


Article

Evaluating the Impact of the Language Mindset Toolkit among Thai Undergraduate Students

Jeffrey Dawala Wilang 

School of Foreign Languages, Suranaree University of Technology, Nakhon Ratchasima 30000, Thailand;
wilang@g.sut.ac.th

Abstract: This study reports the impact of a language mindset toolkit in influencing the language mindsets of Thai undergraduate students. An explanatory sequential mixed method design was used to determine how language mindset changes and know the students' language learning insights through a focused mindset intervention. Data from 67 students chosen from convenience sampling completed language mindset surveys, journal entries, and semi-structured interviews were analyzed. Descriptive statistics was used to analyze the survey data, while thematic and content analyses were utilized for journal entries and interview data. Key findings revealed a notable shift from a fixed to a growth mindset, particularly in language learning abilities. While mindsets related to intelligence and age sensitivity remained relatively stable, there was a marked change in participants' belief in the malleability of their language learning abilities, underpinned by the principles of effort and persistence. Thematic analysis of journals supports these findings, with themes such as knowing about language mindset in learning, putting effort into language learning, setting goals in language learning, using strategies in language learning, and regulating emotions in language learning. Meanwhile, the content analysis of individual interviews revealed insights such as appreciating self, motivating self in language learning, and gaining self-efficacy. Growth mindset-oriented interventions could transform the students' beliefs in language learning.

Keywords: growth mindset; language mindset; mindset toolkit; Thai; undergraduate students



Citation: Wilang, J.D. Evaluating the Impact of the Language Mindset Toolkit among Thai Undergraduate Students. *Educ. Sci.* **2024**, *14*, 844. <https://doi.org/10.3390/educsci14080844>

Academic Editor: Sarit Ashkenazi

Received: 20 June 2024

Revised: 1 August 2024

Accepted: 5 August 2024

Published: 5 August 2024



Copyright: © 2024 by the author. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

Language learning is a complex, multifaceted process influenced by various cognitive and emotional factors. A learner's mindset is a significant aspect that shapes the ability to acquire a new language. The dichotomy of 'fixed' versus 'growth' mindsets has profound implications for educational practices and personal development [1]. A fixed mindset, characterized by the belief that intelligence and abilities are static, has been linked to a reluctance to engage in challenging tasks and a tendency to avoid failure [1]. Conversely, individuals with a growth mindset believe their abilities can be developed through dedication and hard work. They embrace challenges and persist despite setbacks [2].

The study conducted by Lou and Noels [3] delves into three critical variables within the domain of language mindset derived from second language acquisition theory (SLA): general language intelligence, second language aptitude, and age sensitivity. General language intelligence encompasses the capacity to comprehend and effectively use language in oral and written communications [4]. Individuals with high language intelligence exhibit proficiency in reading, writing, and storytelling [3]. Second language aptitude pertains to one's adeptness in acquiring a new language [5], enabling a nuanced grasp of linguistic complexity. Age sensitivity—the beliefs on the role of age in language learning, correlates with the individual's language learning capabilities [6].

Beyond these variables, numerous factors shape language mindset, including learning experiences, environmental influences, socioeconomic status, and societal norms [7,8]. One study shed light on how successes or failures during academic terms can significantly

influence mindset shifts [9]. Another study illustrated the potent moderating effect of a growth mindset, particularly among students with lower socioeconomic status, aiding them in navigating pressure [7]. Recent work has highlighted the intriguing role of language learning contexts in shaping students' mindsets, noting the nuanced interplay between a growth mindset and societal norms [8].

In Thailand, previous studies have underscored the positive impact of a growth mindset on students' learning, advocating its integration into language-teaching pedagogy [10,11]. Despite this, many Thai students often grapple with anxiety in language classrooms [12], stemming from fear of negative evaluation, low self-esteem, and diminished motivation. One study echoed these findings, revealing that students with lower reading comprehension often lack confidence in tackling challenging passages [13]. Moreover, the diversity in language proficiency among Thai students across regional contexts, notably evident in the Central region's markedly higher English language proficiency than other areas, poses specific challenges [14]. The challenges Thai students face provide insights into the prevalent language mindsets and the psychological factors that influence them. Hence, a deeper exploration of the complexities of language mindsets is imperative.

This study examined the impact of the language mindset toolkit among Thai undergraduate students. By analyzing learners' beliefs on intelligence, ability, and age sensitivity, this study aims to determine how language mindset changes over time and know their insights on how a focused mindset intervention affects students' perceptions about language learning in the short term. Two questions are sought: (1) How does language mindset change over time? and (2) How does a focused mindset intervention affect students' perceptions about language learning in the short term?

2. Literature Review

2.1. Mindsets and Language Learning

The concept of mindset has gained traction in educational psychology, particularly through Dweck's [1] seminal work on growth and fixed mindsets. This dichotomy encapsulates fundamental beliefs about the malleability of personal attributes and shapes individuals' responses to challenges [1,15]. A growth mindset, synonymous with incremental theory, signifies a belief in personal development potential through effort and effective strategies [15]. Conversely, a fixed mindset, synonymous with entity theory, aligns with believing in innate and unchangeable talent and intelligence [16].

