Second Language Learning Anxiety and Language Mindsets

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Abstract

In the field of teaching English as a second language, second language learning anxiety (SLLA) arises frequently in students. This anxiety is defined as a situational anxiety that is mainly due to communication apprehension, a fear of negative evaluation, and test anxiety; however, its definition is not limited to simply the fears students face. SLLA influences language acquisition in overwhelmingly negative ways. Reduction of SLLA should be teachers' primary goal, which is possible when teachers shape language mindsets for the benefit of student learning. Language mindsets are learners' view on whether their language abilities are fixed or able to be cultivated, and they are dubbed fixed and growth mindsets. These mindsets affect the language learning process and SLLA, so it is important for teachers to foster growth mindsets in their students to decrease SLLA and provide optimal conditions for second language acquisition. However, complete eradication of SLLA is not possible, so teachers can leverage the remaining SLLA by pairing it with foreign language enjoyment. Overall, this thesis will benefit both teachers of second language learners and the learners themselves as they learn the negative role SLLA plays in the language journey, how to reduce SLLA through fostering growth language mindsets, and how to leverage the remaining SLLA through increasing foreign language enjoyment.

Keywords: Second Language Learning Anxiety (SLLA), avoidance, performance, cognitive processing, output, social anxiety, proficiency, input, the Linguistic Threshold Hypothesis, language mindsets, growth mindset, fixed mindset, language mindsets inventory, pedagogical implications, foreign language enjoyment

Second-Language Learning Anxiety and Language Mindsets

The field of second language learning is a relatively new area of study, and many researchers are intrigued by the variance in learners' abilities to acquire a second language. Some researchers, such as Sparks and Ganschow (1991), have claimed that individual differences in language achievement are mostly due to language aptitude; they call this view the "Linguistic Coding Deficit Hypothesis" (p. 4). Others, such as MacIntyre (1995), strongly disagree, pointing out that the influence of second language learning anxiety (SLLA) is often overlooked in this hypothesis. Studies have shown that many students learning a second language experience SLLA, so it is important to understand the effects that it has on students' abilities to acquire a second language (Zheng, 2008). This research presents these effects and serves to help teachers most efficiently teach and learners most effectively acquire a second language, even with the threat of SLLA. To do this, the research then introduces a way to reduce SLLA as much as possible by fostering growth language mindsets and leveraging the remaining SLLA through coordinating it with foreign language enjoyment.

Second Language Learning Anxiety

SLLA is a situational anxiety caused by communication apprehension, fear of negative evaluation, and test anxiety (Zheng, 2008). However, it is more than a combination of fears; according to Horwitz et al. (1986), SLLA can be 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" (p. 127). This means that, as opposed to the anxiety which refers to a permanent predisposition due to a person's personality, SLLA is a temporarily induced state of being that arises when learning another language (Marcos-Llinás &

Garau, 2009). The general anxiety one feels in normal life circumstances is distinct from the anxiety one feels in their language class (Horwitz et al., 1986).

SLLA is also categorized as a "social anxiety", which MacIntyre (1995) defines as "feelings of tension and discomfort, negative self-evaluations, and a tendency to withdraw in the presence of others" (para. 5). As a social anxiety, SLLA affects students in a variety of ways because different personality traits and learning styles influence how each student best learns a second language (Marcos-Llinás & Garau, 2009). Overall, the research shows that, despite the variety of effects, the general effects SLLA has on many students are overwhelmingly negative, with only a few sources highlighting positive effects of SLLA.

Negative Effects of Second Language Learning Anxiety

SLLA manifests itself in students through a variety of negative effects (Horwitz et al., 1986). Some students may experience anxiety and avoid doing homework, while others might avoid going to class. In the worst scenarios, students might experience extreme anxiety that extends beyond the classroom (Horwitz et al., 1986). SLLA affects all three stages of language learning—input, process, and output—very much affecting language acquisition (Zheng, 2008). Student performance is the strongest indicator of the negative effects of SLLA; however, as a social anxiety, SLLA not only affects performance but also the learner's cognitive, behavioral, and affective abilities (MacIntyre, 1995).

Language Performance

High language anxiety is associated with low academic achievement in language (Zheng, 2008). The reason for this is that anxiety inhibits learning and the ability to demonstrate what one has learned, which is commonly known as "freez[ing] up" (MacIntyre, 1996, p. 96). An example of the correlation between academic achievement and language anxiety is found in a

study that researchers conducted in an elementary school which investigated the effects of

anxiety levels on learning performance in a gaming environment (Yang, 2018). They found that

in speaking, word/sentence match, and overall learning performance, high-anxiety learners

performed worse than low-anxiety learners (Yang, 2018). Liu and Huang (2011) also conducted

an experiment which led them to conclude that "[a]nxiety turned out to be the most powerful and

negative predictor for the students' performance in English" (para. 33). Further researchers have

shown how SLLA affects specific aspects of language performance, such as testing and test

anxiety, fluency in speaking, and grammatical accuracy.

Test Anxiety

Chakrabarti and Sengupta (2012) conducted an experiment in which they chose a group

of Indian students learning English as their second language and tested factors using the Foreign

Language Classroom Anxiety Test (FCAT) created by Horwitz. The three main components that

were tested were communication apprehension, test anxiety, and fear of negative evaluation, and

the dominating anxiety of the three was test anxiety (Chakrabarti and Sengupta, 2012). The

consensus was that there was a consistent negative correlation between test anxiety and test

result (Chakrabarti and Sengupta, 2012).

