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Preface

The present issue of *Theory and Practice of Second Language Acquisition* completes the seventh year of publishing this journal. It was founded as a forum of discussion for Polish as well as foreign scholars and seems to have fulfilled its mission as a journal on the rise. The journal has become more and more popular as we get more and more interesting submissions from both Polish and foreign researchers. Indeed since its foundation, every consecutive issue of the journal has welcomed contributions from many renown researchers, such as Peter MacIntyre, David Singleton, Larissa Aronin, Sarah Mercer, Tammy Gregersen, and Jean-Marc Dewaele, to name just a few. Also, a fast growing number of OA uploads has been observed as an indication of the journal's popularity, as is the queue of the articles already accepted and awaiting their turn to be included in the next volumes to be published. It is the journal's ambition to demonstrate new trends and unknown venues for research in SLA, focusing both on theoretical discussion and the practical solutions to problems based upon them. We aim not only to publish and share with our readers contributions from well-known and respected scholars but would like to promote young researchers, who often present fresh and innovative ideas or open up new perspectives on issues already researched. In other words, the journal hopes to become a venue for the exchange of ideas between well-established academics and those inspired by them. In terms of its content, the journal presents contributions on issues ranging from purely linguistic and cognitively-oriented research on language acquisition processes to psycho and sociolinguistic studies, always trying to feature the most recent developments in terms of topic choice, as well as in the methodology of research they employ. We publish our journal through an open access system, where the entire production process is executed online and the final product is available to everyone, thus offering an opportunity to share ideas through a broad, effective, and economical mode of dissemination. We aim at keeping high standards and quality, which are

guaranteed by the international Editorial Board of TAPSLA, whose members are well-known Polish and foreign experts on a wide range of second language acquisition issues. The journal is indexed in numerous databases, including Scopus. As the journal is published by the prestigious Polish academic publisher, Wydawnictwo Uniwersytetu Śląskiego (University of Silesia Press in Katowice), the copyediting and technical side of the production are done by an experienced team of editors at the University of Silesia Press in Katowice. Updated information and all the issues published so far are available on the journal webpage at www.tapsla.us.edu.pl.

The topics of the present volume range from those discussing individual learner differences from a variety of perspectives and settings to the development of language skills and different forms of instruction, presenting some innovative ideas in face-to-face and online mode of teaching a foreign language. The opening text "Using Character Strengths to Address English Writing Anxiety: A Mixed-Methods Study" by Tammy Gregersen, Peter D. MacIntyre, and Rachel Buck is quite an innovative way of looking at foreign language instruction, which employs elements of positive psychology in the language classroom to create a context of well-being for the learners. The authors not only introduce some of the seminal ideas taken from positive psychology, but most of all, they demonstrate in a practical way how the main assumptions of positive psychology can be applied in a classroom. The case study presented focuses on one of the pillars of positive psychology—character strengths—and through pedagogical intervention points out benefits of the intervention implemented for the learner. The topic of positive reinforcement is a widely-discussed issue not only in psychological research, but also in the context of educational theory and practice in the classroom. The next article is an example of how such positive reinforcement, that is, praise, is being investigated by means of a pedagogical experiment. Adrian Leis, in his text entitled "Praise in the EFL Classroom: A Growth Mindset Perspective," demonstrates the role of giving positive feedback in the form of praising and how it affects those who do not receive such feedback. The results of this interesting and well-designed experiment lead the author to highlight practical implications and offer advice on how to give feedback effectively. In the text entitled "The Relationship between Attention and Extraneous Load: Bridging Second Language Acquisition Theory and Cognitive Load Theory," Christopher J. L. Hughes, Jamie Costley, and Christopher Lange argue convincingly for an integration of cognitive load theory of Sweller (2017) into second language acquisition practices to facilitate the learning process. The context described is that of asynchronous video instruction at a Korean cyber-university and the data collected comes from a learner survey carried out by the authors. The results clearly indicate that there is a statistically significant relationship between distraction and extraneous load, which allowed the researchers to construct an explanatory model explaining this relationship.

The authors offer us the pedagogical implications of this in the context of multimodal language instruction. The next text "Gender-based Differences in EFL Learners' Language Learning Strategies and Productive Vocabulary" by Alejandra Montero-SaizAja considers one of the most significant individual learner differences, that is, gender, and its impact on various aspects of language learning processes. The author suggests that one of the under-researched areas in this respect is productive vocabulary use and strategies employed in an EFL context by male versus female learners. The study based on *The Strategy Inventory for Language Learning* (SILL) (Oxford, 1990) and the *Productive Vocabulary Levels Test* (PVLT) (Laufer & Nation, 1995, 1999), reports on the relationship between language learning strategies and productive vocabulary in the case of male and female learners. The findings show that female learners in the study used more strategies than the male ones, however, there were no statistically significant differences in terms of productive vocabulary. Next, Carla Ferrerós Pagès, in her text "Conceptual and Linguistic Transfer from L2 (Catalan) to L1 (Amazigh) within the Context of Migration," looks at the phenomenon of lexical and semantic transfer between L2 (Catalan) and L1 (Amazigh). The analysis focuses on a selected semantic field of body parts to demonstrate the possibility (or otherwise) of conceptual transfer between these two languages. The author discusses various factors that may have an impact on this transfer such as the amount of exposure to L2, language context or the status of the languages and the characteristics of speakers. The next article entitled "Effects of Using Corpus-based Instructional Mediation on EFL Students' Academic Writing Skills Improvement" by Amare Tesfie Birhan, Mulugeta Teka, and Nibret Asrade describes a quasi-experimental study carried out in the context of EFL mechanical engineering students. The results of the study and statistical analysis confirm the hypothesis that corpus-based instructional mediation results in a more effective development of FL writing skills in learners in such important aspects as text construction, its content, communicative value, structure and grammar, and vocabulary usage. Thus, the authors conclude by calling for the "inclusion of corpus-based authentic linguistic elements in their teaching material when teaching academic writing courses in the EFL context" (p. 133). The last text in this issue, authored by Xiaoyan Li and entitled "Learning Japanese Onomatopoeia through a Narrative-Evaluation E-Learning System," introduces a wholly different learning context, where online instruction is implemented in teaching Japanese as an FL. It focuses on an interesting but troublesome for learners aspect of Japanese—onomatopoeia—expressing feelings and experiences. The author proposes an online learning system to teach Japanese onomatopoeia via three-step instruction in the form of "narrative strategies to mimic the process by which native speakers learn" (p. 133). The system consists of teaching the formal rules with nuances involved—the creation of individual onomatopoeia by learners and teacher feedback in a form

of narrative interpretation. The effectiveness of an e-learning system was confirmed in the study, in which the experimental group outperformed the control group in their understanding and use of Japanese onomatopoeia.

The present issue also includes two book reviews. The first review by Katarzyna Molek-Kozakowska presents the monograph by Timothy Reagan *Linguistic Legitimacy and Social Justice*, which comments on current discussions of selected topics in critical language pedagogy from the perspective of ideologies, language norms, and uses and, consequentially, also language education practices. The book makes an attempt to answer important questions on language norms and language use and how they translate into a speaker's social position. Ultimately, the answers to the questions posed have a bearing on the teaching of certain versions of a language, which may contribute to social (in)equality. The other book, reviewed by Katarzyna Ożańska-Ponikwia, looks at one of the most important individual learner differences—language anxiety. The book, authored by Christina Gkonou, Mark Daubney, and Jean-Marc Dewaele and entitled *New Insights into Language Anxiety: Theory, Research and Educational Implications*, offers a new perspective on studying language anxiety. It is a dynamic perspective, which requires an interdisciplinary approach and knowledge of varied research paradigms.

This issue therefore offers both theoretical overviews and practical reflections based on individual researcher's empirical work and experiences in the realm of teaching and learning foreign languages—in traditional as well as in less-conventional e-learning contexts. We hope that this innovative and creative research (in its outcomes and its implications) will be of interest to other scholars. Also, the practical solutions to problems proposed by some of the authors can be adapted for other teaching and learning contexts. We hope that all types of readers—researchers, teachers and students—will find the articles not only useful but also inspirational. More than anything else, we would like to thank all the authors in this volume and, as is our usual practice, to extend our invitation to all Polish and foreign researchers and academics to share their work with us by submitting it to our journal.

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Articles

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Using Character Strengths to Address English Writing Anxiety

Abstract

Positive psychology has been introduced to the applied linguistics literature with the broad goal of improving the experience of language learners and teachers through a variety of interventions (MacIntyre & Mercer, 2014; Gabryś-Barker & Gałajda, 2016). "The aim of positive psychology is to catalyze a change in psychology from preoccupation only with repairing the worst things in life to also building the best qualities in life" (Seligman & Csikszentmihalyi, 2000, p. 5). One significant contribution of this young field has been a series of empirically-tested positive psychology interventions (PPIs) that have been shown to increase positive emotion, reduce distress, and/or improve well-being (Seligman, Steen, Park, & Peterson, 2005; Sin & Lyubormirsky, 2009). In the present research, we examine one application of a PPI involving a focus on using character strengths as a way to address language anxiety. Through a case study analysis, we demonstrate the ways that this intervention was beneficial for the student.

Keywords: foreign language anxiety, positive psychology interventions (PPIs), VIA Strengths Inventory

The literature on positive psychology has proposed a number of exercises or interventions that have been empirically shown to increase well-being. However, one of the early important lessons emerging in studies of positive psychology interventions (PPIs) in language acquisition is that the efficacy of the interventions appears to be quite variable, depending to a large degree on the individual and their context. For example, PPIs have been used to encourage emotional intel-

ligence traits, such as gratitude, savoring, and optimism (Gregersen, MacIntyre, Finegan, Talbot, & Claman, 2014); empathy and emotional labor (Gregersen, MacIntyre, & Macmillan, 2020); gratitude, altruism, music, exercise, pets, and laughter (Gregersen, MacIntyre, & Meza, 2016). These characteristics are especially important in the foreign language classroom. There are positive benefits to connecting emotional intelligence and foreign language enjoyment (Aki, 2006) and can have a predictive effect on language performance (Valizadeh & Alavinia, 2012; Zarafshan & Ardeshiri, 2012). Although language anxiety has been studied extensively and potential interventions have been proposed, there are still few empirically tested examples.

In the present research, we take an N-of-1 experimental approach to examine the effectiveness of a PPI by using character strengths in a new way as a factor in reducing anxiety. We focus specifically on the skill of writing and examine whether the learner's novel engagement of self-selected character strengths might reduce language anxiety and help improve performance in a second language writing class.

Positive Psychology and PPIs

Succinctly, positive psychology can be defined as "the scientific study of what goes right in life" (Peterson, 2006, p. 4). Whereas much of psychology is concerned with negative experiences such as depression, trauma, and anxiety, positive psychology encourages a balance among research topics that directs research effort toward the breadth of the human experience—good and bad—acknowledging that good health means much more than the mere absence of illness (Seligman & Csikzentmihalyi, 2000, p. 5). The obvious parallel in SLA is the notion that language learners are not deficient native-language (L1) speakers, but, rather, are developing unique linguistic and communicative capabilities (Byrnes, 2018). At the same time, positive psychology advocates applying the rigor of the scientific method that psychology has long employed—which demands testing theories against evidence. Accordingly, positive psychology is not to be mistaken for untested pop psychology, groundless assertions, or simplistic promotion of the power of positive thinking. Rather, it requires an empirical process that demands scientific methods, falsifiability, and attention to methods, whether quantitative or qualitative (Hefferon, Ashfield, Waters, & Synard, 2017). In particular, the literature on positive psychology can benefit from engaging a combination of experimental and qualitative designs to produce a process-oriented account of how and why a specific PPI might work for a specific person.

The development of positive psychology interventions (PPIs) includes exercises, training, and therapies principally focused on increasing positive feelings, positive cognitions, or positive behavior, in contrast to interventions that target a reduction of unpleasant symptoms. The typical approach of a PPI is to encourage further development and new applications of processes that already produce positive effects for a person. Available, systematic evidence shows that PPIs can be effective (Seligman et al., 2006; Sin & Lyubomirsky, 2009). Seligman et al. (2005) identified five specific exercises emphasizing positivity that also resulted in reducing depression and/or increasing well-being over short term and long term follow-up has been supported by random placebo-controlled trials. The five exercises asked participants, every day for a week, to (1) name three good things every day; (2) express gratitude more often; (3) describe 'you' at your best; (4) identify personal character strengths, and (5) use their strengths in new ways.

The fifth exercise, using strengths in new ways, produced a pronounced reduction in depressive symptoms and an increase in self-reported happiness after a week, one month, three months and at the six-month follow-up. As part of the follow-up process, the researchers asked the study participants whether they continued to use the PPI even after the one-week intervention portion of study was complete. Those who continued to use the exercise on their own experienced the most pronounced positive effects over time, emphasizing the need for a 'fit' between the person and the intervention activity (Lyubormirsky & Layous, 2013). The present study tests this intervention's effects on second language writers, with particular emphasis on one person who was most successful in engaging with the PPI.

The methodological toolbox that can be used to evaluate PPIs is diverse. One under-utilized approach is single-subject or N-of-1 designs that test one individual intensively, over time. N-of-1 designs are especially valuable in testing PPIs because results at the group level may or may not apply to specific individuals and vice versa. Further, analyzing individual-level data can reveal details of the process of using PPIs that cannot be examined at the group level. In general, most PPIs, including the novel use of signature strengths employed here, usually are framed as an outline of activity and processes that must be tailored to individuals. Woodworth et al. (2015) provide an example of testing PPIs in N-of-1 designs. They argue that studying individuals, rather than drawing conclusions from group averages, is advantageous for at least three reasons: (1) relevant changes in psychological states can be identified that might be missed when averaged over a group; (2) interventions often are adapted to be tailored to an individual's context; and (3) N-of-1 actually is a preferred design when an intervention is used repeatedly over time, providing a more rigorous test of the effect of the intervention. The study by Woodworth et al. provided evidence that using signature strengths is one of the more effective interven-

tions but that there is considerable variability in the effect of PPIs for individuals. In general, Woodworth et al. conclude that PPIs are likely most effective when there is a good fit between the person and the activity, but, at the same time, the authors show that such a result is problematic because the effectiveness of PPIs "[…] should not rely on the self-selection of participants" (2015, p. 28). We disagree. Perhaps the more appropriate lesson from Woodworth et al. is not about the decontextualized efficacy of any given PPI in general but, rather, the need to assess how the process of using a PPI reveals its fit with the person using it and the context in which they live. In the case of the PPI under study here, the specific signature strength, or, more broadly, the pattern of interconnected strengths, will be unique to each person, and using strengths in a novel way is a creative process that would not be instantiated in the same way in another person.

Signature Strengths

Character strengths are often defined in ways similar to personality traits, specifically as the capacity for thoughts, feelings, and actions that allow for optimal functioning in ways that are valued, either because of goal orientations or morally-valued virtues (Biswas-Diener, Kashdan, & Minhas, 2011; Linley, Maltby, Wood, Joseph, Harrington, Peterson, & Seligman, 2007). Consistent with modern personality trait theory, strengths can be viewed as "stable and general but also shaped by the individual's setting and thus capable of change" (Peterson & Seligman, 2004, p. 10).

One of the most widely used ways of measuring strengths is the online VIA inventory (Peterson & Seligman, 2004). Seligman (2002) defines the qualities of a character strength as the ability to: (1) contribute to individual fulfillment, satisfaction, and happiness; (2) be advocated by institutions (e.g., schools, religions); (3) be associated with respected persons; and (4) be morally valued in its own right and not for tangible outcomes it may produce. Further, from a research perspective, strengths are defined as trait-like, measurable, and non-redundant with other character strengths. Theoretically, a taxonomy of potential strengths that are ubiquitous across cultures identified 24 character strengths divided into six broader categories called virtues (Peterson & Seligman, 2004). The six virtues and the character strengths that fall within each are:

1. Wisdom/Knowledge: creativity, curiosity, judgment, love of learning, and perspective;
2. Courage: bravery, perseverance, honesty, and zest;
3. Humanity: love, kindness, and social intelligence;

4. Justice: fairness, leadership, and teamwork;
5. Temperance: forgiveness, humility, prudence, and self-regulation;
6. Transcendence: appreciation of beauty/excellence, gratitude, hope, humor and spirituality.

Research that has tested the reliability and validity of the VIA Inventory has suggested that the individual scales show acceptability, reliability, and validity (McGrath, 2016; Peterson, Park, & Seligman, 2006).[1]

To emphasize that some strengths are more influential than others in a person's life, Seligman (2002) coined the term *signature strengths* to identify those that best characterize a person. Seligman (2002) describes signature strengths as those meeting the following criteria:

– a sense of ownership and authenticity surrounding the strength;
– a feeling of excitement (particularly at first) while displaying it;
– create a rapid learning curve when undertaking new tasks;
– intrinsic motivation to use the strength;
– a sense of yearning to act in accordance with it;
– the creation and pursuit of fundamental projects that revolve around the strength;
– continuous learning of new ways to use the strength;
– invigoration rather than exhaustion when using the strength;
– the discovery of the strength as owned in an epiphany;
– a feeling of inevitability in using the strength (i.e., "try and stop me").

The above attributes, including intrinsic motivation, excitement, and rapid learning, would likely be welcomed in almost any pedagogical context by teachers and learners alike.

In considering how strengths are employed *in situ*, Biswas-Diener et al. (2011) emphasize the need to take a dynamic view of strengths.

> Instead of focusing on strengths as internal capacities that exist across time and situations (contemporary trait approach), we adopt a dynamic, within-person approach to personality. Instead of searching for behaviors that elicit strong performance and vitality across time and situations, we can search for interactions between people and their environment. Such behaviors can be defined as a strength-based structure within someone's personality. (p. 110)

The specific intervention employed in the present study shows promise in aligning the specific strengths of an individual with difficulties they might be having, specifically anxiety-arousal. The intervention has two parts. First, each participant identifies his or her own personal strengths, using a standardized

[1] Empirical research is showing that these can be organized differently (McGrath, 2015) and there are now several variations on the VIA inventory available (www.viacharacter.org).

survey published online called the VIA Inventory (Peterson & Seligman, 2004). Second, the person is tasked with creating new ways to optimize personal well-being by finding new ways to apply the strength in areas where it has not been applied in the past.

Language Anxiety

Anxiety is often a disruptive and an unwelcome part of the language-learning process. Defined as "a distinct complex of self-perceptions, beliefs, feelings, and behaviors related to classroom language learning arising from the uniqueness of the language learning process" (Horwitz et al., 1986, p. 128), this anxiety can often hinder the learner's progress. Numerous studies have raised concerns about the negative effects of anxiety arousal (for reviews see: Horwitz, 2017; MacIntyre, 1999; 2017; Teimouri, et al., 2019), including studies highlighting negative effects of anxiety on the writing process (Cheng, Horwitz, & Schallert, 1999; Cheng, 2002; Lee & Krashen, 1997). In broad terms, we can identify two possible routes by which to reduce anxiety: (1) directly address the symptoms of anxiety, for example, through relaxation training or eliminating anxiety triggers (see Gregersen & MacIntyre, 2014 for several suggestions), or (2) intervene in a way that affects anxiety as a byproduct of focus on other attributes, for example, through building strengths and self-confidence (see Dewaele & Dewaele, 2017). If we choose to leave anxiety to one side and work on interventions that psychologically build up the learner, a collection of empirically tested PPIs is available, though none has been tested as a way to reduce the negative effects of language anxiety (Seligman, Steen, Park, & Peterson, 2005; Sin & Lyubormirski, 2009; Helgesen, 2018).

However, at the outset of this research, we take note that studies exploring the efficacy of positive psychology interventions (PPIs) in Second Language Acquisition (SLA) suggest that their success is quite variable across individuals (Gregersen, MacIntyre, Finegan, Talbot, & Claman, 2014; Gregersen, MacIntyre, & Macmillan, 2020; Gregersen, MacIntyre, & Meza, 2016). There are myriad reasons for anxiety arousal, and this is important to recognize because the reason for anxiety may influence the configuration of individuals' abilities or aptitudes that are relevant to the success of any specific intervention (Gregersen & MacIntyre, 2014).

In the present study, we take a process-oriented, N-of-1 approach to an experimental procedure wherein English language learners were tasked with identifying their signature strengths using the VIA online survey (Peterson & Seligman, 2004) and explore whether using them helped to reduce anxiety in

a writing course. Because anxiety is personal, students were told they would be using these strengths to overcome their individual senses of anxiety. Over a three-week period, learners self-generated ways of using their own strengths in new ways as they approached writing tasks in their language course. Participants used three specially created narrative frames (Burkhuizen & Wette, 2008) before, during, and after the intervention to capture their thoughts about their past, present, and future use of their signature strengths (See Appendix A). Although we will test differences in anxiety based on the Second Language Writing Anxiety Inventory (SLWAI) results (Cheng, 2004), our concern with a process-oriented account suggests that the intervention be examined as a case study. In particular, we focus on how the learner who was most successful in reducing writing anxiety used their signature strengths. A close examination of the case study participant's narrative frames and four individual written assignments before and during the intervention offers insight into whether the intervention influenced that individual's writing.

In short, our research questions are as follows:

RQ1: How did learners react in general to the PPI which required using signature strengths in new ways; what did students say about the activity in their narrative frames?
RQ2: What can a close examination of one particular case study participant, who experienced success with using signature strengths in new ways, reveal about the potential found in the intervention to mitigate the effects of negative emotion?

Methodology

Participants

A total of 45 participants (24 females, 21 males) were recruited for this study. All were first- and second-year university students from a variety of majors (several different kinds of engineering, biology, architecture, design, finance, business, marketing, mass communications, international studies) enrolled in three different sections of an obligatory English for academic writing class. The class is the first of three writing courses that they must take at a university in the United Arab Emirates (UAE). Two of the three intact course sections became experimental groups (31 participants), while the third acted as a control (14 participants). Although the language of instruction for

all of the classes and the university was English, the L1 of the majority was Arabic (38), followed by Urdu (3), Malayalam (2), Tajik (1), and Gujarati (1). The UAE has an unusual sociolinguistic context in that it has welcomed globalization by adopting English through the implementation of a strategy of linguistic dualism in which English is linked with commercial, modern, and international facets of society, while Arabic is used in religious, traditional, and local aspects (Findlow, 2006).

Instruments

The VIA Inventory of Strengths. To assess participants' character strengths we used the English version of Seligman and Peterson's (2004) standardized web-based VIA Inventory of Strengths, that according to the survey's website, has been taken by over seven million people (https://www.viacharacter.org/www/). The VIA is a self-report survey in which participants rank their responses to items on a five-point scale (1 = "not at all like me," 5 = "very much like me"). With a total of 198 items (five to nine statements per strength), respondents report their degree of support for each statement and then receive a report, free of charge, which lists all 24 character strengths in order from the individual's strongest to weakest.

The L2 Writing Anxiety Inventory (Cheng, 2004). To assess participants' L2 writing anxiety, we used Cheng's (2004) Second Language Writing Anxiety Inventory whose total scale and subscales were assessed by means of correlation and factor analysis. It was discovered that both the total scale and the individual subscales of the SLWAI have good reliability and adequate validity. Consisting of 22 Likert-type items ranging from 1 (strongly disagree) to 5 (strongly agree), the Inventory was created for the purpose of developing and evaluating a self-report assessment that reflects a three-dimensional conceptualization of anxiety. The three components assessed by the items are: (a) cognitive, reflecting the mental aspect of the anxiety experience, including negative expectations, preoccupation with performance and concern about others' perceptions; (b) somatic, including one's awareness of the physiological effects of the anxiety experience, as reflected in increased arousal of unpleasant feelings, such as nervousness and tension; and (c) avoidance behavior, which is the behavioral aspect of avoiding writing.

Narrative frames. Our third set of instruments, three different narrative frames (See Appendix A), was used to document participants' feelings before applying their strengths, how they felt during the exercise, and their resulting feelings upon completion. The pre- and post-intervention narrative frames were each filled out once, while the "during-the-intervention" one was completed nine times, corresponding to the three times a week class was held for

the experimental period of three weeks. The narrative frames were meant to provide guidance and support in terms of both the structure and connection for their written narratives (Barkhuizen & Wette, 2008). Narrative frames as a research method deliver a snapshot of participants' experiences in the form of a story, written mostly by the participants within a framework provided by the researcher. For the purposes of this study, the three frames acted as starters, connectives, and sentence modifiers, giving participants a template within which they could focus on communicating what they sought to convey while, at the same time, scaffolding them with a specific generic form.

Coded writing assignments. Our fourth data set consisted of four formal written assignments that were submitted throughout the semester, although the intervention began during week 10 of the semester. Table 1 shows the study intervention process within the semester timeline.

Table 1.

Data collected from students in experimental group

Study week #	Intervention data collected	Semester week #	Syllabus assignment data collected
			Pre-Intervention: students had already completed a Disciplinary Writing Analysis and had begun research about their chosen research topic.
1	VIA Character Strengths test, the Pre-Intervention SLWAI; and the Pre-Intervention Narrative Frame.	10	Students had completed an Annotated Bibliography assignment for an Introductory Research Paper (Syllabus Assignment #2); they began drafting an introduction for this paper.
2	During-Intervention Narrative Frame with responses for 3 days of the week.	11	Students began an outline and draft for their research papers.
3	During-Intervention Narrative Frame with responses for 3 days of the week.	12	Students submitted their research papers and began the Introductory Argument Assignment (Syllabus Assignment #3). This assignment was a "Letter to the Editor" based on the research they had completed for Assignment #2.
4	During-Intervention Narrative Frame with responses for 3 days of the week.	13	Students submitted Argument Assignment (Syllabus Assignment #3).
5	Post-Intervention SLWAI.	14	Students began working on the Final Reflection (Syllabus Assignment #4).
6	Students were shown the Pre- and Post-SLWAI scores and submitted a short reflection commenting on the change or lack of change.	15	Students submitted the Final Reflection Assignment (Syllabus Assignment #4).

The written formal assignments were the following:
Assignment 1. Rhetorical analysis paper. Purpose: to analyze the rhetorical situation and particular rhetorical strategies of a genre from the student's discipline, such as an engineering proposal.
Assignment 2. Introductory research paper. Purpose: to research a chosen topic and present many aspects of the issue. Students included a cover letter with their paper to encourage meta-cognitive awareness.
Assignment 3. Letter to the editor. Purpose: students chose a newspaper or magazine and wrote an opinion piece using research from their previous class assignments.
Assignment 4. Course reflection. Purpose: to retroactively review their assignments and demonstrate that they learned valuable skills which they will transfer to future contexts.

Post-study Reflection/Member Check. At the end of the intervention period and upon being informed of their pre- and post-intervention SLWAI scores, the participants were asked to reflect upon their results and reveal any insight they may have as to why the differences occurred. Table 2 shows the data collected from the control group students and procedures are explained further in the next section.

Table 2.

Data collected from students in control group

Study week #	Intervention data collected from students in control group	Semester week #	Syllabus assignment data collected from students in control group
1	Students completed Pre-Intervention SLWAI.	10	Students completed the same assignments as the experimental group, but these were not collected.
5	Students completed the Post-Intervention SLWAI.	14	
6	Students were shown the Pre- and Post-SLWAI scores and submitted a short reflection commenting on the change or lack of change.	15	

Procedures

Data collection for the experimental and control groups took place over the course of six weeks after students consented to participate in the study. After this, participants across the three groups responded to the pretest SLWAI. Subsequently, only the experimental group participated in the intervention while participants in the control group continued with class as usual without using their signature strengths in new ways.

The first activity completed by the experimental group, outside class time, was the online VIA Character Strengths Survey with the purpose of revealing their personal strengths used most often. Upon receiving their personalized strengths report from the VIA website, experimental participants filled out the first ("pre-intervention") narrative frame called "My Strengths Story."

After submitting the first narrative frame during the next class, participants were asked to think of creative ways to use their strengths throughout the next three weeks, at which point they were given three identical ("during-intervention") narrative frames into which they documented their experiences. This helped participants keep track of how they applied their strengths on a daily basis and how this affected their performance and feelings. The frames prompted participants to write their top five strengths, and then each week to choose one strength and think of novel ways to use it in writing class or while they wrote their assignments outside of class. In this way, each individual participant was able to individualize the intervention to fit their own context.

After completing the during-intervention narrative for three consecutive weeks, students were given their final ("post-intervention") narrative frame which was similar to, but not exactly the same, as the first. This one asked them to reflect on the similarities and differences in their feelings before and after the intervention by describing how they felt while writing in their L2. They reported on levels of confidence, continuing struggles, and ways they might conquer these struggles by using their signature strengths in the future. They completed the post-intervention narrative frame in class and then took the post-test SLWAI. Control group participants also took the post-SLWAI. The scores of both the control and experimental groups' SLWAI were then calculated for each participant to identify individuals showing the most anxiety reduction. In week 6 of the study, students from the experimental group were informed about the difference between their pre- and post- SLWAI scores and were asked to write a short reflection about changes in their personal anxiety scores.

To focus on the N-of-1 analysis, we selected the participant who showed the greatest change in SLWAI scores in order to assess the specific ways in which she used the PPI to reduce anxiety. The analysis examined her four formal writing assignments that had been submitted during the semester in the context of the writing class. Using an iterative coding process, two coders were given copies of the case study participant's three sets of narrative frames as well as her four written papers and were instructed to identify evidence supporting the participant's strength being incorporated into her writing. Using five different-colored highlighters for the participant's five character strengths, readers coded the presence of the strength in the participant's manuscripts. For example, if the participant stated in her narrative frame that she would use her "zest" to "create an anecdote in her introduction," readers coded the strength of "zest" in pink and then highlighted the anecdote in the corresponding written

assignment also in pink. Only those narratives that had sections coded by both readers in the same color are used as data in this study.

Results and Discussion

To answer RQ1 concerning learners' reaction to using their signature strengths in new ways, we begin with the narrative frames. The participants in the intervention group were asked to complete three narrative frames that corresponded to their feelings concerning writing in their L2 (English) before, during and after the intervention (Using Signature Strengths in a New Way). Examination of the respondents' word choice within the narrative frames suggests positive experiences. There were no negative descriptors used in any of the post-intervention narrative frames. All reported feeling positive about engaging their strengths, using adjectives such as *powerful*, *successful*, *comfortable*, *confident*, *amazed*, *happy*, *satisfied*, *humorous*, *productive*, *curious*, *involved*, *prepared*, *positive*, *relieved*, *dedicated*, *comfortable*, and *creative*.

The words used in narrative frames generally indicate a positive collective response to the exercise even though it did not result in statistically significant differences between the groups on the writing anxiety measure.[2] Previous research in positive psychology suggests that a group-level examination can obscure the variability among individual reactions to specific interventions and complicate the identification of the variables that drive change (or lack thereof) within individuals (Gregersen, MacIntyre, & Macmillan, 2020). Because group-level results seldom reflect the experience of individuals, or can be assumed to do so only under restrictive conditions (Molenaar & Campbell, 2009), we focus on an N-of-1 case study for an individual (Eid & Diener, 1999; Lazarus, 2003) to show an example of the process of the intervention being used. We selected the participant who showed the single largest decline in writing anxiety among the study participants; we shall call her Noor.

[2] The small sample size suggests that the analysis was under-powered, but we present the ANOVA results here for completeness. To assess the group-level effects of the PPI, a 2×2 split plot (mixed model) ANOVA was conducted. The between-subjects factor was Group (intervention vs control) and the repeated-measures factor was Time (pre-test vs. post-test). The dependent variable was the SLWAI total score. Levene's test was non-significant for both the pre- and post-test data, allowing us to assume homogeneity of variance at each testing time. Results showed no significant main effects or interactions. The main effect for Group, F (1, 39) = .41, p = .527, the main effect of Time, F (1, 39) = 2.70, p = .109, and the Group × Time interaction, F (1, 39) = .51, p = .481, all were non-significant. Although both groups showed a slight but non-significant decline in mean anxiety scores (overall Mpre = 61.7; Mpost = 59.1), the intervention and control groups on average showed approximately the same degree of change over time.

In response to RQ2 that asks what a close examination of one particular participant might reveal about the potential of the intervention, we turn to the individual chosen as the focus of our in-depth case study, Noor. She was selected based upon the unusual effectiveness of the intervention to mitigate her L2 writing anxiety. Noor had a post-test anxiety score 21 points less than at pretest. This was the largest success of anyone in the study suggesting that she found a fit between her specific context and the way in which she used the signature strengths PPI.

Noor, a design major, speaks Arabic as her L1 and began acquiring English at the age of three as an L2. On a scale of one (low proficient) to ten (high proficient), she self-assessed her English proficiency a bit above average with a 7.5. According to the results of the VIA inventory, her top five strengths (in descending order) were spirituality, creativity, humility, honesty, and zest. Specifically, the strengths are defined as follows:

– A spiritual person is guided by his or her solid, consistent beliefs about the universe's higher purpose and meaning and receives comfort from such beliefs as they evidence where the individual fits into a much bigger picture.
– A creative person constantly imagines novel ways to do things and are seldom satisfied by getting things done via traditional means.
– A humble person is acknowledged and valued for his or her modesty and avoidance of the spotlight.
– An honest person lives authentically, straightforwardly, genuinely, and without pretense.
– A person with zest exudes excitement and energy, living life wholeheartedly and as an adventure (via Institute on Character, 2019).

Before the Strengths Intervention

The pre-intervention narrative frame shows Noor's thinking before the study began. Her words are italicized below; the un-italicized words are part of the narrative frame:

> In my writing class, I have a difficult time trying to *find my inner voice*. The main reason for this is *that I cannot find the right vocab palette to express myself the way I express myself in Arabic*. However, I feel I excel in *simplifying complex ideas and make them better suited for a wide range of audience*. One of my personal strengths is *spirituality*. I have used it in the past to *overcome the losses and disappointments I have faced*. This week, I will use my strength to help me in my writing and my writing class by *re-reading what I wrote in my introduction and altering it so it matches who I am*. Each of the remaining three weeks I will try to use my personal

> strength in a new way by: *1) listening to podcasts to improve it and learn how to efficiently incorporate it in my daily life; 2) finding inspiration from my environment; and 3) reading my audience and friends*. [i.e. interpreting friends' reactions to events]

Before beginning the intervention, Noor felt she exceled at simplifying complex ideas but also lamented not having the vocabulary in English that she commands in her L1 (Arabic), which she believes limits her authenticity in English. Her concern over authenticity may be highly salient for her, given that a top strength is being "honest," which by definition means living authentically (via Institute on Character, 2019). Furthermore, she seems to recognize that gaps in her command of English do not allow her to express herself in creative ways, frustrating another of her strengths. Further in the narrative frame, Noor juxtaposes her limited lexicon with notions that are a bit esoteric—she recognizes one of her strengths as spirituality, yet begrudges her difficulties in finding her "inner voice" in her L2 writing, which implicates her strengths of honesty, integrity, and authenticity. Noor uses this disparity to revise her writing in order to align it more with her authentic self. Paired with the strength of spirituality, we might infer that the podcasts to which she plans to listen (as cited in her goal list for the following three weeks) will invoke spiritual messages and that the "inspiration" she seeks from her environment will also provide a spiritual uplift. Noor's pre-intervention narrative reveals an alignment among the difficulties she perceives in her own authentic writing and strengths she can use during the three-week intervention phase of the study.

During the Strengths Intervention

As part of the intervention, Noor completed nine additional narrative frames, one in each of three classes per week for three weeks. Each narrative frame consisted of three sentences in which the first part of the sentence was provided and she completed the rest. The first narrative frame Noor completed in week 1 is shown here, followed by Table 1, which summarizes verbatim her responses to the same narrative prompts in weeks 2 and 3.

Week 1.

> Class 1: The strength I used was *creativity*. I used this strength in my writing by *finding new ways to draw the reader*. After doing this, I felt *that it is easier to continue my introduction since I have a strong base*.

Class 2: The strength I used was *zest*. I used this strength in my writing by *I finished my introduction wholeheartedly.* After doing this, I felt *satisfied, since I am a perfectionist*.
Class 3: The strength I used was *spirituality*. I used this strength in my writing by *listening to my inner voice, to help organize my ideas, and how my essay will flow.* After doing this, I felt *blank, since all my thoughts are reflected in my paper.*

Table 3.

Case study #1 (Noor's) during-intervention narrative frame response

	The strength I used was...	I used this strength in my writing by...	After doing this, I felt...
		Week 2	
Class 1	creativity	finding smart arguments	critical thinker
Class 2	honesty	stating 100% accurate facts	knowledgeable
Class 3	zest	anecdotal introduction	optimistic
		Week 3	
Class 1	spirituality	finding an accurate tone to address my audience	like I sent the message accurately
Class 2	creativity	making an anecdote	like I killed the idea since its already created, no room for improvement
Class 3	honesty	finding accurate data	unbias

During the intervention, Noor found new ways to exercise four of her top five strengths while writing. According to the information in the narrative frames, throughout the three weeks she employed her creativity three times: to draw in her readers, to formulate "smart" arguments, and to compose an anecdote. This strength application resulted in her feeling that the writing process was easier, that she improved her critical thinking, and that she did such a good job there was "no room for improvement." She used honesty to state facts she believed to be 100% correct and to find accurate data which made her feel "knowledgeable" and "unbiased." Exercising her strength for zest, Noor "wholeheartedly" finished writing an anecdotal introduction, sparking feelings of satisfaction and optimism. Finally, Noor re-visited her spirituality strength by using her inner voice to guide organization of her writing and strike an appropriate tone for her audience.

There are connections between the strengths identified prior to the intervention and the new ways Noor created to use them. Noor experienced positive language results after using her signature strengths in new ways: she liked her writing, feeling optimistic, knowledgeable, and satisfied. These are positive psychological processes that teachers typically encourage in a writing course. In her first (pre-intervention) writing assignment, Noor communicated anxiety

concerning expressing herself in her English writing. She attributed her apprehension to past educational experiences in which teachers "just taught us to stick to the five paragraph essays where every sentence is calculated, there is little to no space for self-expression, and creative writing." She found the old approach too restrictive; the present approach seemed a better fit to her particular strengths. As a design major, Noor felt the tension between her desire to be creative in her writing and following formulaic, prescribed rules. She stated in her assignment that when she started college, she found it "challenging in adjusting my writing and drawing a line between my design proposal, my WRI 101 essays, and my history classes biography writing" (Assignment 1).

She echoes the sentiments again in her final research paper reflection letter. Within the context of applying strengths such as creativity, she commented, "I learned that there are rules and policies one must abide to when writing a research paper." In essence, Noor suggested that her writing anxiety stems in part from the notion that her past writing experiences did not provide enough room for her to exercise the signature strength of creativity. During the intervention, her narrative frame responses described how she invoked creativity more than any other strength (three times). Further, she suggested that creativity could manifest in different, non-traditional ways. She was able to exercise her strengths within the broader confines of the L2 writing systems she was being taught.

At the outset of the intervention, Noor was in the process of gathering research and drafting a paper on the topic of closed and open adoptions.[3] In her narrative frame for week 1 of the intervention, Noor cites work on her introduction and her goal to use her creativity strength to find "new ways to draw in the reader." Through the process of trying multiple ways to begin the essay, she found that the most effective strategy for her was to provide background information on, and definitions of, closed and open adoptions. Noor discovered that she can still exercise her strength of creativity within a genre that she perceived as being confining and restrictive, that is, she used her strength in a new way.

In both her narrative frame for week 1 and Assignment 1, another writing challenge that Noor describes was finding her "inner voice":

> It is also challenging to translate certain ideas and sentences in my head to English since the language structure is different from that in Arabic. It is a long systematic process from developing the idea in my head in Arabic, translating it to English, and then adjusting it to a certain style of writing.

[3] A closed adoption means there is no contact between the birth parents and the adoptive parents, while in open adoptions, birth parents and adoptive parents choose to include both parties in the adopted child's life.