Recent studies have suggested a continuum of mindsets reflecting fluctuations and adopting mixed mindsets in authentic classroom contexts [17,18]. This indicates the need to investigate mindsets as a dynamic construct to understand their nuances [19]. In the field of second language education, mindset emerges as a specific construct that encompasses beliefs related to general language intelligence, second language aptitude, and age sensitivity [3,20]. Growth language mindsets entail beliefs in the potential to improve language intelligence and capabilities through effort, irrespective of age, whereas fixed language mindsets perceive limitations in language learning intelligence and abilities constrained by age [20]. Recent studies have revealed that various factors influence students' language mindsets. For instance, Sadeghi et al. [20] demonstrated a relationship between goal orientation and the mindset of English as a Foreign Language (EFL) students, where a fixed mindset correlated positively with performance-based goals.

Growth mindsets displayed moderate positive correlations with overall goal orientation, particularly performance-based goals, and weak connections with learning-oriented goals. Notably, no association was found between a growth mindset and performance-avoidance goal orientation. These patterns are supported by recent studies that indicate a significant correlation between a fixed mindset and performance goals, whereas students with growth mindsets tend to seek corrective feedback to improve their language learning [21,22]. Interpretations of setbacks also differ among students with fixed and growth mindsets, influencing their responses to failures [23,24]. Students with a growth mindset

exhibit greater effort in language learning, potentially leading to increased persistence and higher language achievement [25,26].

Additionally, these mindsets influence emotional experiences, with fixed-oriented students being more prone to anxiety, whereas growth-oriented students display better emotional regulation and resilience [27,28]. The adoption of a growth language mindset offers multiple advantages for language learners. It has been associated with mitigating negative self-perception effects among students with lower socioeconomic status, emphasizing their ability to control and improve learning [29]. Similarly, studies have shown that a growth language mindset correlates with valuing written corrective feedback, persistence in applying effort, active seeking of feedback, and enhanced self-regulation in language learning, all contributing to improved academic performance [20,25,30,31].

Fostering a growth language mindset influences individual success and cultivates adaptive learning behaviors and resilience among language learners. This underscores the importance of comprehensive language learning policies and a deeper understanding of growth language mindset concepts.

2.2. Transforming Mindsets

Interventions to shift learners from a fixed to a growth mindset show promise in enhancing motivation and academic achievement [32]. Techniques such as goal setting, self-reflection, and reframing failures as learning opportunities are instrumental in this transformation [33]. These interventions, heralded for their capacity to enhance motivation and academic performance, have sparked interest because of their nascent stage of development, resulting in varied outcomes across different contexts [34]. A comprehensive meta-analysis encompassing 63 studies with nearly 100,000 participants identified methodological issues in study execution, analysis, and reporting [35]. Despite reporting a moderate effect of the mindset intervention, these findings suggest a potential connection to the inadequacies in the intervention design.

Moreover, recent research by Burnette et al. [34] delineated guidelines for effective mindset interventions, revealing that these interventions integrate diverse strategies to foster a growth-oriented perspective among learners, with goal-setting emerging as a prominent strategy. Encouraging individuals to set challenging yet attainable goals aligned with growth-oriented mindsets engenders purpose and direction in language learning and propels individuals toward continuous improvement and personal development [36,37]. However, Parada and Verlhac's study [38] indicated that despite the initial impact of mindset interventions implementing goal-setting strategies on participants' mindsets, such effects did not persist over time, aligning with broader research suggesting limited long-term effects of these interventions, even when well-designed.

In addition, the revised intervention did not significantly surpass the original, underscoring the need for tailored interventions attuned to specific contexts and indicating the potential limitations of mindset theory's universality, especially among university students. Martow et al.'s research [39] employed goal-setting strategies within mindset interventions to enhance students' interpersonal skills and highlighted the effectiveness of mindset and goal-setting interventions in amplifying students' social interactions through mindset, behavioral therapy approaches, and skill development.

Self-reflection is another pivotal aspect of interventions targeting mindset shifts [34,40]. It was revealed that engaging students in self-reflection fosters metacognitive skills, enabling students to analyze their classroom behavior, learning processes, strengths, and areas for improvement [40]. This introspection facilitates a deeper understanding of abilities and cultivates the belief that effort leads to growth and skill enhancements. Furthermore, reframing failures as invaluable learning opportunities constitutes a fundamental facet of mindset interventions [34]. Goodman et al. [41] asserted that reframing failures could aid in shifting students' perception of failure from a negative experience to a positive opportunity for growth.