Horwitz et al. (1986) also address test anxiety as they describe how students often share

that they know a certain grammar concept but that they forget it during a test or oral exercise.

They share that students often point at careless errors in spelling or syntax and realize later that

they knew the right answer, but that their nervousness caused them to make a mistake (Horwitz

et al., 1986).

Another aspect of SLLA that is similar to test anxiety but broader in scope is fear of

negative evaluation (Horwitz et al., 1986). Second language learning is a unique matter of study

because it requires continual evaluation by the only fluent speaker in the class—the teacher

(Horwitz et al., 1986). This can cause students great anxiety and can lead to them avoiding

evaluative situations to prevent being evaluated negatively (Horwitz et al., 1986).

Communication Apprehension and Fluency

Horwitz et al. (1986) define "communication apprehension" as "a type of shyness

characterized by fear of or anxiety about communicating with people" (p. 127). Many students

who typically experience anxiety when speaking to large groups in their native language also

experience even greater anxiety when speaking in a foreign language class because they are

constantly being monitored, they have limited vocabulary and ability to communicate in the

foreign language, and there is an underlying fear or belief that they will have difficulty making

themselves understood (Horwitz et al., 1986).

In addition, research has shown that SLLA is a strong predictor of certain temporal

factors of fluency of speech, including breakdown fluency and speed fluency (Castillejo, 2018).

Breakdown fluency refers to a student's use of silence or fillers to manage their performance,

and speed fluency refers to how fast a student can access their linguistic knowledge (Castillejo,

2018). To investigate the influence of SLLA on breakdown fluency and speed fluency,

researchers conducted a study in which they recorded 38 students, who were learning Spanish,

speaking an unplanned narrative in the Spanish language (Castillejo, 2018). The researchers

analyzed factors such as the students' lengths of pauses between and within speech units and

their articulation rates to arrive at a conclusion regarding the correlation between anxiety and

fluency in speaking (Castillejo, 2018). The results showed that SLLA was a strong predictor of

certain characteristics of speed fluency and breakdown fluency (Castillejo, 2018). More

specifically, learners with lower speaking anxiety were more proficient in speaking, paused less

frequently, had longer phonation times, and had higher articulation rates, whereas students with higher speaking anxiety tended to pause more often while speaking and were overall less proficient (Castillejo, 2018).

Grammatical Accuracy

Trebits (2016) conducted a study in which the researcher had participants who were enrolled in a bilingual secondary education program perform two narrative tasks in speech and writing to investigate how different tasks are affected by SLLA. Researchers found that anxiety affected students' abilities to speak and write differently, with output anxiety having a far greater impact on speaking than writing. This is because there is more time pressure on L2 learners in speaking since speakers have less planning time and have to divide their attention between conceptualizing the content of their message and its linguistic coding (Trebits, 2016). In writing, the grammatical accuracy of the output suffered as well. In this particular study, "there [was] a strong negative correlation between the ratio of error-free past tense verbs and the level of IA [input anxiety] in learners" (Trebits, 2016, p. 169). This led the researchers to conclude that students with high levels of anxiety may be unable to pay attention to the different verb forms when receiving input, causing them to produce less accurate output (Trebits, 2016).

Cognitive Processes

Not only does anxiety affect language performance, but it also affects the earlier stages of language processing; in fact, the underlying reason that language performance is hindered is because anxiety affects students cognitively (MacIntyre, 1994**;** Trebits, 2016). The interference with the conceptualization stage of L2 production leads to less accurate L2 performance, which is the most obvious effect of the anxiety, but it is important to consider what is actually happening in the brains of students (Trebits, 2016). Students' decrease in performance is due to

SLLA causing them to struggle with divided attention and a decrease in cognitive processing abilities.

Divided Attention

According to MacIntyre (1995), "[l]anguage learning is a cognitive activity that relies on encoding, storage, and retrieval processes, and anxiety can interfere with each of these by creating a divided attention scenario for anxious students" (para. 32). In divided attention scenarios, students' attention is split between task-related cognition and self-related cognition, which means that the attention given to self-related cognition distracts the student from being able to focus on learning (MacIntyre, 1994). Some examples of self-related cognition are excessively self-evaluating, expecting and worrying about failure, and being concerned with how others perceive oneself (MacIntyre, 1994).

The distraction of being concerned with how others perceive oneself is especially dangerous because it is cyclic (MacIntyre, 1995). Anxious students try to focus on the task and on how they will be perceived when doing the task (MacIntyre, 1995). As they start to pay more attention to the perception of others, they have less attention to give to the task, and performance suffers (MacIntyre, 1995). When performance suffers, their anxiety grows, and then, once again, they are focusing on how they are perceived, which only leads to more anxiety (MacIntyre, 1995). This cycle portrays the debilitating effect of divided attention.

Decrease in Cognitive Processing Abilities

According to MacIntyre (1995), another cognitive effect of this social anxiety is a decrease in cognitive processing abilities. One example of this is that SLLA can hinder one's working memory since learners are anxious about being anxious (Zheng, 2008). Working memory is defined as "the mental processes responsible for the temporary storage and

manipulation of information in the course of on-going processing"; this means that if working memory is hindered in second language learning, one's cognitive abilities to process language will be significantly lessened (Juffs & Harrington, 2011, para. 2).