This challenge is exacerbated with writing her research paper when she laments in Assignment 4, her reflective journal:

> I find it challenging to brain storm my ideas and finding the order and hierarchy in my research since I am overwhelmed by the things I read about the topic and want to include them. Thus, making it difficult for me to find what my argument is and what is the best method to convince my reader.

However, Noor used her spirituality strength as a way to organize ideas. For Noor, finding her "inner voice" is a complicated process. When reflecting on the first draft of the research essay in Assignment 4, Noor states, "The overuse, and abuse of voicing my opinion rather than supporting my argument with peer-reviewed articles, data, and experts' opinion weakened the claims I made." Noor's use of the pronoun "I" undergoes a transformation during the course of the semester. In her first assignment, Noor used "I" frequently throughout to discuss her experiences. In her research essay (Assignment 2), she removed the "I" when stating her opinion. For example, in her conclusion, she states,

> Whether the vessel chosen is open or closed adoption a child has the right to learn the truth about his identity since day one. Manipulating the story and waiting until the child turns the legal age would only create self-acceptance and identity issues which might later lead to various mental disorders and cause depression.

She seems to feel more confident in stating her opinion after she has stated research supporting many sides of the issue of adoption, but finding an inner voice did not necessarily mean using "I" in her papers.

During week 3, Noor was asked to use her research to write a letter to the editor of a newspaper or magazine of her choosing. In her narrative frame, Noor explained that she used her strengths to find "smart" arguments and "accurate facts." In her letter, she responded to a previous article about an experiment conducted on triplets separated at birth. In her reflection about the letter (Assignment 4), she specifically mentions that she had read multiple articles about adoption and felt knowledgeable about the subject. She worked on the final draft in order to find an "accurate tone" and, in doing so, decided that her letter should be directed to "adoptive parents, and for that [she] kept the language simple and did not mention scientific terms used in the study like polygenic, eugenics, etc." Because she knew that adoption was a sensitive topic, Noor chose to include a quote in her letter from one of the actual triplets who was targeted in the study. She also decided an anecdote would be appropriate for the content, and she interpreted this as being "honest" about her description of the study in the letter. While Noor's purpose for writing was somewhat vague

("inform the public and alarm parents to wake up"), she found some freedom and strength in writing about something with which she is deeply concerned.

Over the three-week intervention period, by actively thinking about her signature strengths, Noor altered some of her beliefs about writing. Instead of thinking about her writing in terms of rules and policies, she came to see it as more nuanced and complex. She understood that "writing in the field of design can look and feel very different like that of magazines, and design journals" (Assignment 4), but that there are choices within each genre of writing. Noor found room for creativity within the assignments, but the ways she drew on her creativity took on different forms in each context.

After the Strengths Intervention

The post-intervention narrative frame asked participants to reflect upon the experience of using signature strengths and to project forward as to how they might use them in the future. Noor's final post-intervention narrative frame was as follows:

> This past month, I used my personal strength in new ways by *introducing it to my life in new ways like my art*. From this experience, I felt *powerful*. This is because *I was able to use my strength efficiently*. In my Writing class, I felt more *productive*. However, I still struggle with *organizing my ideas since it does get overwhelming sometimes*. Yet, from this experience, I have learned *to get my mind off things and start after a short break*. Still there are still so many ways for me to use my strengths! Among them are *communicating with people in any form (art, conversations, writing)*.

A striking element of Noor's final narrative is her revelation that she was able to extend the use of her signature strengths to other areas of her life, such as her art, and that this extension resulted in positive outcomes, making her feel more powerful and productive. As a design major, art is central not only to her identity, but also to her profession. She admits to feeling overwhelmed at times but knowing how to use her strengths has taught her to reenergize by taking a break to re-center herself.

At the end of the study, we informed the participants of their anxiety scores from the pre- and post-intervention SLWAI and asked them to reflect on the differences between the pre-test and the post-test, if any. Our purpose in doing so was a form of member check (Maxwell, 2013) wherein the research participant reacts to the information obtained in the study. Noor's response to her reduction in anxiety scores on the SLWAI was as follows:

> Towards the beginning of the semester, I was uncertain of my English language skills. This was because I was not confident in my own voice. I tried to mask my opinion by using the passive voice. However, that made me realize that I was anxious to express my inner voice. After participating in the study […], I had to face my anxiety and accept it so I can move on. I started using the active voice in my writing, which decreased the grade of my essay because I did not master the style well. However, after some practice, my grades became better and I was more confident in expressing my thoughts and my values to communicate to people my standard rather than shying away. And I feel like I have accomplished that since I went from a 72 to a [score of 51, a change of] –21.

Rather than working on compensating for her deficiencies in her writing, Noor capitalized on signature strengths she already possessed to make the writing process easier, more enjoyable, and to gain confidence. Her teacher uses a very friendly teaching style, beginning class with a question used to create an open environment, group work activities, and thus students were encouraged to offer multiple viewpoints in class discussions. Noor said that the effect extended to the rest of her life and art, leading her to feel more powerful, productive, and energized.

Noor's specific approach to implementing the Signature Strengths PPI supports the need to assess the person-activity fit. Lyubomirsky and Layous (2013) presented the factors that mediate the effectiveness of PPIs, including (1) the details of the specific PPI; (2) the characteristics of the person using it; (3) the degree of 'fit' between the person and the activity; and (4) a consideration of the specific processes that are engaged. The present results support the idea that assessing the efficacy of the PPI can be done at the individual level, in a detailed analysis of the process used to implement the PPI and tailor it to the individual. Noor's quantitative data showed that the PPI was unusually effective for her, she showed a remarkable reduction in writing anxiety, and the above analysis suggests that it fit her needs remarkably well.

Conclusion

Perhaps the most appropriate conclusion of this study is that the PPI intervention can reduce writing anxiety for some learners but not others. For at least one individual, this occurred in a dramatic fashion. That is not to say the PPI will work for everyone. One of the lessons emerging from this study is the need to examine in detail the fit between the individual and the PPI

activity and to document the process by which it exerts its effect. In fact, one of the most significant pedagogical implications emerging from this study is that interventions, such as learning tasks, assessment tools, feedback, and other teaching/learning mechanisms, are most effective when personalized to meet the individual needs of the learner. The present results reinforced the benefits of an individual-level experimental approach to analyzing the efficacy of interventions. We know from previous investigations that even the most successful inventions will not affect all persons in the same way, and some persons might not engage with the PPI at all.

Csikszentmihalyi (1991, p. xi) poetically suggests, "[…] a joyful life is an individual creation that cannot be copied from a recipe." In more practical research terms, Molenaar and Campbell (2009) argue forcefully what virtually every methodologist knows—because of intra-group variability and aggregation of data across persons, group level results, including differences in means showing change over time, cannot be assumed to apply to any individual, even those persons within the group that produced the data. Further, data collected on the efficacy of an intervention in one domain (writing) might not transfer to another domain (speaking), and results might also vary substantially across teaching contexts, participant age groups, cultures, and teacher characteristics.

The implications of these methodological tenets can often be overlooked in asking whether an intervention 'worked.' In practical terms it means that we must approach evaluating interventions at each implementation, cautiously, and without over-generalizing. Therefore, in conclusion, we present Noor's case as one example where using signature strengths in a new way led to a reduction in anxiety because the PPI itself fit both the person and the context in which she was studying.

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Appendix A

Narrative Frames

1. Pre-intervention Narrative Frame: My Strengths Story

In my Writing class, I have a difficult time trying to _____ _____. The main reason for this is _____.

However, I feel I excel in _____ _____.

One of my personal strengths is _____. I have used it in the past to _____.

This week I will use my strength to help me in my writing and in my writing class by _____ _____.

For each of the remaining three weeks I will try to use my personal strength in a new way by:

1) _____

2) _____

3) _____

2. Post-intervention Narrative Frame

This past month, I used my personal strength in new ways by _____ _____ _____. From this experience, I felt _____.

This is because _____ _____.

In my Writing class, I felt more _____.

However, I still struggle with _____
_____. Yet, from this experience, I have learned _____. Still, there are still so many ways for me to use my strengths!! Among them are _____
_____.

3. "During intervention" Narrative Frame

MY TOP FIVE PERSONAL STRENGTHS ARE:
1.
2.
3.
4.
5.

Weekly Strength Report:
Sunday
The strength I used was _____.
I used this strength in my writing by _____.
After doing this, I felt _____
_____

Monday
The strength I used was _____.
I used this strength in my writing by _____.
After doing this, I felt _____
_____

Tuesday
The strength I used was _____.
I used this strength in my writing by _____.
After doing this, I felt _____
_____

Wednesday
The strength I used was _____.
I used this strength in my writing by _____.
After doing this, I felt _____
_____

Thursday
The strength I used was _____.
I used this strength in my writing by _____.
After doing this, I felt _____
_____.

Tammy Gregersen, Peter D. MacIntyre, Rachel Buck

Die Verwendung von Charakterstärken zur Bekämpfung von Schreibangst in Englisch

Zusammenfassung

Die positive Psychologie wurde in die Literatur der angewandten Linguistik mit dem allgemeinen Ziel eingeführt, die Erfahrungen von Sprachlernern und -lehrern durch eine Vielzahl von Interventionen zu verbessern (MacIntyre & Mercer, 2014; Gabryś-Barker & Gałajda, 2016). „Das Ziel der positiven Psychologie ist es, einen Wandel in der Psychologie zu katalysieren, der sich nicht mehr nur damit beschäftigt, die schlechtesten Dinge im Leben zu reparieren, sondern auch die besten Qualitäten im Leben aufzubauen“ (Seligman & Csikszentmihalyi, 2000, S. 5). Ein wichtiger Beitrag dieses jungen Gebiets ist eine Reihe von empirisch getesteten, positiv-psychologischen Interventionen (PPI), die nachweislich positive Emotionen verstärken, Disstress reduzieren und/oder das Wohlbefinden verbessern (Seligman, Steen, Park, & Peterson, 2005; Sin & Lyubormirsky, 2009). In der vorliegenden Studie wird eine Anwendung von PPI untersucht, deren Schwerpunkt in der Nutzung von Charakterstärken als einer Möglichkeit, die Sprachangst zu behandeln, liegt. Anhand einer Fallstudie wird aufgezeigt, wie diese Intervention für die Studierenden von Vorteil war.

Schlüsselwörter: Fremdsprachenangst, positiv-psychologische Interventionen (PPI), VIA Strengths Inventory

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Praise in the EFL Classroom: A Growth Mindset Perspective

Abstract

This study investigates how praising students' success in tasks affects the performance of other students who were not successful. Possible and impossible crossword puzzles were used as an experiment to engender fixed mindsets in half of the sample. The average time to complete a crossword puzzle at the pre-test was compared to the average time to complete the same puzzle at the post-test. The results showed that students given possible crossword puzzles were able to make significant improvements in the speed with which they could complete the puzzle at the post-test stage. However, such improvements in performance were not seen among the students who had been temporarily primed into a fixed mindset during the experiment through the use of the impossible crossword puzzles. Reasons behind these results as well as pedagogical implications related to effective ways of giving praise and other feedback will be discussed.

Keywords: growth mindset, failure, feedback, university students, praise

In recent years, there has been an increasing number of studies in the field of psychology looking at mindsets, especially those investigating the benefits of having a growth mindset and the ramifications of possessing a fixed mindset (e.g., Dweck & Yeager, 2019; Gunderson, Sorhagen, Gripshover, Dweck, Goldin-Meadow, & Levine, 2018). The concept of mindsets has evolved over time and can be described as the beliefs individuals hold regarding (1) the malleability of their ability in a particular field; (2) the control they feel they have to improve their ability in a field; and (3) how they deal with failure (Dweck, 1999). In this study, I focus on the second of these facets of mindsets.

Investigating mindsets and the reasons why students may have growth or fixed mindsets may be especially relevant in English as a foreign language

(EFL) environments. As suggested through Krashen's (1982, 1985) input hypothesis, students learn most efficiently when challenged to take calculated risks with language at a level slightly above their current ability is essential for making solid progress in their proficiency (i.e., i + 1). Such a willingness to make mistakes at a level just above one's current ability is closely linked to the concepts related to a growth mindset. In other words, to improve in a foreign language, a learner inevitably has to be willing to take a certain degree of risk in using the language with the possibility of making mistakes or encountering difficulties. Having a growth mindset is known to make learners more willing to take calculated risks and persevere on tasks (Dweck, 2009; Mercer, 2012). Yet, despite the strong positive relationship between moderate risk-taking and improvements in language proficiency (Arnold, 1999; Dewaele, 2012), the amount of research related to the mindsets of students studying in EFL environments is still rather limited. In this paper, I focus on the second facet of mindsets centering on the sense of control one feels over one's ability to improve in a language. I discuss how praising certain students' ability in a university EFL classroom may lead other students in the classroom to feel that their efforts will not lead to higher proficiency: a characteristic of a fixed mindset.

Literature Review

Response to Failure

The ways humans react to challenging tasks which involve a perceived risk of failure have been investigated by various researchers in the field of psychology. Perhaps the seminal work in this field began with the study by Seligman, Maier, and Geer (1968) who conducted an intervention of electric shocks that the subjects (i.e., dogs) had no control over. In the post-test, the dogs did not even attempt tasks that they had previously been able to complete successfully in the pre-test. The phenomenon of becoming unable to complete a task successfully that one could do beforehand was coined *learned helplessness*. Seligman et al. (1968) suggested that all animals, including humans, tend to give up when faced with tasks with which they feel they have no control over the outcomes.

A few years later, an investigation conducted by Dweck and Reppucci (1973) attempted to link the phenomenon of learned helplessness and the attributions children give for their successes or failures to complete tasks. In the study, elementary-school-aged children were given colored blocks and asked to replicate patterns that had been shown to them. Some children were given

problems that were relatively easy to solve, whereas others were given tasks that were impossible to solve. The findings of Dweck and Reppucci's (1973) study suggested that when given challenging puzzles some children simply gave up, even though they had initially had sufficient motivation and the ability to complete the puzzles. Others, however, thrived on the challenges and saw them as opportunities to learn. These children had positive reactions toward situations in which others simply fell into a state of learned helplessness. Dweck (1975) has also argued that children can be alleviated from the state of learned helplessness if they can be trained to attribute their failures to a lack of effort rather than low aptitude for their chosen field.

A large number of studies related to humans' approaches to highly challenging tasks continued to be published over the next few decades. For example, in self-worth theory, Covington (1992) suggested that some children purposefully make little or no effort in their studies when they are faced with circumstances in which they feel they may fail. This is especially salient in the classroom, where children's egos and self-confidence are developed. Covington (1992) suggests that some children use self-handicapping strategies. They purposefully make little effort because if they try hard to overcome challenges and still fail, this can damage their egos. They feel that peers and family members view their failures as indications of not being smart enough, so it would be more beneficial for their self-confidence if they made little effort and were seen as lazy. More recent studies have had similar findings (e.g., Johnson, Gooding, Wood, Taylor, & Tarrier, 2011; Johnson, Panagioti, Bass, Ramsey, & Harrison, 2017).

Based on decades of research on learned helplessness (Seligman et al., 1968), attribution theory (Weiner, 1986), and self-worth theory (Covington, 1992), Carol Dweck and her colleagues proposed the implicit theories framework (Dweck, Chiu, & Hong, 1995; Dweck & Leggett, 1988) as an explanation for understanding the differences between humans who are willing to risk failure in difficult situations and those who avoid the risks and choose easier, yet less beneficial pathways.

Implicit Theories

Implicit theories offer an understanding of the reasons for humans' reactions when faced with situations in which they feel they may fail (Dweck, 1999; Dweck, Chiu, & Hong, 1995; Dweck & Leggett, 1988). According to implicit theories, the way one reacts when faced with challenging situations can be divided into two theories: an entity theory and an incremental theory. The entity theory refers to the belief that ability is innate and that regardless of the efforts one may exert, the level of proficiency will not change. Therefore, it is better to avoid challenging tasks—which such individuals believe will most likely result

in failure—because failure is seen as a sign of being unintelligent: a state also known as *fixed mindset*. In contrast, those with an incremental theory have strong beliefs that ability is malleable, and with hard work, anyone is capable of reaching high levels of proficiency and performance in their chosen fields. Even if one experiences failure, those with an incremental theory believe that that failure brings about opportunities to learn and build one's capabilities: a state known as a *growth mindset*.

Dweck (1999) explains, however, that the distinction between the entity theory and incremental theory is not clear-cut. It is possible, and in fact more likely than not, that one will hold an entity theory for one field and the incremental theory in another. Therefore, it may be possible, for example, that students have an entity theory for mathematics; they believe that their efforts to study mathematics are meaningless. However, the same students may possess the incremental theory in athletics, holding the belief that if they practice hard enough, they can become more skilled at the sport they choose to play.

Through the results of a large number of studies, implicit theories have proved to be an accurate way of describing humans' beliefs regarding the innateness of ability in various fields (e.g., Knee, 1998; Ommundsen, 2001). In order to share the benefits of having an incremental theory with a wider audience, Dweck (2006) employed a more accessible terminology for implicit theories: *mindsets*. As such, outside of the field of psychology, the entity theory has since been more commonly referred to as the *fixed mindset*, and the incremental theory as the *growth mindset*. In order to connect with the large body of work in education and practitioner perspectives, in this paper, I shall use the mindset terminology.

Mindsets

Although the notion of growth mindsets has received much attention and support in the fields of psychology and education, it is not without its critics. Orosz, Péter-Szarka, Bőthe, Tóth-Király, and Berger (2017), for example, criticized studies that appeared to give support for the growth mindset, suggesting that the effects were only temporary: Students who had previously had fixed mindsets and were changed to growth mindsets through various interventions returned to display traits of the fixed mindset once they went back to regular routines and learning. Sisk, Burgoyne, Sun, and Macnamara (2018) followed this up by arguing that having a growth mindset does not necessarily result in higher academic achievement. Dweck (2018) addressed these issues by arguing that the criticisms were based on the results of performances in quizzes, not on real grades or standardized test scores. A few years earlier, Dweck (2015) had expressed concerns that the growth mindset had been misunderstood, and that

many believed simply praising effort alone and telling children, "You can do anything!" would lead to success in their chosen fields. However, Dweck (2015) warned that giving such praise may lead to a *false growth mindset*: the belief that it is effort and effort alone that will lead to one's success. Yet, the growth mindset is not just about expending effort. The growth mindset is not "practice makes perfect." The growth mindset asserts the idea that *perfect* practice makes perfect—it involves the use of strategies, persistency in meaningful work, calling upon metacognitive skills, and receiving honest and helpful feedback and praise from mentors. In this study, I investigate the effects of a particular form of feedback, namely, praise.

Praise

The detrimental effects of praising for children's abilities have been well documented in the field of psychology. Mueller and Dweck (1998), for example, suggested that students who were praised for their ability (e.g., "You are really smart!") were less likely to take on future challenging tasks. It was argued that because children like to be praised and want to be praised, they tend to avoid situations in which they may not be praised. So, for example, if children have been praised for their ability to successfully complete tasks in the past, they are more likely to choose easy tasks that they feel they will complete successfully rather than slightly challenging tasks, in order to be assured of the praise. In contrast, although they may learn something through the challenging tasks, they could also possibly fail, and as a result would not receive any praise. As Dweck states, "Praising students' intelligence gives them a short burst of pride, followed by a long string of negative consequences" (Dweck, 2007, p. 36).

In another study, Kamins and Dweck (1999) discussed the negative effects of praising and criticizing *the person* rather than *the process* when carrying out a task. In the study, when children themselves were criticized after making mistakes (e.g., "I am very disappointed in you"), it led to students not feeling good about the tasks, losing self-confidence, blaming themselves for not being able to complete the tasks, and showing signs of helplessness in their responses: all traits of the fixed mindset. On the other hand, when feedback for being unable to complete a task successfully was based on the process (e.g., "Maybe you could think of another way to do it"), children were able to come up with strategies and solutions to amend the problems.

It has also been reported that praising for ability can lead to cheating (Leis, 2014; Zhao, Heyman, Chen, & Lee, 2017). For example, Zhao et al. (2017) conducted an experiment with 300 preschool children in China and showed that children who were praised for being smart tended to cheat in the final task of a game in order to receive a prize. In other words, it was so important to look

good and receive the praise that the learners were more likely to cheat to ensure that kind of perceived favorable outcome. Leis (2014) used an experiment with junior high school students (i.e., 14–15 years old). In the study, students who had been primed into a fixed mindset were observed cheating by misspelling simple words on purpose and making changes to the test papers in order to produce correct answers. By cheating, these students were able to show others that they had been successful, whereas in fact they had not.

Mindsets in SLA

The literature on mindsets in the field of Second Language Acquisition (SLA) is still relatively limited. One of these first contributions was made by Mercer and Ryan (2009) who conducted comparisons of the mindsets of Japanese and Austrian students studying English at the university level. In the study, semi-structured, in-depth interviews were carried out with five Austrian and four Japanese EFL university students. Mercer and Ryan (2009) suggested that Japanese students were inclined to have a more uniformed growth mindset for language learning, displaying stronger beliefs in the benefits of persistence and effort, in comparison with the Austrian students, whose responses showed a more variable tendency.

Some other studies have looked at the benefits of having the growth mindset for learners in English as a second language (ESL) environments. Waller and Papi (2017), for example, investigated the differences between having a fixed mindset and a growth mindset on the reactions to written corrective feedback of 147 foreign university students studying in the United States. The results suggested that those with a growth mindset accepted the feedback more willingly, as it was viewed as beneficial for improving their writing ability. Those showing a tendency toward a fixed mindset, however, viewed written corrective feedback negatively, as it was "an invalidation of the positive image they [had] been trying to project" (Waller & Papi, 2017, p. 62).

In another study conducted in an ESL environment, Lou and Noels (2016) investigated the effect one's mindset has on one's language learning goals and how those students reacted to failure. The 150 students who took part in the study were from various cultural backgrounds, and it was suggested that students with growth mindsets, regardless of their linguistic self-confidence, saw failure in a positive manner, using it as a driving force to achieve success in future endeavors. In their study, Lou and Noels (2016) used mock research articles that encouraged either the growth mindset or the fixed mindset. Students who had read the article encouraging a fixed mindset showed tendencies toward a helpless state, especially those who had high self-perceived linguistic proficiency. In the study, the students with the fixed mindset tended to give

up striving for their goals, because they surmised that "language aptitude is fixed and it determines their language success" (Lou & Noels, 2016, p. 29).

Lou and Noels (2016) also suggested various strategies for teachers to promote the growth mindset in their classrooms, such as: (1) giving lectures explicitly explaining the benefits of possessing a growth mindset over a fixed mindset; (2) advocating the importance of failure as a part of the learning process; and (3) interactions with the teacher. In the present study, I especially considered the interactions that students have with their teacher in a classroom environment. I chose to focus on interactions regarding praise and feedback from teachers based on students' successful or unsuccessful performances in tasks carried out in the language classroom. I was interested whether praising students for success would have a detrimental effect on those students who were unable to complete the tasks given to them, which were deliberately impossible.

The Study

Research Question

In the present study, I aim to answer the following research question: Does praising students for success result in other students in the classroom who have been unsuccessful showing characteristics of a fixed mindset?

Based on the results of an earlier study of the same design (Leis, 2014) with younger learners, it was hypothesized that students experiencing failure would tend to give up more readily—one trait of the fixed mindset.

Participants

A total of 81 Japanese university students participated in the study. Based on their scores in the TOEIC1 (i.e., 314), participants' proficiency could be described as ranging between levels A1 and A2 on the CEFR scale. The mean age was 19.18 (SD = .95) and there were 47 females and 34 males. The students were divided into a control group and an experiment group at random. The control group had 23 female and 17 male participants, while the experiment group had 24 female and 17 male subjects. There was no significant difference in the mean age of the participants in the two groups (p = .62).

The experiment was conducted as part of a regular weekly English communication course conducted by the researcher. The students were told that the puzzles being solved in class were simply some fun activities to learn English

and would not affect their regular grades. Although the students were required to write their student numbers on the puzzle booklets, these were used only for demographics. At the end of the experiment, informal consent was received from the students, and they were ensured of anonymity in any published works.

Methodology

This study was inspired by the experiments conducted by Dweck and Reppucci (1973) and Mueller and Dweck (1998), but with a second-language acquisition aspect added. Also, whereas Dweck and Reppucci (1973) and Mueller and Dweck (1998) had used blocks and asked participants to recreate patterns using the blocks, in the present study, I had participants complete crossword puzzles in English with simple vocabulary items.

Furthermore, the studies by Dweck and Reppucci (1973) and Mueller and Dweck (1998) were conducted one-on-one with the subjects, which does not reflect an authentic classroom setting. In the present study, I aimed to create an authentic learning environment by having all 81 participants do the crossword puzzles in the same classroom at the same time. Therefore, as is often seen in regular classes, some participants were experiencing failure, even though their peers were being successful, and vice-versa. The experiment followed a pre-test–experiment–post-test design, with comparisons being made between the speed with which subjects could complete the crossword at the pretest stage and the speed at the post-test stage.

Pretest. First, participants were given booklets containing the crossword puzzles and told not to open or turn pages in the booklets until instructed to do so. Participants were also told that they must not look at other students' booklets. The front covers of the booklets were identical. However, the numbers of the puzzles inside the booklets were colored coded (i.e., puzzle numbers printed in black for the experiment group and puzzle numbers printed in red for the control group) so the students could be divided into the control group and experiment group at random. Neither the researcher nor the students were aware of who was in the control group and who was in the experiment group when distributing the booklets. This reflected an authentic classroom in which some students would be successful in completing a task and others would not.

After answering simple questions related to age and gender, the participants were asked to turn to Crossword 1 (i.e., the pre-test), and a timer displayed on a screen at the front of the room was started. In the pre-test, participants had to complete the crossword by entering the words *egg*, *cake*, *cook*, and *clock*, with pictures used as hints. Students were instructed to raise their hands and say "Finished!" when they had completed the crossword. Then, they wrote the number of seconds it took them to complete the puzzle in their puzzle book-

lets. As in the study conducted by Dweck and Reppucci (1973), it was thought a faster time to complete the puzzles at the post-test stage would be an accurate indication of improved performance and perseverance.

Both the control group and experiment group had the same puzzle for the pre-test. If the students had not finished after one minute had passed, the participants were told to stop and write "60 seconds" as their times. The correct answers were not given to the students until the end of the experiment. Appendix A shows the puzzle used in the pre-test of this study.

Experiment. The experiment was made up of Crossword 2 to Crossword 5 (i.e., a total of four crosswords). All of the crossword puzzles given to the participants in the control group were relatively straightforward and easy to complete (See Appendix B). The process for the experiment was the same as the pre-test, with a timer displayed on a screen at the front of the room, and students saying "Finished!" after completing the crosswords, before recording the number of seconds it took to complete each puzzle in their booklets.

The participants in the experiment group were given puzzles with the same words as those in the control group, but the designs of the crosswords were slightly altered (i.e., extra cells were added to the crosswords or their designs were slightly different) in order to make the puzzles impossible to complete (See Appendix C). This was done with a view to temporarily create an experience of failure among those in the experiment group and the feeling that the participants were not in control of the outcome, thus leading them to give up on the task (i.e., one characteristic of the fixed mindset).

Furthermore, when participants who completed the puzzles said, "Finished!" I praised them in ways such as, "Excellent!" "Wow, you are really good at this!" and "That was so fast!" This praise for students' ability to complete the tasks successfully was given in order to generate a fixed mindset among the students of both groups (Mueller & Dweck, 1998). All students who completed the puzzles were praised in these ways. However, the possible puzzles were given only to the students in the control group. Thus, only these students were praised, unless students in the experiment group cheated to complete the puzzles (e.g., adding extra cells or misspelling words). The students who were unable to complete the puzzles successfully were told, "Don't worry. Some people can do these kinds of puzzles and some cannot." This kind of feedback was given in an attempt to prime a fixed mindset among students in the experiment group. Although our mindsets are deeply ingrained within ourselves, they can be changed (Dweck, 2006). In this study, it was thought that the simple method described above could be used to prime a temporary fixed mindset in the students in a similar way to the mock articles used in the study by Lou and Noels (2016).

Throughout the entire experiment, once the time limit (i.e., 60 seconds) had passed for each stage, I said to the students who had been unable to com-

plete the puzzles, "Don't worry, it is okay. Some people can do these kinds of puzzles, and some people cannot" in both English and the students' mother tongue (i.e., Japanese). This feedback was intended to create comparisons between the students who could complete the tasks and those who could not. When students with fixed mindsets are compared to others by, for example, teachers, sports coaches, parents, and peers, they tend to find excuses for not being as good as the other students (Dweck, 2006), give up and make no effort on purpose (Covington, 1992). Some may even turn to cheating in order to show others that they can actually do it (Leis, 2014; Zhao, Heyman, Chen, & Lee, 2017).

Post-test. The sixth crossword in the booklets acted as an immediate post-test. This crossword puzzle used exactly the same words as those used in the pre-test (i.e., *egg*, *cake*, *cook*, and *clock*), but with different pictures and crossword design (See Appendix A). Due to the effect of prior experience, it can be expected that when one does the same task a second time, performance should improve (Whalley, Cutting, & Beck, 2017).

At the end of the experiment, the booklets were collected, and participants were told that some puzzles had been made impossible on purpose so they could not be completed. This was done in order to assure the students that it was not their lack of ability or effort, but the design of the study that prevented them from completing the tasks.

Ethical Issues

There are some questions surrounding ethical issues of early studies of implicit theories and the negative effects of purposefully giving feedback to students that may be harmful. I was concerned with similar ethical questions about the method of feedback given in this study. This feedback was given in an attempt to reflect the kind of praise suggested by various teaching handbooks (see the section on teachers' praise for students' ability below). In the hope of overcoming any possible ethical issues resulting from the feedback given in this experiment, at the conclusion of the study, I gave the students a short and simple explanation of mindsets, the reasoning behind conducting the experiment, as well as recieved informal consent to use the results of the experiment for research purposes. In addition, I also gave a 30-minute workshop on the benefits of having a growth mindset in one's language studies to counter any possible temporary fixed mindsets that may have been primed within the experiment.

Data Analysis

The times indicated on participants' pre-test and post-test puzzles were entered into SPSS Version 23 for analyses. Paired samples *t*-tests were conducted to measure the differences in times within each group to complete the pre-test and post-test puzzles for each group. Then, a mixed-design analysis of variance (ANOVA) was conducted to measure differences between the groups in the improvements in time to complete the puzzles at the post-test stage. That is, I conducted the mixed-design ANOVA to find out whether the students in the experiment group would improve their times as much as the students in the control group.

Table 1.

Results of the pre-test and post-test for the control and experiment group

Group	Test	Time (SD)	95% CI
Control	Pre	32.01 (14.93)	27.23, 36.78
	Post	22.15 (10.67)*	18.73, 25.56
Experiment	Pre	28.07 (14.09)	23.39, 32.50
	Post	26.90 (13.86)	22.68, 31.61

Notes: Times are displayed in seconds; * $p < .001$.

Table 1 shows a summary of the results of this study. The results of the paired samples *t*-tests indicated that, as had been expected, the performance of those in the control group improved significantly with large effect sizes: $t(40) = 4.06$, $p < .001$, $d = .76$. The 95% confidence intervals (95% CI) had no overlap between the pre-test and post-test, confirming the significantly faster speed with which students could complete the puzzles at the post-test. The large effect sizes and lack of overlap in 95% CI suggest that substantial improvements were indeed observed, despite the relatively small sample size, and that similar results would be expected if the experiment were to be conducted again. On the other hand, the experiment group, as had been hypothesized, did not see any notable improvement in the speed with which the participants were able to complete the puzzles: $t(41) = .36$, $p = .76$. Significant overlaps in 95% CI between the pre-test and post-test for the experiment group confirmed the lack of improvement in speed the second time the students did the crossword puzzle.

To follow up the *t*-tests measuring the differences in times within the two groups, the improvements in times between the two groups were also measured through a mixed-design ANOVA. This was done to confirm whether the experiment group did indeed make significantly less improvement than the

control group. The analysis showed that the differences were significant with medium effect sizes: F (1, 79) = 4.58, p = .04, η_p^2 = .06.

These analyses support the hypothesis given earlier in this paper that the performance of students experiencing failure in an environment in which others were experiencing success, and were being praised for that success, would be affected in a negative way. Reasons for this lack of improvement will be discussed in the next section.

Discussion and Pedagogical Implications

The results of the present study suggest that when students are in a state in which they feel they have no control over the outcome, one of the characteristics of the fixed mindset, it results in lower persistence. As holding a growth mindset is known to be beneficial for a number of academic outcomes (Dweck, 2018) and given that persistence in academic studies tends to lead to higher achievement (Duckworth, Peterson, Matthews, & Kelly, 2009), these results may provide pedagogical insights for researchers and language instructors. Recent studies suggest many teachers appear to be investing little time in developing the growth mindsets of their students, even if they themselves have growth mindsets (Haimovitz & Dweck, 2017). Therefore, it behooves teachers to reflect on concrete ideas for teachers to incorporate into their classrooms that develop strong growth mindsets among their students. This is especially important for language teachers to keep in mind as they encourage their students to take calculated risks in their learning and endeavor to study at a difficulty slightly higher than their current skill.

Comparisons with Other Students

Students learn in ways which are unique to each individual. Therefore, it is helpful when teachers provide personalized coaching to each student in their classrooms so that a student feels that the teacher is not comparing one individual's level of performance to another but rather, "emphasis is placed on the uniqueness of the individual student, the tenets of self-direction, and the need for student responsibility" (Keefe, 2007, p. 221). Although providing individual instruction may not be easily feasible in overpopulated classrooms, attending to learner uniqueness can help learners feel cared for by their teacher. Giving effective praise to students in the classroom may be one approach to increasing their feelings of being attended to at an individual level.

In the classroom, words of praise for students that do not encourage comparisons with other students can develop the feeling of individualized instruction. Rather than the feedback that was given in this experiment, encouragement such as, "Don't worry, I am sure you will get the next one!" or "You were so close! Think about a strategy you could use to do better next time" may help students to focus on the process and imagine pathways to success as well as reinforce the sense that the teacher is looking at each student as an individual. The key is to consider other techniques for teachers to use that can help students focus on their individual progress as opposed to comparing their learning outcomes with their peers, for example, the approach to feedback suggested in *the power of yet* (Dweck, 2014).

The discouragement of competition with other students can also be developed through test feedback. Leis and Wilson (2017) argued that language teachers could consider refraining from telling the mean score of the class when returning tests to students, which is a common habit among teachers, especially in Japan. Leis and Wilson (2017) suggested that giving the class average encourages students to compare their own scores with those of other students. As an alternative to giving class averages, Leis and Wilson (2017) recommended the use of an *idio-comparative marking method*, an approach to marking that gives individual students positive and negative comparisons to their previous test scores to show their personal progress. See Leis and Wilson (2017) for more on the idio-comparative marking method.

Teachers' Praise for Students' Ability

During the experiment conducted in this study, I made it a point to clearly praise students who were able to successfully complete the crossword puzzles. I did this to intentionally engender a temporary fixed mindset among the students experiencing failure by praising successful students in ways such as, "Wow, you are so smart!" and "You are great students!" These kinds of comments were chosen to reflect the types of praise for proficiency (e.g., Mueller & Dweck, 1998) and praise for person not process (e.g., Hattie & Timperley, 2007; Kamins & Dweck, 1999) that often appear in teaching handbooks focusing on language to use in the classroom. For example, some teaching materials concentrate only on the correct answer without encouraging self-correction when giving feedback to a student who gives an incorrect answer: "No—that's not right. Will someone else try?" (Gardner & Gardner, 2005, p. 47). Other textbooks simply praise students for giving the correct answer, without any focus on the process the student used to get to that answer: "Good job!" (e.g., Aiba, Fujiwara, Byrd, & Barrows, 2016, p. 40; Matsuzaki Carreira, 2009, p. 11).

By regularly using feedback that consistently focuses on the process rather than the person, especially when praising or criticizing students, teachers of foreign languages create feelings that the students are in control of how they approach tasks and the success they experience with those tasks. Kamins and Dweck (1999) give examples of praise for person as, "You're a good boy"; "I'm proud of you"; and "You're really good at this" (Kamins & Dweck, 1999, p. 842). Such feedback is unproductive, as it results in children developing "a sense of contingent self-worth—that they are only able, good, and worthy when they are successful" (Johnston, 2012, p. 39). Alternatively, teachers who praise students for their efforts and thought processes, encourage students to adopt an approach to learning that suggests ability is malleable and see that change is the result of the hard work one expends (i.e., one aspect of the growth mindset) (Johnston, 2012). Examples of praise focusing on process include, "You must have tried really hard"; and "You found a good way to do it, can you think of other ways that may also work?" (Kamins & Dweck, 1999, p. 842).

Precision of Praise

In this study, students were praised for their performances after they had indicated that they had been able to complete the puzzles successfully. Similar praise might be given in regular classrooms after students have given the correct answer or completed a task successfully. For example, in a model classroom interaction during a task to facilitate speaking, Ong and Murugesan (2007) recommend teachers praise students at the end of an activity: "After several minutes, Mr. Martinez collects the cards and praises the students" (p. 37). Furthermore, the praise given in the above interaction, "That was great" (Ong & Murugesan, 2007, p. 34), does not give students any indication to what "that" is referring—their efforts, the accuracy of their responses, their returning the cards quickly, or various other possibilities. For praise to be effective, it must also be precise and constructive.

Further, in order for praise given to students to be taken in an intended manner, it is vital that teachers carefully consider the timing of feedback. Various studies have suggested that optimal benefits for students can be achieved when praise and other kinds of feedback is provided immediately after the behavior for which that praise is being offered has occurred (Arbel, Hong, Baker, & Holroyd, 2017; Opitz, Ferdinand, & Mecklinger, 2011). In the present study, students were praised after answering correctly, meaning the praise was precisely targeted at that correct answer. This, then, affected the attitudes of students who were unable to come up with the correct answers, as they were ineligible for praise. In EFL classes, when teachers give praise such as "Great" or "Thank you" after students have raised their hands, but before giving their answers,

the praise focuses on the effort the student has made to contribute to the class. Praising students' efforts can strengthen the growth mindset of both the students being praised and those around them. "Immediately providing students with praise for desired behaviour highlights for the student the connection between the desired behaviour and the praise, and prevents inadvertently reinforcing an intervening, less desirable, behaviour" (Alberto & Troutman, 1999, cited in Sutherland, Copeland, & Wehby, 2001, p. 47).

Thus, in order for teachers to encourage students to move away from the belief that they do not have control over the level of their performances (i.e., one aspect of the fixed mindset) and strengthen the attitude that their efforts and willingness to take calculated risks in challenging situations will lead to greater success (i.e., one aspect of the growth mindset), it is vital for language teachers to consider: (1) focusing praise and feedback at an individual level; (2) giving praise for the processes students go through rather the students as persons; and (3) the precision in how the praise is expressed. Consideration of these three principles may be less likely to contribute to a fixed mindset among students, thus improving their performances in regular classes.

Conclusions

In the present study, I have focused on only one aspect of mindsets: the sense of control one has over an outcome. This feeling of control can be exhibited through one's effort and persistence. In the experiment, I investigated the effects of praise for ability aimed at successful students on those students experiencing failure. The results showed a tendency for these students to give up, with retrograded performance being observed in a post-test in which students would normally be expected to perform well. It could be argued, therefore, that although mindsets are firmly based within our beliefs, they may be changed depending on some negative experience: "[E]ven a single experience of failure can heighten anxiety and depression" (Johnson et al., 2017, p. 19). Building students' motivation to be persistent through difficult periods of study takes time–destroying it may only take one simple negative experience. Based on the results, I have suggested several implications for language teachers: carefully giving praise and test feedback based on individual bases, rather than performing comparisons with other students; and giving praise to students before they answer, in order to target the feedback on their willingness to contribute to class, not the accuracy of their responses.