However, acknowledging the strong emotional impact of failure, it is imperative for educators to guide students in mindfully reflecting on failures and transforming them into

valuable learning opportunities through evaluation and lesson extraction, particularly in high-challenge situations. Integrating these techniques into educational frameworks has exhibited promising outcomes, with curricular and pedagogical adjustments effectively nurturing growth mindsets among students [2]. For instance, incorporating reflective practices into coursework and offering guidance on setting adaptive learning goals aligns with such endeavors. In summary, interventions intended to instill a growth mindset among learners have the potential to revolutionize educational landscapes by fostering resilience, motivation, and continuous improvement [40,42]. When seamlessly integrated into educational settings, these strategies can mold mindsets and empower learners to actualize their full potential. Transforming mindsets for learner benefits requires targeted interventions focused on reshaping beliefs about intelligence and abilities [38].

Comprehensive education, role model demonstrations, and an environment-valuing effort over innate talent are integral to this transformation [3]. Educators have contributed significantly to this paradigm shift by imparting effective learning strategies, offering positive reinforcement, and fostering supportive learning environments. Continuous evaluation, curriculum-wide integration, and community engagement are crucial pillars for consolidating a shift toward a growth-oriented mindset, fostering resilience, motivation, and an unwavering belief in continuous improvement.

3. Methodology

This study is part of a larger study that uses an explanatory sequential mixed-method design to explore the general and language mindsets of undergraduate students in Thailand. Quantitative data using a survey on general and language mindsets were collected, followed by a quasi-experimental design gathering data from language mindset surveys, journals, and interviews. In the larger study, surveys assessing the general and language mindsets of 1184 undergraduate students enrolled in one of Thailand's top-ranked science and technology universities were collected using convenience sampling. Next, language mindset was explored using a more focused sample in the Language Mindset Toolkit phase. This paper only reports the results of the quasi-experimental phase, as the other data were published elsewhere see [43].

3.1. Participants of the Study

The participants in the quasi-experimental group were from an intact class of 67 engineering students in one of the English foundation courses. They consented and participated in the Language Mindset Toolkit to promote a growth mindset in language learning. They were surveyed regarding their language mindsets over six weeks. Additionally, these participants maintained weekly journal entries to document their insights and reflections on the toolkit. After the intervention phase, semi-structured interviews were conducted with 13 participants to gain deeper qualitative insights into their experiences and perceptions about the language mindset toolkit. All participants were selected using convenience sampling. They have signed the consent form to be part of the study as mandated by the Ethics approval of the university's Institutional Reviews Board (IRB).

3.2. Instruments in the Study

3.2.1. The Mindset Toolkit in Language Learning

The toolkit is a structured program designed to foster the development of a growth mindset in the context of language learning. It is a collection of short videos distributed to participants weekly on a toolkit—both on the hard drive and Google Drive. The contents are based on Dweck's [1] mindset theory and Lou and Noel's [43] language mindset meaning-making system framework. The Language Mindset Meaning-making System (LMMS) proposed by Lou and Noels [3] is a theoretical framework that examines the impact of individuals' language mindset beliefs on their motivation and behaviors. According to the LMMS, individuals who hold a growth mindset, believing that language abilities can be developed through effort and practice, are more likely to engage in effective learn-

ing strategies, persist despite challenges, and ultimately attain higher levels of language proficiency. In contrast, those who possess a fixed mindset, perceiving language abilities as innate and unchangeable, are more inclined to avoid challenges and discontinue efforts when faced with difficulties.

It consisted of six sessions over six weeks (see the details in Table 1). In each session, English was mainly used to discuss concepts; however, subtitles were provided for comprehensibility when a speaker used Thai.

Table 1. The Language Mindset Toolkit.

Week	Session	Duration	Topic	Content
1	1	9.26 min	Mindset—Growth and Fixed	This introductory session differentiated between growth and fixed mindsets, establishing foundational concepts that shaped the remainder of the workshop.
2	2	10.16 min	How to Develop Growth Mindset	The second session provided strategies for cultivating a growth mindset, emphasizing the importance of embracing challenges, persisting in the face of setbacks, and seeing effort as a path to mastery.
3	3	9.58 min	Setting Your Goals in Language Learning	The third session focused on the significance of setting achievable and meaningful goals in language learning to motivate and guide learners through their language acquisition journey.
4	4	8.41 min	Putting Effort in Language Learning	This session underscores the value of consistent practice and effort, debunking the myth that language proficiency is an innate talent rather than a skill developed through diligent work.
5	5	10.43 min	Dealing with Setbacks and Feedback in Language Learning	The fifth session addressed how to constructively handle criticism and setbacks. This encourages learners to view mistakes as an opportunity for growth and learning.
6	6	9.27 min	Regulating Negative Emotions in Language Learning	The final session addressed the emotional aspect of language learning. It offers techniques for managing anxiety, frustration, and other negative emotions that may hinder language acquisition.

The toolkit underwent a comprehensive validation process involving experts in applied linguistics to ensure the efficacy and appropriateness of the target audience. The experts assessed various aspects of the toolkit, including the following: accuracy of the content (factual correctness and relevance to language learning mindsets), usefulness (determining its potential impact on language learning), bias-free content (identifying and removing any potential biases that could affect the objectivity of the learning experience), content presentation (organization and presentation were scrutinized for clarity and comprehensibility), application (applicability of the toolkit in real-world educational settings), toolkit design (design of the toolkit, including its structure and sequence of topics, was assessed for logical flow and effectiveness), and visual and audio quality (quality of visual and audio elements was evaluated to ensure they were engaging and of a standard that would facilitate learning). A hundred percent agreement between the two validators was attained.