Another reason cognitive abilities are decreased due to SLLA is because it causes the rise of students' defense mechanisms that interfere with their cognition thresholds in learning (Zheng, 2008). Krashen calls this defense mechanism the "affective filter", and in his Affective Filter Hypothesis claims that learners' affective filters rise when they are in anxiety-provoking situations; the rising of these defense mechanisms blocks their ability to process input (Krashen, 1980, p. 384).

Behavioral Processes

SLLA also significantly affects the behavioral processes of students. Sometimes students choose to avoid certain scenarios that induce SLLA, whereas other times their bodies arouse their sympathetic nervous systems, firing their fight or flight responses.

Avoidance Behaviors

According to Horwitz et al. (1986), avoidance behaviors are common in students with high SLLA. Often, more anxious students attempt to speak in the target language less frequently than less anxious students do (Horwitz et al., 1986). In addition, students who experience writing anxiety often write less in their compositions than their less anxious cohorts (Horwitz et al., 1986). Further, some students will avoid interpersonal communication in the second language if they have high anxiety (Zheng, 2008). Finally, some students with high SLLA will avoid doing their homework or attending class altogether (Horwitz et al., 1986).

Students themselves admit that language anxiety tempts them to avoid learning situations (Lababidi, 2016). One statement made by a student involved in a case study at a higher education

institution in the United Arab Emirates that really highlighted the temptation of avoidance behaviors was, "[w]aiting for my turn can make me feel sometimes like running away from the class… thinking that I might not be able to utter a word when my turn eventually comes" (Lababidi, 2016, p. 194). Further, another student said, "[p]articipation is greatly diminished when one is feeling anxious" (Lababidi, 2016, p. 195). These real-world examples demonstrate the reality of the temptation of avoidance behaviors in the face of anxiety. However, it is also important to note that anxiety can cause students to lean in the reverse direction of avoidance as well; some students will study relentlessly to try to counteract their anxiety (Horwitz et al., 1986). However, when students over-study, still have anxiety, and still receive poor results in the classroom, this can lead to great frustration (Horwitz et al., 1986).

Sympathetic Nervous System Arousal

SLLA induces the arousal of the sympathetic nervous system (MacIntyre, 1995). This plays into avoidance behaviors, as it is the fight or flight response, and usually manifests itself physically. One student from the United Arab Emirates case study said when it was time for a speaking exam, "my hands tremble; my knees become weak and even my voice shakes" (Lababidi, 2016, p. 195). Further, another anxious student said, "I can feel the beating of my heart and buzzing sounds in my ears" (Lababidi, 2016, p. 195). These two students most likely speak for many students in the second language learning classroom, as Lababidi's (2016) case study reported that "53% of the students said they tremble when they know that they are going to be called on to speak in their language class and 41% of the students feel their heart pounding" (p. 195).

Affective Motivation in Language

One way that SLLA influences students affectively is through hindering their motivation to learn the second language (Liu & Huang, 2011). Researchers conducted a study where they had 980 undergraduate students from three universities in China complete a 76-item survey to investigate the relationship between second language anxiety and motivation (Liu & Huang, 2011). They discovered that students who usually did not feel anxious about English were more motivated to learn English, whereas students who experienced SLLA often were less motivated to learn English (Liu & Huang, 2011).

Another study of 155 students from a private senior high school in central Taiwan was conducted, and the Foreign Language Classroom Anxiety Scale (FLCAS) developed by Horwitz and an adaption of the Motivated Strategies for Learning Questionnaire (MSLQ) were used to collect data (Liu & Chen, 2015). The results showed a significant negative correlation between SLLA and motivation, meaning the higher the SLLA, the lower the motivation. This correlation is extremely significant because motivation has been considered one of the most important factors for successful second language acquisition; therefore, if students have low motivation due to SLLA, they are less likely to effectively acquire a second language (Liu & Chen, 2015).

<center>**Positive Effects of Second Language Learning Anxiety**</center>

High anxiety is usually correlated with poor performance, and there are only a few sources that highlight a couple positive effects of SLLA. However, because SLLA can never be fully reduced, it is important to note the positive effects of it, which include motivation, a beneficial coordination with foreign language enjoyment, and encouraging structural complexity in speech and writing.

Fear of Failure Drives Motivation

According to Zheng (2008), there is a language anxiety threshold, which is a level of optimal learning in which second language anxiety challenges students but does not overwhelmingly distress them (Zheng, 2008). Kuşçu's research (2017) and Marcos-Llinás and Garau's (2009) research both agree with this language anxiety threshold; they claim that low or medium anxiety levels can make a positive impact on students' learning processes, since their fear of failure motivates them to work hard to try to be successful.

Hayasaki (2018) also performed research regarding SLLA and attempted to shed light on the emic perspectives of Japanese college students who were learning English. She collected data regarding anxiety-provoking experiences through online questionnaires and semi-structured interviews, and she claimed that without tension or anxiety, students may be overoptimistic, which could lead to more boredom and less awareness, productivity, and satisfaction (Hayasaki, 2018).

The Coordination of Anxiety and Foreign Language Enjoyment

Hayasaki (2018) also argued that the presence of anxiety in proper ratio with foreign language enjoyment would boost learning and performance. Enjoyment is defined as "a positive state where challenges and [the necessary] skills to meet them are aligned well", "a state in which psychological needs are being met, and "a basic emotion that arises in situations where people experience desirable outcomes related to personal success and interpersonal relatedness" (Dewaele & MacIntyre, 2014, p. 242; Reeve, 2005, p. 316). It is associated with the urge to play, which is related to brain development and the fostering of social bonds (Dewaele & MacIntyre, 2014). Therefore, Dewaele and MacIntyre (2014) claim that foreign language enjoyment might

be "the emotional key to unlocking the language learning potential of adults and children alike" (p. 261).