As with all research, this study has its limitations. First, interviews with some participants in both the control group and experiment group may have

given clearer insights to students' reactions to the crossword puzzles, their feelings about the praise being given by the teacher, and thoughts about the success or lack thereof of other students in the classroom. In similar studies in the future, it would be advisable to add a qualitative component to the investigation, to obtain a more accurate portrayal of the students' perceptions of the praise being given by the instructor.

Second, if interviews had been conducted, I could also have gained an insight as to whether the depleted performance of the students in the experiment group were in fact due to the type of praise being given or simply because they had been expecting another puzzle that they could not solve. There is a possibility that some students had worked out that the puzzles were indeed impossible to complete, which may have served as the impetus for their giving up. This, rather than cheating, could have been the reason why some students added extra cells to the crossword puzzles or purposefully misspelled words to complete the puzzles. The results of the present study are similar to those of Dweck and Repucci (1973) and Mueller and Dweck (1998), in that the students who had received impossible puzzles appear to temporarily have changed their attitudes towards learning in a negative way. Like Mueller and Dweck (1998), in this study, I have focused these results on the praise given to students. In future studies, it may be advantageous to avoid priming a feeling of helplessness through impossible and possible puzzles, instead focusing on two different kinds of praise (i.e., praise for person and praise for process) in similar environments while mindful of ethical concerns. This may give strength to the argument that teachers need to be purposeful in the type of praise they give students in order to develop their growth mindsets.

Third, without the use of a questionnaire or other method to investigate students' mindsets before, during, and after the study, it is difficult to conclude that the experience of failure and peers being praised for success did indeed result in the students in the experiment group having fixed mindsets. In future studies, it may be beneficial to consider adding short items related to, for example, confidence or expectancy of success, before doing each puzzle in the experiment (see Leis, 2014). Doing so may give a clearer indication of the dynamics of students' mindsets throughout the study.

These limitations, however, do not necessarily diminish the results of this study, rather they give directions for future investigations in this important area of language education. By considering the suggestions for ways of praising and offering feedback, as presented in this paper, teachers may be able to help students see the benefits of effort and risk-taking in their language learning. Moreover, students may recognize that they do not need to compete with their peers in the classroom; they should focus more on competing with their own previous performances and seeking to improve. When a student approaches learning with a growth mindset and a feeling of "My only rival is the me of

yesterday," the potential for learning, improved performance, and increased linguistic self-confidence is likely to follow.

Notes

The Test of English for International Communication (TOEIC) is a common test used in Japan to evaluate students' English proficiency. The maximum score is 990 and minimum score is 10.

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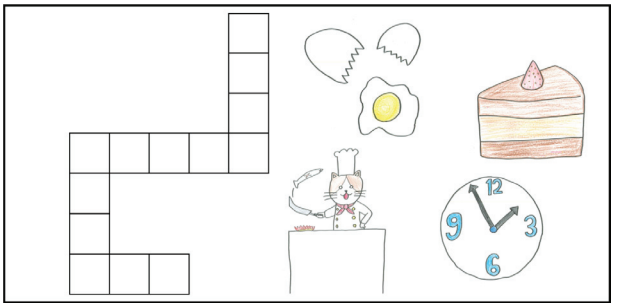
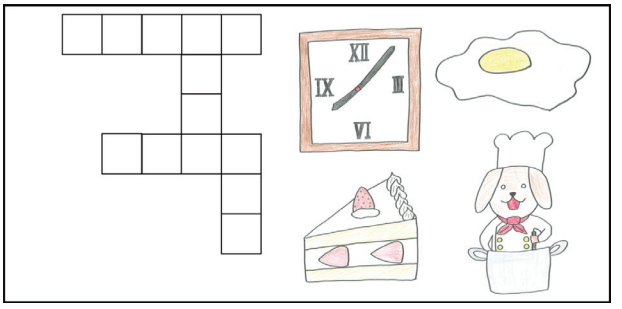
Appendix A

Pretest and Posttest Puzzles

Appendix A shows the puzzles used by both the control group and the experiment group for the pre-test and post-test. The designs of the puzzles slightly differ in the pre-test and post-test but required participants in both groups to write the same words: cake, clock, cook, egg.

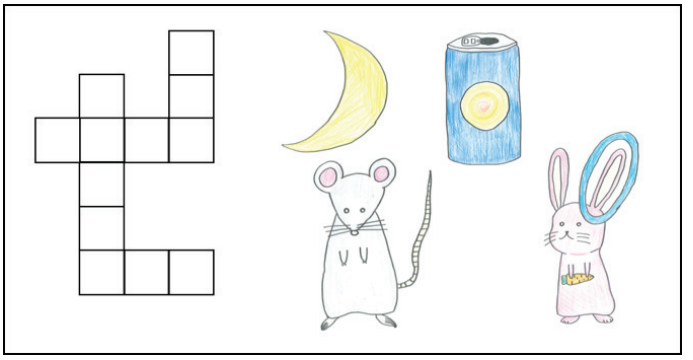


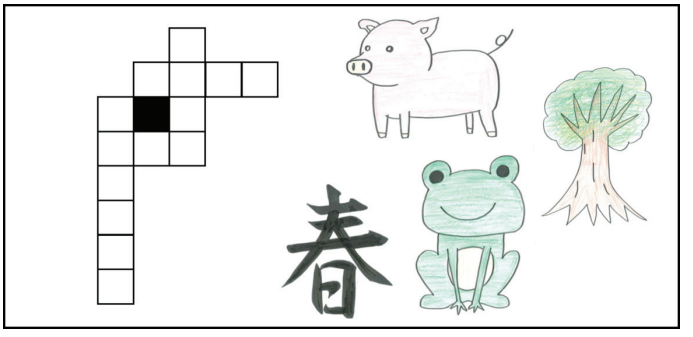


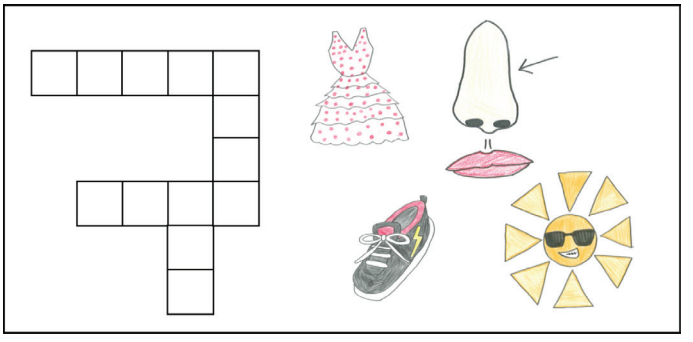
Appendix B

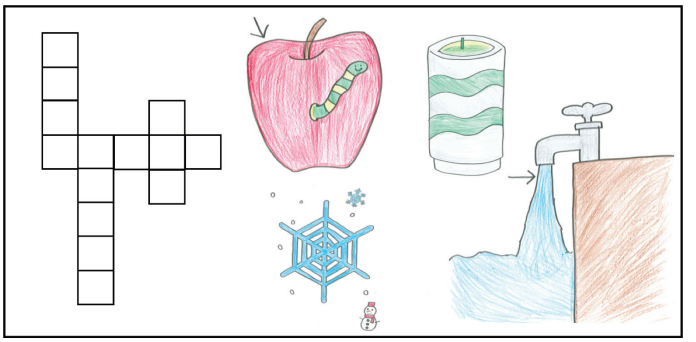
Control Group Experiment Puzzles

Appendix B shows the puzzles given to the control group during the experiment of this study. The participants were required to enter the words (from top puzzle): can, ear, moon, mouse; frog, pig, spring, tree; dress; shoe, nose, sun; apple, snow, tea, water.





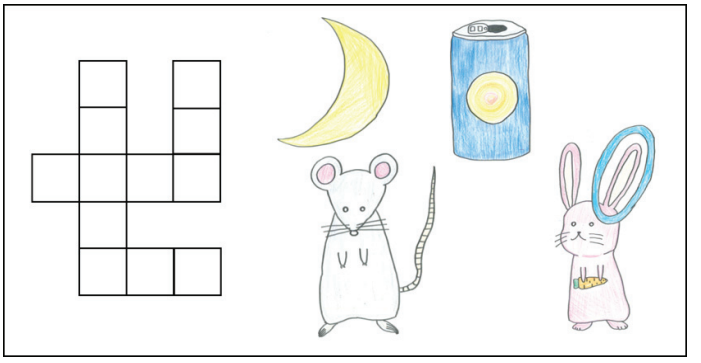


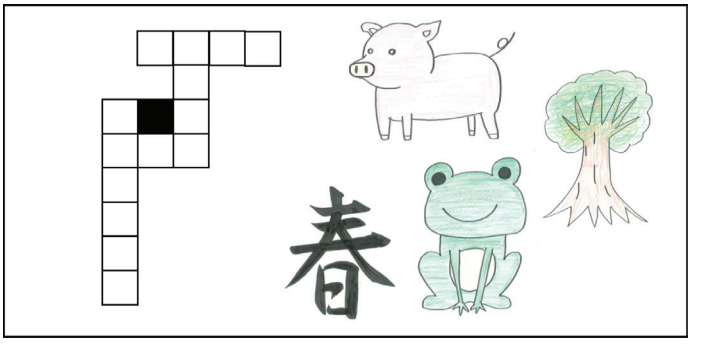


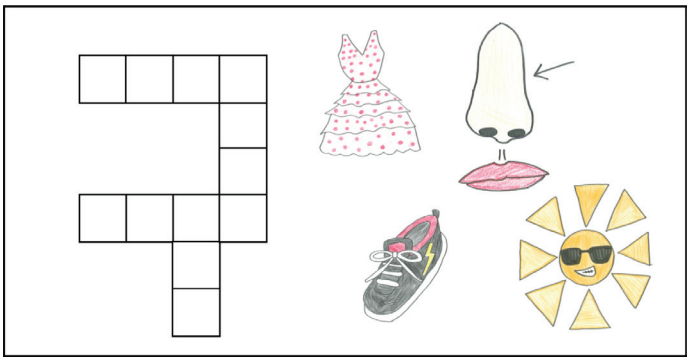
Appendix C

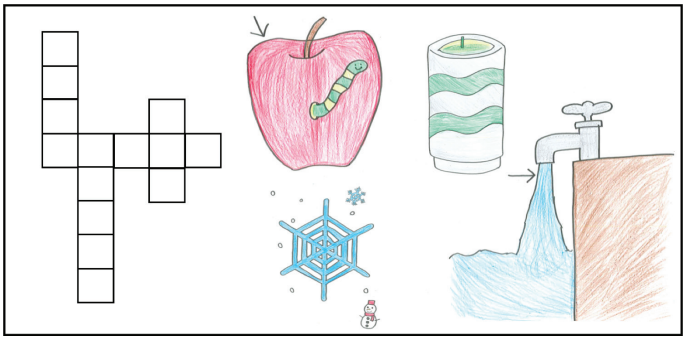
Experiment Group Experiment Puzzles

Appendix C shows the puzzles given to the experiment group during the experiment of this study. The puzzles were designed to be impossible to complete in order to prime a feeling of helplessness and a fixed mindset.









Adrian Leis

Das Lob im EFL-Unterricht: eine Growth Mindset-Perspektive

Zusammenfassung

In der vorliegenden Studie wird untersucht, wie sich das Loben von Studenten, die bei der Ausführung von Aufgaben erfolgreich waren, auf die Leistung sonstiger, erfolgloser Studenten auswirkt. Als Experiment wurden lösbare und unlösbare Kreuzworträtsel verwendet, um bei der Hälfte der Probanden Fixed Mindsets zu erzeugen. Die durchschnittliche Zeit für die Lösung eines Kreuzworträtsels im Vortest wurde mit der durchschnittlichen Zeit für die Lösung desselben Rätsels im Nachtest verglichen. Die Ergebnisse zeigten, dass die Studenten, denen lösbare Kreuzworträtsel aufgegeben wurden, imstande waren, die Geschwindigkeit, mit der sie das Rätsel in der Nachtest-Phase lösen konnten, wesentlich zu verbessern. Solche Leistungsverbesserungen wurden allerdings nicht bei den Studenten beobachtet, bei denen während des Experiments durch die Verwendung unmöglicher Kreuzworträtsel Fixed Mindsets erzeugt worden waren. Im Artikel werden die Gründe der erzielten Ergebnisse sowie pädagogische Implikationen in Bezug auf effektives Lob und andere Feedback-Methoden erörtert.

Schlüsselwörter: Growth Mindset, Misserfolg, Feedback, Studenten, Lob

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The Relationship between Attention and Extraneous Load: Bridging Second Language Acquisition Theory and Cognitive Load Theory

Abstract

There has been a call in recent years for an integration of cognitive load theory into instructed second language acquisition practices to assist language learners by taking advantage of theories on human cognitive architecture (Sweller, 2017). This paper seeks to move the conversation on how this integration might be achieved by presenting findings from survey data conducted with learners enrolled in online courses that use asynchronous video instruction at a cyber-university in South Korea (n = 68). Findings show a statistically significant positive relationship between distraction and extraneous load. These results are used to postulate a model for explaining how the relationship between extraneous load on attention can be integrated into second language learning theory. Pedagogic implications of this model are then offered. These include explicitly signaling key vocabulary and grammar, ensure spatial and temporal considerations are made when using multimodal instruction, and placing learners at the center of decisions on the blend of media they experience in instruction.

Keywords: cognitive load, second language learning, media, online learning, video lectures

An increasing number of university courses are offered partially or entirely online (Seaman & Allen, 2017). This includes language learning courses offered online by universities in South Korea (Lim et al., 2019). Online courses in these contexts will often use asynchronous video instruction as a means of transfer-

ring learning content to learners (Costley, Hughes, & Lange, 2017; Scagnoli et al., 2019; Chorianopoulos, 2018; Crook & Schofield, 2017). Asynchronous video instruction, when used in online learning environments, is said to be beneficial to both the learner and the instructor. For the instructor, there exists the capacity to review their lecture, making edits and corrections before sharing with learners, to tailor instruction for different audiences, and to play with different combinations of media to control for cognitive load (Hughes, Costley, & Lange, 2019; Morgan, 2002; Sorg et al., 1999). For the learner, these recorded forms of instruction are said to offer affordances of ubiquity, self-pacing, and review (NCES, 2008; Traphagan et al., 2010). Two ways to explain how individuals learn languages from asynchronous video instruction that could provide a framework for deciding the appropriate blend and use of multimedia instruction in the context of language learners engaged in online learning environments are instructed second language acquisition theory (ISLA) and cognitive load theory (CLT).

Research into ISLA occurs in an environment featuring instruction or formal exposure to the L2. This instruction or formal exposure could be facilitated by a teacher, in a classroom, online, or a hybrid/blend of these mediums (Allen & Seaman, 2013). Definitions of instructed second language acquisition point to three features as explained by Leow (2019a):

> (1) the instructed setting, (2) the focus on the 'mechanisms of learning' (cognitive processes) employed in this instructed setting, that is, *how* L2 learners process L2 data in this setting, and (3) the potential manipulation of these processes by instructional intervention with the assumption that superior or faster L2 development will result. (p. 2)

The most prominent theories that seek to explain second language acquisition through cognitive processes all state the importance of *attention* as a variable or process of language learning (Leow, 2015).

Cognitive load theory seeks to explain the way learners process information input into their short term memory and then on to the long term memory where it is incorporated into schemas (Cierniak, Scheiter, & Gerjets, 2009; Paas et al., 2010). Learners are said to possess a finite amount of processing capacity to complete this process. Cognitive load is said to comprise three constituent parts: *extraneous*, *germane*, and *intrinsic*. Germane load is the information related to a topic that needs to be processed for a learner to understand and generate meaning schemas leading to retention and output. Intrinsic load is the naturally occurring difficulty inherent to a topic and is relative to the complexity of the topic. Extraneous load is that which is detrimental to learners' ability to process information. Extraneous load may be caused by distracting elements in the instruction, unclear explanations, or unclear language whether spoken or

written. The greater degree of strain, the less processing power is available to learners to cope with intrinsic and maximize germane load.

Sweller (2017) has pointed out second language acquisition theories have focused on authenticity and immersion in a second language at the expense of factoring in the kind of cognitive architectural considerations CLT provides to employ explicit instruction. This echoes discussions in the field of second language acquisition centered around how L2 input should be processed to maximize internalization of input: implicit/incidental or explicit/intentional (Chen et al., 2011; Faretta-Stutenberg & Morgan-Short, 2011; Hama & Leow, 2010; Leow, 2000).

This paper goes some ways towards suggesting how CLT and ISLA could be bridged by taking the element of *attention*, central to ISLA, and the element of *extraneous load*, central to CLT, and calculating the strength of the relationship between these two constructs as reported by university students (n = 68) engaged in English as a Foreign Language courses at a cyber university in South Korea. It is shown that Loew's (2015) model of L2 learning process in ISLA draws on all preceding theories and places attention as a vital factor for language learning. It is also shown that CLT offers explanations of distraction through extraneous load. A model is presented factoring extraneous load into Loew's (2015) model. This augmented model is followed by suggestions on possible pedagogic implications pulling from Sweller's (2107) ideas on how CLT can positively be combined into ISLA. This is of value because CLT has presented answers to the problems incurred by extraneous load. By determining whether a statistically significant relationship can be identified between attention (as a key element in ISLA) and extraneous load (a key element in CLT), it may be possible to address inattention/distraction as a construct of extraneous load and for ISLA practitioners to take advantage of the oven ready research and solutions offered by CLT.

Literature Review

The Role of Attention in Instructed Second Language Acquisition

Loew (2019b) supplies a synopsis of the cognitive processes and variables postulated in the ISLA literature to play important roles in the L2 learning process. The synopsis shows *attention* is the only process or variable featured in every one of the theoretical underpinnings reviewed. Some theories, McLaughlin's (1987) cognitive theory, Schmidt's (1990) noticing hypothesis, Tomlin & Villa's (1994) model of input processing in SLA, Van Pattens's (2007)

intake processing model/theory, and Swain's (2001) output hypothesis posit that linguistic data needs to receive attention/be noticed and receive repeated activation at the input or intake stages in the short-term memory for it to be processed on to long-term memory where new information is worked in with existing information.

Other theories have sought to provide more holistic or unifying theories to explain second language acquisition. In Robinson's (1995) model of the relationship between attention and memory, detection (i.e., attention) occurs before noticing in the process of acquisition. When detection is combined with rehearsal in the short-term memory, noticing occurs. This noticing is necessary for information to be passed to long-term memory. Gass's (1998) integrated model of second language acquisition, meanwhile, suggests the addition of *apperceived input*. This is, according to Gass, the first stage of input, occurring in advance of detection and noticing. Acting as a priming device, apperception is the internal cognitive act of observing and identifying qualities of a linguistic object and relating them to past experience in order to *notice* the input. This primes the learner to further analyze the input into meaningful units of language.

A third group of theories suggest that language acquisition skills are the same as any other type of skill. Ellis's (2007) associative-cognitive CREED states that learning a language is subject to the same associative and cognitive learning as any other type of human knowledge. L2 learning is more challenging than L1 learning because, when learning an L1, learners have come to pay attention to the constructions inherent in that language, but, when they learn an L2, this attention works against them as the constructions are different. This can be overcome by the learner being involved in a dialectical process of conscious-language development through the analysis of deficiencies. This requires sustained attention by the learner with distraction being detrimental.

De Keyser's (2007) skill acquisition theory proposes that, initially, learning is explicit. After enough exposure and practice, learning shifts to an implicit process. With sufficient practice, through constant display of the particulars, learners develop skills with total fluency, spontaneously, and without error. Attention, therefore, is required in higher degrees at the early stages for the more automatic stage to be reached. At these earlier stages, learners are also more susceptible to interference or distraction from other input irrelevant to development of the skill.

Lastly, Truscott and Sharwood-Smith's (2004) modular online growth and use of language (MOGUL) attempts to explain how acquisition occurs through interaction between language and cognition. The mind is divided into modules or systems that perform specialized tasks, with two modules specializing in language. There is interaction between the language and other specialized

modules (including *conceptual*, *auditory*, and *visual*) as language grows and is processed in the mind. If the conceptual, auditory, or visual systems are strained attempting to process information, there may be inhibitions to their working effectively with the language systems.

The Model of L2 Learning Process in ISLA

The model of L2 learning process in ISLA draws on all the theories discussed thus far (Leow, 2015). The model proposes three processing stages: input processing, intake processing, and knowledge processing. At the input processing stage, input transforms to intake. Initially, intake is stored in working memory. The success of this stage is dependent on the level of attention (which can be peripheral, selective, or focal) and accompanying depth of the process, cognitive registration, and level of awareness. Leow states that learning is unlikely to occur if the learner does not pay minimal attention to new information in L2 instruction. Leow proposes three types of intake. These are attended intake (high peripheral attention, low cognitive registration, and low depth of processing), detected intake (high selective attention, high cognitive registration, and minimal depth of processing), and noticed intake (high focal attention, high cognitive registration, low levels of awareness, and low depth of processing). All three of these types can be lodged in working memory where they are available for recognition and incorporation into learners' internal systems. Deeper levels of processing could result in higher levels of awareness and allow learners to restructure or reinforce newly internalized information lodged in the system.

The Implicit/Incidental vs. Explicit/Intentional Debate in SLA

This debate focuses on the merits of L2 input processed either *implicitly/incidentally*, without awareness and in the absence of deliberate exposure to a targeted L2 data set to be processed, or *explicitly/intentionally*, with learners' attention being drawn to target language via formal instruction (Loew, 2019b). There is empirical research to suggest that L2 learners may learn incidentally some elements of a target language without any formal instruction. Studies have shown learners acquiring knowledge of syntax or morphosyntax in this fashion (Grey et al., 2014; Hamrick, 2014; Kachinske et al., 2015; Rebuschat & Williams, 2012; Robinson, 1995; Rogers et al., 2016). Other studies have shown implicit vocabulary learning is possible implicitly (Day et al., 1991; Godfroid et al., 2013; Krashen, 1989; Pitts et al., 1989). Additionally, studies have pointed to the learners acquiring knowledge of phonology and form-meaning connections

(Chan & Leung, 2014; Chen et al., 2011; Graham & Williams, 2016; Leung & Williams, 2014; Marsden et al., 2013; Williams, 2005).

The weight of empirical research, however, points to the benefits of explicit/intentional learning. Studies seeking to confirm L2 learners' acquisition of phonology and form-meaning connections have been unable to demonstrate empirical evidence for this phenomenon (Chen et al., 2011; Faretta-Stutenberg & Morgan-Short, 2011; Hama & Leow, 2010; Leow, 2000). Additionally, when conditions are compared, the benefits of explicit/intentional learning are evident (Barcroft, 2009; Denhovska, Serratrice, & Payne, 2016; Hamrick & Rebuschat, 2014; Kachinske et al., 2015). Furthermore, of four meta-analyses into the benefits of implicit/incidental vs. explicit/intentional, three showed significant effect sizes favoring explicit/intentional (Goo et al., 2015; Norris & Ortega, 2000; Spada & Tomita, 2010), while the fourth (Kang et al., 2018) also showed an effect in favor of explicit instruction in immediate post-tests, but an effect size for implicit instruction on delayed post-tests.

CLT and SLA

Recently, Sweller (2017) has argued that language acquisition instruction ignores what is known of evolutionary educational psychology and would benefit from heeding recommendations that stem from the understanding of cognitive architecture put forward by CLT. The central structures and processes of this architecture are, says Sweller, made up of five principles (see Sweller & Sweller, 2006 for a full overview). Two of these principles are of relevance to this paper: *the borrowing and reorganizing principle* and *the randomness-as-genesis principle*.

The borrowing and reorganizing principle states that learning a second language requires large quantities of clear written or spoken instruction and that anyone deliberately engaging with this instruction is using the principle. Information gathered by borrowing from the instructed content is reorganized with existing information to achieve learning.

The randomness-as-genesis principle states that a greater amount of accurate information being available will reduce the need for learners to attempt to fill in gaps by generating at random and testing their own interpretation of information without support or correction. Knowledge that has randomness as its genesis is more likely to be inaccurate. Missing instruction because of distraction will, then, reduce the amount of exposure to accurate information and increase the need for generation from randomness.

Extraneous Load and Language Learning Contexts

There is much related to attention/distraction and extraneous load in research carried out in the field of language learning. Of most interest are studies focused on confirming the existence of two theories said to explain negative effects of multimedia on learning: the redundancy principle and the split attention hypothesis. Redundancy has been shown to exist when a combination of text, narration, and images is used to explain a single concept. It has been demonstrated in multiple contexts that learners process information more effectively from images + narration only than they do when text is added (Adesope & Nesbit, 2012; Kalyuga & Sweller, 2014; Mayer, 2009; Mayer et al., 2014; Mayer & Fiorella, 2014). While some studies suggest that the redundancy principle does not apply to language learners (Liu et al., 2018), it has been confirmed by a number of others (Diao et al., 2007). Additionally, the use of images to annotate text is said to be redundant for language learners (Plass et al., 2003). The use of competing stimuli from multimedia forces language learners to be selective with their attention (Wickens, 2007).

The spatial split-attention principle occurs when learners view images and text that are poorly integrated. This can negatively affect cognitive processing because students are forced to split their attention between sources (Liu & Lin, 2011; Mayer & Moreno, 1998; Rasch & Schnotz, 2009). While questions have been raised about whether cognitive load explains this phenomenon in language learners (Schroeder & Cenkci, 2019) and there has been a suggestion that a reverse split-attention principle could be put forward to account for the combination of image + text to reduce cognitive load (Lin et al., 2016), other studies have shown influences from this principle can be detected in language learning contexts (Cierniak, Scheiter, & Gerjets, 2009; Hung, 2009; Al-Shehri, & Gitsaki, 2010).

Hypotheses

H1. There will be a positive relationship between distraction and extraneous load.

H2. There will be a positive relationship between illustration distracting from text and extraneous load.

H3. There will be a positive relationship between text distracting from illustrations and extraneous load.

H4. There will be a positive relationship between difficulty relating text to illustrations and extraneous load.

Method

Participants

This study was conducted on 68 students who were taking English as a Foreign Language (EFL) classes at the Open Cyber University (OCU) in South Korea. Many students responded to the survey, but only the students taking EFL classes were used in the present study. As many as 2,225 students submitted surveys. From the 2,225 surveys that were submitted, 230 were removed from the analysis used as part of this study, as the respondents had failed to fill out significant parts of the survey relevant to the study. This left 1,995 valid respondents, of which 1,027 were female (51%) and 968 were male (49%). The oldest subject was 61 while the youngest was 16, with an average respondent age of 25.2 and a standard deviation of 3.0. The respondents took a wide range of classes from several different colleges within the OCU. There were 122 different classes represented in the original data set, and they can be divided based on the OCU categorization as follows: lifestyle and health 28%, social science 27%, humanities 9%, business and management 10%, computers and information technology 8%, foreign language 7%, natural science 7%, and mathematics 4%. As the present study was about EFL classes in the OCU, from the 1,995 subjects, students who were taking language learning classes were separated for the specific analysis used in this study. Out of the 1,995 valid submitted surveys, 68 (4%) participants were taking EFL classes online in the OCU. Of these participants 35 (51%) were male and 33 (49%) were female. The ages ranged from 20 to 45 with a mean age of 26 and a standard deviation of 6.7.

Research Context

The OCU is the largest open online university in South Korea with 23 member universities participating to provide online full-credit classes (Jung & Rha, 2001). The classes and subjects covered by the OCU are varied and the design, contents, and instruction within the OCU are provided by the 23 universities that make up the consortium (Jung & Rha, 2001). The classes in the OCU are mainly focused around the video lecture with limited learner-to-learner interaction as part of the formal class instruction.

Research Procedures

The research that the data used in this study comes from was part of a series of surveys into the OCU. These surveys were varied, but many of them focused around the application of media within the context of cognitive load theory. The survey used was originally written in English, with items coming from previous research in online environments (see Instrument Development below). The items were then translated into Korean, which is the language of the OCU. The translation was checked by an expert in online learning and an expert in the OCU itself. After the translation was found to be acceptable, the survey items were put into a Google Sheets form and sent to the OCU's research ethics administrative department. Once the OCU had determined that the research items were appropriate for their learners a link to the Google Sheet was put up on the OCU's main administrative board with an invitation to take the survey as part of this research. All students who logged into the OCU during the time the survey was active were invited to participate. Not all students who logged in completed the survey, so the data collection was one of convenience. However, this still gives some insight into how students perceive the learning context that is the OCU. The survey was left online for one month before it was taken offline and the data was downloaded for analysis.

Instrument Development

To create the construct used to measure media diversity in the lectures two differing approaches were used then combined. Initially, 20 videos from the OCU were watched by the authors and the differing types of media contained therein were made into a list by the authors. Also, 10 students who had taken OCU classes were asked to list the types of media that were used in the video lectures and how they interacted with them. These students were drawn from a group known to one of the authors of this paper to have taken OCU classes. They were helpful in double checking the initial list of media. The students agreed that the final compiled list accurately represents the way how they interacted with the media that was present in the OCU video lectures. The list created by the authors was then discussed with them, and the students agreed that the list seemed to accurately note the differing aspects of the ways they might interact with the lectures. Thus, three items were drawn: (1) during the videos it was difficult to relate text and illustration to each other; (2) during the videos illustrations distracted from text; (3) during the videos text distracted from illustrations.

To create the construct used to measure extraneous load, three items were used from Leppink et al.'s (2013) article entitled "The Development of an

Instrument for Measuring Cognitive Load." This paper presents an overview of the three types of cognitive load (intrinsic, extraneous, and germane) and how to measure them. The present study uses three items from this research: the explanations during the lecture were very unclear; the explanations were, in terms of learning, very ineffective; the explanations were full of unclear language. The Cronbach's Alpha for the extraneous load construct was .933.

Results

In order to examine the relationship between distraction and extraneous load in an instructed second language acquisition context, the relationship between the combined *distraction* and *extraneous load* were analyzed. Results from this analysis can be seen in Table 1 and Figure 1.

Table 1.

The relationship between distraction and extraneous load

Mean distraction	n	Mean extraneous load
5.33	2	2.83
5.00	2	4.00
4.33	4	2.83
4.00	8	3.50
3.67	10	3.57
3.33	5	3.27
3.00	9	2.93
2.33	2	3.00
2.00	14	2.29
1.67	2	1.67
1.33	1	2.00
1.00	9	1.00

Table 1 and Figure 1 show that when students reported multimedia was distracting in asynchronous video instruction, their experience of extraneous load increased. In other words, the higher levels of extraneous load students experienced, the more positive was their relationship with distracting media employed in the video lectures. In order to further investigate the relationship between the distraction from multimedia and the resulting extraneous load, statistical analysis was conducted to generate p and r values. These results can be seen in Table 2.

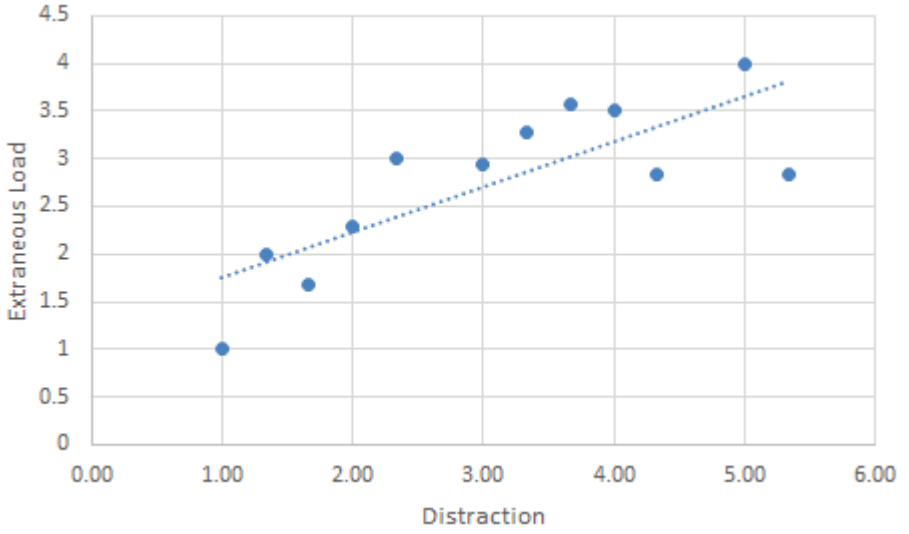


Figure 1. The relationship between *distraction* and *extraneous load*

Table 2.

Statistical analysis of results

	n	Mean	Range	SD	P	r
Distraction	68	2.89	1–5.33	1.19	.00*	.31
Extraneous Load	68	2.7	1–5.67	1.33		

*Sig. at .05

Table 2 shows that there was a statistically significant relationship between the distraction experienced by learners when processing multimedia information and extraneous load as the *p* value is <0.05. It also shows that the strength of this relationship is, for this field, moderate at .31. In order to examine the correlations between variables, Pearson's bivariate analysis was conducted. The results of these analyses can be seen in Table 3.

Table 3.

Correlations between variables

	Variables	1	2	3	4	5	6
1	Distraction	1					
2	Extraneous Load	.56*	1				
3	Age	.13	–.00	1			
4	Gender	.12	–.01	.05	1		
5	Years of study	.13	–.01	.41*	–.18	1	
6	Experience online learning	–.11	–.28*	–.13	–.15	–.06	1

*Sig. at .05

Table 3 shows a correlation of .56 between extraneous load and distraction. That is, students who experienced greater challenges from the distracting use of multimedia also experienced greater extraneous load. Results also showed that older learners, those who identified as female and those who had studied for more years of study, experienced greater distraction from multimedia instruction. However, those with more experience of online learning experienced a negative relationship with distraction. All these groups had a negative relationship with extraneous load. This means that, while older, learners, and those with more years of language learning experienced greater levels of distraction, they were able to process distracting information better and therefore experienced less extraneous load than those younger, male, and with fewer years of experience of language learning.

Results showed that learners with greater experience of online learning also experienced a negative relationship with extraneous load as shown in Table 3. Of greatest significance (and two points that the reader should remember for the discussion section) is that those with more years of study and greater experience of online learning both experienced a negative relationship with extraneous load.

Next, the relationships between the distraction and extraneous load items were examined. Correlations between the items can be seen in Table 4.

Table 4.

The relationships distraction and extraneous load variables

Items	The explanations were full of unclear language.	The explanations during the lecture were very unclear.	The explanations were, in terms of learning, very ineffective.	EL Combined
Difficult to relate text and illustration to each other	.30*	.36**	.37**	.40**
Illustration distracted from text	.47**	.62**	.26*	.52**
Text distracted from illustration	.46**	.64**	.37**	.57**

* Sig. at. .05 ** Sig. at 0.1

Table 4 shows a positive correlation between all the variables. Of these the strongest relationships were between the diversity items *Textual information distracted me from the illustration* and *Illustration distracted from text* and the extraneous load item *The explanations during the lecture were very unclear* at .64 for the former and .62 for the later. This indicates that text—when used in a manner that will distract learners from illustrations—will cause the greatest amount of extraneous load caused by making explanations difficult to

understand. The relationship between *Illustration distracted from text* and *The explanations during the lecture were very unclear* was the joint second strongest at .62. This demonstrates that the more distracting students found illustrations, the less clear explanations became.

Behind these were the relationships between *Illustration distracted from text* and *The explanations were full of unclear language* (.47) and *Text distracted from illustration act* and *The explanations were full of unclear language* (.46). These indicate that when text and illustrations are used in ways that are distracting, students are more likely to find the language used in instruction unclear. *The explanations were, in terms of learning, very ineffective* had a correlation of .37 with both *Difficult to relate text and illustration to each other* and *Text distracted from illustration*. This shows that when texts and images have unclear relationships, extraneous load is more likely to occur in the form of ineffective explanations. *Text distracted from illustration* had a correlation of .36 with *The explanations during the lecture were very unclear* and .3 with *The explanations were full of unclear language*. This indicates that when text and images seem unrelated students will experience higher extraneous load through unclear language and explanations. Finally, *Illustration distracted from text* and *The explanations were, in terms of learning, very ineffective.* had the lowest correlation with .26. This depicts a weaker, but still positive, relationship between the distracting nature of illustrations and extraneous load caused by ineffective explanations.

Discussion

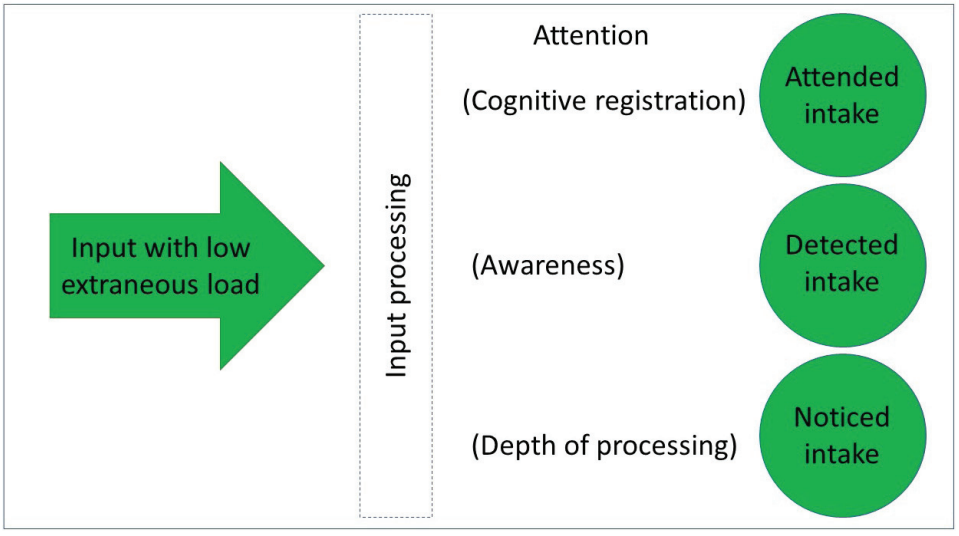
All four of the hypotheses offered in this paper were proven: H1 stated there will be a positive relationship between distraction and extraneous load; H2 stated there will be a positive relationship between illustration distracting from text and extraneous load; H3 stated there will be a positive relationship between text distracting from illustrations and extraneous load; and H4 stated there will be a positive relationship between difficulty relating text to illustrations and extraneous load. These hypotheses were based on theories and findings in language learning contexts that suggested distraction would cause strain on learners' ability to manage cognitive load. Explanations for these findings could be found in the redundancy principle, said to occur when text, narration, and images appear together in instruction that explains a single concept (Mayer, 2009; Mayer et al., 2014). Evidence of the redundancy principle existing in language learning contexts is supported by findings in this paper as text was shown to be distracting from illustration and illustration from text correlating with extraneous load. These findings support others that have shown

redundancy to exist in language learning instruction (Diao et al., 2007) and counter those that suggest the principle does not apply in language learning contexts (Liu et al., 2018).

The positive correlation between distraction and extraneous load could also be explained by the split-attention principle. This principle states that using multimedia in ways that force learners to split their attention between text and images negatively affects cognitive processing. The research results showed that learners were distracted from illustrations by text and from text by illustration correlating with extraneous load and could, therefore, support the contention that split-attention is a valid principle in language learning contexts (Cierniak, Scheiter, & Gerjets, 2009; Hung, 2009; Al-Shehri & Gitsaki, 2010) and counter those that suggest image + text reduces cognitive load (Lin et al., 2016).

The last result of note is that more experienced learners, both in terms of years of study and experience of online learning, experienced a negative correlation with extraneous load. This suggests the reverse-split attention principle, in which more experienced learners benefit from text + illustration combinations, may be present in this language learning context. This finding can add weight to the suggestion that reverse-split attention exists and should be considered when creating instruction (Lin et al., 2016).