3.2.2. The Language Mindset Survey

The language mindset survey utilized in this study was adopted from Lou and Noels [24] and tailored to effectively measure the language mindsets of Thai undergraduate students (see Appendix A). The survey (Thai and English) was structured into three sections, each with six items, focusing on different mindset aspects concerning language learning. The first section on intelligence assesses participants' beliefs about the malleability of their language intelligence. Some items reflect a fixed mindset, suggesting that language intelligence is static and unchangeable (e.g., "To be honest, you can't really change your language intelligence"). Other items indicate a growth mindset, proposing that language intelligence can be signifi-

cantly improved through effort and practice (e.g., “No matter who you are, you can significantly improve your language intelligence level”). The second section focuses on participants’ perceptions of their capacity to learn new languages. Some statements suggest this ability is innate and cannot be altered (e.g., “You can’t change how capable you are at learning new languages”). Conversely, other items imply that with dedication and effort, one’s ability to learn languages can be greatly enhanced (e.g., “No matter how much ability you have in learning new languages, you can improve it considerably”). The last section of age sensitivity explores beliefs about the impact of age on language learning capability. Some items imply that language learning ability is severely limited after a certain young age (e.g., “After a certain young age, you have very limited ability to learn new languages”). In contrast, other items assert that age does not restrict the potential for improvement in language learning (e.g., “No matter how old you are, you can always improve your ability to learn new languages”).

The survey was designed with a 6-point Likert scale to encourage students to respond definitively rather than opting for a neutral midpoint. This design choice was intended to yield more decisive data regarding their mindsets. To establish the reliability of the survey items, the Cronbach Alpha coefficient was calculated (0.96) [43].

3.2.3. Journal Entries

All study participants ($n = 67$) were required to complete an online journal following each toolkit session. This was designed to prompt introspection about the specific topic covered in the session and to encourage students to consider how the content might influence their English language learning experience. Such journals could provide a nuanced understanding of how the toolkit influenced students’ mindsets and identify any patterns or common themes in their learning experiences. These qualitative data complement the quantitative data from the weekly language mindset survey, offering a more comprehensive picture of the intervention’s impact.

3.2.4. Semi-Structured Interview

In the semi-structured interviews, which lasted between five and eight minutes per individual, the participants were asked to reflect on their experiences and strategies in language learning in relation to a growth mindset. The questions probed their understanding and personal definition of a growth mindset within the context of acquiring new languages (for example, What does having a growth mindset mean to you in the context of language learning?), instances in which they embodied this mindset, and their methods for dealing with setbacks and negative emotions (for instance, How do you approach setbacks and mistakes in language learning before and after watching the language mindset toolkit?). Additionally, the participants discussed their motivational strategies, the balance between discipline and adaptability, incorporating feedback into their learning, the resources they utilized, and their methods for tracking progress. Finally, they contemplated the future trajectory of their language learning journey and the steps necessary for ongoing development.

3.3. Data Collection Procedures and Analysis

After validating the toolkit, it was distributed to the participants individually.

- Before the start of each class, each participant was instructed to watch the assigned session for the specific week.
- After viewing each session in class, participants were asked to complete an online language mindset survey to measure their beliefs about intelligence, ability, and age sensitivity.
- Additionally, they were asked to write a journal entry for each session during their free time, allowing for personal reflection on their language learning experiences.
- After six weeks, thirteen students volunteered and consented to participate in the individual interviews.

To answer the research questions, this study employed the following steps to analyze the data.

- First, weekly survey data were quantitatively analyzed using descriptive statistics to address research question one on how language mindset changes over time. Mean scores and standard deviations were computed for each session, highlighting shifts in participants' mindsets across different time points over six weeks. This quantitative analysis illustrated the fluctuating nature of students' language mindsets in response to the intervention.
- Second, qualitative data from journal entries were analyzed using thematic analysis to complement the survey data, following the framework outlined by Braun and Clarke [44]. This involved becoming familiar with the data, generating initial codes, searching for themes, reviewing themes, and defining themes to gain deeper insights into students' perceptions, beliefs, and attitudes toward language learning. Ten initial codes were generated, and the frequency of each code was determined. Five themes were generated thereafter.
- Third, content analysis was applied to the semi-structured interviews to further explore the participants' key insights, and eleven themes were elicited.
- To ensure validity of the themes, two colleagues who are experts in applied linguistics rated both thematic and content analysis and reached 100 percent agreement, confirming the validity of the analyses.

4. Results

Research Question 1. How does language mindset change over time?