Dewaele and MacIntyre (2014) conducted a survey in which 1,746 multilinguals filled out a web-based questionnaire, and one of the goals of this survey was to determine the correlation between foreign language enjoyment and SLLA (Dewaele & MacIntyre, 2014). The results showed that SLLA and foreign language enjoyment are independent emotions and not opposite ends of the same dimension (Dewaele & MacIntyre, 2014). This means that "the absence of enjoyment does not automatically imply a high level of SLLA and the absence of anxiety does not mean a presence of enjoyment" (Dewaele & MacIntyre, 2014, p. 261). Therefore, Dewaele and MacIntyre suggest that the ratio of foreign language enjoyment to SLLA might be more important than the presence or absence of each (2014). This leads Dewaele and MacIntyre (2014) to ask if there is a constructive balance between enjoyment and anxiety, and they conclude:

Consistent with the adaptive nature of emotion in general, and the narrowing effects of negative emotion and anxiety in particular, it is likely that enjoyment and anxiety will cooperate from time to time, enjoyment encouraging playful exploration and anxiety generating focus on the need to take specific action. (p. 262)

Hayasaki (2018) agrees with Dewaele and MacIntyre (2014) and says that in the presence of the correct amount of enjoyment and motivation, anxiety helps stimulate the development of various coping strategies, therefore increasing self-confidence and achievement levels.

Speech and Writing Output

According to Trebits' (2016) study, although processing SLLA has a negative effect on grammatical accuracy, it can also have a "facilitating effect on the structural complexity of

participants' output in both speech and writing" (p. 170). Trebits (2016) claims that learners with higher levels of processing SLLA regarding linguistic encoding are probably more likely to be aware of the challenges that linguistic processing imposes on them. In Trebits' study, he saw that some of the students with higher SLLA harnessed this awareness productively, and it pushed them "to use more varied vocabulary and subordinate clauses" (p. 169).

Overall Research Regarding Second Language Learning Anxiety

Overall, the research has shown that SLLA has mostly debilitating effects on second language learners as they acquire language (Trebits, 2016). This anxiety hinders language performance, specifically in the domains of testing, fluency in speaking, and grammatical accuracy (Zheng, 2008; MacIntyre, 1995; Yang, 2018). Further, it is important to note that at the root of the effects on performance is the cognitive hindrance of SLLA, which is shown through divided attention and a decrease in cognitive abilities (MacIntyre, 1994; Trebits, 2016). In addition, anxiety affects speakers both behaviorally, as it tempts them to avoid certain behaviors and stimulates their sympathetic nervous system, and affectively, as it can hinder their motivation in learning (Horwitz et al., 1986; Lababidi, 2016). There are a few sources that show that lower levels of anxiety sometimes motivate learners to maintain focus and be motivated and successful in their language learning (Kuşçu, 2017; Marcos-Llinás & Garau, 2009). Further, the coordination of foreign language enjoyment and language anxiety might be extremely beneficial for second language acquisition (Dewaele & MacIntyre, 2014; Hayasaki, 2018). Lastly, processing SLLA may sometimes have a facilitating effect on students' structural complexity in writing and speaking. This research prepares the way for teachers to help their students best learn a second language by reducing their SLLA as much as possible and leveraging the remaining anxiety.

Reducing Second Language Learning Anxiety

The overwhelmingly negative effects of SLLA indicate that teachers should do their best to help reduce SLLA as much as possible. To learn how to reduce SLLA, it is helpful to begin by looking at the broader scene of mental health and how anxiety is addressed.

Mental Health Interventions

Schleider and Weisz (2016) claim that mental health advances have not reduced the rates of youth mental illness on a large scale and that effective treatments are often time-intensive, costly, and only selectively available. Therefore, they call for novel approaches to prevent mental health problems, such as implementing brief interventions that target etiological processes underlying multiple forms of psychopathology to reduce the risk for mental health disorders (Schleider & Weisz, 2016).

Scheidler and Weisz (2016) claim that the theory of growth and fixed mindsets can be effectively taught as an intervention to students to reduce their anxiety and depression. Part of this theory says that one's mindset, or their core beliefs regarding the malleability of people's traits, has a large effect on the anxiety and stress that they experience (Schleider & Weisz, 2016). Youths who believe personal characteristics are changeable, those with growth mindsets, experience less academic and self-regulatory distress; they are less likely to show helpless responses to social stress than students with fixed mindsets who believe their personal traits are immutable (Schleider et al., 2015). Further, students with fixed mindsets try to avoid failure and therefore more challenging tasks, whereas students with growth mindsets attempt more difficult tasks since their goal is personal growth (Lou & Noels, 2020). In addition, students with growth mindsets value effort, but students with fixed mindsets dislike effort, as they see it as evidence of low capability (Rattan et al., 2015).