This paper started from the position of exploring the suggestion by Sweller (2017) that ideas generated in CLT be applied to ISLA contexts to explain the process of learning and hindrances to that process. These findings present an opportunity for a model to help explain the detrimental effects of extraneous load on attention by adapting the input processing section of Loew's Model of the L2 learning process in instructed SLA (2015, p. 242). Figure 2 shows a graphic illustration of extraneous load as hindrance in the L2 learning process.



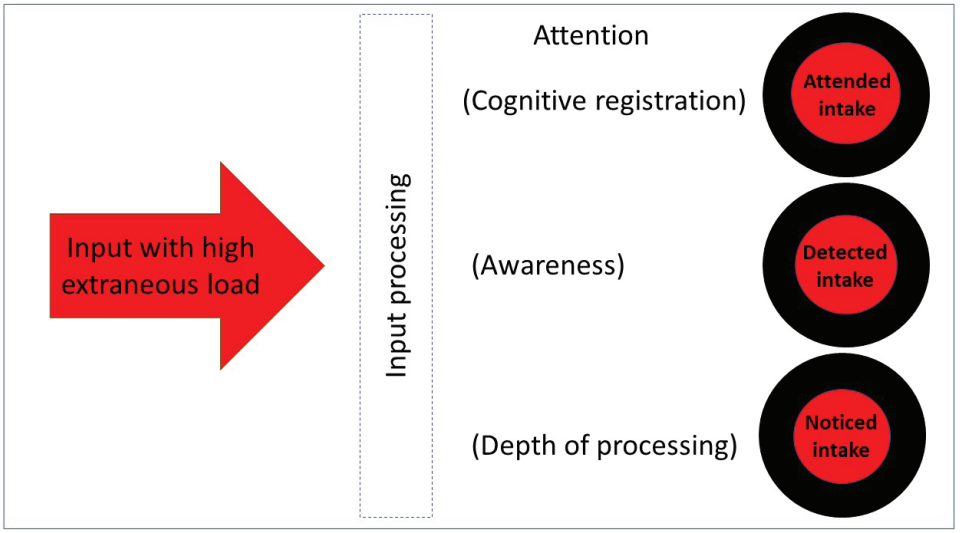


Figure 2.
The model of extraneous load as hindrance in the L2 learning process

This model can be called *the model of extraneous load as hindrance in the L2 learning process*. The model shows the proposed effects of extraneous load on input processing, attention, and intake in the working memory. In Figure 1, low levels of extraneous load are present in the input. As a result of this low level of extraneous load, there is little strain on input processing meaning that cognitive registration, awareness, and depth of process are fully activated as are the related attended, detected, and noticed intake. In Figure 2, input is shown with high extraneous load. There is strain on input processing because of increased extraneous load. This means cognitive registration, awareness, and depth of processing are not fully activated. This, in turn, means attended, detected, and noticed intake are reduced. If one integrated these figures in the full version of Loew's model of the L2 learning process in instructed SLA, the effects of extraneous load would show that less information is transferred to long-term memory meaning it is not available to learners when needed and learning is impeded.

Pedagogic Implications

It has been established that it is possible to model how extraneous load might be a hindrance on attention in L2 learning processes. This section suggests some practical implications of this idea. These are guided by Sweller's (2017) set of implications for applying CLT to language teaching and focus on the benefits of reducing extraneous load.

Sweller states that a reduction of extraneous load on working memory should be made essential in the organization of instruction. This is supported by the findings in this paper because a positive relationship between extraneous load and distraction was demonstrated. Sweller recommends that instruction should be explicit and makes use of the borrowing and reorganizing and randomness-as-genesis principles meaning learners are not left to fill in gaps caused by extraneous load and distraction by creating their own meaning. One way instructors can do this is to clearly and explicitly signal to learners key vocabulary and grammar items. This takes advantage of the signaling principle (Mayer, 2001), which says using cues and highlights, either aurally or visually, helps learners organize and process novel instruction. This will ideally be done by presenting words and pictures to each other and simultaneously to take advantage of the spatial and temporal contiguity principles (Mayer, 2001) and to avoid split attention. In asynchronous video content this could be achieved by the instructor using vocal variety to direct learners through change and stress in the voice, explicitly stating an item is important, or the explicit presenting of keywords. If control over the display or hiding of keywords is placed with the learner, so much the better as more experienced learners have been shown to experience redundancy when audio, text, and illustration are all present (Lin et al., 2016) leading to the expertise-reversal effect (Sweller, 2017). This view is supported by findings in this paper that showed learners with more years of experience of language learning experienced less extraneous load. Additionally, having narration that is conversational in nature and avoids using machine voices exploit the personalization principle that suggests people learn more when they are spoken to casually and the voice principle that states a human voice is more effective than a computerized one (Mayer, 2001).

Conclusion

This paper examined the relationship between attention and extraneous load experienced by language learners enrolled in fully online courses using asynchronous video instruction as the main form of instruction at a cyber-university in South Korea. It was shown that a statistically significant positive relationship exists between distraction and extraneous load. This means when media is used in ways that are distracting for learners, the learners will experience greater levels of extraneous load. This is an important point because extraneous load has been shown to inhibit learning. Using these findings, a model of extraneous load as hindrance in the L2 learning process was proposed that adapted the input & intake sections of Loew's (2015) model of L2 learning process. This

adaptation demonstrated a way in which an element of cognitive load theory could be integrated into ISLA. This integration addressed Sweller's (2017) assertion that language learners would benefit from practitioners employing ideas around human cognitive architecture in their pedagogic practice. Following from this, suggestions were made to inform practice by suggesting that consideration be given to the way multimedia is deployed in online language learning contexts to reduce cognitive load. It was suggested this could be achieved by explicitly signaling key vocabulary and grammar items and presenting illustrations and text in a way that makes them clearly related by considering spatial and temporal deployment.

Findings also showed individual differences among learners correlated differently with variables. The most important finding was that more experienced learners experienced less extraneous load. It was speculated that this was because experience as a variable affects how learners process multimedia in language learning and that, while multimedia use may be a hindrance for less experienced learners, it may be advantageous to more experienced learners. Following this finding, it was suggested that learners be given control of the media available in instruction so as to tailor and personalize content according to a learner's processing needs. These findings will be of interest to instructors and instructional designers engaged in developing online educational content for language learners.

Limitations

The findings presented in this paper should be treated with caution because they reflect the experiences of one group of learners consisting of a relatively small sample size engaged in a particular educational context. Additionally, the negative correlation between years of study and extraneous load was weak and not statistically significant. More research will need to be conducted in similar contexts and with larger sample sizes in order to confirm the validity of the model of extraneous load as hindrance in the L2 learning process and whether CLT can usefully be integrated into SLA.

Future Research

Based on the findings and discussion in this paper, a number of research questions can be proposed for future research. First, if extraneous load constricts attention, then does greater germane load expand attention? Second, what effect does placing learners in control of the media they consume in instruction have on distraction and extraneous load? Last, what effect does explicitly

signaling key vocabulary and grammar have on language learners' experience of distraction and extraneous load?

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Christopher J. L. Hughes, Jamie Costley, Christopher Lange

Die Beziehung zwischen Aufmerksamkeit und extrinsischer Belastung: Zweitspracherwerbstheorie und Theorie der kognitiven Belastung

Zusammenfassung

In den letzten Jahren wurde immer wieder dafür plädiert, die Theorie der kognitiven Belastung in den gesteuerten Zweitspracherwerb miteinzubeziehen, damit Sprachlernende durch die Verwendung von Theorien der menschlichen kognitiven Architektur (Sweller, 2017) unterstützt werden. Der Beitrag setzt sich zum Ziel, die Diskussion darüber zu öffnen, wie diese Integration erreicht werden könnte. Hierfür werden die Ergebnisse von Umfragen analysiert, die unter Sprachlernenden in Online-Kursen an einer Cyber-Universität in Südkorea durchgeführt wurden, in denen asynchroner Videounterricht verwendet worden war (n = 68). Die Ergebnisse zeigen eine statistisch signifikante, positive Beziehung zwischen Ablenkung und der kognitiven Belastung. In Bezug darauf wird ein Modell postuliert, das erklärt, wie die Beziehung zwischen der kognitiven Belastung und Aufmerksamkeit in die Zweitspracherwerbstheorie integriert werden kann. Darüber hinaus werden pädagogische Implikationen dieses Modells vorgeschlagen. Sie berücksichtigen unter anderem eine explizite Signalisierung von Schlüsselvokabeln und Grammatik, räumliche und zeitliche Bedingungen im multimodalen Unterricht sowie die zentrale Stellung von Sprachlernenden bei den Entscheidungen hinsichtlich der Auswahl von Medien im Unterricht.

Schlüsselwörter: kognitive Belastung, Zweitspracherwerb, Medien, Online-Lernen, Videounterricht

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Gender-based Differences in EFL Learners' Language Learning Strategies and Productive Vocabulary

Abstract

Gender is a key factor in the field of Second Language Acquisition (SLA), where its impact on language learning strategies (Aslan, 2009; Oxford & Nyikos, 1989; Sumarni & Rachmawaty, 2019) and productive vocabulary (Canga Alonso & Arribas García, 2014; Fleckenstein, 2018; Jiménez Catalán & Moreno Espinosa, 2004) has been investigated. However, to our knowledge, there is a lack of research of gender on language learning strategies in relation to productive vocabulary in English as a Foreign Language (EFL). The present study aimed to pursue three objectives. The first one was to ascertain whether male or female learners employed more language learning strategies. The second objective was to determine whether male or female learners had more productive vocabulary. Finally, the third objective was to investigate whether there was a statistically significant relationship between language learning strategies and productive vocabulary. The sample consisted of 51 EFL learners (20 males and 31 females) in the second year of Spanish non-compulsory secondary education (equivalent to the 12th grade). The Strategy Inventory for Language Learning (SILL) questionnaire (Oxford, 1990) and the Productive Vocabulary Levels Test (PVLT) (Laufer & Nation, 1995, 1999) were the instruments employed in order to measure the informants' language learning strategies and controlled productive vocabulary respectively. Afterwards, students' answers were processed electronically and analyzed quantitatively. Results revealed that females used language learning strategies significantly more than males, but there were not statistically significant differences between them regarding productive vocabulary. Moreover, a positive correlation was found between language learning strategies and productive vocabulary.

Keywords: gender-differences, language learning strategies, productive vocabulary, EFL learners, second year of Spanish non-compulsory secondary education

Since the 1970s, research in the field of second language acquisition focused on the differences between males and females in language use: vocabulary, grammar, and speech. Indeed, women's language was considered inferior to the language use of their male counterparts (Lakoff, 1973; Pavlenko, 2001).

Concerning SLA and FLA, a traditional concern was to ascertain whether males or females were better language learners. At first, the informants were only considered as males or females, referring to their biological characteristics (Ehrlich, 1997; Sunderland, 2000). Afterwards, other differences were analyzed (Ekstrand, 1980; Norton & Pavlenko, 2004), such as motivation or context, which is the view that predominates nowadays. Those gender differences, which can be physical, social, cultural or a combination of them, have been the focus of research in different areas of SLA and FLA, such as listening comprehension (Boyle, 1987; Namaziandost, Savzevar, & Hashemifardnia, 2018), vocabulary and learning strategies (Noprianto & Purnawarman, 2019; Oxford & Nyikos, 1989), or learning styles (Lau & Gardner, 2019; Reid, 1987).

Regarding the field of vocabulary acquisition, there is scarcity of research respecting gender and vocabulary. Some aspects measured were vocabulary size (Gu, 2010), vocabulary level (Harji, Balakrishnan, Bhar, & Letchumanan, 2015), or receptive vocabulary (Agustín Llach & Terrazas Gallego, 2012; Jiménez Catalán & Terrazas Gallego, 2005–2008). There are inconclusive results because no research has been found that measures the same aspects employing the same test, methodology and educational level, from which objective outcomes could be determined.

The aim of this study is to account for the role of gender in both language learning strategies and productive vocabulary in EFL learners in the second year of Spanish non-compulsory secondary education. The first section provides an overview on gender and its relationship with SLA or FLA, focusing more on the influence of gender on language learning strategies and productive vocabulary. A report of the study conducted with its methodology, main findings found and interpretation of the same follows. This paper concludes by pointing out the limitations of the study and some lines for further research.

An Overview of Gender

Gender and Second/Foreign Language Acquisition

The field of gender and SLA or FLA has been the focus of research since the 1970s. At first, studies focused exclusively on sex as a male/female binary opposition, only considering it as a biological category (Ehrlich, 1997; Sunderland,

2000). The center of attention was sex differences in language use (vocabulary, grammar, and speech), which usually implied female disadvantage. Accordingly, individual differences (e.g., social and cultural factors) have been left behind. These individual differences seem essential to ascertain why a person is a better language learner than another, since sex does not assure that.

From 1990 onwards, only individual differences were included in subsequent studies because they were thought to have a significant impact on the acquisition of a second or foreign language. Those divergences, that could be physical, social, cultural or a combination of them, were highly relevant for second and foreign language teachers, as they let them know how diverse their students were (Hugar, 1982). This means that learners differ from one another because of the internal (e.g., motivation, emotion) and external factors (e.g., context, type of test) that surround them. Therefore, this approach completely excludes sex as a biological category. Another viewpoint is to consider gender as both a biological category and a psychological, social, and cultural factor to ascertain its role in the acquisition of a SL or FL. However, as Hugar (1982) and Saville-Troike (2006) claim, there is no research about how sex, recognized as a biological factor, influences second or foreign language acquisition. Studies might have focused and still focus on gender as a social and cultural factor because it gives more enriching results for SLA and FLA. The sole consideration of biological differences only reveals sex-related differences and excludes other significant factors (physical, social, cultural) that contribute to learning.

Gender differences have been investigated in several areas in SLA and FLA, such as listening comprehension (Boyle, 1987; Namaziandost et al., 2018), language achievement (Burstall, 1975; Ekstrand, 1980), vocabulary and learning strategies (Noprianto & Purnawarman, 2019; Oxford & Nyikos, 1989), or learning styles (Oxford & Ehrman, 1995; Reid, 1987). The general belief is that females are better language learners, but this is not always the case. In a nutshell, there are inconclusive findings because some scholars declare the superiority of females over males (Ekstrand, 1980; López-Rúa, 2006), others claim that males are better language learners than females (Andreou, Vlachos, & Andreou, 2005; Boyle, 1987), and no significant differences have been disclosed (Bacon, 1992).

Gender and Language Learning Strategies

The first research on language learning strategies dates back to the mid-1970s, when an approach was adopted to determine why some learners were more successful than others in learning a second language. Some scholars (Naiman, Frohlich, Stern, & Todesco, 1978; Rubin, 1975; Stern, 1975) drew attention to good language learners to determine their characteristics in second

language learning. According to Rubin (1975, pp. 45–47), a good language learner: (1) was a great guesser; (2) had an urge to communicate; (3) was willing to apply his/her knowledge; (4) focused on form; (5) practiced the language; (6) observed both his/her and others' speech; and (7) focused on meaning. Since then, language learning strategies have been thoroughly investigated (Cohen, 1998; O'Malley & Chamot, 1990; Oxford, 1990, 2011) because they have been considered as influencing the way learners learn a SL or FL.

Several definitions have been proposed during the 1980s and 1990s. Oxford (1990, p. 8) defines language learning strategies as "steps taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferrable to new situations." For Chamot (1987, p. 71), they refer to the "techniques, approaches or deliberate actions students take in order to facilitate the learning, recall of both linguistic and content area information." However, there appears to be no consistency among scholars concerning the nature of these strategies, that is, whether they are mental, behavioral, or both mental and behavioral. Regarding the mental component, Cohen states that they are "the steps or actions consciously selected by learners either to improve the learning of a second language, the use of it, or both" (1998, p. 5). Oxford only considers behavior, and describes them as "behaviours or actions which learners use to make language learning more successful, self-directed and enjoyable" (1989, p. 235). On the other hand, O'Malley and Chamot (1990) and Oxford (1990) declare that they are both thoughts and behaviors that learners apply to understand, learn, and retain new information. It should be considered that not only are language learning strategies mental and behavioral processes, but they also depend on other variables, such as age, gender, proficiency, personality, context, and purpose of learning. These factors will influence learners' choice of these strategies, which would allow teachers and researchers to acknowledge the way learners learn a second or foreign language. Through strategy training, teachers could instruct learners in these strategies so that they could become more independent in the learning process. Other features of learning strategies are that they are problem-oriented, flexible, and support learning both directly and indirectly (Oxford, 1990).

Concerning taxonomies, scholars have proposed many classifications (Cohen, 1998; O'Malley & Chamot, 1990; Oxford, 1990, 2011; Wenden, 1983) (See Table 1). Oxford divides learning strategies into two classes: direct and indirect. Direct strategies involve "working with the target language itself in a variety of specific tasks and situations." They comprise memory, cognitive and compensation strategies. Memory strategies help learners "store and retrieve new information," cognitive strategies allow learners to manipulate or transform the target language, and compensation strategies "enable learners to use the new language for either comprehension or production despite limitations in knowledge" (Oxford, 1990, pp. 14, 37, 47). Indirect strategies "support and manage

language learning without directly involving the target language." They include metacognitive, affective, and social strategies. Metacognitive strategies "provide a way for learners to coordinate their own learning process," while affective strategies refer to the positive emotions and attitudes that are produced in the learning process, and social strategies involve the use of language for communication and interaction (Oxford, 1990, pp. 15, 136). The Strategy Inventory for Language Learning (SILL) (Oxford, 1990), as it will be discussed in the methodology, considers the strategies proposed by Oxford in 1990. These are the strategies that are going to be analyzed in this study because they seem to be more detailed and inclusive.

Table 1

Taxonomies of language learning strategies

Scholars	Taxonomies of language learning strategies
Wenden (1983)	self-directing strategies: knowing about language, planning and self-evaluation
O'Malley and Chamot (1990)	cognitive, metacognitive and social/affective
Oxford (1990)	direct strategies: memory, cognitive, and compensation indirect strategies: metacognitive, affective, and social
Cohen (1998)	cognitive, metacognitive, affective, and social
Oxford (2011)	strategies: cognitive, affective, and sociocultural-interactive metastrategies: metacognitive, meta-affective, and meta-sociocultural-interactive

Research has correlated language learning strategies with several different variables, such as age (Griffiths, 2003; Sepasdar & Soori, 2014), course level (López Aguado, 2011; Yaacob et al., 2019), cultural background (El-Dib, 2004; Oxford & Ehrman, 1995), learning styles (Baltaoğlu & Güven, 2019; Oxford & Ehrman, 1995; Tabanlioğlu, 2003), proficiency (Mutar, 2018; Oxford & Nyikos, 1989), vocabulary size (Gorevanova, 2000; Rahimi & Allahyari, 2019), or years of study (Oxford & Nyikos, 1989). Nevertheless, the relationship between language learning strategies and gender has not been as widely researched as the above-mentioned variables. Part of this study will be devoted to this issue because it is believed to be advantageous for teachers and researchers to acknowledge the types of learning strategies that both male and female learners employ so that more instruction could be given in the strategies that students do not use that often.

Scholars have mostly explored the relationship between language learning strategies and gender in primary, secondary, and university EFL learners world-wide (see Table 2). Therefore, this section will analyze a summary of studies throughout history to ascertain whether male or female learners use more language learning strategies.

In Oxford and Nyikos (1989), and Oxford and Ehrman's research (1995) in the USA, female university students were reported to use more language learning strategies than males. The same occurs with Turkish EFL learners (Aslan, 2009; Oflaz, 2019; Salahshour, Sharifi, & Salahshour, 2013; Yilmaz, 2010), whose studies proved female advantage. The disparity in these investigations was that all accounted for university students, except Salahshour et al. (2013) whose sample comprised high school learners. Along the same lines, research with Spanish and Polish university informants (García Herrero & Jiménez Vivas, 2015; López Aguado, 2011; Pawlak, 2013) concluded that females make a larger use of learning strategies. Similarly, investigations conducted with Asian learners (Ghadessy, 1998; Goh & Foong, 1997; Khan, Shah, & Ahmad, 2018; Lan & Oxford, 2003; Tamada, 1996) purported that women employ more learning strategies than men. The only difference was that Lan and Oxford's (2003) sample was composed of 6th graders, instead of university students. Alhaisoni (2012) and Alhaysony (2017) focused on Saudi Arabian university learners, but no significant differences in these strategies were encountered between males and females. In the same manner, Nisbet, Tindall, and Arroyo (2005), Marzban and Barati (2016), and AlSohbani (2018) concurred with these outcomes, but their samples came from Chinese, Iranian, and Turkish students, respectively. However, the first two studies dealt with university learners, whilst AlSohbani (2018) examined 10th, 11th, and 12th graders. By contrast, research conducted in Singapore by Wharton (2000), in Turkey by Tercanlioglu (2004), and in Indonesia by Sumarni and Rachmawaty (2019) demonstrated that men exceed women in their use of language learning strategies.

Table 2

A summary of studies on gender and language learning strategies

Study	Instruments	Participants' background	Findings
Oxford and Nyikos (1989)	SILL	University students N 1200 (m: 600; f: 600) USA	Females
Oxford and Ehrman (1995)	SILL	University students N 520 (m: 273; f: 247) USA	Females
Tamada (1996)	SILL	University students N 24 (m: 10; f: 14) Japan	Females
Goh and Foong (1997)	SILL	University students N 175 (m: 125; f: 50) Singapore	Females
Ghadessy (1998)	SILL	University students N 602 (m: 284; f: 318) Hong Kong	Females
Warton (2000)	SILL	University students N 676 (m: 442; f: 234) Singapore	Males
Lan and Oxford (2003)	SILL	6thth grade students N 379 (m: 202; f: 177) Taiwan	Females

cont. Table 2

Tercanlioglu (2004)	SILL	University students N 184 (m: 44; f: 140) Turkey	Males
Nisbet, Tindall and Arroyo (2005)	SILL	University students N 168 (m: 29; f: 139) China	No significant difference
Aslan (2009)	SILL	University students N 257 (m: 153; f: 104) Turkey	Females
Yilmaz (2010)	SILL	University students N 140 (m: 23; f: 117) Turkey	Females
López Aguado (2011)	CETA	University students N 805 (m: 287; f: 518) Spain	Females
Alhaisoni (2012)	SILL	University students N 701 (m: 434; f: 267) Saudi Arabia	No significant difference
Pawlak (2013)	SILL	University students N 280 (m: 84; f: 196) Poland	Females
Salahshour, Sharifi and Salahshour (2013)	SILL	High school students N 65 (m: 25; f: 40) Turkey	Females
García Herrero and Jiménez Vivas (2015)	SILL	University students N 135 (m: 42; f: 93) Spain	Females
Marzban and Barati (2016)	SILL	University students N 100 (m: 40; f: 60) Iran	No significant difference
Alhaysony (2017)	SILL	University students N 134 (m: 66; f: 68) Saudi Arabia	No significant difference
AlSohbani (2018)	SILL	10^{th}, 11^{th} and 12^{th} graders N 83 (m: 40; f: 43) Turkey	No significant difference
Khan, Shah and Ahmad (2018)	SILL	University students N 160 (m: 97; f: 63) Pakistan	Females
Oflaz (2019)	SILL	University students N 110 (m: 35; f: 75) Turkey	Females
Sumarni and Rachmawaty (2019)	SILL	University students N 24 (m: 12; f: 12) Indonesia	Males

Gender and Productive Vocabulary

Vocabulary plays a crucial role in SLA and FLA (Laufer, 1998; Meara, 1990; Nation, 1990) because knowing the vocabulary of a language, learners would be able to communicate effectively. Consequently, examining learners' vocabulary size would allow both teachers and researchers to ascertain learners' threshold vocabulary level and whether more instruction is needed so that students can read and comprehend texts (Laufer, 1998). It would also be helpful for learners to know the aspects in which they need to improve to make their learning more successful.

The studies that have investigated the relationship between gender and vocabulary acquisition in SL or FL learning are not only scarce but also dispersed. Outcomes are inconclusive since some studies reveal female superiority (Nyikos, 1990; Scarcella & Zimmerman, 1998), whilst others identify a male advantage (Lin & Wu, 2003; Lynn, Fergusson, & Horwood, 2005).

Vocabulary can be classified into two types: receptive and productive. Receptive vocabulary relates to the perception of a linguistic form and the understanding of its meaning in both listening and reading (Meara, 1990). Productive vocabulary, in its turn, concerns the production of words in speaking and writing to convey meaning (Nation, 2001). Two types of productive vocabulary can be distinguished: controlled and free types. Controlled productive vocabulary refers to the production of words when they are triggered by a task. As Laufer (1998, p. 257) puts it, it is just to complete the following sentence: "[T] he garden was full of fra__flowers" with the word "fragrant." On the contrary, free productive vocabulary alludes to the use of words at one's free will (Laufer & Nation, 1999). This research is dedicated to the study of controlled productive vocabulary, which is what the instrument Productive Vocabulary Levels Test (PVLT) (Laufer & Nation, 1995, 1999) measures, as it will be explained in the methodology. Research on productive vocabulary is necessary to acknowledge the amount of words a learner knows in each educational level and context. Its relationship with gender would allow us to explore gender-based divergences in the acquisition of vocabulary. Therefore, part of this study will be devoted to this issue.

Little research has been conducted about productive vocabulary and gender (see Table 3). Scholars (Harji et al., 2015; Jiménez Catalán & Moreno Espinosa, 2004; Moyo, 2018; Scheepers, 2014) agreed with females as being the ones who had a higher productive vocabulary. They differ in the sample of informants, background, and instruments employed. Jiménez Catalán and Moreno Espinosa (2004), Scheepers (2014), and Harji et al. (2015) focused on Spanish, South African, and Malaysian university students respectively, whilst Moyo's (2018) sample was composed of South African 6th graders. Another divergence was the instrument employed because all of them made use of the PVLT, except Jiménez Catalán and Moreno Espinosa (2004) who used Lex30. The studies conducted by Moreno Espinosa (2010), Canga Alonso and Arribas García (2014), and Fleckenstein (2018) came to the conclusion that there were no significant differences between males and females in productive vocabulary. Both Canga Alonso and Arribas García (2014) and Fleckenstein (2018) dealt with Spanish and Icelandic 10th graders respectively and employed the PVLT to measure their productive vocabulary. However, Moreno Espinosa's (2010) sample was constituted by Spanish 4th, 5th, and 6th graders, and she used the Lex30. On the contrary, Castro García's (2017) research

revealed that males outperformed females in productive vocabulary. In this case, she investigated 11th graders' productive vocabulary in Costa Rica using the PVLT.

Table 3

Studies on gender and productive vocabulary

Study	Instruments	Participants' background	Findings
Jiménez Catalán and Moreno Espinosa (2004)	Lex30	University students N 19 Spain	Females
Moreno Espinosa (2010)	Lex30	4th, 5th and 6th grade students N 225 (m: 124; f: 101) Spain	No significant difference
Canga Alonso and Arribas García (2014)	PVLT	10th grade students N 38 (m: 26; f: 12) Spain	No significant difference
Scheepers (2014)	PVLT	University students N 298 (m: 123; f: 175) South Africa	Females
Harji et al. (2015)	PVLT	University students N 120 (m: 60; f: 60) Malaysia	Females
Castro García (2017)	PVLT	11th grade students N 180 (m: 84; f: 96) Costa Rica	Males
Fleckenstein (2018)	PVLT	10th grade students N 75 (m: 40; f: 35) Iceland	No significant difference
Moyo (2018)	PVLT	6th grade students N 66 (m: 33; f: 33) South Africa	Females

In broad terms, the review of literature displayed on both language learning strategies and productive vocabulary has revealed gender-based divergences. As commented before, most investigations concluded that females outperformed males in the use of language learning strategies. Similarly, studies conducted on productive vocabulary also acknowledged female superiority. There are several studies who have researched gender, vocabulary, and strategies in SLA and FLA (e.g., Gu, 2002; Lee, 2007). Nonetheless, no research has been found that correlates language learning strategies with productive vocabulary in Spanish EFL learners. It could be interesting to explore whether the more language learning strategies informants employ, the larger their productive vocabulary will be, to determine whether the most frequent use of language learning strategies implies a better productive vocabulary knowledge.

Research Questions and Hypotheses

The present research investigates the relationship between gender, language learning strategies, and productive vocabulary in EFL learners. Language learning strategies were selected, instead of vocabulary learning strategies, because our purpose was to ascertain EFL learners' general approach to learning and if that general approach had an impact on their productive vocabulary. In fact, vocabulary learning strategies are a subgroup of language learning strategies. To our knowledge, there is a lack of investigations with regards to EFL learners in the second year of Spanish non-compulsory Secondary Education. They are students who are between the stages of older adolescence and early adulthood (mean age 17.43), and in the last year of education in the high school, some of them about to apply for university. With the instruments explained in the following section, we will be able to acknowledge the aspects in which the instruction of English as a foreign language could be improved and ascertain gender-based differences. As noted earlier, research revealed female advantage in both language learning strategies and productive vocabulary. Therefore, based on previous findings, this study aims to investigate the reply to the following research questions:

1. Do males and females employ the same amount of language learning strategies?
2. Do males and females have the same amount of productive vocabulary?
3. Is there a statistically significant relationship between language learning strategies and productive vocabulary?

In respect of the aforementioned research questions, the following hypotheses were tested:

H_{01}: Females make more use of language learning strategies than males.
H_{02}: Females possess more productive vocabulary than their male counterparts.
H_{03}: There is a statistically significant relationship between language learning strategies and productive vocabulary.

Methodology

The present study is a quantitative, cross-sectional, descriptive, and correlational research.

Informants

The sample was constituted by fifty-one EFL learners. This group was composed of 20 boys and 31 girls, and their mean age was 17.43. They were enrolled in the last course of Spanish post-secondary education (equivalent to the 12th grade) in a state school in La Rioja (Spain), a monolingual autonomous community. Teachers reported that informants' level of English was B1, which is the level assigned to the 12th grade by the educational board of La Rioja. However, the sample differed in the kind of instruction they had received. 5.88% of students had taken Content and Language Integrated Learning (CLIL), 23.53% of learners had studied English with a program of the Official School of Languages, 27.45% had taken both CLIL and English with the Official School of Languages, and the remaining 43.14% had learnt English as a curricular subject. Therefore, the number of hours of exposure to EFL learning varied. Both the English with the Official School of Languages and the English as a curricular subject groups had received 1,546 hours of instruction in EFL, whereas the CLIL group had received 2,989 hours. These were the hours accumulated after six years of primary education, four years of compulsory secondary education and two years of non-compulsory secondary education. The difference is that Official School of Languages group focuses more on preparing students for their exams, but the hours of exposure to English are the same for the curricular subject and this group. Although the CLIL group had received the same hours of English (1,546) as the other two groups, they had studied other subjects in English (e.g. Social Sciences, Physical Education, Geography and History, Music, Mathematics, Technology, Philosophy), whilst their peers of the other groups had studied them in Spanish.

The headmaster of the participating school signed a written consent form so that the tests explained in the next section could be administered to students. In addition, students' parents and tutors were also informed of this administration and its voluntary basis.

Instruments and Data Collection

Strategy Inventory for Language Learning (SILL). The Strategy Inventory for Language Learning (SILL) questionnaire was designed by Rebecca L. Oxford (1990) and it was employed to identify the use of language learning strategies. It is made up of fifty items and it is aimed at learners of English as a SL or FL. This questionnaire makes use of the following five Likert-scale factors: never or almost never true of me (1), usually not true of me (2), somewhat true of me (3), usually true of me (4), and always or almost always true of me (5). Learners have to indicate their answer (1, 2, 3, 4, 5) in each state-

ment. For instance, "I use rhymes to remember new English words" (Oxford, 1990, p. 294). Moreover, it is divided into six subscales: memory strategies (nine items), cognitive strategies (fourteen items), compensation strategies (six items), metacognitive strategies (nine items), affective strategies (six items), and social strategies (six items).

Productive Vocabulary Levels Test (PVLT). Another instrument used was the Productive Vocabulary Levels Test (PVLT) proposed by Laufer and Nation (1995, 1999) to measure the controlled productive vocabulary knowledge of the same informants. This tool is a quantitative measure which explores vocabulary growth by means of analyzing discrete, selective and context dependent vocabulary (Moreno Espinosa, 2010). The two-thousand-word parallel version (version A + version C) of this test was selected because the knowledge of the two thousand most frequent words is thought to enable learners to communicate both orally and in written form in a foreign language (Nation & Waring, 1997). In this version, informants have to complete the missing word that appears in thirty different sentence contexts. To do so, they are provided with the first letters of the target words. For example, in the sentence "He was riding a bic__," they have to complete it with the word "bicycle."

Procedure and Analysis

Data were collected in one session during school time. Students were presented with a background questionnaire, the SILL and the PVLT tests. The background questionnaire was administered to get information about their age, sex, nationality, mother tongue, other languages spoken at home, their instruction in EFL, and their previous experience with English. The time assigned to complete both tests, SILL and PVLT, was twenty and ten minutes respectively. At the beginning of the tests, apart from written instructions in English, they were also given both orally and in written form in Spanish to clarify what students were being asked to do. Once data were collected, responses were coded and entered into an Excel file.

For scoring the SILL, a five-point Likert scale which ranged from "never or almost never true of me" (1) to "always or almost always true of me" (5) (Oxford, 1990) was employed. Afterwards, items were summed and the average of use of language learning strategies for each informant was calculated. All PVLT tests were corrected and marked: zero was the lowest score and 30 was the highest. To calculate the productive vocabulary size, Nation's formula was applied: the number of correct answers multiplied by the total number of words of the test (two thousand) and divided by the number of items (30) (Nation, 1990, p. 78). We decided that a word was correct if it was well written both

grammatically and orthographically. The first letters and context are given as a clue, so it is easier to find out to which word it refers.

The sample was also analyzed with SPSS 21 to perform descriptive and inferential statistics and explore whether statistically significant differences arose regarding language learning strategies, productive vocabulary and gender. Spearman's correlation was also implemented to determine whether the relationship between language learning strategies and productive vocabulary was statistically significant.

Results

Gender and Language Learning Strategies

Table 4 shows the descriptive statistics for gender in the study of language learning strategies, revealing a higher means for females than for males. It can be stated that females use language learning strategies slightly more than males, although the difference in mean values between males and females is only 0.50. As depicted in Table 4, both male and female respondents coincide with the most and least learning strategy used. Social strategies appear to be the most employed, whereas affective strategies seem to be the least used by both groups. Therefore, the most and least used learning strategies by male and female respondents are indirect strategies.

Table 4

Descriptive statistics and classification for gender in language learning strategies

Males				Females			
Learning strategies	Mean	SD	Rank	Learning strategies	Mean	SD	Rank
Memory	2.583	.657	4	Memory	2.949	.624	5
Cognitive	2.578	.432	5	Cognitive	3.150	.413	4
Compensation	3.03	.522	2	Compensation	3.300	.560	3
Metacognitive	2.95	.428	3	Metacognitive	3.660	.523	2
Affective	2.43	.763	6	Affective	2.946	1.00	6
Social	3.24	.213	1	Social	3.780	.241	1
Total	2.80	.319		Total	3.300	.354	

Then, Kolmogorov-Smirnov test was implemented to ascertain if our sample met the normality assumption. As depicted in Table 5, the male and female

groups did not meet normality. Therefore, a non-parametric test for two independent samples was applied.

Table 5

Normality test for gender-based differences

	Kolmogorov-Smirnov	
Gender	D	p-value
Males	.230	.007
Females	.163	.036

The U Mann-Whitney test was implemented to test whether there were inferential statistical differences between both groups. As shown in Table 6, there are statistically significant gender divergences in the use of language learning strategies.

Table 6

Inferential statistics for gender in language learning strategies

U Mann-Whitney	Z	p-value
114	–3.783	.0001612

Gender and Productive Vocabulary

Table 7 displays a higher means and better maximum scores for females in productive vocabulary (27 vs. 25) out of 30 items. Both males and females obtained the same minimum score (four points) in the PVLT. Females are somewhat beyond the half of corrected words (fifteen) in the aforementioned test, whereas males are a little bit below it.

Table 7

Descriptive statistics for gender in productive vocabulary

Gender	N	Mean	SD	Min.	Max.
Males	20	14.70	5.695	4	25
Females	31	15.48	7.145	4	27

With reference to the number of known words out of the 2,000 most frequent ones, which was the object of study of this task, the data indicated that females have far more knowledge of these words than males, as can be observed in Table 8.

Table 8

Word estimates for males and females in productive vocabulary

Gender	N	Mean	SD	Min.	Max.
Males	20	980	379.658	267	1667
Females	31	1,032.258	476.366	267	1800

As for descriptive statistics, the boxplot in Figure 1 reveals that the median value of females is higher than that of their male counterparts. Regardless of the mean difference between males and females (52), it can be asserted that the overall productive vocabulary of this sample of EFL learners is lower than 1,000 words in the case of males, and a little higher concerning female respondents.

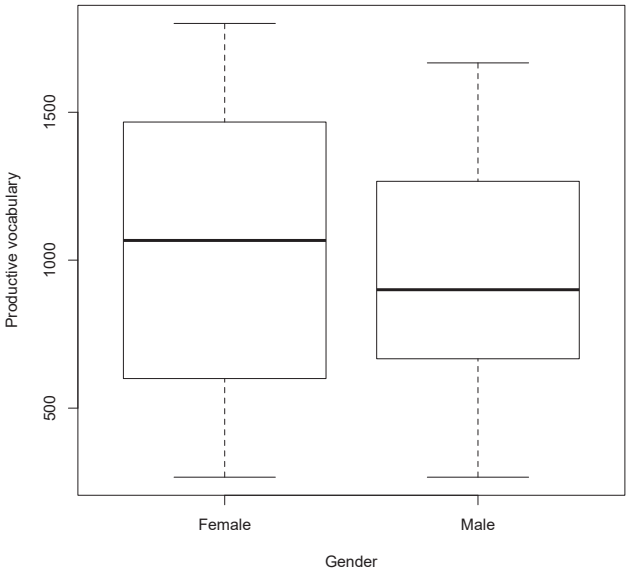

Figure 1. Boxplot of males' and females' productive vocabulary.

Afterwards, Kolmogorov-Smirnov test was applied to determine if our sample met the normality assumption. As can be seen in Table 9, the sample met normality. Therefore, an independent samples test of means comparison was implemented.

Table 9

Normality test for gender-based differences

	Kolmogorov-Smirnov	
Gender	D	p-value
Males	.149	.291
Females	.133	.172

The independent samples T-test was conducted to test whether significant statistical differences between males and females arose. As can be observed in Table 10, the *p*-value does not reveal statistically significant gender-based divergences in productive vocabulary.

Table 10

Independent samples T-test

Two Sample T-Test		
t	df	p-value
.434	46.691	.667

Language Learning Strategies and Productive Vocabulary

Table 11 illustrates the descriptive statistics for language learning strategies and productive vocabulary.

Table 11

Descriptive statistics for language learning strategies and productive vocabulary

	Mean	SD	Min.	Max.
Language learning strategies	3.07	.523	1.60	4.06
Productive vocabulary	15.18	6.566	4	27

Kolmogorov-Smirnov test was implemented. As shown in Table 12, both language learning strategies and productive vocabulary met the normality assumption. Therefore, Spearman's correlation coefficient was conducted because language learning strategies are measured on an ordinal scale.

Table 12

Normality test for learning strategies and productive vocabulary

	Kolmogorov-Smirnov	
Variables	D	p-value
Language learning strategies	.105	.172
Productive vocabulary	.118	.073

Results show a statistically significant positive correlation between learning strategies and productive vocabulary, being .370 the Spearman's correlation coefficient (see Table 13). In this case, there is a moderate correlation between these variables, but it is a positive one.