To answer the sole question in this study, Table 2 shows the mean scores of the participants' mindsets in each session. Intelligence and age sensitivity factors showed stable mindsets over six weeks. However, for ability, the reported scores reflected a dramatic increase in the mindset shift of participants from a fixed to a growth mindset while engaging with the Language Mindset Toolkit over six sessions. The scores in the initial three sessions (1.83 to 2.04) suggest that the participants started with a predominantly fixed mindset regarding their language learning abilities. This could imply that their ability to learn a language is static and unlikely to change significantly. The slight increase across these sessions indicated the beginning of a mindset shift, possibly because the participants were exposed to the concept of a growth mindset and started to contemplate its relevance to their own learning. An average group score of 5.12 is significant and suggests a substantial shift in ability mindset. This session focused on the importance of effort in language learning, which resonated deeply with participants. Such a high score implies a strong endorsement of the idea that abilities can be developed through dedication and hard work. The ability scores remained high (5.15 and 5.13, respectively), indicating that the initial shift was maintained, as the toolkit addressed dealing with setbacks and regulating negative emotions in sessions 5 and 6. These are advanced concepts in adopting a growth mindset, suggesting that the participants could internalize and apply these concepts to their views on language-learning abilities.

Table 2. Language mindsets of Thai undergraduate students over six weeks.

Session/Factor	Intelligence		Ability		Age Sensitivity	
	M	SD	M	SD	M	SD
Session 1	3.46	0.09	1.83	0.18	3.41	0.17
Session 2	3.42	0.04	1.85	0.11	3.45	0.14
Session 3	3.42	0.13	2.04	0.12	3.43	0.16
Session 4	3.56	0.15	5.12	0.13	3.54	0.13
Session 5	3.55	0.17	5.15	0.08	3.48	0.15
Session 6	3.52	0.19	5.13	0.12	3.52	0.10

The table below (Table 3) shows the themes derived from the participants’ journal entries about adopting a growth mindset in language learning. “Knowing about Language Mindset in Learning” encompasses an increasing understanding and internalization of growth mindset principles and an initial but fleeting consideration of cultural perspectives. “Putting Effort in Language Learning” highlights consistently recognizing effort and practice as crucial for success. “Setting Goals in Language Learning” includes fluctuating openness to new learning approaches and stable efforts at self-improvement. “Using Strategies in Language Learning” is characterized by an initial increase in resilience, limited focus on practical applications of language skills, and a growing awareness and application of specific learning strategies towards the end. Lastly, “Regulating Emotions in Language Learning” involves addressing fears mid-intervention and a significant late-stage focus on emotional regulation, underscoring its importance in language learning. These themes collectively illustrate the participants’ evolving attitudes and strategies, driven by growth mindset principles.

Table 3. Themes from the participants’ journals (*n* = 67).

Themes	Codes	Week 1 (Session 1)	Week 2 (Session 2)	Week 3 (Session 3)	Week 4 (Session 4)	Week 5 (Session 5)	Week 6 (Session 6)
Knowing about language mindset in learning	Understanding and having growth mindset in language learning	5	7	8	6	6	15
	Understanding cultural perspectives	1	1	2	1	0	0
Putting effort in language learning	Putting effort and practice in language learning	6	6	10	14	8	5
Setting goals in language learning	Being open to language learning	4	5	7	3	0	4
	Improving self in language learning	3	4	6	3	4	5
Using strategies in language learning	Being resilient in language learning	2	2	5	5	3	0
	Utilizing language for future use	2	2	3	2	0	0
	Using language learning strategies	0	0	0	0	4	6
Regulating emotions in language learning	Overcoming fear in language learning	3	3	4	4	7	0
	Managing emotions in language learning	0	0	0	0	5	13

Note: The frequency indicates the number of times a theme is coded from the participants’ journals.

The frequencies of various codes across six sessions of the Language Mindset Toolkit reveal insights into participants’ focus and understanding over time. The code “Understanding and having a growth mindset in language learning” increased steadily from 5 mentions in Session 1 to 15 in Session 6, indicating a growing internalization of growth mindset principles. “Putting effort and practice in language learning” remained important, peaking at 14 mentions in Session 4. Themes related to setting goals, such as “Being open to language learning” and “Improving self in language learning”, showed variability, with the former peaking at 7 in Session 3 and the latter maintaining stable mentions, peaking at 6 in Session 3. “Being resilient in language learning” peaked in Sessions 3 and 4, while “Utilizing language for future use” had low mentions throughout. The recognition of “Using language learning strategies” emerged strongly in Sessions 5 and 6. The theme “Managing emotions in language learning” showed a significant late-stage focus, substantially increasing to 13 mentions in Session 6. This thematic progression indicates a dynamic shift in participants’ attitudes based on the toolkit sessions, emphasizing the importance of effort, strategic learning, and emotional regulation as they internalized growth mindset principles throughout the intervention.