This theory of growth and fixed mindsets led Schleider and Weisz (2016) to conduct a randomized-controlled trial to test whether a single-session intervention that taught growth personality mindsets would reduce known factors for anxiety and depression in adolescents experiencing or at risk for internalizing problems. The study specifically looked at the two well-established risk factors for internalizing problems—low perceived control and prolonged recovery from social stress (Schleider & Weisz, 2016). The results showed that youths who received the mindset intervention recovered more than three times as rapidly from social stress tasks and had improved perceived control (Schleider & Weisz, 2016). Overall, the research showed that brief self-administered interventions about growth mindsets can help students have less anxiety in the face of anxiety-provoking situations; further, the research demonstrated that growth mindsets are very strongly linked with reduced anxiety (Schleider & Weisz, 2016). Rattan et al.'s (2015) research agrees with Schleider and Weisz's, but with a more specific focus on academic mindsets. Rattan et al. (2015) claim that when academic mindsets are growth-focused, they can raise grades and motivation, help students desire to learn and pursue challenges, and increase students' resiliency.

The Importance of Mindsets in Language Learning

Horwitz et al. (1986) have taken research on general and academic mindsets and transferred it to the specific domain of language mindsets. Horwitz et al. (1986) make the bold claim that "probably no other field of study implicates self-concept and self-expression to the degree that language study does" (p. 128). They say this because although adults often perceive themselves as socially adept individuals who are in tune with different socio-cultural norms, these assumptions are challenged when learning a foreign language (Horwitz et al., 1986). Communicating in a second language requires risk-taking, spontaneous and complex mental

operations, and a knowledge of linguistic and socio-cultural standards; further, second language learners are constantly being evaluated by a teacher who is a guru of this language (Horwitz et al., 1986). Therefore, communicating in a second language "challenges an individual's self-concept as a competent communicator and [can] lead to reticence, self-consciousness, fear, or even panic" if one does not have a growth language mindset (Horwitz et al., 1986, p. 128).

Language Mindsets

Language mindsets are defined as people's mindsets about whether their language ability is fixed or can be cultivated (Lou & Noels, 2020). It is important to distinguish between language mindsets and other mindsets because mindsets are often domain-specific, meaning people do not have the same mentalities towards everything in life (Lou & Noels, 2017). For example, students may believe that their math ability is a fixed entity, but that their sports ability is able to grow. Since language learning can occur both inside and outside the classroom through interacting with speakers of the target language, it is a unique educational domain; therefore, "it is reasonable to think that language mindsets are distinct from mindsets in other academic and social domains" (Lou & Noels, 2017, para. 3).

Further, it is important to understand the difference between language mindsets and confidence or self-efficacy. These two concepts are similar because they both are based on one's perceived competence; however, self-efficacy is one's evaluation of one's competence to succeed at particular tasks, but mindsets are "the beliefs about whether this capacity can be developed" (Lou & Noels, 2019, p. 2). This means that "encouraging students to be confident in learning languages or assuring that they can succeed is not the same as fostering a growth mindset" (Lou & Noels, 2019, p. 5).

The two types of language mindsets are fixed/entity mindsets and growth/incremental mindsets. Students who have fixed language mindsets, also known as entity mindsets, believe that language learning requires an ability or intelligence that cannot be changed, and students who have growth language mindsets, also known as incremental mindsets, believe that their language learning ability can be cultivated (Lou & Noels, 2020).

Language Mindsets Inventory

The Language Mindsets Inventory (LMI) is a reliable tool used to measure language mindsets that was developed based on the implicit theory of intelligence scale (Lou & Noels, 2020). The LMI consists of nine fixed language mindset items, such as "[i]t is difficult to change how good you are at learning foreign languages", and nine growth language mindset items, such as "[p]eople can always substantially change their language intelligence" (Lou & Noels, 2020, p. 6). Participants who use the LMI are asked to rate themselves on a 6-point scale, with 1 being "strongly disagree" and 6 being "strongly agree" (Lou & Noels, 2020, p. 26).

Investigative Study of Language Mindsets

A study using the LMI was conducted by Lou and Noels (2016), in which they randomly placed students into two groups and told them the purpose of the research was to investigate language ability and language attitudes. One group was given a mock article promoting fixed/entity language theory, and the other was given a mock article promoting growth/incremental language theory (Lou & Noels, 2016). After the manipulation, the participants filled out another questionnaire and were briefed about the manipulation and the true purpose of the study; they wanted to test the mindsets-goals-responses model. This model states that learners' mindsets predict the type of goals students set in language learning, which then influence how students respond to challenging language learning tasks (Lou & Noels, 2016).

The Effects of Holding Fixed/Entity Language Mindsets

The results showed that students with fixed language mindsets set more performance goals, in which their aims were to demonstrate and prove knowledge and ability, not simply to learn (Lou & Noels, 2016). Students with *high* perceived L2 competence often set performance-approach goals—goals in which they can prove that they can be labeled as smart and capable (Lou & Noels, 2017). Those with *low* perceived L2 competence set performance-avoidance goals, often asking themselves how they can best avoid failure (Lou & Noels, 2017).

Further, since these students who were primed to have fixed language mindsets set more performance goals, they had higher anxiety, avoided feedback, and refrained from trying to answer challenging questions in the classroom (Lou & Noels, 2016). They were more fearful of failure because students with fixed mindsets typically see failure as an indication that they lack both the ability to learn and natural talent in that domain; this might cause them to try to protect their self-esteem by avoiding threatening situations or engaging in self-destructive behaviors such as refusing to put effort into assignments and self-handicapping (Lou & Noels, 2020; Lou & Noels, 2016).