Table 13

Spearman's correlation of learning strategies and productive vocabulary

Spearman's correlation		
S	p-value	rho
13914	.0075	.370

Discussion

Concerning the first research question, our data showed that female EFL learners in the second year of Spanish non-compulsory Secondary Education used language learning strategies significantly more than males, being 0.50 the difference in mean values. Therefore, our first hypothesis was confirmed. This finding concords with previous research conducted (Aslan, 2009; García Herrero & Jiménez Vivas, 2015; Ghadessy, 1998; Goh & Foong, 1997; Khan et al., 2018; Lan & Oxford, 2003; López Aguado, 2011; Oflaz, 2019; Oxford & Ehrman, 1995; Oxford & Nyikos, 1989; Pawlak, 2013; Salahshour et al., 2013; Tamada, 1996; Yilmaz, 2010) (see Table 2). This does not mean that the difference between male and female learners in learning strategies depends on sex, but on other factors. These studies may agree with female learners using more learning strategies than males because they might be more willing to learn English by means of other techniques, such as watching television, reading or talking in English, rather than by traditional learning, which only concentrates on course books. Research proved that female learners have more positive attitudes and higher motivation towards the learning of foreign languages than their male peers (Burstall, 1975; Dörnyei, Csizér, & Németh, 2006; Griffiths, 2008). What this may imply is that men and women adopt different approaches when it comes to learning a language. On the other hand, this gender-related divergence might also be related to the cultural, social and educational context where the foreign language is acquired.

With reference to the learning strategies used by male and female EFL learners, social strategies are the most employed, whilst affective strategies are the least used (see Table 4). However, it is not consistent with the findings of previous studies. Pawlak's (2013) investigation is the only one which reports that indirect strategies are the most and least employed, as in our study. In this case, metacognitive and affective strategies are the most and least used by male and female respondents. Two more studies coincide with affective strategies as being the least employed by both groups (Aslan, 2009; Yilmaz, 2010). Male and female learners perhaps use affective strategies with less frequency

because they are adolescents and they do not like talking about the feelings they have towards people or a language. Nevertheless, social strategies might be the most employed in our study because both males and females have many opportunities in their EFL class to talk with their classmates and teacher. There are speaking activities in their textbooks which encourage them to discuss issues related to daily life.

Regarding our second research question, results revealed that there were not statistically significant gender-based divergences in productive vocabulary, which refuted our second hypothesis. Our findings coincide with the studies conducted by Moreno Espinosa (2010), Canga Alonso and Arribas García (2014), and Fleckenstein (2018) (see Table 3). This result might derive from the students being in the same form are exposed to the learning of the same vocabulary throughout their EFL courses. Nevertheless, as in our study, results pointed out to a slightly higher productive vocabulary in females, except Fleckenstein's (2018), which favored males. This result corroborates the findings of Agustín Llach and Terrazas Gallego (2012) and Jiménez Catalán and Terrazas Gallego's (2005–2008) studies, which revealed non-significant gender-related differences in the receptive vocabulary of Spanish EFL learners from the 4th to the 9th grade, and in the 4th grade, respectively. The average of known words out of the 2,000 most frequent ones differed in the investigations on productive vocabulary. Canga Alonso and Arribas García's research (2014) reported that female 10th graders' average was 661 words, whereas their male respondents knew 636 words. In Fleckenstein's (2018) study, female learners' average was 711 words, while male 10th graders had a knowledge of 744 words. However, our findings revealed that 12th grade females knew 1,032 words, whilst males' mean was 980 words. In the light of our data, it could be stated that there may be differences in learners even if the cultural context is similar. In our view, the better results found in the present study might be due to the difference of two school years among our informants. Twelfthth grade students have been more exposed to the English language, which in turn have made them acquire more vocabulary.

In the third research question, Spearman's correlation coefficient showed a statistically significant, positive and direct relation between language learning strategies and productive vocabulary, which confirmed our third hypothesis. Therefore, it can be inferred that language learning strategies and productive vocabulary are related. This means that the higher the use of learning strategies, the higher the score on productive vocabulary. However, the interpretation of this correlation ought to be taken with caution since it is significant but not strong. Our result does not coincide with any of the studies met so far. In contrast, other research (Gorevanova, 2000; Gu, 2010) found no correlation between vocabulary learning strategies and/or their effect on vocabulary size or productive vocabulary. However, these studies differ from ours since our research examined language learning strategies and productive vocabulary.

As for limitations, the sample of informants (51) was not very numerous and research was only conducted in one school, so results cannot be taken as representative of either the population of 12th grade students or the autonomous community of La Rioja. Another constraint was that the SILL questionnaire reported the learning strategies that students believed they employed when learning English, but they might not be the ones they actually use in the learning process. On the other hand, productive vocabulary was only measured with one instrument, so the type of task might have influenced the results.

With regards to practical implications, the present study reveals the existence of language learning strategies and productive vocabulary in the EFL classroom. It could be useful to train teachers in language learning strategies first so that they can become familiar with them. After this strategy training, teachers could instruct male and female foreign language learners in these strategies so that they know more techniques to deal with the learning of English. Then, teachers could plan their classes and activities according to the learning strategies of their students. More instruction in vocabulary would also be needed because, as our results showed, male and female learners' productive vocabulary is around 1,000 words. However, the knowledge of the 2,000–3,000 most frequent words is required to communicate both orally and in written form in a foreign language (Nation & Waring, 1997). In doing so, their language learning could be improved, and learners could become more autonomous towards the foreign language.

Conclusions

This research has examined the language learning strategies and productive vocabulary of male and female EFL learners in the second year of Spanish non-compulsory secondary education in La Rioja (Spain). The data analyzed in the present study indicate three main results. First, female EFL learners use language learning strategies significantly more than their male peers. Second, there are no statistically significant gender-based differences in productive vocabulary. Third, language learning strategies are significantly related to productive vocabulary. It should be considered that these gender-related divergences are not due to their sex, but due to the physical, social, and cultural context that surrounds foreign language learners.

As an avenue for further research, longitudinal studies with male and female EFL learners could be helpful to determine whether their use of language learning strategies and their productive vocabulary growth increases from primary education to the second year of non-compulsory secondary education. Future

studies could also include observation and oral interviews to ascertain whether the learning strategies reported by the questionnaire match the strategies students actually use while learning English. As one of the reviewers suggested, further research could also measure free productive vocabulary, apart from controlled productive vocabulary, by means of speaking, writing, or both, to determine whether gender-related differences arise.

In the light of research conducted on both language learning strategies and productive vocabulary, they are two essential components in the learning of a second or foreign language because they enable learners to be in control of their own learning and be more proficient in that language. On account of this, more instruction in these two areas could enhance learners' language learning.

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Geschlechtsspezifische Unterschiede in den Spracherwerbsstrategien und dem produktiven Wortschatz von EFL-Lernern

Zusammenfassung

In dem vorliegenden Artikel wird der Einfluss des Geschlechts auf die Spracherwerbsstrategien und den produktiven Wortschatz von einundfünfzig EFL-Lernern im zweiten Jahr der spanischen fakultativen Sekundarstufe untersucht. Aus den erzielten Ergebnissen lässt sich schlussfolgern, dass weibliche EFL-Lerner häufiger Spracherwerbsstrategien einsetzen als männliche. Dennoch wurden keine statistisch signifikanten, geschlechtsspezifischen Unterschiede in ihrem produktiven Wortschatz festgestellt. Die erhobenen Daten zeigen, dass die Spracherwerbsstrategien in hohem Maße mit dem produktiven Wortschatz zusammenhängen. Das Bestehen eines Zusammenhangs zwischen Spracherwerbsstrategien und dem produktiven Wortschatz kann im EFL-Unterricht von Vorteil sein, weil sowohl männliche als auch weibliche Lerner unterschiedliche Techniken zum Erlernen von Vokabeln in einer Fremdsprache verwenden können.

Schlüsselwörter: geschlechtsspezifische Unterschiede, Spracherwerbsstrategien, produktiver Wortschatz, EFL-Lerner, zweites Jahr der spanischen fakultativen Sekundarstufe

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Conceptual and Linguistic Transfer from L2 (Catalan) to L1 (Amazigh) within the Context of Migration

Abstract

This paper focuses on the analysis of the lexical and semantic influences of L2 (Catalan) on the L1 (Amazigh) in a basic semantic field: parts of the body. Based on the observation that our participants show differences in their L1 usage related to the amount of time they have been in contact with Catalan, our goal is to analyze and describe these differences to see if they are the consequence of a transfer from the L2 conceptual system. This paper is a qualitative study with a sample size of 14 participants whose L1 is Amazigh and who live in Catalonia. The results show that there are cases of semantic and conceptual influence, although to a lesser degree than in other studies that do not analyze data from basic semantic fields. We will also show that there are extralinguistic factors that influence these transfers (the status of the languages involved and certain characteristics of the speakers).

Keywords: Semantic categorization, crosslinguistic transfer, conceptual transfer, Catalan, Amazigh, bilingualism, multilingualism

The relationship between language and thought has been studied from various perspectives in research on bilingualism, beginning with linguistic relativity, which was developed by Whorf (1956) and has been adapted over the years (Slobin, 1996; Lucy, 2016). Linguistic relativity studies the effects of language on thought. However, other research focuses on the influence of thought on language. Crosslinguistic influence is another point of view from which this relationship has been studied, especially as regards conceptual transfer (Jarvis & Pavlenko, 2008). These studies research how the ideas of conceptualization that have been acquired through a language affect the use of another language and how the transfer can be bidirectional, between the two languages involved (Cadierno & Ruiz, 2006; Jarvis, 2016). Other recent studies

(Aveledo & Athanasopoulos, 2016; Park, 2019) use a theoretical framework that combines both abovementioned perspectives.

This paper falls under the research field of crosslinguistic influence and focuses on lexical conceptual transfer issues. It will analyze the influence that L2 has on L1 for Catalan speakers of Amazigh origin regarding the categorization and conceptualization of a basic semantic area: parts of the body. This research on crosslinguistic influence is based on results obtained through a sample of bilingual or multilingual speakers who speak at least Amazigh and Catalan.[1] When referring to bilingualism or bilingual speakers, one must distinguish between speakers who have grown up learning both languages simultaneously and those who have learned their L2 later (Cook, 2003). We will refer to the latter case for this study: all participants have learned Catalan after Amazigh and, furthermore, they all speak at least one other language. This will be described in detail later.

The data analyzed have been obtained from speakers who live in a migratory context in which many languages are involved. These data differ from those in many studies that have been produced regarding bilingualism, crosslinguistic influence, and conceptual transfer. Such research usually focuses on speakers who know two languages, with the L2 usually being English. The status of the two languages addressed in this work, both minoritized languages yet with different sociolinguistic situations, is therefore quite different from the status of languages that are often studied in research on bilingualism.

The lexical and semantic data will be approached from the point of view of cognitive semantics, which is the theoretical framework that encompasses the conceptual transfer hypothesis. This hypothesis assumes that each language shows how speakers categorize and conceptualize reality, and that the differences that languages reflect will be transferred, potentially, from one language to another with bilingual or multilingual speakers (Bylund & Jarvis, 2011).

This study builds upon other studies comparing how body parts are categorized in Catalan and Amazigh (Ferrerós, 2015; Múrcia & Zenia, 2015). These studies are essential in knowing if there has been a conceptual transfer in the results obtained in producing L2, as to determine whether such transfer has occurred or not it is necessary to previously and separately study each of the languages involved. This previous study is important when taking into account that categories are not always labelled in the languages. It is possible for two

[1] The Amazigh language, of the Afro-Asiatic family, is the proper language of North Africa, most commonly spoken in Morocco and Algeria but also in Libya, Nigeria, Burkina Faso, Niger, Mali, Mauritania, Tunisia, and Egypt. It is the L1 of almost half the population of Morocco. This study focuses on the Riffian (North Morocco) Amazigh variety. The biggest migrant community in Catalonia is of Amazigh origin. Hence the relevance of interlinguistic studies such as this one, as these languages come into contact with each other oftentimes in the migration context (Barrieras, 2013).

languages to similarly categorize a reality segment, but one not labelling said category. Therefore, a crosslinguistic difference does not necessarily show a difference in categorization. That is to say, the fact that one language does not label a reference that another language does label does not imply that speakers of the former do not categorize a given part of the body. If the categorizations were the same, one could not speak of conceptual transfer even if we observed a crosslinguistic influence. This is why it is essential to have previously analyzed the two languages in order to produce research as found herein.

Literature Review

Semantic Categorization

One of the cognitive activities that human beings do is related to classifying and organizing reality in order to give it meaning. We create categories that usually take the form of words or morphemes in language. Each language shows different categorizations of reality, although there are certain limits regarding diversity. From the point of view of cognitive studies, the ability to categorize is a vital cognitive ability for the survival of living beings, which consists of grouping the world's objects and events according to the similarities they present.

Cognitive semantics draw from the prototype theory formulated in the seventies by Rosch (1973, 1878). The categories that are created are gradual, and there are elements that occupy central positions and share more information among themselves than with other elements that occupy less central positions. The more central an element is in a category, the more features it shares with the prototype, which is the most characteristic element (Rosch, 1978). The effects of the prototype are not only produced in individual meanings, but also between the different meanings of the same polysemous word. Polysemy is the phenomenon by which the various meanings of a word are related to each other, if there is an embodied reason, that is, if the categorization is related to how humans experience the world. The phenomena that operate at the foundation of semantic extensions are metaphorical or metonymic (Lakoff, 1987; Ibarretxe-Antuñano, 1999).

The terms for parts of the body refer to a reality that is the same for everyone, enabling us to study how humans experience this reality as an integral part of ourselves and how this influences our cognition. Crosslinguistic differences also help us see if there are cultural factors that condition categorization. The categorization of the human body has been studied from various,

non-exclusive points of view: lexical typology (for example, Andersen, 1978; Brown, 1976; Enfield, Majid, & Van Staden, 2006; Wierzbicka, 2007) and cognitive semantics, especially in matters related to the notion of polysemy (Ibarretxe-Antuñano, 1999, 2010).

The Transfer of L2 to L1 with Bilingual or Multilingual Speakers

One of the most frequently discussed issues in bilingualism and second language acquisition is the mutual interference of the languages involved in these processes. Jarvis (2011, p. 1) claims that crosslinguistic influences occur not only in grammatical phenomena but also in the choice of words and discursive structures. These differences often reflect ways to convey specific meanings in a given language.

Jarvis (2016, p. 609) explains that crosslinguistic influences can be related to (1) the constraints of good linguistic formation; (2) the relationship between form and meaning; and (3) the specific ways how meanings are represented in the minds of the speakers. He calls influences of the first kind *linguistic*, those of the second *semantic*, and those of the third *conceptual*. This use of terminology seems inadequate as we view conceptual aspects as also being linguistic and semantic. If we take into account contributions framed within lexical typology and cognitive semantics that have focused on the study of the lexicon and the conceptualization of meanings (see, for example, Koch, 2005), we see that the conceptual aspects correspond to paradigmatic distinctions (considering lexical and morphological pieces as elements of an inventory), while other issues depend on syntagmatic organization (if the lexical and morphological elements are considered part of a sequence). The paradigmatic lexical distinctions can be studied from a semasiological or onomasiological point of view (Koch, 2005, p. 12). The latter aims to explain how conceptual material is organized in relation to lexemes and how the concepts expressed are organized, and it is one of the points of view used in this papeBylund and Athanasopoulos (2014) and Pavlenko (2014) claim that learning a language and the changing circumstances of people's language experience can be accompanied by cognitive changes. Jarvis (2016) explains that investigating the relationship between multilingual people's language and cognition also facilitates understanding which phenomena are related to crosslinguistic influence and that reflect cognitive and conceptual tendencies conditioned by the languages spoken. Adding to Jarvis's assertions, the differences in conceptualization can also be the result of other non-linguistic factors, which can be related to culture, the individual's education, the methodology used to obtain the speakers' speech, and more. Although this paper focuses on linguistic issues related to the semantic categorization shown

in the lexicon, we will also consider these other phenomena in the analysis of the results.

Studies on conceptual transfer are based on the hypothesis that some cases of crosslinguistic influence on language use are due to the concepts and mental patterns of conceptualization that a person has acquired as a speaker of another language (Bylund & Jarvis, 2011). According to Jarvis (2016), issues related to conceptual transfer can be researched from points of view closer to linguistic relativity (using non-verbal data to research conceptualization) or traditional research on crosslinguistic influences (making use of verbal data to observe what linguistic influences occur between the languages involved). There are also intermediate points of view that take into account linguistic data to study crosslinguistic influences related to conceptualization.

In this study, we will primarily use linguistic data, as we will explain in section Methodology. Issues related to conceptual transfer will be analyzed through the description, analysis, and interpretation of the language used by the bilingual speakers interviewed for this study. The analysis of the results will be conducted based on the framework proposed by Pavlenko (2000) regarding the study of transfers, which can be applied to the analysis of any type of transfer or influence processes between two languages: the adoption of borrowing from one language to another, crosslinguistic convergence, the displacement of structures or values from one language to a speaker's own language, language restructuring, and the erosion of one of the two languages. Furthermore, we will make a distinction, which we find particularly relevant for the study of conceptual transfer, between cases of crosslinguistic lexical influence that involve recategorization and those that simply introduce or redistribute labels for concepts that are categorized but not necessarily labelled (Wierzbicka, 2007).

Methodology

Sample Size

This is a qualitative study: the sample size is composed of 14 participants and the selection of participants did not end until there was no further new data, that is, until saturation was reached. The general criterion for inclusion of the participants in the sample was that their L1 was Riffian Amazigh and their L2 was Catalan. In addition, their contact time with Catalan was taken into account, leading us to create three groups: (1) participants who have spent more time in Catalonia than in Morocco (5 participants); (2) participants who

have spent approximately the same time in Catalonia and Morocco (4 participants); (3) participants who have lived in Catalonia for less than five years at the time of the interview (5 participants). Within each group, participants with different ages and educational levels were included as we deemed that these variables could influence responses.

Although studies on the influences between L1 and L2 that we have referred to almost all use a sample of adult participants who are bilingual, participants in our study were multilingual: Berber, Catalan, Spanish, Moroccan Arabic, Standard Arabic, French, and so on. In addition, our participants showed remarkable differences between one another: the linguistic profiles of Amazigh speakers who were educated in Catalonia, that is, the participants in the first group, are quite different from Amazigh speakers who were not (they speak neither Moroccan Arabic nor Standard Arabic). The latter group also shows differences depending on whether they were educated or not. We will make references to these variables as appropriate.

The fact that the speakers in the sample are multilingual is related to the idea of mixed linguistic identities. Rampton (2017, p. 338) points out that "the idea that people really only have one native language, that really monolingualism is the fundamental linguistic condition, also underlies a widespread failure to recognize new and mixed linguistic identities." Related to this, authors such as Cook (1999) and Grosjean (1998) have proposed the theory of multi-competence by which a multilingual person has a compound mental state that is not equivalent to two monolingual states.

Besides the group of participants indicated, three participants living in Morocco with knowledge of linguistics who know neither Catalan nor Spanish contributed to deepening and expanding the information taken from Riffian Amazigh lexicographical sources.

Procedures

The data in the study comes, first, from a thorough review of the following dictionaries: Serhoual (2002), Sarrionandía and Ibáñez Robledo, (2007 [1944, 1949]), Naït-Zerrad (1997; 1999; 2002), and Múrcia and Zenia (2015). The first two cover Riffian Amazigh. The other two are pan-Amazigh.

As we have noted in the introduction (The Transfer of L2 to L1 with Bilingual or Multilingual Speakers), Jarvis (2016) mentions the use of verbal data in understanding the conceptualization that a given language shows. Jarvis affirms that this question is usually answered through the analysis of verbal responses in perception, categorization, and memory tasks such as those used in the field of psychology. In addition, he also adds data from narrative tasks or tasks with more open references. That is why we have used a combined

methodology for this research, with psycholinguistic tasks followed by a more open task.

The first task was to make a list of words for body parts in their L1, with the objective of understanding which ones were most commonly used by participants, and thus, which are perceptively more relevant. Next, participants did the body coloring task (Van Staden & Majid, 2006), the objective of which was to understand the extent of the references of the words for body parts with imprecise boundaries.[2] The third task was based on extralinguistic stimuli consisting of images that the speakers had to name and describe. Finally, they participated in a semi-structured interview (about 90 minutes in length) in which they were asked about words and meanings (literal and non-literal) for body parts.

An in-depth reading was the first step in order to analyze the responses obtained in the interview. Then, the most relevant units of meaning were taken, which were grouped into categories based on common characteristics. Finally, the contents were interpreted. The results set out in the next section are organized into sub-sections taking into account the established categories.

Results

In order to obtain and analyze the results, we began with categorization and labelling differences seen in Catalan and Amazigh (Ferrerós, 2015; Múrcia & Zenia, 2015). These differences, which can result in cases of transfer and influence from L2 to L1, allowed us to create the categories under which we have divided this section. Regarding the study on the use of non-literal meanings, we will describe the words that present vagueness or polysemy and whose uses are related to anatomical references. Next, we will describe the cases that present differences with respect to the use of non-literal meanings for a polysemic word in both languages (*cor, ul,* 'heart'). Finally, we will describe data related to differences in knowledge and the use of words for body parts.

Each section will be headed by a list of the words employed on each part. These words are primarily obtained from lexicographical sources. It is important to note that the selection and classification is sourced from

[2] The words analyzed in this task were the following: *aɛddis* 'belly,' *taɣrudt* 'shoulders,' *afus* 'hand/arm,' *idmarn* 'chest,' *iɣzdisa* 'side,' *iri* 'neck,' *aɣil* 'arm/shoulder,' *aḍar* 'leg/foot,' *taɛddist tamẓẓiant* 'lower abdomen,' *aɛrur* 'back,' *taḥbut ijiman* 'nape hollow,' *amggiz* 'cheek,' *anzarn* 'nose,' *aɣnbub* 'face,' *udm* 'face,' *tawarna* 'forehead,' *tamart* 'beard/chin,' *takmmart* 'lower side of the face.'

the semantic information obtained through the interviews: the hereby analyzed cases are the ones showing differences from Catalan (so they might generate transfers). These differences will be subsequently described in the following sections.

Differences in Categorization and Labelling

Terms in Amazigh without an equivalent in Catalan. Amazigh has names for certain body parts which are not named in Catalan. The words presented here refer to perceptively not very relevant body parts: they never appear in the list task, which is the first participants are asked to complete.

Table 1

Terms in Amazigh without an equivalent in Catalan

addiɣ n taddaxt	'jugular notch'
akmmar	'lower part of the face'
arbub n tiɣmas	'tooth growing close to another tooth'

In Amazigh, the jugular notch is labelled with the nominal expression *addiɣ n taddaxt* (literally, 'shoulder hole'). Use of this term is highly specialized: it is employed when talking about a woman's beauty. Most of the younger speakers, under 25 years of age, do not recognize the term. Only one of the younger speakers recognized the term, stating that his mother uses it but not him.

The word *akmmar* is only used by the two oldest speakers who are the participants that have spent a longer period in Morocco than in Catalonia. Both the body coloring task and the semistructured interview show that this word refers to the lower part of the face (from the nose to the chin) and the speakers explain that it is usually used to refer to the appearance of this part of the face when a certain facial expression is made. The oldest participant said that *akmmar* "means, for example, that somebody was unhappy, someone came and they made a bad *takmmart*."[3]

The final term, *arbub n tiɣmas*, refers to a tooth growing too closely to another one, causing dental health problems. The first component, *arbub*, is related to the verb *arbu* 'to carry a load' (Serhoual, 2002: *rb*). Only four participants use this expression, although they do not associate *arbub* with the verb *arbu*. Three of these four speakers were over 40 years of age when the interview was conducted, and the two oldest ones had lived in Morocco

[3] This participant inflects the word in feminine (*t...t*). In Amazigh, gender inflection can convey certain semantic contents. In this case, it conveys the idea of the diminutive.

longer than in Catalonia. None had completed education beyond grade school. The fourth participant who already knew and used the expression was 35 years old when the interview was conducted, was educated in Catalonia, and has completed higher education. He points out, however, that the expression is something he has heard at home and that his mother uses it more than he does. None of the other participants use this expression, let alone recognize it.

The fact that these expressions do not have an equivalent in Catalan does not necessarily mean that they are not categorized by Catalan speakers. *Arbub n tiɣmas* and *addiɣ n taddaxt* label references possibly categorized by Catalan speakers (Ferrerós, 2015). However, *akmmar* refers to a segment clearly not categorized by Catalan speakers (Ferrerós, 2015, p. 399).

Terms in Catalan without an Equivalent in Amazigh. The referents selected here have the peculiarity of not being labelled in Amazigh: hence the informants do not mention them before the semistructured interview, and evidently do not appear in any of the previous psycholinguistic tasks.

Table 2

Terms in Catalan without an equivalent in Amazigh

parpella (Cat.)	aɛddis n tiḍt (?) (Am.) lit. ‘belly of the eye’	‘eyelid’
paladar (Cat.)	aɛrur uqmmum (?) (Am.) lit. ‘back of the mouth’	‘palate’

The words *parpella* ‘eyelid’ and *paladar* ‘palate’ in Catalan have no equivalent in Amazigh. This does not mean, like in some of the cases set out in the section Terms in Amazigh without an equivalent in Catalan, that they are not categorized in Amazigh. In a situation of metalinguistic reflection, the speakers immediately understand which body parts are being referred to. Sarrionandía and Ibáñez (2007 [1949]), in their Spanish-Amazigh dictionary, suggest the nominal expressions that appear in the table as translations of Spanish words *párpado* ‘eyelid’ and *paladar* ‘palate,’ probably to match the categorical segments of Spanish with those in Amazigh. The speakers interviewed analyze and understand these expressions, but explain that they do not use them or see them as fixed expressions in their L1. Some of the younger participants say they sometimes use the word in Catalan or Spanish when they speak Amazigh. In other cases, they label ‘eyelid’ with the word *abliwn* ‘eyelashes.’ Regarding *aɛrur uqmmum*, one of the younger speakers affirmed that he believes that it is an expression used by the elderly, although no elderly participants in the sample recognized it.

Issues of Polysemy or Vagueness with Anatomical References

Vague or polysemic Amazigh words. The following shows cases in which there are more words in Catalan than Amazigh to refer to a given part of the body:

Table 3

Vague or polysemic Amazigh words

Amazigh	Meaning	Catalan	Meaning
tagarjumt	'tube that goes through the throat'	esòfag	'oesophagus'
		faringe	'pharynx'
		laringe	'larynx'
afus	'hand' 'arm'	mà	'hand'
		braç	'arm'
aḍar	'leg' 'foot'	peu	'foot'
		cama	'leg'

The word *tagarjumt* 'tube that goes through the neck' is known to all Amazigh speakers interviewed to also refer to 'throat' and 'pharynx, larynx, and oesophagus.' They do not mention specific words for each of these references and, when they have to distinguish them, they refer to what is used to breathe and what is used to eat. In Catalan, despite the fact that there are three terms to refer to it, speakers often confuse their use because they are recently introduced and rather specific terms. The usual term in Catalan to refer to these internal body parts is *coll*, which is also used to refer to the corresponding external part of the neck.

Unlike the referents until this point, the words *afus* 'hand/arm' and *aḍar* 'leg/foot' do appear in the psycholinguistic tasks previous to the semistructured interview. In the list task *afus* appears in all 14 cases, whereas *aḍar* appears in 12 of them. Thus, these are body parts considered relevant to the interviewed informants. Furthermore, these are body parts included in the body coloring task. In the case of *afus*, in six cases the informants paint only the hand: all the participants of the group that lived longer in Catalonia than in Morocco and one respondent of the last group. The other participants color the whole upper limb, including the hand. Regard *aḍar*, all respondents color the leg segment between knee and foot, except two participants of the first group, who only color the foot.

The word *afus* in Amazigh refers to 'hand' and 'arm.' As previously explained, this is the segment colored by most participants in the two last groups in the body coloring task. But Amazigh speakers of the first group, who spent longer in Catalonia than in Morocco, in a situation of metalinguistic reflection,

tend to categorize and label these body parts in the same way as in Catalan, as seen in the results of the coloring task. In the interview, when asked, they say that 'arm' is called *aɣil* (a word that never appears in the list task) and 'hand' *afus*. However, in more spontaneous situations, they never mention *aɣil*, they always talk about *afus* to refer to both 'arm' and 'hand.' The informants that spent longer in Morocco than in Catalonia, on the other hand, only mention the word *afus* for these two body parts ('hand' and 'arm'), just like the participants living in Morocco. The latter group explains that *aɣil* has a meaning close to 'shoulder.'

The situation is not similar for the lower limbs: Amazigh speakers only mention the word *aḍar* to refer to the words for leg and foot in Catalan. It is also noted that in the body coloring task it is more often considered the name of a referent including the foot too.

Vague or polysemic Catalan words. The following shows examples contrary those above:

Table 4

Vague or polysemic Catalan words

Amazigh	Meaning	Catalan	Meaning
izaggwn	'armpit and pubic hair'	pèl	'body hair'
izuṭṭn / acaɛr	'body hair, except armpit and pubic hair'		
ijiman taḥbut n ijiman	'sides of the neck' 'nape cavity'	clatell / nuca	'nape'
stumagu	'stomach'	estómac	'stomach'
taramant	'internal stomach'		

In Amazigh, different words are used to label 'body hair' and 'armpit and pubic hair.' Although armpit and pubic hair are not categorized together in Catalan, they are considered different from leg or arm hair by Catalan speakers. Therefore, the categorical segmentation is not as different as the lexicon suggests (Ferrerós, 2015, p. 399). The words *clatell* and *nuca* in Catalan refer to a segment that, for the amazighs of the latter group, older people, are two different categories called *ijiman* 'sides of the neck' and *taḥbut n ijiman* 'nape cavity.' In Catalan, the word *stomach* does not make any distinction between the internal and external part of this organ, but refers to the whole organ in itself. In Riffian Amazigh, there is a word referring to the outside, *stumagu*, which is a loan word from Spanish, as well as a specific word referring to the internal part, *taramant*.

The Amazigh words here presented never appear in the list task: they are perceptively not very relevant body parts. Only the ones referring to the nape

(*ijiman* and *taḥbut n ijiman*) appear in the coloring task: the informants of the first group, except two of them, do not recognize these words and do not paint their referents.

The three cases we have presented are similar: the participants' responses suggest that the distinctions shown in the Amazigh words are maintained by the speakers of the last group: the ones that spent longer in Morocco than in Catalonia. Regarding the other participants, we have observed the following: first, they extend the use of the word *izuṭṭn* or *acaɛr* to refer to all body hair. Second, apart from two participants, and as aforementioned in the previous paragraph, they do not recognize the word *taḥbut n ijiman*. In the last case, we have observed that the word *taramant* is only recognized by the two oldest participants, belonging to the last group. Moreover, the speakers who still reside in Morocco do not recognize this word either.

We have also found cases in which there are words in the two languages that are used to label more than one reference, but whose meanings do not coincide:

Table 5

Amazigh and Catalan vague or polysemic words

Amazigh	Meaning	Catalan	Meaning
arrimt	'skin' 'body'	cos	'body' 'trunk'

In Amazigh, the first partonomic level is called *arrimt* 'body,' but the meaning first mentioned by the participants of the last group, who are older people, is 'skin of the entire human body.' Three of the Amazigh speakers who have had greater contact with Catalan and two participants who have spent the same time in Catalonia as Morocco at the time of being interviewed spontaneously state that *arrimt* can refer to both 'skin' and 'body,' but then they correct themselves and give different labels to each category. They often use *arrimt* for 'skin of the entire body' and borrow from Arabic to designate 'body': *ljsdt* or *ddat*. In Catalan, the prototypical meaning of *cos* is 'body,' and an associated meaning is 'trunk.' None of the Amazigh participants use *arrimt* to refer to 'trunk,' as in Catalan with the word *cos*.

Differences in the Use of Non-literal Meanings of Polysemic Words for Body Parts: The Example of 'Heart'

Both in Catalan and in Amazigh, the word for 'heart' has many associated meanings. The theory of conceptual metaphor and metonymy (Lakoff & Johnson, 1999; 2008) focuses on the study of non-literal expressions in language, that is, the study of the non-prototypical meanings of words. Metaphor is a cognitive process that correlates two different domains. Conceptual meta-

phors are expressed in language with metaphorical expressions in which the vocabulary of a source domain is used, but the meaning is found in a different domain, the meta domain. Metonymy is a similar cognitive process but it correlates elements within the same conceptual domain. According to Barcelona (2002, pp. 14–15), metonymy responds to a general pattern, which refers to relationships such as WHOLE FOR PART, PART FOR WHOLE, etc.

Regarding the word for 'heart' in both languages, most non-literal meanings coincide and we will not list them here (HEART FOR THE ADJACENT AREA, HEART FOR SINCERITY, HEART FOR EMOTIONS AND FEELINGS, etc.). We have only listed one that coincides (HEART IS SOMETHING LOVED) because it presents certain differences between the two languages. All information obtained for this section is sourced from the semi-structured interview: it did not appear in the psycholinguistic tasks, which were exclusively focused on obtaining results about literal meanings.

Table 6

Metaphoric and metonymic linguistic expressions with ul and cor 'heart'

Catalan	Amazigh	Semantic relationship
Bravery *Fer el cor fort* 'make the heart strong (lit.), give it all your heart'		Metonymy: PART FOR FUNCTION[a]
Memory *Aprendre de cor* 'learn of heart (lit), learn by heart'		Metonymy: PART FOR FUNCTION
Object that looks like it *cor de bou* (mol·lusc) 'ox heart (lit.), bivalve mollusc'		Metaphor: HEART IS OBJECT
Carta de cors 'heart card'		Metonymy (derived from HEART IS OBJECT)
	Individual Nniγ-as dg wul-inu 'I told my heart (lit.), I said to myself'	Metonymy: PART FOR WHOLE
	Enthusiasm, desire, drive s wul 'with heart (lit.), with enthusiasm'	Metonymy: PART FOR FUNCTION
Something loved *el cor* d'una mare 'the heart of a mother (lit.), a mother's love'	Something loved ul inu 'my heart (lit.), my love, dear'	Metaphor: HEART IS SOMETHING LOVED (derived from PART FOR FUNCTION)

[a] For historical reasons, because emotions and personality traits in the past would have been to the heart in a literal manner, some metaphorical expressions have been classified as metonymic (part for function). It should be noted that the fact that the meanings associated with 'heart' in both languages are related to emotions, feelings, and personality traits is due not only to cultural factors but also to the phenomenon of embodiment: one's heartbeat can vary in terms of the emotion they are experiencing, and this can influence the existence of metaphors and conceptual metonyms.

As seen in Table 6, some examples of metonymy have been found only in Amazigh or only in Catalan. In their language, Amazigh speakers do not use linguistic expressions that specify the metonymy HEART FOR BRAVERY and HEART FOR MEMORY as with Catalan. In fact, they do not know them in Catalan either, except for two participants between 30 and 45 years of age, one of whom has spent more time in Catalonia than Morocco and the other who has spent the same amount of time in both places. However, they do know and use the expressions that determine the metonymy HEART FOR INDIVIDUAL and HEART FOR ENTHUSIASM, both typical in Amazigh.

Regarding the metaphor in Catalan HEART IS OBJECT (which is similar in form), which does not exist in Amazigh, it is worth noting that the younger Amazigh speakers who have been educated in Catalonia use this expression in their L1, in some cases using the words *cor* or *corazón* and inserting them into Amazigh speech instead of using *ul*. Conversely, older Amazigh speakers who have spent more time in Morocco do not recognize it and do not recognize the conventionalized image the heart represents. This image would not be called *ul* by younger Amazigh speakers, but rather *cor* or *corazón* ('heart,' in Catalan and Spanish) even when speaking Amazigh.

There is a shared meaning that presents certain differences: the metaphor HEART IS SOMETHING LOVED. In Amazigh, the word *ul* 'heart' is used by people who love each other, but if that feeling is very intense, especially from parents towards their children, the word for 'liver' is used: *tasa*. In Catalan, on the other hand, *fetge*, the word for liver, does not have this meaning, although expressions exist that are related to emotions and personality traits using the word liver. Thus, the words for 'heart' refer to 'feelings' in both languages, but the distribution of feelings between heart and the liver is different. The Amazigh speakers who have spent the most time living in Catalonia and who have been educated there use the word *ul* 'heart' with the same meanings as the equivalent word in Catalan regarding feelings and emotions. They state that they would use *ul-inu* 'my heart' for their children rather than *tasa-inu* 'my liver,' which is the expression that would be used by the other speakers in the sample.

Cases with Differences Related to the Use and Knowledge of Words

The younger Amazigh speakers who have been educated in Catalonia and who have spent more time there have difficulty understanding certain words. In general, these speakers easily recall the words for 'eyes,' 'mouth,' 'head,' 'face,' 'belly,' 'back,' 'hand/arm,' 'leg/foot,' 'heart,' and 'liver,' but have a hard time remembering words that refer, for example, to 'elbow,' 'knee,' 'spleen,' and so on. Actually, the words labelling these references never appear on the list

task. However, such words are recognized when they are spoken, except by the two youngest Amazigh speakers. The same applies for synonyms of the most common words that designate the body parts that we have mentioned. Thus, for example, although the participants regularly use *aymbub* for 'face,' they did not remember, and in some cases they did not recognize, the synonym *udm*. The speakers of the last group have more difficulty recalling these synonyms and using them, but they understand them when they are mentioned.

Discussion

The Various Effects of the Influence of L2 on L1

Pavlenko (2000) points out that research on the influence and transfer between L1 and L2 has focused on this sense of interference and the description of these phenomena, taking into account the different components of grammar, lexicon, semantics, pragmatics, and rhetoric. The author proposes a unitary framework for the study of transfers that can be applied to the study of any type of transfer or influence between two languages, and distinguishes some phenomena that must be taken into account (see the end of section The Transfer of L2 to L1 with Bilingual or Multilingual Speakers).[4]

The first one refers to the use of borrowing, that is to say, the addition of elements from L2 to L1. In our study we found two types of loan words: some old ones, borrowed from Romance languages that entered the language in colonial times. We will not take them into account here, as they are also part of the language spoken in the territory of origin. We will take into account borrowing in terms of loan words that have been produced through contact with Catalan in the context of migration. We have seen situations in which the L2 labels more references than the L1, such as 'eyelid' or 'palate,', which are not named in Amazigh. The youngest speakers and those who have been educated in Catalonia, in these cases, often use the Catalan or Spanish word (*parpella*, *párpado*) when speaking in Amazigh to refer to this part of the body.

Although these two body parts are not labelled in Amazigh, it seems that they are categorized. This leads participants, on the one hand, to use loan words

[4] Here it must be remembered that all the participants in the sample are plurilingual (they can speak in Arabic, French, or Spanish, too). It must be noted that in Morocco it is difficult to find monolingual Amazighs and in Catalonia there are no monolingual Catalans. Being both languages subordinated to a dominant language, it was not possible to find participants speaking Amazigh and Catalan exclusively. Deeper studies should be focused on distinguishing, as thoroughly as possible, the influences of the different spoken by each participant.

to refer to them (especially when they have had more contact with the L2) and, on the other hand, to recognize the expressions given by certain bilingual dictionaries that older Amazigh speakers have never used, like the syntagmatic compound that literally means 'belly of the eye.' The participant's recognition of compounds owes to the fact the body part is categorized in Amazigh, but also because it is named in Catalan. The speakers interviewed who have not left Morocco and who do not speak languages other than Amazigh and Moroccan Arabic in their daily lives do not interpret this expression so readily.[5] This involves a case of crosslinguistic influence, but categorization is similar in both languages.

