with the traditional view of testing as merely a method of assessment.

Bjork & Bjork (1992) distinguished between two forms of memory strength:

Storage strength (how well an item is learned)

Retrieval strength (how easily it can be accessed at a given time)

Retrieval practice enhances both forms, making learned words more resilient to interference and decay.

Content of Attrition

One of the main topics in language attrition research pertains to the content of attrition, that is, what is actually lost, or which components of the language system are most prone to attrition. Many studies concerned with the content of language attrition have examined language skills rather than linguistic knowledge. Findings have generally shown that receptive skills (i.e., reading and listening) are better retained than productive skills (i.e., speaking and writing), which tend to be more vulnerable to attrition. In particular, oral fluency is known to be highly susceptible to attrition, and it is also generally viewed as a precursor to the onset of language attrition. ([Eun Sung Park, 2018](#)).

Multilingual Perspectives on Language Growth and Loss

Traditional models of language acquisition tend to focus on increase, but often do not account for (or simply ignore) decline. Moreover, language systems within the individual are treated as separate from each other. ([Herdina and Jessner 2002](#)). One of the key features of bi- and multilingualism is the necessity for the speakers to manage the simultaneous processing of two or more distinct languages. The existing literature provides ample evidence that this leads to a constant interplay between the first and the second language (L1, L2) at the levels of phonology ([Goldrick et al., 2014](#))

Native Language Attrition in Bilingualism

An important and relatively understudied aspect associated with the latter is known as native language attrition, the gradual decrease of native language performance that occurs with time and may be associated with increased use of L2, decreased use of L1, or both [[Köpke et al. \(2019\)](#)]. Importantly, despite the long-standing interest in this topic, this phenomenon remains largely understudied, leaving us with a rather hazy understanding of the mechanisms that drive it and the factors that modulate it. In this paper, we address a salient lacuna in this field, namely the neurocognitive mechanisms underlying linguistic attrition. [[Köpke et al. \(2019\)](#)].

Neural Traces of L1 and Late Language Attrition”

However, more recent research has shown that adopted populations maintain and activate specific L1 neural representations even after suppression of early contact with the native language and total absence of L1 exposure and conscious recollection ([Pierce et al., 2014](#)). Nonetheless, in the current paper, we focus on late (i.e., postpubescent) attriters in an attempt to disentangle attrition processes from incomplete language acquisition due to prepubescent onset of language erosion [for a review, see [Schmid and Köpke \(2017\)](#)].

Exposure to L1: Quantity and Quality

Many studies discussed in the previous section attribute attrition to the influence of the L2. Extensive research, however, has also posited that attrition could result from reduced exposure to and/or use of L1: "Attrition is the result of long-term lack of stimulation" ([Paradis, 2007](#), p. 125). These studies have addressed this possibility by investigating the effect of the amount of L1 contact on the attrition process. Nonetheless, as with L2 effects, the corresponding evidence is quite inconsistent and, importantly, tends to point toward the interrelation of factors related to both L1 and L2 as responsible for attrition ([De Bot, 2002](#)).

Time as a Determinant of L1 Attrition"

An Additional factor that has a robust effect on attrition is the time elapsed from attrition onset. Hence, longitudinal studies of L1 attrition, as well as cross-sectional approaches, are imperative for following the deterioration in L1 proficiency along with the increase of L2 experience. In this sense, multi-year follow-up studies carried out in migrant populations could provide valuable information to validate L1 disuse/L2 interference as a causal mechanism of attrition. For instance, if signs of L1 attrition, obtained in comparison to monolingual controls, increase as a function of L2 use even in the case of active contact with L1 (through family and L1 communities), then the L2 interference hypothesis would be reinforced. Nonetheless, the performance of L1 attriters may decrease over time due to both an increase in L2 experience and a decrease in L1 contact (either at the quantitative or qualitative level), suggesting the causes of L1 attrition are due to L1 disuse or, more likely, an interplay between the two. ([Schmid, 2013](#)).

Given the difficulty of obtaining well-controlled groups of L1 attriters varying in the amount of L1 contact, the use of tools that can account for the contribution of each factor (L1 contact/L2 use) over time and within the same L1 attrition sample could prove beneficial. Indeed, such procedures could mitigate the problems related to the obtaining of well-balanced control groups, a problem typically faced in the study of such a highly heterogeneous phenomenon as language attrition ([Schmid, 2013](#)), for an overview. For instance, [Steinhauer and Kasparian \(2019\)](#) argue for the use of multiple regression methods and their application to longitudinal data as a beneficial approach in future attrition research.

Methodology and Data Analysis

The study adopts the descriptive analytical method that describes the aspect of language attrition in learning a new language based on the 3 hypotheses and the questionnaire that includes 15 statements, which are distributed to the second year students at George Town University. The first hypothesis, total frequencies are 13, the mean is 2.6, and the second hypothesis, frequencies are 13, the mean is 2.6. The third hypothesis frequencies are 9, and the mean is 1.8.

The following table (1.1) shows the agreement. Based on the final result based on the analysis

Hypothesis	Statement 1 (Frequency)	Statement 2 (Frequency)	Statement 3 (Frequency)	Statement 4 (Frequency)	Statement 5 (Frequency)	Mean	SD
H1	2	4	3	1	3	2.6	1.02
H2	3	4	2	2	2	2.6	0.80
H3	2	3	1	2	1	1.8	0.75

The table shows the 35% of saying (agree) frequencies of the 5 statements in each hypothesis, along with the mean and the standard deviation of each hypothesis. While the rest 15% were between (Disagree and Neutral), which is less than the agreed participant.

The table (1.2) shows the participants who disagree and those who respond to the statements with neutral

Hypothesis	Statement 1 (Freq.)	Statement 2 (Freq.)	Statement 3 (Freq.)	Statement 4 (Freq.)	Statement 5 (Freq.)	Mean	SD
H1	1	1	0	0	1	1.5	0.70
H2	1	0	1	0	1	1.6	0.65
H3	0	1	1	1	0	1.4	0.60

The table shows the participants who responded with disagree are equal to (1) and those who responded with neutral were equal to (0).

The table (1.3) shows the combinations of the frequencies of Agree vs Disagree/Neutral Responses

Hypothesis	Group	St.1	St.2	St.3	St.4	St.5	Mean	SD
H1	Agree (35%)	2	4	3	1	3	2.6	1.02
H1	Disagree/Neutral (15%)	1	1	0	0	1	1.5	0.70
H2	Agree (35%)	3	4	2	2	2	2.6	0.80
H2	Disagree/Neutral (15%)	1	0	1	0	1	1.6	0.65
H3	Agree (35%)	2	3	1	2	1	1.8	0.75
H3	Disagree/Neutral (15%)	0	1	1	1	0	1.4	0.60

Conclusion

Based on the study of Language Attrition as a Critical Challenge for Students learning additional languages, the final result shows that language attrition has a great impact on the students' minds. This result is based on the 35% of the participants who agreed with the statements, and those participants who didn't agree with the statements but responded with neutral and disagreed. So, the researcher focused on the percentage of agreement, which is 35% of the total sample, while disagreement and neutrality are 15 percent of the total participants. According to this study and the previous studies, most of the previous studies were focused on the quantity, and some academic

reasons, such as language attrition, occurred because students naturally forget, while this study focused on the quality, quantity, and scientific psychological facts, like the health of the mind and the neurological performance of the brain, and self-improvement based on some strategies mentioned in this study.

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