The Effects of Holding Growth Language Mindsets

In contrast, students who were primed in the study to have growth language mindsets set more learning goals, meaning students aimed to gain knowledge and improve their abilities for the sake of learning (Lou & Noels, 2017). This caused the students to have less anxiety, respond positively to failures in the classroom, be more motivated to persevere and learn the language, and attempt more challenging questions (Lou & Noels, 2016). This is because growth-minded students attribute performance to controllable effort rather than uncontrollable ability, which causes them to concentrate on mastering challenges and improving their competence (Lou &

Noels, 2019). Growth-minded students see mistakes as learning opportunities and strive for mastery (Lou & Noels, 2019). Overall, the results of this study verified the "mindset-goals-responses" model, which says that "learners' mindsets predict goal orientations, and in turn predict adaptive and maladaptive responses in failure situations" (Lou & Noels, 2016, p. 23).

A Study of Mindsets and Social Interaction

Lou and Noels (2020) conducted a social interaction task, a double-blind randomized experiment, and a preregistered cross-sectional survey to determine the effects of language mindsets on students' interactions with others. They used the LMI, the Positive and Negative Affect Schedule (PANAS), and other forms of measurement to obtain qualitative data (Lou & Noels, 2020). The results from the social interaction task showed that students with low-English competencies and growth language mindsets avoided less, had more positive feelings, and were more motivated for future interactions with native English speakers (Lou & Noels, 2020). The researchers noted that with low achieving and medium achieving students, there has been a much stronger correlation between growth mindsets and improved academic performances than with higher-achieving students (Lou & Noels, 2020).

The results from the double-blind randomized experiment showed that endorsing growth mindsets in low-competence students helped them to perceive less rejection in a conversation with a peer and to feel more motivated to interact in a second language (Lou & Noels, 2020). Further, the results from the cross-sectional survey indicated that fixed language mindsets in low-competence students led them to interact less in English with peers (Lou & Noels, 2020). The consensus from the three studies is that "beliefs about the malleability of language ability can motivate ESL students to communicate with peers, especially those who perceive they lack English competence" (Lou & Noels, 2020, para. 68).

Contextual Influences on Language Mindsets

Multiple levels of contexts can affect language mindsets (Lou & Noels, 2019). At the broadest level, views of the macro system that exist in mainstream culture, such as "the belief that only highly intelligent or younger people can 'really' learn new language, or the idea that second language learning requires natural talent", spread through the meso system of learning institutions and mass and social media, influencing the mindsets of both teachers and students (Lou & Noels, 2019, pp. 15-16). Since there is variety in mainstream culture, mindsets also differ cross-culturally (Lou & Noels, 2019). For example, East Asian countries often emphasize the importance of self-improvement, whereas Western countries with Protestant Christian culture emphasize self-enhancement and positive self-preservation; therefore, it is possible the growth-mindset system is more prevalent in East Asian Confucian culture (Lou & Noels, 2019). Further, it is also possible that society's views of multilingualism and their language ideology could shape their language mindsets (Lou & Noels, 2019). For example, multilingual societies might be more likely to have growth language mindsets, since most people have the opportunity to learn and speak multiple languages (Lou & Noels, 2019).

In addition, Lou and Noels' (2019) study demonstrated that socioeconomic status can influence language mindsets. In their research, students from low socioeconomic status backgrounds were more likely to hold fixed language mindsets (Lou & Noels, 2019). One reason for this could be that students with economic disadvantages have diminished access to resources and opportunities, which can cause them to feel helpless and believe that they cannot improve their abilities (Lou & Noels, 2019). In contrast, when students are in economically stable or flourishing environments, they have more opportunities to learn and may develop growth mindsets about their abilities (Lou & Noels, 2019).

Further, students' micro systems can affect their mindsets as they interact with teachers, different learning materials, parents, and peers (Lou & Noels, 2019). In performance-oriented environments, students will likely develop fixed mindsets, whereas in learning-oriented environments, students are more likely to develop growth mindsets (Lou & Noels, 2019). In addition, a teacher's response to success and failure can be instrumental to the different mindsets that their students develop, and other motivational factors such as goal orientations and failure attributions are also linked to language mindsets (Lou & Noels, 2019). Further, parental attitudes towards language education and the type of media used in the target language also influence the mindsets of learners (Lou & Noels, 2019).

Students' intraindividual factors, such as their personal histories or cognitive abilities, can also affect their mindsets (Lou & Noels, 2019). For example, students with low aptitude levels may experience failure more frequently, or students with enduring personality traits, such as higher levels of neuroticism, may experience more anxiety when faced with academic challenges; both scenarios may reinforce fixed language mindsets (Lou & Noels, 2019). In contrast, if a student was raised to be bilingual, they might hold the belief that language learning ability is not innate and may adopt a growth mindset (Lou & Noels, 2019). Lastly, students' mindsets can change over time as they encounter new contexts. The transition to higher education, study abroad, or other new challenges may all cause a shift in the mindsets of students (Lou & Noels, 2019).

The Complexity of Language Mindsets

Although there are only two categories of language mindsets, it is more complex than that, as students may possess both entity and incremental beliefs (Lou & Noels, 2017). In fact, research in mindsets has shown that rather than having one mindset fully, all people have

mixtures of fixed and growth mindsets that they switch between (Lou & Noels, 2016). Further, research has also shown that people can be influenced to have one mindset more than another based on the instruction or education that they receive about mindsets (Lou & Noels, 2016).