Furthermore, we have observed that, when referring to the metaphorical meaning of heart is object in Amazigh, borrowing from Catalan or Spanish is sometimes used to refer to it. *Cor* or *corazón* is used to label the typical drawing of a heart shape. The participants state that they would never use *ul* to refer to it, as there are no linguistic expressions in Amazigh derived from the metaphor heart is object. Therefore, in this case, apart from the crosslinguistic influence that we have described, there would be a transfer related to the processes of categorization and conceptualization shown by the languages involved.

The second phenomenon mentioned by Pavlenko (2000) is restructuring, that is, the incorporation of elements from L2 to L1 that result in changes, substitutions, or partial displacements. These partial displacements may result in a change of categorical prototypes or a change of boundaries between categories. If we take an example from the results we have shown, we see that there is a word for 'hand' and a word for 'arm' in Catalan yet, in Amazigh, the word *afus* is polysemic and refers to both categories. Although in a spontaneous situation all the speakers use *afus* to refer to the upper limb, when doing a metalinguistic reflection or in psycholinguistic tests such as the body coloring task, the speakers of the first group correct themselves and state that *afus* labels 'hand' and that the word *aɣil* (which in some varieties of Riffian Amazigh means 'forearm' or 'arm' and even 'shoulder' in rarely used cases) refers to 'arm.' The fact that it has been demonstrated that, in languages in which the same word is used for 'hand' and for 'arm,' the word is polysemic (see, for example, Brown, 2013; Wierzbicka, 2007) leads us to the assertion that it does not involve a case of categorical transfer but rather of crosslinguistic influence.

Let us now look at the apparent similarity between the word *afus* 'hand, arm' and the word *aḍar* 'foot, leg.' Using analogous examples in Polish, Wierzbicka (2007, p. 30) shows that the word referring to 'hand' and 'arm' is polysemic, whereas the word referring to lower limbs is not. Furthermore, we can see that, with respect to the lower limbs, no speaker specifically uses the word

[5] In Moroccan Arabic, the word *šfaṛ* means 'eyelash' and 'eyelid.' On the other hand, Moscoso (2005) lists the syntagmatic compound *la-ġṭa d el-ʕaynīn*, lit. 'the lid of the eye,' as a translation for 'eyelid.'

aḍar for ‘foot’ and looks for another one for ‘leg’ like they did with the upper limbs. This suggests that linguistic transfer studies of bilingual speakers give clues to the discussion on polysemy and vagueness (see, for example, Enfield, Majid, & Van Staden, 2006; Koptjevskaja-Tamm, Rakhilina, & Vanhove, 2016; Wierzbicka, 2007): there is more linguistic transfer when the word is polysemic and less when it is vague, because that would imply a recategorization.

The word for ‘body’ involves another case of restructuring. In Catalan, the word *cos* refers to ‘body’ and ‘trunk,’ while in Amazigh, *arrimt* means ‘skin of the entire body’ and ‘body.’ Amazigh speakers who have spent the most time in Catalonia, despite knowing the word *arrimt* has these two meanings, state that they use it for ‘skin’ and they use a borrowing from Arabic (*ljsdt* or *ddat*) for ‘body.’ The fact that they use an Arabic loan word shows that interference does not likely come from Catalan. In any case, the restructuring of the semantic paradigm is a conceptual transfer. It is worth noting that the case of ‘body’ relates to important issues in semantic and lexicon studies of anatomy: there is a discussion among researchers about whether this partonomic level 0 can be designated with a loan word or not (see Enfield, Majid & Van Staden, 2006; Wierzbicka, 2007). We see that, at least as regards cases with bilingual speakers, and due to linguistic restructuring, it is named with a loan word from Arabic, the dominant language.

Pavlenko (2000) also mentions the phenomenon of convergence, through which the structures of the two languages converge into an intermediate structure, different from each individual language. We have found a case of convergence with two concepts in one, different from the two concepts of each linguistic community involved. We have seen that Amazigh speakers who specifically use the word *afus* for ‘hand’ use the word *aɣil* for ‘arm.’ However, they affirm that this word, used in this way, has nuanced semantics focusing on the upper part of the upper limb. That is to say, *aɣil*, as they use the word when saying *afus* specifically for ‘hand,’ coincides neither with the actual Amazigh meaning (‘shoulder’) nor with the meaning of the Catalan word for *arm*. This phenomenon of convergence shows that there has been a restructuring of the conceptual system of the L1.

The results of our study also show cases of displacement, another of the phenomena mentioned by Pavlenko (2000), that is, changes in certain L1 structures that approximate L2 structures. In our case, we have observed semantic displacements for which the lexical pieces of the L1 get meaning added to them with partially equivalent polysemic words from the L2. The words for ‘heart’ in both languages are highly polysemic. We have observed two remarkable phenomena, both from the speakers of the first group who have been educated in Catalonia: on the one hand, the metaphor heart is object is displaced to Amazigh and, as we have seen, in these cases the Catalan or Spanish word is inserted into Amazigh speech. On the other hand, we have also seen that one

of the meanings of the word *heart* in Catalan is 'something loved.' In Amazigh, *ul* also has this meaning, except when children are the 'something loved,' in which case *tasa* 'liver' is used. Some of the younger speakers, however, also attribute it to 'heart' in their language as occurs in Catalan. These cases of displacement show that there have been influences of the categorization system from L2 to L1, in this case related to the non-literal meanings of a word.

The last phenomenon mentioned by Pavlenko (2000) refers to the erosion of the L1, that is to say, the loss or inability to produce some elements of the L1 due to the influence of the L2. When there are terms in Amazigh that do not have an equivalent in Catalan, we have observed that they are often only used by older Amazigh speakers, the participants of the last group. Some younger speakers recognize such terms, but state that this is because they have heard elderly people use them. The participants who have lived in Catalonia longest (Ferrerós, 2015), do seem to categorize, for example, 'tooth growing too close to another tooth' even though they do not have a word to label it. There would be no recategorization in this case. However, there would be cases in which they do not categorize an entity labelled in Amazigh, such as *akmmar* 'lower part of the face.'

These younger participants are aware that they do not speak the same language as their older relatives. That is why, for example, when asked about expressions that are not typical of the L1 but which some dictionaries list, such as what literally means 'back of the mouth' ('palate'), some claim to believe that these expressions are used by the elderly, although they have never been heard at home because they are not native to Amazigh.

In the same way, the two youngest speakers, who belong to the first group, say they have never heard the word *arrimt* 'body' even though it is a word that belongs to their language. They have also lost some distinctions that Amazigh words convey which do not have equivalents in Catalan, and there has been a deviation of categorial boundaries. For example, in the case of *izaggwn* 'armpit and pubic hair' and *izuṭṭn* 'body hair except armpit and pubic hair,' they extend the use of *izuṭṭn*, which ends up equivalent to the word *hair* in Catalan, and they have lost the use of the word *izaggwn*. They have also lost the word *taramant* 'inner stomach' and only use *stumagu* 'stomach.' In the latter case, however, it is possible that this is also due to the fact that they live in an urban environment: the three Amazigh speakers living in Morocco, in the city of Lḥusima, do not use the word *taramant* either. Therefore, it is important to take into account that there are several factors that can cause these linguistic changes aside from the attrition of the L1 within the context of migration.

At this point it is worth highlighting that there is a difference related to the participants' age and length of time spent in Catalonia: when the speakers are younger and have spent more time in Catalonia than Morocco, and speak a different sort of Amazigh than what is spoken in their territory of origin, it is

possible that their particular language systems have not suffered attrition or that there has not been a transfer in their particular conceptual systems. However, we have found cases of particular language systems that have clearly been eroded by contact with the L2. Some older Amazigh speakers who have lived approximately the same time in Morocco as Catalonia claim that it is hard for them to remember certain words for labelling less relevant body parts (taking into account the data obtained through the listing task). Nor do they remember less frequently used synonyms of words that refer to more relevant body parts (for example *udm*, which is used less frequently than *aymbub* for 'face'). In fact, an important aspect in lexicon and semantics studies within the context of bilingualism or multilingualism is the aspect regarding the difficulty of lexical recovery. Authors who have researched this issue include De Bot and Stoessel (2000), Latomaa (1998), and Oshtain and Barzilay (1991). These studies show that not only do such late bilinguals speak with more gestures, but they also have difficulty finding words from their L1. When speakers have spent more time in contact with the L2, we observe greater attrition of the L1. Jessner (2003, p. 238) explains, in fact, that linguistic erosion is "a gradual process of information decay that is dependent on time."

One of the questions posed in bilingualism studies is whether such speakers have two systems of conceptual representation (one for each language) or a single underlying system for both languages. Otheguy and Garcia (1993) affirm that late bilinguals have systems of coexisting conceptual representation underlying the use of both languages. Conversely, other studies show evidence of conceptual changes. Based on the results of our research, it appears that the youngest speakers, who spent longer in Catalonia than in Morocco, have two very convergent underlying conceptual systems, which is why we have pointed out that phenomena such as linguistic attrition do not occur in the particular language of these specific speakers. Rather, we can only speak of erosion if we compare their language use with that of other speakers. In contrast, speakers who have been exposed to the L2 at an older age seem to have two underlying conceptual, coexisting, and less convergent representation systems, although with mutual influences. Some available studies on conceptual transfer show that conceptual representations are subject to changes in adulthood (Jarvis, 2011; Pavlenko, 1999, 2000; Pavlenko & Jarvis, 2000).

Extralinguistic Factors That Affect the Influence of the L2 on the L1

One extralinguistic factor that affects the influence of the L2 on the L1 is the prestige that speakers attribute to one of the two languages (Pavlenko, 2000; Weinreich, 1953). Weinreich (1953), for example, shows that more loan words from the L2 are used if they seem to have greater prestige, to make

the speaker's familiarity with the language deemed more prestigious evident. In this paper, we have shown that prestige not only results in borrowing, but also other cases of linguistic transfer, including conceptual transfer. Within the context of migration, the language of the receiving country is considered more prestigious. In this case, both languages are minoritized languages, but Catalan has a much greater public presence than Amazigh. Thus, when Catalan labels more parts of a given reference, or when it presents more categories, the speakers of the first group, at least in a situation of metalinguistic reflection, make the L1 categorization and labelling coincide with those of the L2. This, however, is also related to the fact that, being accustomed to speaking Catalan or Spanish, they feel the need to designate a reference in their native language for which the latter has no label or category.

Another important aspect to take into account is the age of the participants and the level and type of contact which late bilinguals may have with L2 speakers. Through the analysis of the results, we have shown that almost all the crosslinguistic transfers and influences observed and most cases of transfers related to categorization and conceptualization occur with the speakers of the first group: younger speakers who have been educated in Catalonia.

One more extralinguistic factor we think should be taken into account is related to the choice of methodology used (Ferrerós, 2016). Throughout the presentation of the results from this study, we have already observed how participants might give different answers depending on whether they are in a situation of spontaneous conversation or metalinguistic reflection. But there are other phenomena that must be taken into account, such as the semantic domains analyzed in any given research. Many studies have described crosslinguistic transfers taking into account semantic fields related to culture and environmental factors, which is why numerous cases of linguistic transfer, including conceptual, have been noted. In contrast, this paper is based on data from a basic semantic domain: that of body parts. There are certain words and meanings related to a reference that are the same for everyone in every location, but which are categorized and named in different ways.

Conclusions

With the analysis of the results from this study, we have determined the cases in which there have been crosslinguistic influences and influences between different ways of categorizing and conceptualizing reality. Thus, when loan words from the L2 are used, we have determined that there is recategorization if a borrowing serves to label a body part not categorized in L1, which

can also be used to label a categorized yet unnamed body part thus becoming adopted more easily. The cases of displacement and restructuring also show diverse results: in the case of the polysemic words in the L1 that are equivalent to two different words in the L2, if there has been crosslinguistic influence that has caused the polysemic word from the L1 to become specified for just one of its meanings, there is no recategorization. However, if the L1 word was vague and the L2 influence led to specifying when using a meaning from the equivalent L2 word, there is recategorization. We have not found any cases of this second type. Thus, we have shown how bilingual studies can provide new data to the debate on the distinction between phenomena of polysemy and semantic vagueness. We have also found data that respond to the phenomenon of convergence, that is, we have detected categories or concepts that are different from those shown by the two languages involved and, therefore, the existence of this phenomenon shows a conceptual restructuring. Finally, with regard to attrition, we have observed that the speech of the oldest speakers and those who have had greater, more intense contact with the L1 in their youth has undergone erosion. With these participants, we have indeed seen cases of recategorization.

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Carla Ferrerós Pagès

Konzeptueller und sprachlicher Transfer von L2 (Katalanisch) zu L1 (Amazigh) im Kontext der Migration

Zusammenfassung

Der vorliegende Beitrag konzentriert sich auf die Analyse der lexikalischen und semantischen Einflüsse von L2 (Katalanisch) auf L1 (Amazigh) in einem elementaren semantischen Feld: Körperteile. Ausgehend von der Beobachtung, dass die Probanden Unterschiede in L1-Gebrauch aufweisen, die mit der Dauer ihres Kontakts mit dem Katalanischen zusammenhängen, wird analysiert und erörtert, ob die genannten Unterschiede die Folge eines Transfers aus dem konzeptuellen System von L2 sind. Es ist eine qualitative Studie mit einer Stichprobe von 14 Probanden, deren L1 Amazigh ist und die in Katalonien leben. Die Ergebnisse zeigen, dass es Fälle von semantischem und konzeptuellem Einfluss gibt, wenn auch in geringerem Maße als in anderen Studien, die keine Daten aus elementaren semantischen Feldern analysieren. Darüber hinaus wird darauf hingewiesen, dass es außersprachliche Faktoren gibt, die diese Transfers beeinflussen (Status der betreffenden Sprachen und bestimmte Eigenschaften der Sprecher).

Schlüsselwörter: semantische Kategorisierung, Sprachtransfer, konzeptueller Transfer, Katalanisch, Amazigh, Zweisprachigkeit, Mehrsprachigkei

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Effects of Using Corpus-Based Instructional Mediation on EFL Students' Academic Writing Skills Improvement

Abstract

This study aimed at examining the effects of corpus-based instructional mediation on EFL learners' academic writing skills improvement. To conduct the research, a quasi-experimental research design was employed. A total of 72 EFL mechanical engineering students participated in the study, and they were selected through a simple random sampling technique. Among them, 25 students were assigned to the experimental group and 47 students to the control group. The data were gathered by means of pre- and post-tests. Multivariate Analysis of Variance (MANOVA) was used to observe the statistical differences between the control and the experimental groups in their academic writing skills. The results showed that the students who were instructed through corpus-based instructional mediation outperformed than the students who were instructed in the conventional instructional approach. Particularly, the students who participated in the experimental group improved their content, communicative achievement, organization, grammar, and vocabulary usage than the students who participated in the control group. Therefore, this research calls for inclusion of corpus-based authentic linguistic elements in their teaching material when teaching academic writing courses in the EFL context.

Keywords: academic writing, corpus linguistics, mediation, usage-based

Introduction

Information technology has played a significant role in language teaching, learning, and student engagement (Pareja-Lora, Rodriguez-Arancon, & Calle-Martinez, 2016). Technology facilitates students' autonomous and collaborative language learning. Learners acquire authentic linguistic elements via computer technology: they can read different materials on the computer, get a huge amount of data, revise grammatical and spelling mistakes, compute and compare the frequency of words and translate written texts (Birhan, 2019; Hyland, 2003; Lee, Warschauer, & Lee, 2017). Hence technology facilitates all phases of academic writing process: planning, drafting, and revising. These factors help learners solve lexical or grammatical problems and generate ideas for writing (Luo, 2016).

The introduction of corpus linguistics, which is the collection of written or spoken texts usually stored in a computer database, is also considered the other contribution of technology (Fuster & Clavel, 2010). Students, language teachers, and researchers use authentic language data (Braun, 2005) through user-friendly software such as Antconc, Wmatrix, WordSmith tools, and online corpora searching engines like Corpus.BYU.EDU, CQP WEB, etc. Vyatkina and Boulton (2017) confirmed that the corpus started its influence in language teaching and learning as soon as it emerged in the modern form in the 1960s. The corpus data have been used in language classrooms to facilitate the students' second and foreign language acquisition. Since then, the corpus has brought fundamental changes in the second language approach, materials development, curriculum design, and teaching methodology (Cotos, 2014).

Therefore, the use of corpus linguistics as a mediation tool has been realized and discussed by various researchers (e.g., Belz & Vyatkina, 2008; Meunier, 2011; Perez-Paredes, 2010; Yoon, 2008). The researchers confirmed that corpus linguistics is a viable meditation tool to enhance the students' vocabulary (Szudarski, 2018); writing (Donesch-Jezo, 2010), grammar (Conrad, 2000), and speaking skills (Carter & McCarthy, 1995; Hilliard, 2014). Language teachers integrate the language teaching with authentic, reliable, and pedagogically relevant contents to satisfy the language learning needs and to fill their learners' language gap.

According to Vygotsky's socio-cultural learning theory, the students' learning can be mediated by their peers, by teachers, and by instructional material or technology (Nieto, 2007). Likewise, corpus informed instruction mediates the students' language learning in two ways: directly and indirectly (Braun, 2005; O'Keeffe, McCarthy & Carter, 2007).

In a direct approach, teachers/researchers can design learners' corpora or use the existing corpora directly while the students construct academic text

through an online concordancing program. The direct approach assists learners in identifying the pragmatic function and meaning of words in context (Thurstun & Candlin, 1998). Vyatkina (2013) suggests that the teacher should support the learners before they start to use the corpus data because it might be difficult to utilize. Brown (2007, p. 308) also mentioned that "many of the widely accessible corpora were created as tools for linguistic research and not with pedagogical goals in mind." Therefore, if the teacher uses the existing corpus data, he/she should guide and direct the students learning.

A second approach is an indirect approach, in which, according to Vyatkina (2013), the teacher prepares corpus-based teaching materials, activities, worksheets for instruction purposes. This approach is one of the favored approaches especially when there are constraints such as the level and experience of learners, time constraints, curricular requirements, knowledge, and skills required for corpus analysis and pedagogical mediation (McEnery & Xiao, 2011). This approach offers different language samples that increase students' language exposure (Flowerdew, 2009; Szudarski, 2018).

Recently, there are various well-designed corpus-based dictionaries, teaching materials (e.g., *Touchstone* by McCarthy, McCarten & Sandiford, 2014), activities, and worksheets that mediate the learners' language skills including writing. Hence, these activities mediate students' language learning in general and academic writing in particular by offering authentic linguistic contents that are frequently used in students' communicative situations. These corpus informed materials indicate the pragmatic function of lexes and guide students while they compose different academic texts. Corpus-based instruction mediates learners to become more aware of text production in a context of use.

Academic Writing and Corpus-based Instructional Mediation

Academic writing is a demanded skill for higher education students. The students' achievement depends on the quality of project reports, proposals, and assignments they produce. Hence, to produce effective academic writing in fruitful way, the students need to have adequate knowledge of linguistic used by certain academic communities (Coxhead & Demecheleer, 2018; Ward, 2009).

In academic literacy, researchers (e.g., Chen, 2017; Hardy & Romer, 2013) stated that there are rhetorical and linguistic element differences among disciplines as well as academic writing genres. Thus, in order to communicate effectively, writers need to know the rhetorical and linguistic structures commonly used in their communicative context. In academic writing, literacy is viewed as beyond copying words and sentences structures; it investigates understanding disciplinary conventions and enables learners to develop a critical view of the

context of the conventions used (Wingate, 2012). The writers show their positions, arguments, and stances. While learners have real language skills, they can have effective academic writing communication in their discipline (Maher & Milligan, 2019). The students need to know the academic writing conventions that are used in their disciplines.

Academic writing encompasses various skills. According to Jordan (1997), academic writing involves skills such as organizing ideas appropriately, using cohesive devices, describing, defining, comparing, logical thinking, constructing arguments, finding and analyzing evidence, using data appropriately, etc. Accordingly, to make use of these academic writing skills, the writers' genuine lexical knowledge is crucial.

The students' lexical knowledge is fundamental to language production (Allan, 2016). Particularly, knowledge of lexical bundles and metadiscourses are considered crucial for academic writing improvement and a significant indicator for academic writing ability. Metadiscourse and lexical bundles facilitate communication (Schmitt & Carter, 2004), social interaction (Jalali & Moini, 2014), communicative competence (Hyland, 2012), and second language academic literacy acquisition (Shin, Cortes, & Yoo, 2018). Thus, corpus analysis helps to indicate the genuine metadiscourse and lexical bundles that are frequently used in students' academic and social-communicative context.

Currently, various researchers use corpus linguistics mediation to address the students' language skills gap; the corpus creates an opportunity to overcome the students' academic writing skills challenge. For instance, Reynolds (2015) mediated the EFL students' academic writing gap through the corpus tool and reported that the corpus tool "String Net Navigator" assists students in correcting their academic writing errors. Yoon (2008) also reported corpus mediation to enhance the learners' academic writing confidence. O'Sullivan (2010) also confirmed that corpus consultation enhances students' citations in academic writing. Corpus is vital to present a more genuine and achievable targeted linguistic elements for students' academic writing (Nesi, 2014). It also offers a real-life language use that enables learners to apply authentic language in their communicative situation (Klimova, 2014).

In this way, through corpus analysis, researchers and teachers analyze genuine linguistic elements that satisfy the students' academic writing needs. According to usage-based learning theory, the linguistic structure and meaning are shaped by a specific communicative context (Tyler, 2010).

However, researchers observed that EFL/ESL students encounter challenges due to a lack of authentic lexical knowledge that is crucial to develop effective academic text production. Paquot (2010) observed that 50% of the students encountered difficulties in using appropriate academic style, expressing ideas in correct English, and linking sentences smoothly. Learners are unable to convey what they want to say properly (Luo, 2016). The students face an enormous

challenge in using academic writing skills in different contexts (Chang & Kuo, 2011; O'Sullivan, 2010). These researchers added that students often find it difficult to grasp concepts like argument, thesis statement, and topic sentence and lose their stances which are essential for producing a good academic text and participating actively in the international academic discourse community. These might be because of the lack of formal training in academic writing or the existing practice of teaching writing (Cortes, 2011).

Studies explored that EFL students rarely utilize lexical bundles and metadiscourse linguistic elements that help them compose coherent paragraphs and essays. According to researchers (e.g., Jalali & Moini, 2014; Wright, 2019), non-native writers rarely used lexical bundles in their academic writing. They are not familiar with the repeated sequence of words (Kazemi, Katiraei, & Rasekh, 2014). Grabowski (2015) also reported that little attention is paid to lexis in classroom instruction. According to Qiong (2017), one of the features of communicative language teaching is the indebted to the use of authentic texts. In contrast, the lack of pragmatic authenticity of teaching material has been a major problem in the English language classroom (Zahra & Abbas, 2018) Researchers explicated that lexical grammar or lexical accuracy is a major challenge for EFL/ESL students (see Ferris & Hedgcock, 1998). According to Maher and Milligan (2019), engineering students do not pay due attention to improving the linguistic knowledge which could help them to produce effective academic writing. Similarly, Ward (2009) indicated that engineering students have little lexical knowledge. This might be partly due to the fact that students do not have sufficient exposure to authentic lexes in their secondary school learning. Likewise, Birhan, Belaye, and Alemahyehu (2020) revealed that at Bahir Dar Institute of Technology, mechanical engineering students use course material that does not include adequate lexical bundles and metadiscourse.

Though researchers like Hyland (2000) reported there are disciplinary cultures that indicate how the rhetorical structure is used in certain disciplines, the way students use lexical bundles and metadiscourse differs from that in use by experts (Cortes, 2004; Hyland, 2008; Kawase, 2015). Therefore, this research was aimed at examining the effects of corpus-based instructional mediation on students' academic writing skills.

Recently, numerous researchers (e.g., Chen & Flowerdew, 2018; Jalilifar, Mehrabi, & Mousavinia, 2014; Poole, 2016; Yoon, 2008) studied the impact of corpus instruction on students' language learning. However, these researchers focused on the direct application of corpus linguistics, and their studies are limited in terms of scope and data collection methods.

Besides, various researchers recommended further research to examine the effects of corpus-based instruction in the EFL context. For instance, Mukherjee (2006) asserted that there is a gap between what corpus linguistic offers and what teachers can do (do not do) with corpora in classroom practice. Poole

(2016) and Yoon and Hirvela, (2004) also recommended further research to provide evidence on the application of corpus work in academic writing skills classes. Hence, this research was conducted considering the recommendation of the above studies to examine the effects of corpus-based mediation on improving EFL students' academic writing skills.

This research hypothesized that students having learnt linguistic, discursive, and pragmatic features on technical report writing through corpus-based instructional mediation would improve their academic writing skills better than students taught the same course in a traditional way. This research was intended to answer the following research questions.

Does corpus-based instructional mediation improve the students' academic writing skills significantly better than the conventional instruction does?

If so, in which component(s) of the students' academic writing is a significant improvement observed?

Method

Research Design

The purpose of this research was to examine the effects of corpus-based instructional mediation on improving EFL students' academic writing skills**.** To observe the effect of the instructional mediation, this research followed a quasi-experimental research design. The research adopted a nonequivalent pre- and post-test control group design.

Participants

The participants of the study were 72 mechanical engineering students of Bahir Dar Institute of Technology, at Bahir Dar University (Ethiopia). In the 2019/2020 academic year, in the mechanical engineering department, there were five sections of Year IV. Among these, two sections were randomly selected for this study; one of which was assigned as a control group (47 students), and another (25 students) was assigned in an experimental group. In Ethiopia, the English language is taught to students starting from Grade 1 and it is used as a medium of instruction in secondary and tertiary levels. Engineering students take three different English language courses: Communicative English, Basic Writing, and Technical Report Writing and Research Method.

Being fourth year students, the study participants were taking the course Technical Report Writing and Research Method. The objective of the course is to help engineering and technology students learn the principles of technical writing such as formats, contents grammatical techniques, general procedures of report writing. It is also aimed to improve the essential knowledge of vocabularies and terminologies in science and engineering.

Data Gathering Tools

The data was gathered via an academic writing test. The academic writing test is one of the common instruments which are used by researchers (e.g Rashtchi & Ali Mohammadi, 2017; Crossley, Roscoe, & McNamara, 2014) to assess and observe the students' academic writing improvement as a result of pedagogical intervention. Hence, the students' academic writing tests included gap filling, text revision, data interpretation, and an argumentative text. The tests covered the major research genres such as abstract, introduction, result, and discussion genres.

Thus, except for the gap-filling test, text revision, data interpretation, and the argumentative essay were marked through rubrics/traits by two English language teaching instructors drawing on the Common European Framework of Reference for language-B2 level academic writing assessment scale. The scale contains four components each accompanied by five-point scale descriptors. These components helped to assess the content, meaning, and linguistics (lexical bundles and metadiscourse) of the students' texts. The scale yielded aggregate scores on each component of academic writing skills: content, communicative achievement, organization, and grammar and vocabulary control (Council of Europe, 2001). The validity of the tests was reviewed by two PhD instructors who have been teaching English language courses for more than 20 years. To check the agreement between the two instructors who marked the argumentative essay, Pearson's correlations (Pearson's *r*) was applied to estimate the interrater reliability and the obtained coefficient ($r = .80$) confirmed that it was reliable.

Corpus Design and Intervention

There are various corpus informed teaching materials. Among these, the *Touchstone* series by McCarthy, McCarten, and Sandford (2014) and the *Cambridge Grammar of English* by Carter and McCarthy (2016) are the well-known corpus informed materials. However, they did not address the specific academic writing needs of mechanical engineering students. As Braun (2005, p. 51) contends, "The genuine materials in corpora which have been collected in accordance with pedagogical considerations do seem to create some problems of authentication."

Therefore, in this study, the researchers considered self-designed small corpora for classroom intervention. Corpus informed studies confirmed that small corpora are more appropriate than general corpora for classroom instruction and specific genre language analysis (Szudarski, 2018). Besides, researchers such as Flowerdew (2009) and Tribble (2001) proved that using small corpora is effective for classroom instruction. Nelson (2010) also asserts "small corpora can offer a balanced and representative picture of a specific area of the language" (p. 55). Small corpora are appropriate for classroom instruction to address the student's specific English language needs.

Hence, the authors of this paper have designed small size corpora from articles published in journals with high impact factor and indexed in Thomson Reuters and Scopus. Considering the journals scope, content coverage, publication language and representativeness to the field, the authors have selected the following eight journals: *Advances in Mechanical Engineering*, *Mechanism and Machine Theory*, *Mechanical Systems and Signal Processing*, *International Journal of Mechanical Sciences*, *Archive of Mechanical Engineering*, *Journal of Mechanical Engineering*, *Periodica Polytechnica Mechanical Engineering*, and *Chinese Journal of Mechanical Engineering*. From these journals, 120 (15 articles in each journal) articles were selected. The number of words in each sub-corpus seems to be the following.

Table 1.

A list of articles and number of tokens

No.	Journals	Word tokens	Word types
1	*Advances in Mechanical Engineering*	118,387	5,259
2	*Mechanism and Machine Theory*	46,455	4,706
3	*Mechanical Systems and Signal Processing*	92,218	5,955
4	*International Journal of Mechanical Sciences*	96,649	6,128
5	*Archive of Mechanical Engineering*	53,015	4,523
6	*Journal of Mechanical Engineering*	54,793	5,423
7	*Periodica Polytechnica Mechanical Engineering*	47,683	5,114
8	*Chinese Journal of Mechanical Engineering*	54,412	4,022
Total		563,612	41,130

While the articles were selected, the researchers used information in the journal's website such as most downloaded, read, and cited articles. AntConc corpus analysis software was also employed to clean and analyze the frequency of metadiscourse and lexical bundles in the selected articles. Manual analysis was also employed to specify the specific function of the selected linguistic element. The metadiscourse and lexical bundles were selected based on the taxonomies of Hyland (2005), Biber et al. (1999, 2003, 2004).

In this research, the corpus-based instruction was approached through a hands-on activities approach (Boulton, 2010; Reppen, 2010). The researchers have designed a series of lessons to teach the sorted pedagogically relevant metadiscourse items and lexical bundles in a communicative language teaching approach. The experimental group was taught the functions of lexical elements and metadiscourse items explicitly in contexts. Additionally, the students were engaged in text revision, data interpretation, and argumentative writing activities both individually and in group. The students were also committed to revising sample paragraphs and essays which were written by former students.

In this way, the experimental group practiced metadiscourse and lexical bundles through writing argumentative essays, data interpretation, and gap-filling activities. The instruction incorporated the conceptual and theoretical aspects of research and project writing reports. Researchers moderate the instruction by guiding students how to use the selected lexical bundles and metadiscourse devices contextually, facilitating their group discussions and giving gap lectures throughout the intervention. Feedbacks were also given in the students' activities and assignments.

However, the control group was taught through the conventional approach in which the theoretical aspects of report and research writing and accompanying activities included in the course material were treated. This group did not have the exposure to the activities based on the selected metadiscourse and lexical bundles. Both groups attended the course for a four-month-long semester.

Data Analysis Procedure

In this study, the data collected through the tests were analyzed using One-way Multivariate Analysis of Variance (One-way MANOVA) on the Statistical Package for the Social Sciences (SPSS) for Windows, Version 24.0. As opposed to using a number of separate t-tests that could result in Type II errors and ignore correlations among the components of the dependent variable, the researchers in this study preferred One-way MANOVA to detect both combined and separate differences by making both multivariate and univariate comparisons between the control group and the experimental group in terms of their means on the four components of the dependent variable: content, communicative achievement, organization, and grammar and vocabulary. Before running this test, the researchers conducted exploratory data analysis to check that all the necessary assumptions were met and determine the possibility of applying the inferential statistics, MANOVA. Accordingly, the exploratory data analysis proved that the data did not have any problem of normal distribution, multicollinearity, outliers, and homogeneity variance-covariance matrices.

Results

The results obtained by analyzing the data gathered through writing tests are presented below. Comparison of students' academic writing performance before and after the intervention is presented.

Students' Academic Writing

The first step was to perform the one-way MANOVA to make a quantitative comparison between the control group and experimental one regarding students' academic writing skills and the four components of this dependent variable: content, communicative achievement, organization, and grammar and vocabulary before the intervention. The main objective of running the MANOVA test on the students' pre-intervention writing performance was to make sure that the two randomly selected intact classes were homogeneous (without significant multivariate and univariate differences) in terms of their academic writing skills before they received respective treatments in the experimental group and in the control one.

Thus, Table 2 presents descriptive statistics (the means and the standard deviations for each group of participants on the four sub-scales of academic writing skills) and the multivariate analysis of variance (MANOVA) results.

Table 2.

Pre-intervention comparison of the two groups and Multivariate Analysis result

Variable	Group	N	Mean	S.D.	df	F	Sig.	Wilks' Lambda ∧	Partial η^2
Content	Control	47	2.10	.844	4,67	.551	.699	.968	.032
	Experimental	25	2.06	.506					
Communication Achievement	Control	47	2.46	.475					
	Experimental	25	2.52	.420					
Organization	Control	47	2.46	.508					
	Experimental	25	2.54	.454					
Language and Grammar	Control	47	2.19	.655					
	Experimental	25	2.06	.506					

As shown in Table 2, the study entails the pre-intervention comparison between control and experiment on the four components of students' academic writing skills: content, communicative achievement, organization, and grammar

and vocabulary. The descriptive statistics results indicated that the two sections registered comparable scores on the content of the writings with a mean score of 2.10 in the control group and 2.06 in the experimental one. The standard deviations are .844 and .506, respectively. Concerning their communicative achievement, the control group scored a relatively lower mean (M = 2.46; SD = .475) than that of the experimental one (M = 2.52, SD = .506).

Similarly, the difference in their scores on the organization of their writing was marginally small (i.e., with a mean score of 2.46 in control group and 2.54 in experimental). The standard deviations are .508 and .454 respectively. Moreover, the control group was associated with a numerically higher mean score (M = 2.19; SD = .655) of grammar and vocabulary than the experimental (M = 2.06; SD = .506). This indicated that there were slight mathematical differences between the two groups in their pre-intervention academic writing performance.

Based on these results of the descriptive statistics, multivariate tests were checked to examine if statistically significant multivariate differences could occur between the two groups before they were assigned as experimental and control groups. The results of multivariate tests in the above table revealed a non-significant multivariate difference between the two sections, Wilks's $\lambda = 0.968$, $F_{(4, 67)} = .559$, $p = .699$, $\eta^2 = .032$. These results indicated that there were no significant differences between the control and the experimental groups in their academic writing skills on a linear combination of content, communicative achievement, organization, and grammar and vocabulary.

As a rule, there is no need to run further tests of univariate analyses of variance (ANOVAs) after the MANOVA result shows a nonsignificant multivariate effect. However, following the above omnibus test, univariate tests were applied just to show clearly that the two sections recorded nonsignificant differences across each component of the dependent variable. The results of the univariate tests are presented in the table below.

Table 3.

Pre-intervention univariate tests results

Variable	Group	N	Mean	S.D.	df	F	Sig.	Partial η^2
Content	Control	47	2.10	.844	1,70	.037	.847	.001
	Experimental	25	2.06	.506				
Communication Achievement	Control	47	2.46	.475	1,70	.305	.583	.004
	Experimental	25	2.52	.420				
Organization	Control	47	2.46	.508	1,70	.461	.499	.007
	Experimental	25	2.54	.454				
Language and Grammar	Control	47	2.19	.655	1,70	.762	.386	.011
	Experimental	25	2.06	.506				

As can be seen in Table 3, none of the results of the univariate analysis of variance confirmed significant difference. Hence, the observed slight mathematical differences between the two groups were not found statistically significant for all the four components of academic writing skills (i.e., content (F ($_{1, 95}$) = 0.713, p < 0.400, η^2 = 0.007), communicative achievement, (F (1, 95) = 2.367, p < 0.127, η^2 = 0.024), organization (F ($_{1, 95}$) = 2.367, p < 0.127, η^2 = 0.024), and grammar and vocabulary (F ($_{1, 95}$) = 0.352, p < 0.554, η^2 = 0.004). Thus, the hypothesis that the two groups were homogeneous before the intervention in terms of content, communicative achievement, organization in their writings was retained.

Post-intervention Multivariate Comparisons

Considering the results of the assumptions made so far, the experimental group and the control group were compared in their post-intervention writing test performance by running the same statistical test, One-way MANOVA. The researchers compared first the multivariate effect of corpus-based writing instruction on the two groups students' academic writing skills (the combined effect) and then its univariate effects on the four components of the academic writing skills: content, communicative achievement, organization, and grammar and vocabulary.

Accordingly, the post-intervention comparison between the experimental group (n = 25) and the control group (n = 47) as displayed in Table 4 indicates that the former group registered mathematically better results than the latter in all of the four components of academic writing: content, communicative achievement, organization, and grammar and vocabulary.

Table 4.

Post-intervention comparison of the two groups and Multivariate Analysis result

Variable	Group	N	Mean	SD	df	F	Sig.	Wilks' Lambda Λ	Partial η^2
Content	Control	47	2.21	.519	4, 67	49.8	.000	.251	.749
	Experimental	25	3.02	.567					
Communication Achievement	Control	47	2.47	.488					
	Experimental	25	3.88	.415					
Organization	Control	47	2.57	.389					
	Experimental	25	3.22	.434					
Language and Grammar	Control	47	2.25	.641					
	Experimental	25	3.10	.540					

According to the results, the post-intervention content was associated with a mean score of 3.02 (SD = .567) in the experimental group and 2.21 (SD = .519) in the control group. In terms of the post-intervention communicative achievement results, the experimental group (M = 3.88, SD = 247) was again relatively better than the control group (M = 2.47, SD = .488). Furthermore, concerning the post-intervention organization, the experimental group M = 3.22, SD = .434) scored rather higher result as compared to the mean score related to the control group (M = 2.57, SD =.389).

In order to check whether these mathematical disparities of scores between the two groups differed significantly, multivariate and univariate tests were examined by performing One-way MANOVA. Table 4 also presents the multivariate test result. As can be seen in Table 4, the multivariate differences between the experimental and the control groups were found to be significant with Wilks's $\lambda = .251$, F (4, 67) = 4, 98, $p = .000$, $\eta^2 = .749$. These results showed that corpus-based mediation instruction brought about a significant multivariate difference between the experimental group and the control group on students' content, communicative achievement, organization, and grammar and vocabulary when these four components of the variable are considered collectively.

Since the result of the omnibus test (MANOVA) in Table 4 does not show how much each component of the dependent variable was impacted by the independent variable, this omnibus test had to be followed by univariate analyses of variance (Tests of Between-Subjects Effects). The univariate differences across each component of the dependent variable are presented below.

Table 5.

Post-intervention univariate tests results

Variable	Group	N	Mean	SD	df	F	Sig.	Partial η^2
Content	Control	47	2.21	.518	1,70	37.012	.000	.346
	Experimental	25	3.02	.567				
Communication Achievement	Control	47	2.47	.488	1,70	148.3	.000	.679
	Experimental	25	3.88	.415				
Organization	Control	47	2.57	.389	1,70	41.28	.000	.371
	Experimental	25	3.22	.434				
Language and Grammar	Control	47	2.25	.641	1,70	31.42	.000	.310
	Experimental	25	3.10	.540				

The results of univariate analyses of variance revealed a significant effect of corpus-based writing instruction on each component of academic writing (the dependent variable). The results, as shown in Table 5, indicate that the use of

corpus-based writing instruction brought about a multivariate significant difference between the two groups academic writing performance in terms of content, communicative achievement, organization, and grammar and vocabulary, all in all, favoring the experimental group. The impacts of corpus-based writing instruction on each component of academic writing (content, communicative achievement, organization, and grammar and vocabulary in their academic writing) were found to be dissimilar as can be understood from the above table.