To answer Research Question 1 on how language mindset changes over time, the combined results from the survey data and thematic analysis provide a comprehensive view

of participants' evolving mindsets. The survey results reveal that while the "Intelligence" and "Age Sensitivity" factors remained relatively stable, there was an increase in the "Ability" factor, reflecting a shift from a fixed to a growth mindset. Initially, participants had a predominantly fixed mindset regarding their language learning abilities, but exposure to the Language Mindset Toolkit led to a substantial change, emphasizing the importance of effort and perseverance. This quantitative shift is mirrored in the qualitative data from the journal entries. The theme "Understanding and having a growth mindset in language learning" steadily increased, indicating the internalization of growth mindset principles. "Putting effort and practice in language learning" was consistently important, peaking midway through the sessions. Themes related to setting goals, such as "Being open to language learning" and "Improving self in language learning", showed variability, reflecting participants' fluctuating focus on these aspects. The theme of "Using language learning strategies" emerged strongly towards the end, indicating a late but significant recognition of strategic approaches to learning. "Managing emotions in language learning" also showed a notable increase in the final sessions, highlighting the importance of emotional regulation. Both data suggest that participants experienced a shift in their language learning mindsets over the six sessions, with a marked increase in their belief in the potential for growth and improvement through effort and strategic learning. This shift was underpinned by the growing emphasis on managing emotions and employing effective learning strategies, illustrating a comprehensive internalization of growth mindset principles.

Research Question 2. *How does a focused mindset intervention affect students' perceptions about language learning in the short term?*

Ten themes elicited from individual interviews revealed a multifaceted view of how participants processed and incorporated a growth mindset into their language learning experiences (see Figure 1).

- (1) **Setting Future Strategies**—The first theme concerns participants looking ahead and planning how they will continue to apply the principles of a growth mindset to their language learning. The excerpt shows a proactive approach and readiness to tackle future learning endeavors.

"I thought of practicing and trying to communicate more so that I will be able to do it without fear and increase my courage." —Excerpt 1

- (2) **Understanding Growth Mindset**—The second theme concerns participants gaining a deeper understanding of what it means to have a growth mindset. The excerpts show their recognition of the potential for development and their belief that abilities can improve with effort and time.

"A fixed mindset might be like... it has boundaries. It's limiting in some way. The growth mindset... It's outside of the box. It keeps going, there's no limit to it." —Excerpt 2

"Growth mindset is a new concept I learned from the video, which suggests that effort and practice enable us to achieve things." —Excerpt 3

- (3) **Acknowledging Challenges in Language Learning**—The third theme is about participants openly recognizing the difficulties of learning a new language. From the excerpts, it can be shown that this acknowledgment is crucial in adopting a growth mindset as it involves confronting obstacles directly rather than avoiding them.

"The most challenging part might be grammar." —Excerpt 4

"Listening to foreigners, you know. When they speak and we don't understand. Just like, um, their accents." —Excerpt 5

- (4) **Learning Motivation**—The fourth theme concerns the intervention bolstering intrinsic and extrinsic motivation to learn. The excerpts can show a renewed or sustained interest in language studies, which is critical for long-term engagement.

"There are times when, if I see that my scores aren't good, it motivates me to read more and practice more, resulting in improved scores." —Excerpt 6

- (5) **Gaining Self-Efficacy**—The fifth theme shows participants believing more in their capabilities and gaining confidence in their potential to succeed in language learning. The excerpts show an increase in self-efficacy among the participants.

“For me, I’m not good at language. I try, try, try harder.” —Excerpt 7

- (6) **Putting Effort and Persistence**—The next theme of effort and persistence speaks to the participants’ recognition that consistent work and determination are essential for language mastery. This shows that progress in language learning is often the result of ongoing effort.

“I need to try much harder than this to succeed.” —Excerpt 8

“But I feel like I still don’t put in enough effort.” —Excerpt 9

- (7) **Appreciating Skills**—This theme suggests that participants begin to value their own linguistic skills more, which may include recognizing and capitalizing on their strengths in language learning.

“I started talking and playing with friends more in English, and they also spoke with me.” —Excerpt 10

- (8) **Participation in Classroom Activities**— The eighth theme is about increased engagement in classroom activities, reflecting a behavioral manifestation of a growth mindset. From the excerpt, it can show a willingness to be more involved and take advantage of learning opportunities in a structured environment.

“I didn’t participate in classroom activities at all. After watching the videos I just throw myself in the class activities even though I know that I might be wrong and make mistakes.” —Excerpt 11

- (9) **Fear of Social Perception**—The ninth theme concerns the affective dimension of language learning, highlighting concerns about how others perceive their language abilities. The excerpt shows that this is a common challenge that hinders participation and risk-taking in learning.

“I’m afraid they’ll laugh at me, mock me when I make a mistake. But now I can just keep trying to become better.” —Excerpt 12

- (10) **Regulating Emotions**—The tenth theme is about emotional regulation as a key component of learning resilience. From the excerpts, it can show that participants learn to manage their emotions better, maintaining their focus and motivation, especially when facing setbacks or challenges.