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Pedagogical Implications

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Since research has demonstrated that mindsets can be influenced, educators can and should "develop useful tools for changing students' mindsets and helping them to improve their educational outcomes" (Lou & Noels, 2016, para. 11). Some examples of tools teachers can utilize are providing their students with explicit instruction regarding language mindsets, clarifying the role of failure, fostering a positive learning environment, giving effective feedback, and having growth mindsets themselves (Lou & Noels, 2016; Lou & Noels, 2017).

Explicit Instruction

Lou and Noels (2016) encourage teachers to provide explicit instruction regarding language mindsets because the study they conducted in 2016 showed that it is "effective to explicitly teach students the scientific evidence about incremental theories through lectures and other types of intervention so that students can learn that they can improve their language ability and establish a sense of mastery over the learning process" (para. 49). Teachers can use class activities or intensive in-school workshops to formally teach students about how research has shown that language intelligence can "grow like a muscle", and they can encourage their students to focus on learning and growth rather than simply demonstrating what they know or avoiding what they do not (Lou & Noels, 2017, para. 72). Further, teachers can also utilize internet-based interventions, as research has shown that they can be effective to promote incremental beliefs, change students' mindsets, and cause their grades to improve (Lou & Noels, 2017). Lastly, studies have also shown that those who have learned about incremental mindsets

feel less anxiety; therefore, all these benefits make it clear that explicit instruction should be a priority of teachers (Lou & Noels, 2017).

The Role of Failure

Further, educators should emphasize the positive role of failure as a catalyst for improvement and growth because this can help students focus less on their fear of failure and more on the potential to learn (Lou & Noels, 2016). It may be beneficial for educators to explain to their students the process of U-shaped learning, which is a three-step cognitive-developmental cycle in which "the learner first learns the correct behavior, then abandons the correct behavior, and finally returns to the correct behavior once again" (Carlucci & Case, 2013, p. 57). Carlucci and Case (2013) performed a study in which they sought to discover the necessity of U-shaped learning, and they concluded that in most learning process, including language learning, U-shaped learning is necessary for full learning power (Carlucci & Case, 2013). Therefore, teachers should teach students that failure is necessary to best acquire a second language to help change their students' perspective of failure (Carlucci & Case, 2013).

The role of failure needs to be clarified not only for students with fixed mindsets, but also for those with growth mindsets (Lou & Noel, 2019). Although growth-mindsets often motivate people to overcome difficulties, they may also cause students to be overly critical of themselves and struggle with feeling that their failure is due to lack of effort, which may impair their performance and inhibit them from moving on to develop other abilities (Lou & Noels, 2019). Therefore, teachers should show students how to critically evaluate the barriers that influence their growth; failure may not always be due to lack of effort (Lou & Noels, 2019). In addition, teachers should not put pressure on their students by saying, "if students put in effort, they

should not fail repeatedly" because this may overstate the controllability of language aptitude in an unrealistic way that could increase anxiety (Lou & Noels, 2019, p. 24).

The Learning Environment

Teachers can implicitly cultivate growth mindsets through creating a learning environment that encourages growth-mindsets and social engagement, which should help reduce SLLA (Lou & Noels, 2016; Lou & Noels, 2020). This is especially beneficial because teachers cannot rely on explicit instruction alone, as most students' mindsets change between growth and fixed in different situations (Lou & Noels, 2016). Some useful tools for teachers to develop growth mindsets are effective motivational techniques, everyday classroom interventions that help students feel safe to make mistakes, and time set apart for students to reflect on growth versus fixed mindsets (Lou & Noels, 2019). Further, teachers can encourage students to make corrections on their assignments or show how test content is related to language development, which places the emphasis on learning rather than performance (Lou & Noels, 2019). Lastly, since comparing oneself to others can lead to fixed mindsets, it may be beneficial for teachers to encourage students to set goals that show personal progress relative to themselves and not in competition with others (Mercer & Ryan, 2010). Highlighting students' personal progresses may help develop and maintain their growth mindsets (Mercer & Ryan, 2010).

Feedback

Whether teachers give effort-related feedback or entity comfort feedback can influence students' language mindsets (Lou & Noels, 2017). Teachers' feedback should be focused on the learning process and improvement (effort-related feedback), rather than intelligence and fixed attributes (entity comfort feedback) (Lou & Noels, 2016). For example, it is beneficial to say, "[t]he point of language learning is not to get it without mistakes. The point is to grow your

mastery step by step. What can you try next?", as this feedback emphasizes the process of learning (Lou & Noels, 2016, para. 49). It can be harmful to students' mindsets to say, "[y]ou are talented in languages" or "not everyone is good at English", as this emphasizes students' fixed attributes (Lou & Noels, 2016, para. 49). L2 teachers need to pay attention to the implicit messages that their feedback gives to the students and should highlight effort and learning goals, rather than performance goals (Lou & Noels, 2016).

The Mindsets of the Teachers

Lastly, if teachers are to help students have incremental mindsets, they must have incremental mindsets themselves (Lou & Noels, 2016). If teachers believe that a student's innate ability predicts their potential for language success rather than believing that students have the potential to improve and master languages, they will be less likely to motivate students to grow and will likely emphasize performance goals (Lou & Noels, 2016). Teachers with entity-oriented mindsets create less supporting learning environments for their students and will likely endorse fixed mindsets in their students (Lou & Noels, 2016). Further, teachers must be aware that even when students have strong growth mindsets, they may feel helpless if not provided with the tools and metacognitive strategies to put their efforts into focused use. This should encourage growth-minded teachers to "equip learners with the necessary strategies and skills to ensure their efforts lead to actual improvement" (Mercer & Ryan, 2010, p. 443).