With regards to the content of students' academic writing, the univariate difference between the two groups was found to be significant, F (1. 70) = 37,012, p = .000, η^2 = .346. Similarly, the univariate difference between the two groups in terms of communication achievement was found significant, F (1. 70) = 143,3, p = .000, η^2 = .679. When comparing the effects of corpus-based writing instruction on each component of academic writing, the difference brought to the two groups by students' communicative achievement (67.9%) was the highest compared to the other three components: organization (η^2 = .371), grammar and vocabulary (η^2 = .310) and content (η^2 = .346). The effect of corpus-based instructional mediation on students' communicative achievement seemed to take the highest share in the multivariate tests, while the effects on the remaining three components ranged between 31% and 37.1%.

Additionally, the students employed lexical bundles and metadiscourse device effectively in their argumentative and data interpretation texts, which was not observed before the intervention. The following excerpts are taken from the students' writing.

S1: *apart from this* it increases employment opportunities…
S2: *according to the table* the energy of households….
S3: *In contrast*, in primary and secondary educations, *the tables shows that*
S4: *In my view*, globalization contributes a lot by introducing new technologies. *... To start with the first reason*, *...*

Accordingly, the research findings confirmed that the students who participated in corpus-based mediation performed better in the four major components of academic writing than those who learned academic writing via the conventional approach.

Discussion

The purpose of this research was to investigate the effects of corpus-based instruction on EFL students' academic writing skills. Hence this study confirmed that corpus-based instructional mediation helped students to improve their language skills. Particularly, the findings indicated that the students who

participated in the experimental group improved their academic writing skills better than those who were taught their academic writing skills by means of the conventional approach. Moreover, the experimental group showed a significantly better improvement in the content, organization, communicative achievement, and grammar and vocabulary usage in their academic writing skills than the control group.

The findings of this study have been aligned with previous study findings. To mention but a few, Luo and Zhou (2017) proved corpus consultation is crucial to enhance students' certain lexical problems. Similarly, Chitez, Rapp, and Kruse (2015) and Ward (2009) found that corpus linguistics instructional mediation helped to improve the students' academic writing skills. Likewise, Belz and Vytakina (2008) came up to a similar finding that corpus linguistics mediation affects students' language use. Huang (2012) also reported that students who received a corpus-based instruction improved their' knowledge of periphrastic causatives.

Researchers such as Kogan, Yaroshevich, and Ni (2018) also reported that a corpus-based instruction improved academic writing skills. Authentic and genuine linguistic elements helped EFL learners to construct effective academic writing. Students' lexical knowledge is crucial to choose appropriate content, to organize their ideas smoothly, to control their use of vocabulary and grammar, and to achieve their communicative goals in their academic writing. More specifically, the finding of this study is consistent with AbdelWahab's (2020) findings in terms of the improved components of students' academic writing skills (content, organization, vocabulary, and language use) and with Asadi's (2018) work in terms of the effect of using metadiscourse devices on students' academic writing skills.

Likewise, this research indicated that mechanical engineering students who were instructed through corpus-based instructional mediation improved their awareness regarding the utilization of lexical bundles and metadiscourse which occurred frequently in their field of studies. According to a usage-based theory, language is confined to a specific context in which it is used, and the user shapes language features (meaning and structure) according to the context. Likewise, the meaning and the structure of a language are determined by identity of the users (Baker, 2006). Thus, the lexical bundles and metadisocurse function vary according to the contexts in which it is used and according to the people who use them. In academic writing, corpus mediates students' language learning by showing the pragmatic functions of a specific linguistic elements which occur frequently in their field of studies. Baybee and Beckner (2010) and Ibbotson (2013) also mention that language is developed with social interaction.

Therefore, teachers can use corpus data to design authentic academic writing teaching materials. Asik (2017) asserts that corpus-informed materials ad-

dress the students' language learning needs. When teachers prepare teaching materials, they should consider pedagogically relevant contents and motivate students to use them in their communicative situations.

Conclusions

Corpus-based instructional mediation assists students how to use genuine linguistic elements that occur frequently in their discipline while they construct academic writing texts. This study proved that corpus-based instructional mediation was a viable instructional tool to enhance students' academic writing skills. The research found that students who participated in the experimental group improved their lexical knowledge better than students who learned their academic writing skills through holistic approach. The experimental group improved their content, organization, communicative achievement, and grammar and vocabulary usage skills better than students who were taught through the traditional teaching material and method. The students also employed metadiscourse and lexical bundles effectively and properly in their argumentative essay and data interpretation texts.

The findings of this research have various implications. First, the findings implied that computer technology plays an indispensable role to discover lexical bundles and metadiscourse elements that can be used in students' social context. Second, the finding implied that English language teachers should consider empirical language data to prepare academic writing teaching material, to address students' academic writing needs than relying on teacher made examples and language contents; teachers should depend on authentic examples and linguistic contents.

Moreover, the finding implied that teachers can select specific linguistic elements (for instance lexical bundles and metadiscourse) to enhance their learners' lexical knowledge. Corpus-based instructional mediation could meet the academic writing communicative needs of students. The corpus-based instructional mediation raises the students' awareness on how to use lexical bundles and metadiscourse in different academic genres.

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Der Einfluss von korpusbasierter unterrichtlicher Vermittlung auf die Verbesserung der akademischen Schreibkompetenzen von EFL-Studierenden

Zusammenfassung

Das Ziel der vorliegenden Studie ist es, den Einfluss von korpusbasierter unterrichtlicher Vermittlung auf die Verbesserung der akademischen Schreibkompetenzen von EFL-Studierenden zu untersuchen. Zur Durchführung der Untersuchung wurde ein quasi-experimentelles Forschungsmodell verwendet. Insgesamt nahmen 72 EFL-Maschinenbaustudierenden daran teil, die durch eine einfache Zufallsstichprobe ausgewählt wurden. 25 Studierende wurden der Experimentalgruppe und 47 Studierende der Kontrollgruppe zugeordnet. Die Daten wurden mit Hilfe von Vor- und Nachtests erhoben. Dabei wurde die Multivariate Varianzanalyse (MANOVA) verwendet, um die statistischen Unterschiede zwischen der Kontroll- und Experimentalgruppe in Bezug auf ihre akademischen Schreibkompetenzen zu untersuchen. Die Ergebnisse zeigten, dass die Studierenden, die durch korpusbasierte unterrichtliche Vermittlung unterrichtet wurden, bessere Leistungen erbrachten als die Studierenden, die man mit dem konventionellen unterrichtlichen Ansatz unterrichtete. Im Vergleich zu den Teilnehmern der Kontrollgruppe verbesserten die Teilnehmer der Experimentalgruppe insbesondere den Inhalt, kommunikative Leistungen, die Organisation, Grammatik und den Wortschatzgebrauch. Daher postuliert die Studie die Einbeziehung von korpusbasierten, authentischen sprachlichen Elementen in das Lehrmaterial der akademischen Schreibkurse im EFL-Kontext.

Schlüsselwörter: akademisches Schreiben, Korpuslinguistik, Vermittlung, gebrauchsbasiert

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Learning Japanese Onomatopoeia through a Narrative-Evaluation E-Learning System

Abstract

In Japanese, onomatopoeia are important for expressing feelings and experiences. For students of Japanese, they are difficult to acquire, especially the nuances of meaning. We propose an e-learning system to enhance the efficiency of teaching the nuances of onomatopoeia in three steps—both explicit and tacit—to non-native speakers of Japanese. We synthesize a new learning strategy for students learning Japanese onomatopoeia, using narrative strategies to mimic the process by which native speakers learn. The first step is the teaching of the formal rules governing explicit nuances. In the second step, the learners create new onomatopoeia in accordance with those formal rules. In the final step, feedback is provided by evaluating the onomatopoeias created by the learners, using a narrative strategy support system to provide implicit teaching. To verify the effectiveness of the proposed method and learning system, we conducted an experiment involving two groups of subjects in the Japanese language department of a university in Shanghai, China. While Group A (23 students) got feedback about the appropriateness of their onomatopoeic constructions from the native speaker researchers' narrative interpretations, Group B (22 students) only reviewed the database material in a manner similar to that used in traditional classrooms. The e-learning system was found to have a significant effect on the acquisition by non-native learners of Japanese of a working understanding of, and skill in the use of, onomatopoeia.

Keywords: onomatopoeia, tacit nuance, narrative interpretation, e-learning system, second language teaching

According to JASSO (Japan Student Services Organization), 298,980 international students were studying in Japan as of May 1, 2018, and 64% of them expressed a desire to work in Japan. Learning Japanese is a necessity for those international students. Moreover, the Japan Foundation reported that there were 3,846,773 formal learners of Japanese outside of Japan as of 2018. One challenging aspect of learning Japanese is that there are more than 5,000

onomatopoeias in the Japanese dictionary, with people using even more in daily conversation. Onomatopoeia are used to describe sounds, mental states, movements, and feelings. They play an integral part in language; they are used frequently in everyday conversation to help bring events to life through vivid depiction and enactment (Perniss, Thompson, & Vigliocco, 2010). When learned via traditional educational methods, onomatopoeia are typically memorized one by one, each in a specific context. However, most learners of Japanese can neither remember that huge array of onomatopoeia, and nor clearly comprehend the nuances of those onomatopoeia.

In this study, we examine the effectiveness of learning onomatopoeia nuance through a narrative evaluation approach. Based on the results of our verification experiment, we propose an e-learning system to help non-native learners of Japanese to understand Japanese onomatopoeia and be sufficiently familiar with them that they are able to use them.

Literature Review

Onomatopoeic constructions are heavily influenced by cultural and linguistic nuances; studies have shown that they are difficult to master for non-native Japanese language learners (Ivanona, 2006). There are several reasons for this difficulty. Firstly, while there are 5,000 to 7,000 onomatopoeia in most Japanese dictionaries, in daily conversation people use even more onomatopoeia than are officially listed. Secondly, inferring their meanings is difficult for the non-native. Onomatopoeia are verbal expressions of sounds and of people's sensibilities. A sensation can be described with various words, and may be hard to explain. For example, a patient might use words like *zukizuki* (ずきずき), *gangan* (ガンガン) and *piripiri* (ぴりぴり) to tell a doctor that she/he has a headache, and *jinjin* (じんじん) and *gishigishi* (ぎしぎし)" can be used to describe some kind of bodily ache. Thirdly, there are similar expressions with different nuances. For example, *garagara* (がらがら) can be used to express both a very parched throat and a train that has only a few passengers. Moreover, a lack of equivalent or similar expressions in the learner's first language is also an important reason for difficulty in acquiring onomatopoeias (Chen, Shirozu, & Matsushita, 2013). In conclusion, onomatopoeia are complex and difficult to acquire: they are used to express feelings and sensations; a single onomatopoeia may have several meanings; and there may be no equivalent word in the learner's first language (Watanabe, 1997).

When dealing with onomatopoeia by means of traditional learning methods, some problems can appear in dictionaries or teaching material. In those methods, onomatopoeia are typically remembered one by one, each in a specific

context. For example, it is very common to learn onomatopoeia by reciting an illustrative sentence provided in a dictionary or teaching material, and/or by repeatedly practicing selection problems. However, with such methods, the learning is limited to use in a specific context, so it remains difficult to develop full knowledge of an onomatopoeia completely (Mikami, 2003). Occasionally, target words may be quoted in excerpts from literary works, in which case comprehending an onomatopoeia requires comprehension of the work's cultural background. In that case, even with examples provided by an onomatopoeia dictionary, onomatopoeia can still be difficult for a second language learner to understand. On other occasions, when a specific word is not presented well in a sentence, the situations in which the word should be used will be obscure. Furthermore, comprehension is also difficult when abstract words are frequently used in explanations of meanings. In addition, some teachers of Japanese use *manga* as teaching material; they typically report that *manga* can heighten student motivation (Kumano, 2010). It is also claimed that using *manga* makes it easier to understand the situation in which the language occurs, because *manga* contains many pictures that provide contextual clues (Murakami et al., 2008). However, it is considered difficult to accurately convey the meaning and use of onomatopoeia with a single image. Even among native speakers of Japanese, onomatopoeia use varies subtly due to individual difference. Although Japanese contains a wide range of well-established onomatopoeias, native Japanese speakers often create their own neologisms. Moreover, it is considered that spontaneously created onomatopoeias are better accepted emotionally among friends (Sharlin, 2009; Uno, Kaji, & Kitsuregawa, 2010). For the above three reasons, the teaching of nuances of Japanese onomatopoeia is not a well-developed practice.

We define situational nuance as a tacit nuance, where the deep meaning of a word is too obscure to be expressed in words. In order for students to understand and be able to utilize onomatopoeia, they should not only learn onomatopoeia by the traditional method mentioned above, but also study subtle tacit nuances. In this study, we set out to answer the following research questions, as a foundation for the creation of an e-learning system for Japanese onomatopoeia learning:

- What is an effective method for learning both explicit and tacit nuances of Japanese onomatopoeia?
- How do learners modify their compresence of onomatopoeia after receiving narrative native speaker feedback?

Purpose and Methodology

In this study, we explore new methods for learning onomatopoeia in the second language context. We think it is more important to understand the com-

plexity of onomatopoeia use in real life than to be able to generate the correct answers to questions, especially for the understanding of nuance. Therefore, here we create a situation in which the learners are required to create their own onomatopoeias rather than choosing from among existing ones, since onomatopoeia also constitute a creative aspect of linguistic expression for native Japanese speakers (Sharlin, 2009; Uno, Kaji, & Kitsuregawa, 2010). Since second language learners of Japanese do not possess the same level of nuance knowledge as native speakers, having L2 learners create their own onomatopoeias by following word-formation rules should be an effective approach to mastering the relationship between word/phoneme and explicit nuance.

For L2 learners of Japanese to learn to create their own onomatopoeia, they need the prerequisite knowledge of Japanese basic word-formation rules and structure. The word-formation rules characterize the explicit nuances of onomatopoeic words. Tamori (2010) proposes some nuance rules for creation of onomatopoeia with a certain inflection and phonology. For instance, one rule is that structures of two syllables repeated twice (i.e., ABAB, e.g., *baribari*, *sarasara*) express the nuance that the action lasts continuously up to the present. Such rules express an explicit nuance in Japanese onomatopoeia (Table 1).

Table 1.

Word-formation rules based on Tamori, 2010

Rule-based word creation	
繰り返し型 Sound repetition ABAB type	関わっている動作が今まさに続いているというニュアンスを表す。繰り返しの連続した継続の動作であると感じられる。Repetition means the action described persists up to the present. Example:落とした消しゴムがころころと彼女の足下に転がっていった。
促音 Sokuon (double consonant) AB っ type	非常に瞬間的な区切り目がつくというニュアンスを表す。「繰り返し型」に対して、一度限りの単一の動作が瞬間的で急な終わり方であると感じられる。Represents the nuance of instantaneous breaks/segments/divisions between syllables. This is a one-off, single action felt to be momentary and abrupt. Example: おにぎりはころっと木の根元の穴へ転がり落ちていきました。
Phonological rules	
濁音の効果 The effect of stronger sounds	・ 濁音は無声音より描写している音が大きい。Louder sound. Example: ころころ/ごろごろ坂を転がる。 ・ 濁音は無声音より分量や数が多い。More volume or numbers. Example: たらたら/だらだら汗をかく。 ・ 濁音は無声音より関わっている動作や状態の程度が激しい。Higher degree of involved action or state. Example: びりびり/びりびり電気がくる。 ・ 濁音は無声音より否定的なニュアンスを含む。Negative nuances. Example: きらきら/ぎらぎら光る。
さ行の滑らかさ Smoothness of the “sa shi su se so” initial syllables	・ [S]は日本語においても英語においても「滑らかさ」を表す。[S] represents “smoothness” in both Japanese and English. Example: 穂がさわさわ波立つ光景を思い浮かべる。

Swain (1985) points out that in addition to comprehensible input, output practice is also effective, because when learners express their intended messages, they notice gaps between their expressions and the standard expression. This is an instance of the process in which a person builds a hypothesis based on his or her own knowledge, creates a language output, examines its validity vis a vis a model, and revises the hypothesis according to that feedback (Gass, Mackey, & Pica, 1998; Muranoi, 2007). This output—feedback—revision loop is considered an effective method for acquiring knowledge without explicit explanation.

In this study, we create a structured e-learning system to support learners of Japanese in understanding and familiarizing themselves with Japanese onomatopoeia. In the method inherent in the system, the learners proceed through three phases:

1. learning the rules for forming onomatopoeias (forming explicit nuance);
2. creating onomatopoeias in accordance with those rules;
3. obtaining native speaker feedback about their generated onomatopoeias.

This empirical study consists of hypothesis formation, database structuring, and a verification experiment.

E-learning System Based on a Narrative-Evaluation Approach

Creation of a Pilot System

To begin, we created a structured e-learning system based on the three elements—rule learning, onomatopoeia creation, validate from feedback—mentioned in the last chapter. Regarding the provision of feedback, we decided to avoid using the five-point relative estimation scale used in our previous study (Yang et al., 2015). The students were confused by the five-point grading system in that study, because they could not understand the evaluation criteria based on numbers alone. Also, we wanted to gain insights into how they acquired the tacit nuances under the new system, even though the learning effect would be verified. In the design of this preliminary study, we replaced the five-point relative estimation scale with a narrative-based evaluation.

In the pilot study, we combined the above three steps to form a process (method) for the teaching of explicit and implicit nuance of Japanese onomatopoeia. As for rules for the formation of onomatopoeia, we adopted the typical rules for formation of Japanese onomatopoeias described in Tamori (2010). Then, we assigned the subjects two creation tasks involving application of the learned word-formation rules. The first task is to combine the morphemic rule

of "repetition" and the phonemic rule of "the effect of voiced sound" (ABAB type). The second is to combine the rules of "use of *sokuon*" and "the smoothness of '*sa*' and '*su*'" (AB⊃type). We constructed a feedback database from the narrative interpretations and also prepared a pre-test and post-test for verification of learning effectiveness.

When using onomatopoeia, even native speaker interpretation of the context will vary slightly from person to person. Therefore, in the creation of the narrative interpretation presented here, native speakers were asked to simulate their self-reflection on the implicit nuances that come into play unconsciously. They then transformed their self-reflection into words by intentionally utilizing metaphor or analogy, and finally write down the words that they will introduce to the readers. In order to reduce the cost of creating the database, we organized a few evaluators to evaluate, on a five-grade evaluation scale, all the onomatopoeic words that fit the double creation task. In our previous study (Yang et al., 2015), we set two experimental creation tasks for students learning onomatopoeia, the ABAB type and the AB⊃ type (⊃pronounced as *sokuon*, meaning double consonant), to ascertain the most effective methodology for use in the main test. There are more than 5,000 Japanese onomatopoeia; more than 30% are ABAB type, and most of the others are of the AB⊃type. That is the basis for our choice of examples of these two major types. Since the onomatopoeias created by the learners may not exist, we call this process "creation" rather than generation. Based on the results, onomatopoeic words that scored two or higher became the target words for valuation in narrative interpretation, a two-step process.

Step 1: among the 1410 onomatopoeic words that were in accordance with the word formation rules in our two-create task, 174 had an average value of more than two on the five-point scale evaluation. We asked 15 Japanese native speakers to give narrative interpretations of those 174 words. Each native speaker interpreted 11 or 12 words.

Step 2: we shared the nuances from the interpretations on the website and asked all 15 native speakers to vote agree/disagree on each one. If they agreed with a narrative interpretation, they were to push the agree bottom. If they did not agree with a narrative interpretation, they were to contribute a new nuance.

The percentage of the vote for each onomatopoeia determined the order in which the onomatopoeia were shown to the learners of Japanese. Other nuances would be presented below the nuance assigned highest priority by the native speaker voting for best interpretation. Figure 1 is an example of the narrative interpretation feedback shown to learners using the system.

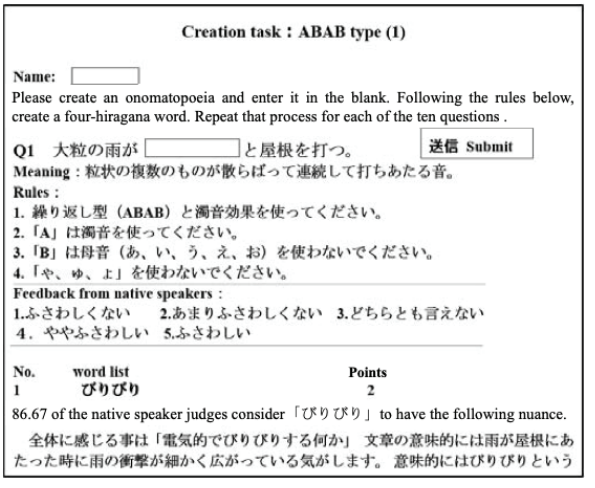
Preliminary Verification Experiment

To verify the effectiveness and operability of the proposed method and the learning system, we conducted a preliminary experiment. The participants consisted of 36 international students at Kyushu University, Japan, 35 Chinese and one Korean, of average age 24.56 years (SD = 2.20). All of them had passed level N1 of the Japanese Language Proficiency Test, meaning that they had the Japanese reading and writing ability required for participation in the experiment. The participants were divided into two groups.

The experimental procedure was as follows:

a) According to the design of the e-learning system, the participants were given 15 minutes to learn the word-formation rules provided as hard copy.

b) The creation tasks[1] were assigned to the participants. This step was conducted in a computer environment. Each task required that 10 onomatopoeia be submitted following the requirements presented on the site. The participants were asked to create a total of 20 onomatopoeia. After a participant entered a newly created word in the blank space provided on the screen, the feedback from the database would be displayed. While Group A received feedback about the appropriateness of their onomatopoeic constructions in the form of native speaker narrative interpretation, Group B simply received numerical feedback on a five-point relative estimation scale. As shown in Figure 1, the percent


Creation task：ABAB type (1)

Name:

Please create an onomatopoeia and enter it in the blank. Following the rules below, create a four-hiragana word. Repeat that process for each of the ten questions .

Q1 大粒の雨が ＿＿ と屋根を打つ。 送信 Submit

Meaning：粒状の複数のものが散らばって連続して打ちあたる音。

Rules：

1. 繰り返し型（ABAB）と濁音効果を使ってください。
2.「A」は濁音を使ってください。
3.「B」は母音（あ、い、う、え、お）を使わないでください。
4.「や、ゆ、ょ」を使わないでください。

Feedback from native speakers：

1.ふさわしくない 2.あまりふさわしくない 3.どちらとも言えない
4．ややふさわしい 5.ふさわしい

No.	word list	Points
1	ぴりぴり	2

86.67 of the native speaker judges consider「ぴりぴり」to have the following nuance.

全体に感じる事は「電気的でぴりぴりする何か」文章の意味的には雨が屋根にあたった時に雨の衝撃が細かく広がっている気がします。意味的にはぴりぴりという

Figure 1. An example of narrative interpretation feedback

[1] In our preliminary verification experiment, we used task 1 (大粒の雨が＿屋根に打つ) and task 2 (猫はドアの隙間を＿と抜けて飛び出していった). Onomatopoeia frequently created by the students are shown in Appendix 1 (A).

native speaker vote determined the order in which the onomatopoeia were shown to Group A. Other nuances of each onomatopoeia were presented to the participants below the nuance given the highest average native speaker evaluation in the voting for best interpretation. c) A questionnaire[2] was administered concerning (a) participant motivation to learn onomatopoeia and (b) participant subjective impression of the study.

The questionnaire was administered to all participants to determine the accessibility of the learning system, and to identify aspects in need of improvement. The results of the questionnaire survey were analyzed to compare the learning effects of the two treatments. Figure 2 presents the knowledge attained by the two groups after using the e-learning system. As can be seen in Figure 2, our approach improved the effectiveness of learning of nuances and onomatopoeia for both groups: 94% of Group A and 89% of Group B members considered this system to be useful for learning nuances. Moreover, 100% of Group A members evaluated the learning method as appropriate or very appropriate for wider application in second Japanese language learning. We also solicited comments and advice about this narrative interpretation learning system by means of a free response questionnaire. The learners evaluated studying onomatopoeia by reading narrative feedback from native speakers as very efficient. Some learners reported improved self-confidence in the creation of new onomatopoeia, saying that although it took time to understand what native speakers were saying about the tacit nuances, there was a feeling of learning real Japanese.

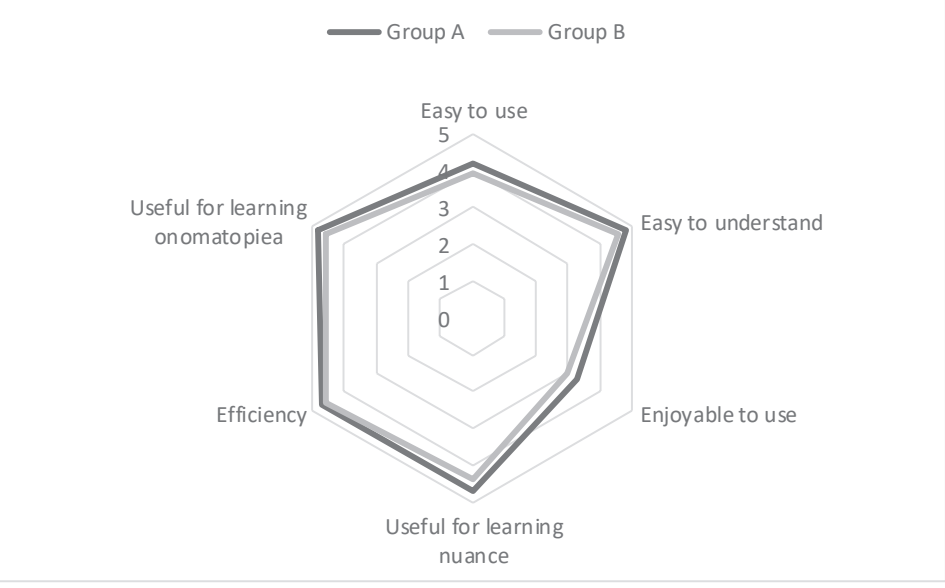


Figure 2. Questionnaire results

[2] Please refer to Appendix 1 (C).

The evaluation of system was not uniformly unanimous: 33% of Group A and 39% of Group B reported that it was difficult or a little difficult to use (Figure 2). We explored the reasons for that reaction through interviews with selected learners. Two main reasons were identified: (1) the content was not interesting, because all the sentences were related to the weather; and (2) the database gave feedback on new words in ascending order of evaluation, so learners who created new onomatopoeias using words further down the list had to make more effort to return to the top of the screen for the next iteration.

Construction of the *"Pa"* Row Database and Improvement of the e-Learning System

Based on the results of the preliminary verification experiment, we decided to use some familiar and easy to create onomatopoeia in the verification experiment. We found that a large number of onomatopoeia begin with characters from the "*Pa*" row.[3] In Japanese, with the exception of some loan words, the "*Pa*" row contains only onomatopoeia (Hamano, 2014). About one-sixth (Asano, 1978) or one-seventh (Kakehi et al.) of all onomatopoeias begin with a character from the "*Pa*" row. For that reason, we constructed a "*Pa*" row database. We also improved this system by changing to a descending order for word lists, so that when a new word is created, it appears at the top of the word list.

The "*Pa*" row database allowed us to address some of issues identified earlier, and to create a wider range of topics, as seen in Figure 3, to avoid monotony (e.g., all sentences about weather).

Construction of the "*Pa*" row database. As mentioned above, onomatopoeia occur heavily in the "*Pa*" row, with the ABAB type the most common. We created a double-item task for the context of the onomatopoeia. One item was "the food is_____ （この食べ物は_____している)" where onomatopoeia which completed the phrase would describe the state or texture of the food. The other item was "this unknown living thing is_____(この未知の生き物は_____している)" where the onomatopoeia which would complete the phrase would describe what the living thing looks like or what it would feel like (Figure 3).

[3] Japanese syllabaries are organized in the form of tables with vowel columns and consonant rows. The "*Pa*" row consists of the P consonant combined with the five vowels of Japanese to give the sounds *Pa*, *Pi*, *Pu*, *Pe*, and *Po*.

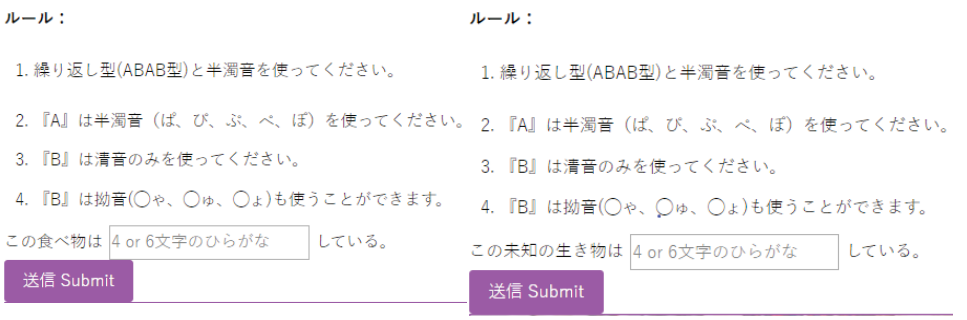


Figure 3. Creation tasks 3 and 4 (www.lixiaoyan.jp/1-2/)

We decided the following requirements for onomatopoeia creation.

(1) The "*Pa*" row database should be built using the ABAB type.
(2) A should be one of the sounds in the "*Pa*" column, that is to say, one of the 5 Kana (*pa*, *pi*, *pu*, *pe*, *po*).
(3) B should be one of the other sounds that follow Japanese phonetic rules (44 basic and 21 contracted syllables). We put all possible ABAB combinations meeting those requirements (a total of 325; 5 × 44 + 5 × 21) into an Excel file. Then we asked three Japanese native speakers to evaluate (on a five-point rating scale) the probability that each letter string would be used as an onomatopoeia.

Based on the results, onomatopoeic words that scored two or higher were designated as target words to be evaluated in narrative interpretation, which involved the following two steps.

Step 1: Among the 325 "*Pa*" row words that obeyed the rules of word formation in our two-create task, 99 onomatopoeic words had an average assigned value of more than 2 on the five point scale. We asked five Japanese native speakers to give narrative interpretations of these 99 words. Each native speaker interpreted 19 or 20 words.

Step 2: We shared the nuances from the interpretations on the website and asked the five native speakers to vote on them. If they agreed with the narrative interpretation, they were to push the agree button. If they did not agree with a narrative interpretation, they were asked to add a new nuance.

Remediation of the e-learning system. As mentioned in Creation of a Pilot System, we structured the e-learning system and set two creation tasks, one of ABAB type, the other ABっtype. Based on learner feedback in our preliminary verification experiment, we added two tasks involving creation of onomatopoeia with initial kana from the "*Pa*" row.[4]

[4] Please refer to Appendix 1 (D).

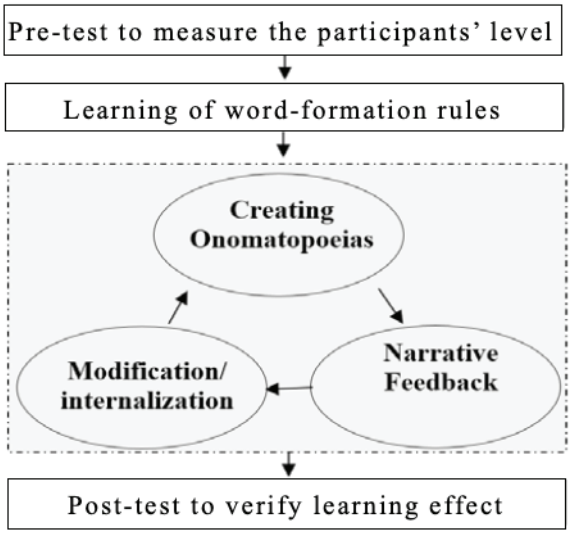


Figure 4. Flow of learning system

The flow of the learning system and the procedure for verification of the experiment are shown in Figure 4. A pre-test is given to the participants to measure the entry level of onomatopoeia competence. Then the participants are asked to learn the word-formation rules within a set time. The main objective is that the learners will learn the nuances of the onomatopoeias through the creation tasks. The learners receive narrative feedback from the database each time they create an onomatopoeia. They modify their methods when they recognize a gap between native speaker narrative and their own perception. Through that process they internalize the new awareness, including tacit nuances. A post-test is given after the learners have completed the e-learning system. Learning effect is defined as the difference between the pre-learning and post-learning test scores. A statistical analysis of the pre- and post-test results is conducted to compare the learning effect for the two groups.

Verification Experiment

Verification procedure. In June 2017, to verify the effectiveness of the proposed method and the e-learning system, we conducted a verification experiment in June 2017. The participants were 75 Chinese students in their third year in the Japanese language department of a university in Shanghai, China, but the group was reduced to 45 to remove outliers in language ability. The remaining participants had N2 Japanese Language Proficiency Test

certificates, so they had the reading and writing ability required to perform this experiment. The participants were divided into two groups, Group A consisting of 23 students, Group B of 22 students. Before the experiment, the participants were told that the aim of the experiment was to develop an onomatopoeia learning system for second language learners of Japanese, and that in light of that objective, they were expected to take the experimental tasks seriously.

In the pre-test, the average score for Group A was 15.04 (out of 30); for Group B 15.36. T-test results showed no significant difference in onomatopoeia comprehension between the two treatments ($t = 0.858 < t\ 0.05 = 1.68, 44$). After the pre-test, all participants were given a 30-minute traditional lecture[5] on the word-formation rules,[6] accompanied by examples of onomatopoeia from the "*Pa*" row. Group A and Group B were then seated in different rooms.

Group A participants were presented with a cloze task and were instructed to create an onomatopoeia and enter it in the blank space (Figure 3). The rules for creating the onomatopoeia were those presented in the mini-lecture, and the character length of the word to be created was pre-determined. If the word entered was in accordance with the word formation rules, native speaker evaluation of the word was given as feedback on a five-point evaluation scale from 1 "not suitable" to 5 "appropriate." For words receiving an evaluation greater than 1, feedback was also provided regarding the appropriateness of the onomatopoeic construction, in the form of native speaker narrative interpretation.

On the other hand, Group B received only learning material for study, similar to the process in traditional classes. The learning material was a database of words that had received an evaluation of 4 or more, that is, most correctly formed onomatopoeia. Finally, all the participants were asked to complete a post-test.

Experimental results. The average post-test score for Group A was 18.17 (out of 30), for Group B 16 (Figure 5). The learning effects of the two groups were determined by comparing the pre-test and post-test results. T-test showed a significant correlation between learning method (creation, learning) and test time (pre, post) ($t = 1.58 < t0.05 = 2.015, 44$), that is, there was a significant improvement in performance between the pre-test and post-test in Group A, and Group A post-test performance was significantly higher than that of Group B. In other words, only Group A had learning effect.

[5] The lecture is referred to as a "mini lecture" because it took only 30 minutes, compared to the standard lecture length of 90 minutes in Japanese and Chinese universities.

[6] The word-formation rules were almost the same as those taught in the preliminary study, which are shown in Table 1.

Figure 5. Result of Verification Experiment

Discussion

In this study, we addressed two research questions. What is an effective method for the learning of Japanese onomatopoeia, including both explicit and tacit nuances? How do learners modify their compresence of onomatopoeia from native speaker narrative feedback? In this chapter we set out to answer these questions. The e-learning system used here for teaching the tacit nuances of onomatopoeia, based on a narrative-evaluation approach, consists of three steps. First, the word-formation rules for representation of the explicit nuances of onomatopoeic words are taught. A knowledge of word-formation rules is non-intrusive and forms the basis for the development of autonomous and independent learners, especially for vocabulary production, creativity, understanding, and even proficiency (Balteiro, 2011). Second, the learners create new onomatopoeic words, applying those word-formation rules. Third, the subjects receive feedback in the form of native speaker evaluation of the onomatopoeias created. The results of the experiment demonstrate that an evaluation approach utilizing narrative interpretation is more effective than simple provision of feedback in the form of a five-point relative evaluation or mere review of study material in the manner used in traditional classrooms. The subjects learned explicit nuances by learning word-formation rules, and learned tacit nuances by creating onomatopoeias; modifying their linguistic hypotheses in light of narrative feedback; and constructing their own tacit nuances. The results show that the e-learning system presented here, based on a narrative-evaluation approach, is an effective method for the learning of Japanese onomatopoeia and their explicit and tacit nuances.

The meanings of words can be likened to an iceberg. Dictionary meanings and explicit nuances are like the tip of the iceberg above the surface, while the tacit nuances which we use subconsciously are like the submerged, much larger part of the iceberg, as shown in Figure 6, based on Weaver (1986). The part 'above the surface' is relatively easy to grasp, but the part hidden 'underwater' is very difficult for learners to understand. This 'hidden' part of onomatopoeia is what is referred to as tacit knowledge.

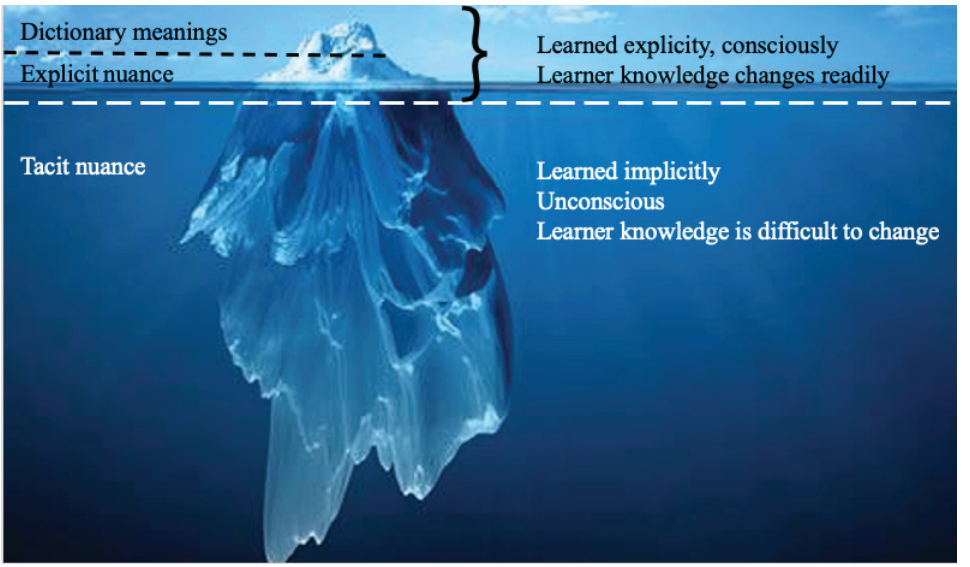


Figure 6. The 'Iceberg Analogy' of language meaning

Tacit knowledge has two components. One component can be converted to explicit knowledge using metaphor or analogy; the other part cannot be fully converted to explicit knowledge—it can only be learned from experience (Eraut, 1985). Even native speakers may perceive different nuances for one onomatopoeia, and their judgement of usage in a specific context may vary considerably. Moreover, depending on the occasion or situation, nuance may vary within a given context. Thus, it is difficult to account for such diversity or fluctuation. It is thought that people learn tacit nuance from their experience and use of language from infancy, not only by passively accumulating language experience, but also by expressing themselves, eventually acquiring full fluency in their mother tongue.

We improved the feedback database by including an evaluation based on narrative interpretation utilizing narrative interpretation, where learners can learn tacit nuances which then become explicit. As shown in Figure 7, students learn explicit nuances in the course of learning word-formation rules,

creating onomatopoeias, getting narrative feedback to modify their linguistic hypotheses. In the process of that cyclic learning, learners gain an awareness of tacit nuances, which cannot be expressed linguistically, then internalize the new awareness and create output again to continue their learning experience. Through this approach, language learners can get feedback, repeat their hypothesis refinement and construct their own implicit nuances. In particular, for the learning of explicit nuances of onomatopoeia, we extract word-formation rules from existing onomatopoeias and have the learners memorize those rules. Then, to learn tacit nuances, the learners are asked to use the rules to create onomatopoeias suitable for given contexts. In this way, the learners become able to express their own nuances. This approach answers our second research question as to how learners can modify their compresence of onomatopoeia by means of native speaker narrative feedback.