“Just reading a book can also relax us, reducing stress.” —Excerpt 13

“I’ve been comfortable being alone since childhood, so I didn’t feel the need to consult with anyone.” —Excerpt 14

The individual interviews revealed that the Language Mindset Toolkit have impacted thirteen participants’ language learning experiences through ten key themes and excerpts provided. Participants demonstrated a proactive approach by planning future strategies to apply growth mindset principles, gained a deeper understanding of these concepts, and acknowledged the challenges in language learning, such as grammar and accents. The toolkit boosted both intrinsic and extrinsic motivation, increased self-efficacy, and emphasized the importance of consistent effort and persistence. Participants began to appreciate their linguistic skills, showed increased engagement in classroom activities, and managed their fear of social perception by continuing to try despite these fears. Additionally, they learned to regulate their emotions better, maintaining focus and motivation.

When the language learners in this group are considered as a group, there appears to be a holistic impact on their perception about language learning. The emphasis on future strategies, understanding the growth mindset, and acknowledging challenges show a reflective and strategic approach to learning. In addition, increased learning motivation, self-efficacy, and effort reflect affective and motivational shifts.

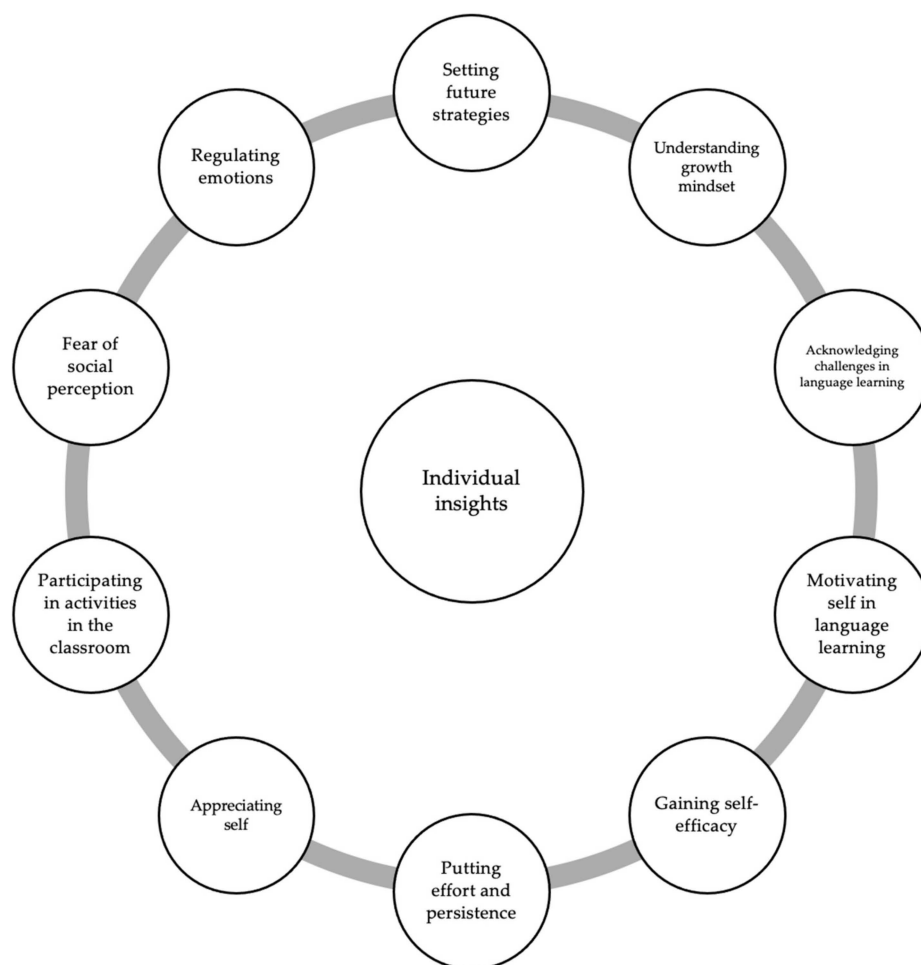


Figure 1. Key insights about language mindsets observed in guided interviews (N = 13).

5. Discussion

The analysis of the results, in conjunction with information from participants' journal entries following each session, provides a preliminary understanding of how mindsets about language learning evolve over time. The mean scores for intelligence and age sensitivity exhibited stability over the course of the six sessions, suggesting that the participants maintained a relatively constant mindset regarding these aspects. This could indicate that the participants already held a growth mindset concerning their intelligence and the influence of age on language learning or that their beliefs in these areas are more deeply ingrained and less susceptible to change over six weeks [38].

In contrast, the domain of ability showed a striking change. Initially, participants reported scores that indicated a fixed mindset, suggesting that their language learning abilities were static. This was reflected in the low mean scores of the first three sessions. However, as the sessions progressed, there was a significant increase in the scores related to ability, peaking dramatically in Session 4. This shift implies that participants started to embrace the growth mindset philosophy that abilities can be developed through effort and persistence, a change that appears to be catalyzed by the focused content of the toolkit sessions. Cognitive transformation through active engagement is evident in their growing recognition of the malleability of language learning abilities, reflected in learners' active participation and application of toolkit content [39,40]. Consistent endorsement of effort and persistence is indicated by high scores across multiple sessions, signifying an ongoing belief in the value of effort and strategies for skill enhancement [42]. The high scores maintained in sessions 5 and 6 suggest that the shift towards a growth mindset was sustained

and possibly reinforced by the subsequent content that focused on dealing with setbacks and regulating negative emotions.