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Leveraging Second Language Learning Anxiety

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Although teachers should try their best to reduce as much SLLA as possible through addressing language mindsets, it is impossible to completely eradicate it; therefore, teachers should leverage the remaining SLLA by being extremely intentional to encourage their students to think of anxiety not as warning lights of danger but as motivation to learn. In addition,

Hayasaki's (2018) claim that a proper ratio of enjoyment and anxiety might boost learning and performance shows that both teachers and peers should leverage the feelings of anxiety by seeking to foster foreign language enjoyment.

Peers can facilitate enjoyment as they form social bonds and support one another (Dewaele & MacIntyre, 2014). Teachers can foster foreign language enjoyment by helping their students set clear and achievable goals to increase their motivation, teaching their students to develop resilience and perseverance in the face of obstacles, and encouraging individuals as they progress (Hayasaki, 2018). A student from Dewaele and MacIntyre's study said, "…I realized I could write a lot more Japanese than I initially thought, which was quite amazing… I felt… like my learning was paying off, and that I am actually ABLE to use the language, finally, to express things" (p. 259). This quote shows that when students see their progress and feel that their work is paying off, they are motivated to continue learning the language; therefore, teachers should intentionally highlight progress.

Another way that teachers can increase enjoyment is by choosing activities that empower student choice, such as discussion, debates, or group projects relevant to the students' interests; teachers should give the students a sense of autonomy and the opportunity for creativity (Dewaele & MacIntyre, 2014). A student in Dewaele and MacIntyre's (2014) study gave this feedback, "[l]ast year my classmate and I made a short French film about the dangers of too much partying in first year and it was hilarious to make and show to the class, I enjoyed the freedom and creative aspect of it" (p. 257).

In addition, teachers should be positive, humorous, well-organized, encouraging, and respectful, creating a classroom environment that facilitates enjoyment (Dewaele & MacIntyre, 2014). A student in Dewaele and MacIntyre's study (2014) said this:

> [In] my favorite FL class, intermediate German class, the teacher teased us so that we
>
> ended up laughing together when we made mistakes. Once we had to describe art in class
>
> and there were some objects in the pictures that we didn't know. Most people substituted
>
> English words with a German accent on them, but I 100% of the time would substitute
>
> the French word. The teacher would scold me and at first it was embarrassing but it
>
> happened so often that it quickly became a joke. At the time, I couldn't really separate the
>
> two foreign languages in my mind, but every French joke in that German class replaced
>
> my anxiety with laughter. So I suppose this isn't really an episode, but a series of events
>
> that I enjoyed and that I feel cured some of my linguistic insecurity. (p. 258)

This student's perspective shows that when teachers cultivate an atmosphere where they and the students can laugh when things do not go as planned, enjoyment is increased and negative tension is decreased (Dewaele & MacIntyre, 2014). Overall, according to Hayasaki (2018) and Dewaele and MacIntyre (2014), if teachers utilize these techniques to leverage SLLA and increase enjoyment, they will help their students learn effectively (Hayasaki, 2018).

Conclusion

Students learning a second language often experience SLLA (Zheng, 2008). The effects of SLLA are multifold, with the majority being negative (Zheng, 2008). High language anxiety is associated with low language performance, hindered cognitive processes, detrimental behavioral processes, and decreased affective motivation in language (Castillejo, 2018; Chakrabarti and Sengupta, 2012; Horwitz et al., 1986; Lababidi, 2016; Liu & Huang, 2011; MacIntyre, 1994; MacIntyre, 1995; Trebits, 2016; Zheng, 2008). The few positive effects of SLLA include increased motivation, a positive coordination with foreign language enjoyment, and increased structural complexity in speaking and writing (Marcos-Llinás and Garau, 2009; Dewaele &

MacIntyre, 2014; Trebits, 2016). Simply having knowledge of the effects of SLLA is not enough for academic professionals and students; they must know how to reduce this anxiety. One of the best ways to reduce this anxiety is through changing one's language mindset from fixed-oriented to growth-oriented (Lou & Noels, 2017). Studies have shown that students with fixed mindsets have higher SLLA and poorer learning abilities, whereas students with growth mindsets have less SLLA and better learning abilities (Lou & Noels, 2016). The research demonstrates that people fluctuate between growth and fixed mindsets, and the mindset they gravitate towards is largely influenced by context and external factors (Lou & Noels, 2016). Therefore, it is beneficial for teachers to foster growth language mindsets in their students through providing explicit instruction about mindsets, discussing the role of failure, fostering a positive learning environment, providing effective feedback, and holding incremental mindsets themselves (Lou & Noels, 2016). Although eradication of SLLA is ideal, it is impossible to completely eliminate SLLA. After attempting to reduce SLLA as much as possible, one way teachers should leverage the remaining SLLA is by increasing students' enjoyment of second language learning so that the anxiety and enjoyment can cooperate for optimal learning (Dewaele & MacIntyre, 2014). Overall, teachers and students can benefit from this research by decreasing SLLA and its negative effects through fostering growth mindsets and leveraging the remaining SLLA through increasing foreign language enjoyment.

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