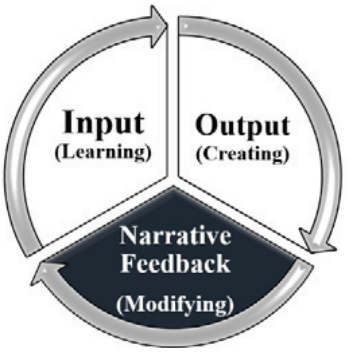


Figure 7. The stages of the E-learning system

Li & Umemoto (2013) and Li (2017) characterize the interaction of tacit knowledge and explicit knowledge as a process of articulation, socialization, consolidation, and internalization, iterating in a spiral fashion. This harmonizes with the findings of this study, where the same language learning spiral is achieved through the sequence: learning the tacit nuances of Japanese onomatopoeia as articulated by native speakers; being socialized through an e-learning system; consolidating own knowledge with established sources of nuances; and arriving at a new internalized awareness of onomatopoeia. It is expected to be an effective method for use in a learning system to support understanding and then creation of onomatopoeia.

Conclusion

We propose an e-learning system to support second language learners of Japanese in the learning of both explicit and tacit nuances of onomatopoeia through an evaluation approach utilizing narrative interpretation. The results demonstrate that the system is highly effective as a learning tool; the promising results of the preliminary test are supported by the results of the subsequent verification test used to ascertain the validity of the first set of results. The stages of this learning system are: repetitive learning of word-formation rules; creation of onomatopoeic words by applying those word-formation rules; and receiving feedback in the form of native speaker narrative interpretation. The three stages only constitute a complete method when used in combination. Word-formation rules and narrative feedback are the elements of tacit nuance that can be converted to explicit knowledge by means of metaphor or analogy. Tacit nuance cannot be completely converted to explicit knowledge: learners only learn from active experience, in this case the creation of onomatopoeias. This process (repetitive learning of word-formation rules; creation of new onomatopoeias; and attaining new awareness from narrative interpretations) is sufficient for the acquisition of explicit and tacit nuances of onomatopoeia. Here the interaction between native speakers and learners is not face to face, but they do interact in an asynchronous manner that allows the learner to effectively create new knowledge through the spiral process of articulation, socialization, consolidation, and internalization. Promising directions for future research include addition of new types of onomatopoeia to the e-learning system and enrichment of the narrative interpretation database. We plan to put this e-learning system to practical use so as to broaden the scope of language learning approaches available to learners.

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Appendix 1

Top 5 most frequently created onomatopoeia for each creation task.

Task 1: 大粒の雨が一屋根に打つ	ざわざわ	ばらばら	ぼかぼか	だらだら	ぼたぼた
Task 2: 猫はドアの隙間を と抜けて飛び出していった	さらっ	さりっ	すらっ	さくっ	すすっ
Task 3: この食べ物は　している	ぴちぴち	ぽよぽよ	ぴくぴく	ぱらぱら	ぽきぽき
Task 4: この未知の生き物は している	ぷるぷる	ぷよぷよ	ぺこぺこ	ぺちょぺちょ	ぽつぽつ

B. All onomatopoeia questions used in the tests are taken from past questions of the Japanese Language Proficiency Test (N1 & N2) and modified by author for clarity.

B.1. Pre-test

Question 1: Please judge whether the following onomatopoeia usage is natural. If you think it is natural, put a ∨ inside the brackets. (Multiple selections possible)

(A)

1. だれでも二週間で英語がぺらぺらしゃべれる方法が書いてあります。( )
2. 不合格と知り、彼は掲示板の前にぺらぺらと崩れ込んだ。( )
3. ぺらぺらしていたが、だいぶ頭にきていたんじゃないかな。( )
4. その店にあったぺらぺらの小さい広州市内地図を買った。( )
5. まるで自分が作ったようにぺらぺら説明していたが、彼は自分では何もしていないんだよ。( )

(B)

1. 休日は家でぷりぷり過ごすのがいちばんだ。( )
2. 新鮮でぷりぷりした貝は潮の香りがした。( )
3. あのウェイトレス、ぷりぷり怒って行ってしまって呼んでも来てくれない。( )
4. 折り箱をぷりぷり壊し、束ねて捨てる。( )
5. 水から上がった犬は体をぷりぷりと振って水をはね飛ばす。( )

(C)

1. よほどありがたかったとみえて、母は電話にぺこぺこ頭を下げて礼を言っていた。( )
2. お皿がみんなぺこぺこだ。熱湯に入れて洗剤で洗ってくれ。( )
3. 長年使って底がぺこぺこになったなべを今でも大事そうに使っている。( )
4. 太郎と花子がスリッパをぺこぺこと鳴らしながらやってきた。( )
5. 寝ぼうして朝飯を食べずに出てきたんで腹がぺこぺこだ。( )

Question 2: Please judge whether the following onomatopoeia usage is natural. If you think it is natural, put a ∨ inside the brackets. (Please select one)

(A)

1. 高い空に雲がぱかぱかと浮いている。( )
2. 高い空に雲がぴかぴかと浮いている。( )
3. 高い空に雲がぷかぷかと浮いている。( )
4. 高い空に雲がぺかぺかと浮いている。( )
5. 高い空に雲がぽかぽかと浮いている。( )

(B)

1. すくいあげた網の中で小魚がぴかぴかはねていた。( )
2. すくいあげた網の中で小魚がぴきぴきはねていた。( )
3. すくいあげた網の中で小魚がぴちぴちはねていた。( )
4. すくいあげた網の中で小魚がぴとぴとはねていた。( )
5. すくいあげた網の中で小魚がぴやぴやはねていた。( )

(C)

1. 袋に穴があいていて、持ちあげると小豆がぱたぱたこぼれ出た。( )
2. 袋に穴があいていて、持ちあげると小豆がぱしゃぱしゃこぼれ出た。( )
3. 袋に穴があいていて、持ちあげると小豆がぴろぴろこぼれ出た。( )
4. 袋に穴があいていて、持ちあげると小豆がぴしゃぴしゃこぼれ出た。( )
5. 袋に穴があいていて、持ちあげると小豆がぽろぽろこぼれ出た。( )

B.2. Post-test

Question 1: Please judge whether the following onomatopoeia usage is natural. If you think it is natural, put a ∨ inside the brackets. (Multiple selections possible)

(A)
1. 雨がぱらぱら落ちてきた。( )
2. 花見の宴会も始まったが、15日は平日のため見物客はぱらぱらだ ( )
3. ボーイフレンドの運転の乱暴さにいつもぱらぱらさせられる。( )
4. 私は日記をぱらぱらとめくってみました。( )
5. １週間に１度部屋をぱらぱらと掃いて、掃除は終わりです。( )

(B)
1. 純子さんはぽりぽり涙を流していた。( )
2. ピーナッツをぽりぽりかじりながらテレビを見る。( )
3. 空き地のままの区画には丈の高い雑草がぽりぽりと生えている。( )
4. なんだか照れくさくて、テレビの前で頭をぽりぽり掻いてしまいました。( )
5. まだ大学でのぽりぽりだから、よろしくご指導ください。( )

(C)
1. 鳥は朝になるとかごから出たくて、ぱたぱた羽をはばたかせて催促する。( )
2. 子供は目にごみがはいったらしく、涙ぐんで目をぱたぱたさせていた。( )
3. あの子は小学校のときからぱたぱたして利発な子だった。( )
4. ぱたぱといそがしくうちわを使う。( )
5. 鼻の頭をぱたぱたたいてお化粧直しをしている。( )

Question 2: Please judge whether the following onomatopoeia usage is natural. If you think it is natural, put a √ inside the brackets. (Please select one)

(A)
1. このパンはぱくぱくでおいしくない。 ( )
2. このパンはぱきぱきでおいしくない。 ( )
3. このパンはぱこぱこでおいしくない。 ( )
4. このパンはぱさぱさでおいしくない。 ( )
5. このパンはぱちぱちでおいしくない。 ( )

(B)
1. （これは）ぷよぷよのおなかを鍛える体操（です）。 ( )
2. （これは）ぷつぷつのおなかを鍛える体操（です）。 ( )
3. （これは）ぷすぷすのおなかを鍛える体操（です）。 ( )
4. （これは）ぷらぷらのおなかを鍛える体操（です）。 ( )
5. （これは）ぷちぷちのおなかを鍛える体操（です）。 ( )

(C)
1. ひと口食べたとたん舌がぴくぴくするほど辛くて、あわてて水を飲んだ。( )
2. ひと口食べたとたん舌がぴりぴりするほど辛くて、あわてて水を飲んだ。( )
3. ひと口食べたとたん舌がぷりぷりするほど辛くて、あわてて水を飲んだ。( )
4. ひと口食べたとたん舌がぷくぷくするほど辛くて、あわてて水を飲んだ。( )
5. ひと口食べたとたん舌がぺこぺこするほど辛くて、あわてて水を飲んだ。( )

C. 実験後アンケートPost-experiment questionnaire:

1. この学習システムの操作は、難しかったですか。Was it difficult to operate this learning system?
2. この学習システムについての説明は十分ですか。Is the description of this learning system sufficient?
3. この学習システムは楽しいと思いますか。Do you find this learning system enjoyable to use?
4. この学習システムは、擬音語・擬態語の学習に役に立つと思いますか。Do you think this learning system is useful for learning onomatopoeia?
5. 新しい擬音語・擬態語を学習する際に、またこの学習システムを利用したいと思いますか。Would you like to use this learning system again when learning new onomatopoeia?
6. 擬音語・擬態語の学習においてこの学習システムのどういうプロセスが役に立つと思いますか。（複数選択可）What process in this learning system do you think is useful in learning onomatopoeia and mimetic words? (Multiple selections possible)
ルールの学習 Learning rules オノマトペの創作プロセス Creation process for onomatopoeia
フィードバックをもらえる Receiving feedback その他 Other
7. この学習システムによって、オノマトペのニュアンスを学習できたと思いますか。Do you think you could learn the nuances of onomatopoeia with this learning system?
8. あなたが今までに使ったことがある学習方法と比べると、この学習システムはより効率が高いと思いますか。 Do you think this learning system is more efficient than the learning methods you have used so far?
9. この実験を通じて、擬音語、擬態語に興味を持つようになりましたか。Did you become interested in onomatopoeia through this experiment?
10. この実験を通じて、これから擬音語・擬態語をもっと勉強しようと思いましたか。Do you want to study more onomatopoeia through this experiment?
11. この実験を通じて、日本語に興味を持つようになりましたか。Did you become interested in Japanese through this experiment?
12. この実験を通じて、これから日本語をもっと勉強しようと思いましたか。Do you want to study more Japanese through this experiment?
13. ほかの分野の学習においても、この学習システムを使いたいと思いますか。Do you want to use this learning system for learning in other fields?
14. この学習システムについてのご意見・ご感想を書いてください。（自由記述）Please write your opinion about this learning system. (Free description)
15. この学習システムを通じて、日本語また日本人の表現の仕方についての気づきを書いてください。（自由記述）Please write down your awareness about Japanese and Japanese expression through this learning system. (Free description)

D. There are four creation tasks in our E-learning system in total.
Task 1: 大粒の雨が 屋根に打つ。 Heavy rain hits the roof .
Task 2: 猫はドアの隙間を と抜けて飛び出していった。The cat jumped through the door gap .
Task 3: この食べ物は している. This food is .
Task 4: この未知の生き物は している. This unknown creature is .

Xiaoyan Li

Das Lernen japanischer Onomatopoetika durch ein Narrative-Evaluation-basiertes E-Learning-System

Zusammenfassung

Im Japanischen sind Onomatopoetika wichtig, um Gefühle und Erlebnisse auszudrücken. Für Studenten der japanischen Sprache sind sie schwer zu erlernen, insbesondere ihre Bedeutungsnuancen. Deswegen wird ein E-Learning-System vorgeschlagen, um den Nichtmuttersprachlern des Japanischen die Nuancen der Onomatopoesie in drei Schritten – sowohl explizit als auch implizit – effizienter zu vermitteln. Im Resultat wird eine neue, auf narrative Strategien gestützte und den Lernprozess von Muttersprachlern imitierende Lernmethode für Studenten entwickelt, die japanische Onomatopoetika lernen. Der erste Schritt ist das Lehren der formalen Regeln von expliziten Nuancen. Im zweiten Schritt kreieren die Studenten neue Onomatopoetika anhand der formalen Regeln. Im letzten Schritt erfolgt ein Feedback, indem die von den Studenten kreierten Onomatopoetika bewertet werden. Dabei wird ein Unterstützungssystem für narrative Strategie verwendet, um implizites Lehren zu ermöglichen. Um die Effektivität der vorgeschlagenen Methode und des Lernsystems zu verifizieren, wurde ein Experiment mit zwei Gruppen von Probanden an der Fakultät für japanische Sprache einer Universität in Shanghai in China durchgeführt. Während die Gruppe A (23 Studierende) ein Feedback über die Angemessenheit ihrer onomatopoetischen Konstruktionen von den muttersprachlichen Forschern erhielt, überprüfte die Gruppe B (22 Studierende) nur den Datenbankinhalt, ähnlich wie im traditionellen Unterricht. Es wurde festgestellt, dass das E-Learning-System einen signifikanten Effekt auf den Erwerb eines praktischen Verständnisses von Onomatopoetika und die Fähigkeit, sie zu verwenden, von Nichtmuttersprachlern des Japanischen hat.

Schlüsselwörter: Onomatopoesie, implizite Nuance, narrative Interpretation, E-Learning-System, Zweitsprachenunterricht

Reviews

Theory and Practice of Second Language Acquisition
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Timothy Reagan, *Linguistic Legitimacy and Social Justice* Orono, ME: Palgrave Macmillan (Springer Nature), 2019 ISBN 978-3-030-10966-0, 434 pages

Can one language be more valuable than others? How does speaking one variety of a language translate into one's social position? Can a more just world be created if we abandon certain deep-seated preconceptions about language norms? Does our teaching of some versions of a language contribute to social inequality? Such stimulating questions arise after reading the blurbs and introductory parts of Timothy Reagan's *Linguistic Legitimacy and Social Justice* (2019, Palgrave Macmillan). The book, which consists of eleven chapters, 66 pages of bibliography and an index, is a well-researched and broad-ranging discussion of several current themes of critical language pedagogy—an approach to social justice through the recognition of (de)legitimizing ideologies pervading some language norms/uses and, by extension, some language education practices.

Chapter One, Language and Other Myths: "Die Grenzen meiner Sprache bedeuten die Grenzen meiner Welt" (pp. 1–28) is a fitting introduction to some of the paradoxes plighting our perceptions of language. While theorists of language tell us that all languages are fundamentally equal (logical, exhaustive, and comprehensive), much of applied scholarship indicates the opposite, with continual debates over normativity, standardization, the status of languages vis-à-vis dialects, and (un)welcome language change. And yet linguistic research is not neutral: it has had profound implications for language teaching and learning, language policy, and language rights. Another paradox is related to the mythology of "standardization" which hides the infinite variability of language uses:

person by person, village by village, generation by generation, and the inevitable fuzziness in the description of actual language practice (unlike *the* idealized language norm). If language such as English is taught in the FL classroom, *only* one version of the language's lexico-grammar is reified and fixed as a knowable subject. The correct, appropriate and, inevitably, "native-like" forms are given priority, prestige, and status, while other forms are dismissed as "wrong" production or "insufficient" proficiency. This, for Reagan, is a manifestation of an ideology of language legitimacy: a form of dominance resulting from an assumption of language "ownership" by certain groups of speakers. Interestingly, this ideology is still persistent in the world in which native speakers of English are outnumbered 3 to 1 by non-native English speakers!

Chapter Two, Conceptualizing the Ideology of Linguistic Legitimacy: "Primitive people have primitive languages and other nonsense" (pp. 29–76) is a sociological polemic with traditional linguistic theorizing. Having established that linguistic legitimacy is a fairly subjective, yet collectively shared, way of judging that some languages are inherently superior/inferior to others, Reagan challenges our common negative perceptions of (1) non-Western/European languages (which might be morphologically/syntactically much more complex than English, Spanish or Russian), (2) languages without a long written literary tradition (which nevertheless might have a richer oral tradition), and (3) languages without established standard orthography. Borrowing the concept of "linguistic capital" from Bourdieu and that of "ideology" (processes of naturalization of the social construction of reality) from Fairclough, Reagan discusses a set of social power relations that underpin the notions of linguistic legitimacy. While any variety of a language is legitimate in a given setting, and while formal properties of a language are not in any way correlated with cognitive or cultural "primitiveness" of any community, institutions, such as national language academies, media and particularly schools (with their middle-class bias) tend to establish prescriptivist rules and legitimize certain forms as "pure," "proper," or "right." The Author gives many examples of language varieties that are wrongly (de)legitimized based on their properties of supposedly "accent-less" elocution, the size of their lexicon, their assumed "logic" of their grammar, or the absence of certain grammatical categories. He concludes that all these are only socially constructed differences in prestige introduced by elite speakers with access to institutional power. He also indicates how dangerous it is in the school context for educators to form beliefs about a student's abilities, intelligence, and potential on the basis of the language variety spoken by him or her, or how destructive it is for children's identity to *force* them to adopt a linguistic variety spoken by a dominant community (whereas no-one would dare to force anyone to change their religion, gender or race to a more "legitimate" one).

African American English, Race and Language: "You don't believe fat meat is greasy" (Chapter Three, pp. 77–110) discusses one of the most divisive issues in American sociolinguistics, namely the status of African American English (AAE), and its implications for classroom teaching. After a systematic overview of AAE's history, evolution and structures, the Author is reporting on studies devoted to how "Black English" is perceived in the society and how some of these views and stereotypes, when voiced by elite opinion-makers and reproduced in internet-based jokes, contribute to the further delegitimation of this and other dialects of American English. Despite common prejudices, AAE "is not slang, bad English, or illogical, nor are its speakers lazy, ignorant, sloppy, or uneducated" (p. 80). However, some scholars demonstrate that a substantial number of African American failures at school can be directly attributed to their not being sufficiently "bidialectal" to seamlessly switch from their identity-marking AAE syntax and accent to "good" Standard American English expected by teachers. On the other extreme, artificially elevating AAE to the level of "a language of instruction" will not empower racial minorities and obliterate racist stereotypes in the society.

Chapter Four, Spanglish in the United States: "We speak Spanglish to the dogs, to the grandchildren, to the kids" (pp. 111–134) discusses the history, demographics, formal variability, and functional applications of hybrid varieties of English and Spanish as used by Latino communities in the US. Either denounced by critics and purists or celebrated as an example of cultural creativity and language mixing, Spanglish has been subject to a variety of analyses from the perspective of "languages in contact." In contrast to popular beliefs, Spanglish is not just an outcome of bilingual code-switching, but rather a specific lexico-grammatical repertoire that borrows systematically from both languages and evolves progressively. Regularized phonological patterns, productive lexical derivations alongside fossilized remnants, elimination of redundant categories (copula, gender), and back-translations are some of the common features documented among Spanglish speakers. These findings are sometimes used to justify valorization of vernacular Spanglish as a classroom resource to foster critical language awareness and critical literacies revolving around counter-hegemonic discursive practices in education.

Sign Language and the DEAF-WORLD: "Listening without hearing" (Chapter Five, pp. 135–174) reports on controversies and stereotypes around the status of the American Sign Language (ASL). Initially regarded as a set of gestures and facial expressions with "poor grammar," ASL was subjected to systematic linguistic description by William Stokoe that proved that it was as full, complete, and sophisticated as any human language. Despite the fact that linguists put premium on natural (spoken) rather than artificial (sign) languages in their theoretical and applied research, it is hard *not* to acknowledge sign languages as "real" languages with their varieties (British and American

SL are different), dialects (signing among deaf people differs from signing for hearing people), shared artistic or cultural artefacts, or cultural identities (as a community of the Deaf). The main problem is, however, that manual and visual signs *are supposed to* correspond to spoken English, which is treated as a legitimate mode, as it imparts on the Deaf their status of "literate" people. If one accepts the view of deafness as a deficit (as many do) and of the Deaf as inherently inferior in relation to the hearing, one is likely to view their condition as pathological in need of a technological or medical intervention. This belief diminishes the role of the sign language as an educational and communicative resource in its own right, particularly when it comes to studying ASL as a "deserving" foreign language. However, the conceptual representations within the DEAF-WORLD available through ASL movements and signing spaces can be radically different from the cognitive bases of spoken language(s) and should not be treated as illegitimate. For Reagan, the merits of bilingual or inclusive education for the Deaf can only be achieved if the "tyranny" of the "hearing perspective" is questioned in schools and tertiary education.

Chapter Six on Yiddish, the Mame-Loshn: "Mensch tracht, Gott lacht" (pp. 175–204) traces the history and status of the language of Ashkenazi Jews. Due to the Holocaust, the language policies in Eastern European countries, and the State of Israel's reviving of Hebrew, the population of Yiddish speakers has shrunk dramatically. The existence of diasporic, often ghettoized, Judaism and the subsequent evolution of various Semitic language varieties is well documented in religious studies of Arameic and Hebrew liturgical and ritual lexicons. Yiddish is said to have developed most robustly in medieval Germany (most of its words stem from Middle German) and Poland of the 1250s–1500s, with a continued growth in Russia, Moldova, or Ukraine, where Jewish communities were forced to assimilate and introduce Slavic elements to their language. In modern times, unlike Hebrew, which is associated with religion and learned male-dominated scholarship, Yiddish is stigmatized as a vernacular, feminine, secularized mother-tongue (*mame-loshn*), or criticized as broken German––the Jargon. Although it was Hebrew that was elevated to the status of the official language of Israel through a political decision, Yiddish is still spoken in some settings (also in the US) and it has a long and celebrated literary tradition, as well as a prolific presence in American language (borrowings) and culture. Although Yiddish in not predicted to disappear soon (with estimated 1.5 million speakers), it will depend on the social movements and cultural initiatives that aim to help pass it on to the next generations.

Chapter Seven dwells on Created and Constructed Languages: "I can speak Esperanto like a native" (pp. 205–242), and includes a presentation of formal languages of philosophy, logic (G. Leibniz's *Lingua generalis*) or computer science, fictional languages (J. R. R. Tolkien's *Sindarin*, G. Orwell's *Newspeak*), ritual/mystical languages (*Lingua ignota*), contact languages (Papua's *Tok Pisin*)

or artificial languages (*Volapük, Neo, Lingwa de Planeta*). The last 150 years saw a growing interest in the construction and use of international auxiliary languages, of which only Esperanto became a successful planned *a posteriori* language spoken worldwide (by a million speakers with different degrees of fluency) under the auspices of international and local organizations. Even though it is feared for its expansionism, or derided by critics of artificial codes, the Author highlights the language's literary and cultural contribution to humanity's heritage. However, Esperantists' claim that the learning of the language enhances one's abilities for language learning in general has yet to be confirmed.

Afrikaans, Language of Oppression to Language of Freedom: "Dit is ons erns" (Chapter Eight, pp. 243–283) unveils the controversies surrounding the rise of Afrikaans, first as a language of nationalism, or independent state of South Africa, which, then turned to be emblematic of the discriminatory practices of apartheid introduced by powerful minority of Afrikaan-speakers. Now with declining numbers of speakers and loss of its prestige, Afrikaans is nevertheless an interesting historical case of a minority dialect infused with Dutch and English colonial lexicons elevated to the highest levels of politics, culture, education, and literature in a competitive atmosphere of a multiracial and multilingual society (SA has twelve official languages). The chapter points to the possible consequences of any "language policy" that functions as a strategy of introducing the *primacy* of one language over others for example, if made a medium of instruction in schools. The Afrikaans case testifies to the fact that top-down technicist solutions to overcome social divisions through "linguistic engineering" are likely to encounter resistance and might even breed violence. To avoid this, Reagan advocates wide-ranging consultations and appropriate provisions guaranteeing "language rights," otherwise the imposed language will always be viewed as a tool of oppression and, sooner or later, it will lose its status, as is the case with Afrikaans in SA's higher education, which is now embracing English to the detriment of local languages.

The problem signaled above is extensively discussed in Chapter Nine, Why Language Endangerment and Language Death Matter: "Took away our native tongue … And taught their English to our young" (pp. 285–314) with reference to (1) causes and historical examples of languages' endangerment and death, (2) efforts put to language cataloguing and revitalizing, as well as (3) ethical arguments if and why (mostly indigenous) engendered languages should be saved from extinction. Finally, thought is given to examples of educational systems and institutionalized language policies which may become either threats or rescues to moribund languages. Educational milieus that enforce language loss through (in)voluntary language switching and delegitimization of indigenous dialects are a contemporary cause of language death (cf. the history of US government's elimination of "problematic" native minorities through boarding schools). In multilingual communities, economic, institutional, and social incen-

tives to use the dominant language only drive the process of loss of (vernacular) language varieties. These varieties, however, encapsulate cultural and pragmatic values, as well as scholarly data that hold the keys to the better understanding of human history, ecology or cognition. Unfortunately, as the Author reminds us, most attempts at language revitalization (even in the developed countries, as is the case with Maori and Hawai'ian) have been rather unsuccessful.

Chapter Ten, Foreign Language Education in the US: "But French isn't a real class!" (pp. 315–352) tackles a thorny issue of how foreign language teaching and learning (often disparaged because only low levels of proficiency tend to be achieved) allows the ideology of language legitimacy to operate. The restricted number of languages on offer (Spanish, French, German, Chinese), the limited resources for teachers, and the lower status of foreign languages in the curriculum (unlike STEM and English literacy) translate into disregard for this type of education. In addition, attitudes based on xenophobic stereotypes cause further delegitimation of language learning and reproduction of monolingualism and the hegemony of English despite recent investments in specialist language programs, appreciation of "exotic" languages, and recognition of heritage languages. Even multicultural and globally-oriented college programs in the US that take pride in offering communicative skills and minority recognition pay little attention to language diversity (except perhaps immersion courses). For Reagan, the socio-political dominance of English and the cultural imperialist spirit has to be first acknowledged in the context of American education to stop these trends.

The final chapter, Linguistic Legitimacy, Language Rights and Social Justice: "No one is free when others are oppressed" (pp. 353–366) considers the other key notion of the book—social justice. Reagan makes a strong case for addressing the attitudes and beliefs about the role of language in the construction of identity and about the importance of upholding "language rights" of disempowered communities. He sees the need to confront the fact that education is of inherently political nature (p. 361) and that the adoption of the ideology of linguistic legitimacy ultimately influences student-teacher communication, assessment practices and the design of formal curricula (let alone the replication of hegemonic values through "hidden curricula"). He notes that even democratic societies, such as the US, have educational systems that are "supportive of oppressive practices" (p. 360) that compromise the language rights of a substantial number of minority students (here understood not only in terms of ethnicity or race, but also class and gender).

This book carries a thought-provoking argument for putting language and social justice into a common focus based on a broad range of examples from various societies and cultures, including the US, South Africa or Israel. However, the book is heavily focused on the problems currently experienced in the US and does not acknowledge the linguistic policies championed by

some multilingual and multicultural (European) societies. Given its concern with critical pedagogy, it is surprising to find little in-depth discussion of the hegemony of English as a lingua franca (for example in some sectors of the economy, academia, and society) and the rise of World Englishes movement. Nevertheless, it may provide a consciousness-raising experience for readers interested in the current developments within critical pedagogy. It may be of value to language scholars and applied linguists, education policy advisors and teacher trainers, as well as junior researchers and students of sociolinguistics interested in the issue of linguistic legitimacy.

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Christina Gkonou, Mark Daubney, Jean-Marc Dewaele, *New Insights into Language Anxiety: Theory, Research and Educational Implications* Bristol: Multilingual Matters, 2017 ISBN: 9781783097715, 226 pages

The book edited by Christina Gkonou, Mark Daubney, and Jean-Marc Dewaele entitled *New Insights into Language Anxiety: Theory, Research and Educational Implications* provides a very interesting overview of current theory, research, and practice in the field of language anxiety. It brings together a range of perspectives concerning this very complex and dynamic psychological construct that, for approximately four decades, has consistently attracted the attention of second language acquisition (SLA) researchers who have widely acknowledged that language anxiety described as "the worry and negative emotional reaction when learning and using a second language" (Gregersen & MacIntyre, 2014, p. 3) can impede the learning of the target language and consequently hinder academic success. Apart from that, it has also been shown to diminish the willingness to communicate and have a "corrosive influence on the very lifeblood of L2 learning itself—the enthusiasm and motivation necessary to engage and embrace another language other than one's own" (Daubney, Dewaele, & Gkonou, 2017, p. 1). At the same time, as the Editors have rightly noted, even though language anxiety has been studied for about forty years, not many books on the topic have been published over the same period. Consequently, we might say that the main objective of the monograph in question is to fill this gap and clarify the many confusing aspects about language anxiety by presenting the latest studies by renown language anxiety researchers, focusing both on the theoretical and pedagogical implications for future investigation,

as well as making useful suggestions for reducing the influence of language anxiety in a classroom setting.

The more than two hundred pages of this volume encompasses twelve well written, separate chapters, each of which is authored by a distinguished scholar/s, and which are grouped into three parts. The first section (Chapters 1, 2, & 3) offers a theoretical discussion of current trends in language anxiety research but also addresses the misinterpretations of the Horowitz et al.'s (1986) concept of Foreign Language Classroom Anxiety. The second part of the book (Chapters 4–9) analyses several empirical studies on language anxiety focusing on diverse research designs and instructional settings. In the third part (Chapters 10–12), we can find some pedagogical implications in the form of practice activities and coping strategies.

The volume under review starts with Chapter One that serves in lieu of a formal Introduction by focusing on the aims and objectives of the book, as well as its major themes and structure. The Editors decided to assemble a collection of perspectives that rises to the challenge of conceptualizing and addressing anxiety from fresh perspectives, through different lenses and in relation to areas that have been little studied. They advocate a more varied and fine-grained approach to studying language anxiety as well as taking a more interdisciplinary perspective concerning the topic.

The book continues with Chapter Two: An Overview of Language Anxiety Research and Trends in its Development, written by Peter D. MacIntyre who proposes an overview of approaches regarding language anxiety dividing them into three phases, reflecting both historical trends and assumptions about the topic. The first one is called the Confounded Approach, as the research on language anxiety was adopted from various sources without focusing that much on situating language anxiety within the language learning context. The second phase is described as the Specialized Approach, in which researchers focused much more on placing and studying language anxiety from a language learning perspective. The third and the most recent phase has been contextualized as the Dynamic Approach in which anxiety is studied in connection with a complex array of language learning experiences.

Chapter Three entitled On the Misreading of Horwitz, Horwitz, and Cope (1986) and the Need to Balance Anxiety Research and the Experiences of Anxious Language Learners by Elaine Horwitz offers a literature review on the components of language anxiety utilizing a facilitative–debilitating dichotomy and describing the relationship between anxiety and language learning achievement. It highlights the fact that focusing on offering assistance to anxious learners is of crucial importance as "[…] it is essential to remember that research on Language Anxiety was initiated from the experiences of anxious language learners and its ultimate goal is to make language learning more comfortable for vulnerable learners" (Horwitz, 2017, p. 44). The Author also addresses the

misreading of the concept of Foreign Language Classroom Anxiety proposed in 1986 (Horowitz et al., 1986) stating that simplifying the construct of Language Anxiety to just a composite of Communication Apprehension, Test Anxiety, and Fear of Negative Evaluation results in failing to grasp the essence of the experiences of anxious language learners.

The second part of the book, which focuses on the empirical studies regarding language anxiety, opens with a very interesting chapter titled Anxiety and L2 Self-Images: The "Anxious Self" by Erdi Şimşek and Zoltán Dörnyei. The Authors of the chapter used a mixed-method approach to explore the "anxious selves" of English language learners in Turkey. They based their research on McAdams's "New Big Five" model (McAdams & Pals, 2006), which consists of three levels (namely, dispositional traits, characteristic adaptations and integrative life narratives), and treats personality as the interaction of these three tiers. Their findings suggested that "conceiving anxiety in terms of a dynamic combination of three relatively distinct facets offers a more nuanced understanding of how anxiety affects the learners' performance across various communication situations, language tasks, content areas and contextual conditions other than the traditional dichotomy of trait and state anxiety"(Şimşek & Dörnyei, 2017, p. 65). According to the Authors, the novel aspect of McAdams's model helps in viewing the way learners form cohesive verbal accounts of their relevant experiences as an integral part of the overall holistic anxiety construct.

The next chapter entitled Are Perfectionists More Anxious Foreign Language Learners and Users? by Jean-Marc Dewaele is, as noted by the Author, the first systematic quantitative investigation into the link between Perfectionism and Foreign Language (Classroom) Anxiety (FLCA). His study on three different samples of informants from various countries, linguistic backgrounds and sociobiographical variables (age, gender, education level, number of languages known) revealed a significant positive relationship between perfectionism and FLCA showing a relationship between FLCA and the 'Doubt about Actions' and 'Concern over Mistakes' subscales, which suggests that the more concern over mistakes and the more doubts that participants have, the higher levels of reported FLA/FLCA.

In Chapter Six, Social Anxiety and Silence in Japan's Tertiary Foreign Language Classrooms, Jim King and Lesley Smith focus on the relationship between social anxiety and the silence of second language (L2) learners within a Japanese English as a Foreign Language (EFL) classroom context employing Clark and Wells's (1995) seminal model of social anxiety. The Authors' mixed-method data analyses uncovered that social anxiety is the main factor in learners' avoidance of talking and "[…] this silence of social inhibition appears to be well supported by unhelpful pedagogical practices on the one hand and higher-level sociocultural themes relating to the value of discretion and caution in public encounters on the other" (King & Smith, 2017, p. 107). Their research

shows that Clark and Wells's (1995) model of social anxiety is a framework through which we can better understand the cognitive processes and in-class behaviors of silently anxious learners.

Chapter Seven titled Do You See What I Feel? An Idiodynamic Assessment of Expert and Peer's Reading of Nonverbal Language Anxiety Cues, written by Tammy Gregersen, Peter D. MacIntyre, and Tucker Olson, presents an idiodynamic approach to exploring recognizable nonverbal manifestations of language anxiety. The main objective of the study was to examine fluctuations in language anxiety operating in real time by analyzing the mentioned emotion as part of a dynamic system that is in a state of constant flux and which interacts with other influencing variables at any given moment. The Authors of the Chapter asked their participants, first, to record their heart rate while presenting during a Spanish class and, second, to watch their presentations and 'idiodynamically' self-rated the moment-to-moment fluctuations in their language anxiety levels. The analysis of findings pointed to a number of important factors affecting language anxiety that are very difficult to elicit in more traditional approaches.

In the subsequent Chapter Eight, Towards an Ecological Understanding of Language Anxiety, Christina Gkonou explores language anxiety through the lens of Brofenbrenner's (1979) nested ecosystems model, thus adding a fresh empirical perspective to the investigation of this construct. Qualitative data analysis has revealed that environments which are not prominently linked to the microsystem or the present classroom (i.e., the mesosystem, the exosystem and the macrosystem) can play a key role in the experience of language anxiety in the microsystem.

Chapter Nine, Exploring the Relationship between Anxiety and Advanced Hungarian EFL Learners' Communication Experiences in the Target Language: A Study of High- vs. Low-Anxious Learners, written by Zsuzsa Tóth, examines how FLA impacts on and shapes advanced learners' experiences of using the target language (TL), focusing on oral communication. In her study, English major students with high and low levels of FLA were first asked to have one-on-one conversations with a native-speaking interlocutor and then to reflect on this experience immediately after the encounter. An analysis of the findings indicated that learners' higher expectations towards themselves as L2 speakers, together with a fear of not being able to achieve the desired level of competence after long years of language study, are key elements of anxiety at more advanced levels of proficiency.

The third part of the book features the pedagogical implications for lowering the levels of language anxiety and starts with Chapter Ten titled Anxious Language Learners Can Change their Minds: Ideas and Strategies from Traditional Psychology and Positive Psychology, by Rebecca L. Oxford. The Author explains that the nature of language anxiety is related not only to

social anxiety, but also to a more generalized form of anxiety, as well as to low emotional intelligence and lack of optimism, flow, agency, and hope. Consequently, she puts forward an array of interventions for anxious learners that could be used in a classroom setting.

In Chapter Eleven entitled The Links between Self-Esteem and Language Anxiety and Implications for the Classroom, Fernando D. Rubio-Alcalá explains the differences between anxiety, fear, anguish or stress and self-esteem, self-concept and self-efficacy and discusses the relationship between self-esteem and language anxiety. This very interesting chapter offers much needed analyses regarding the interaction of self-esteem and anxiety in the foreign language classroom context, as well as a range of applicable anxiety-reducing activities and strategies for classroom implementation, including guidelines for teachers' rapport, methodological orientations and learning activities.

The final concluding chapter co-authored by the three Editors brings together the main themes presented in the volume showing that language anxiety is in fact a very diverse and complex notion that needs to be examined from a number of different perspectives. Consequently, they advocate an interdisciplinary approach to language anxiety with the use of different research methods which will allow for a more holistic view of this complex notion.

The summary of the different chapters shows that the volume under review indeed offers new insights into research on language anxiety. It highlights the fact that language anxiety should be viewed as a dynamic concept that needs varied research methods, an interdisciplinary approach and a holistic perspective. At the same time, it could be argued that presenting some more detailed information concerning the psychological roots of language anxiety would strengthen the theoretical overview included in this volume.

All things considered, I strongly recommend reading *New Insights into Language Anxiety: Theory, Research and Educational Implications* as it enables readers to obtain a broad and multifaceted perspective on language anxiety as such but also on the research designs and important trends one can consider while planning to study this complex notion. The book is essentially addressed to SLA researchers, teacher trainees, teaching instructors, foreign language teachers, but also to anyone with an inquisitive mind who wants to obtain an extended view on language anxiety and develop their self-awareness.

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STYLE GUIDE FOR THE AUTHORS

Please note that we are changing from APA 6th edition to newer 7th edition. Authors are requested to submit manuscripts formatted in APA style (*American Psychological Association*, 7th ed.).

All manuscripts must include an abstract in English (maximum of 250 words). After the abstract please provide keywords.

Main text: 12 Times New Roman
Long citations (more than 40 words): 10 Times New Roman, indent by 1 tab either side, one empty line above and below, no quotation marks.

1.5 spacing

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1	**Centered, Boldface, Uppercase and Lowercase Heading**
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In-text citations (examples):

Author's name and date in brackets:
The experience of critical incidents and effective reflection upon them allows teachers to control their classroom actions more consciously and create critical events (CE's), which were described earlier as intended, planned and controlled (Woods, 1993).
Woods (1993) believes that critical events are structured and occur in well-defined staged of conceptualization . . .

Two authors:
(Ballantyne & Packer, 1995)
As Ballantyne and Packer (1995) demonstrate …

Three authors:
(Barker, Callahan, & Ferreira, 2009)

Subsequent use:
(Barker et al., 2009)

Six authors or more:
Lorenz et al. (1998) argued…
(Lorenz et al., 1998)

Authors whose last names are the same:
(D. Francis, 1985; H. Francis, 2004)

Online sources (unpaginated), provide paragraph or section title instead:
(Peterson & Clark, 1978, para. 4)
(Moss, Springer, & Dehr, 2008, Discussion section, para. 1)

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(*Reflective Practice*, 2005, pp. 12–25)

Secondary citations:
Smith (as cited in Maxx & Meyer, 2000) noted that "there is . . . ."

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As it has been noted that "there is no relevance . . . (Smith, 2005)" (Maxx & Meyer, 2000, p. 129).

& vs. and:
As Smithson and Stones (1999) demonstrated. . .
. . . as has been shown (Smithson & Stones, 1999) . . .

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