The thematic analysis from the journal entries complements these findings by showing increased themes related to understanding and having a growth mindset, putting effort and practice into language learning, and managing emotions. The growth in these themes corresponds to increased scores in the ability domain, suggesting that as participants engaged with the toolkit content, they shifted their ability beliefs. Also, themes from the interviews showcase an interplay between recognizing challenges, setting future strategies, and understanding the growth mindset [9].

Participants shared personal stories of overcoming fear, improving self, and being resilient, which aligned with the growth in mindset observed in the survey data. These findings align with an earlier study [45], which demonstrated that fostering a growth mindset potentially assists students in addressing fear and displaying resilience in their academic journeys. In summary, the combined results from the mean scores, journal entries, and interviews indicate that, while certain aspects of mindset may be more resistant to change (intelligence and age sensitivity), the ability aspect is highly malleable and responsive to targeted interventions.

The Language Mindset Toolkit seems to have effectively influenced participants' beliefs about their language learning capabilities, leading to a notable shift from a fixed to a growth mindset. This shift is supported by the increased emphasis on effort, practice, and emotional regulation as students progress through the toolkit sessions, suggesting that the toolkit changed their beliefs and equipped them with strategies to handle the emotional and practical challenges of language learning [34,41]. The overall trajectory illustrates the complex and evolving nature of the mindset over six weeks. Future studies may consider a longitudinal study to track the participants' changing mindsets over a longer period of time.

In complex dynamic systems, individual components interact nonlinearly, and small changes can lead to significant shifts in the overall system. This characteristic is evident in how students' mindsets evolve from a fixed perspective to a more growth-oriented approach, impacting their learning behaviors and strategies. The sample statements provided by students revealed a spectrum of attitudes, from fear and reluctance to engagement and perseverance, showcasing the adaptability and transformation in their learning trajectories.

6. Concluding Remarks

This study suggests that a concerted effort to integrate growth mindset philosophies into language teaching may have an impact on students' language learning. Pedagogical practices that foster a growth mindset may encourage effort and persistence, facilitate emotional regulation, and recognize learners' individual narratives can lead to more effective and fulfilling language-learning experiences.

The pedagogical implications of the study's results on mindset evolution using the Language Mindset Toolkit are multifaceted. The observed stability in intelligence and age sensitivity suggests that these may not be the primary levers for change within a short intervention. However, their growth-oriented nature provides a stable foundation upon which other aspects of language learning can be built. Educators should recognize students' innate growth mindset regarding these aspects and seek to harness this positive outlook in other domains of learning. This dramatic change in the ability domain presents a clear opportunity for educators to encourage a growth mindset. The toolkit's impact on shifting students' beliefs about the malleability of their language learning abilities underscores the effectiveness of targeted interventions that focus on effort, persistence, and strategies for overcoming challenges.

Educators may consider incorporating similar content and practices into their teaching methodologies to foster a belief in the development of abilities. The pedagogical approach should emphasize the value of continuous effort, practice, and strategic learning.

Instructors are encouraged to create a classroom environment that regularly celebrates effort over innate ability and acknowledges students' incremental progress in their language learning journey. By doing so, educators will reinforce the growth mindset and help students internalize the belief that their efforts will lead to improvement.

Additionally, the importance of emotion regulation in sustaining language-learning efforts cannot be overstated. Educators should be equipped to help students manage the negative emotions that are often accompanied by learning challenges. Providing students with tools and strategies for emotional regulation can help maintain their motivation and engagement even when faced with difficulties. Techniques such as mindfulness, reflective journaling, and stress reduction exercises can be integrated into language curricula to support students' emotional well-being.

Given that mindset is part of a complex dynamic system, educators should adopt a holistic view of student development. Understanding that small changes in mindset can lead to shifts in language beliefs, language educators should focus on creating informative and transformative learning experiences that address the cognitive and emotional aspects of language learning.

In light of these findings, it is evident that interventions such as the Language Mindset Toolkit can be crucial in shifting students' mindsets. Educators should be trained in using such tools and aware of the signs of mindset change, enabling them to provide timely support and reinforcement. Moreover, the curriculum should be adaptable to reflect the evolving nature of students' mindsets, with space for them to explore, fail, and grow.

Lastly, acknowledging the role of individual narratives in the learning process, as evidenced by the personal stories shared by participants, should encourage educators to adopt a more personalized approach to teaching. Recognizing each student's unique journey and providing tailored support could be key to unlocking their potential.

Funding: This work was supported by (i) Suranaree University of Technology (SUT), (ii) Thailand Science Research and Innovation (TSRI), and (iii) National Science, Research and Innovation Fund (NSRF) (NRIIS number 189601).

Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki, and approved by the Institutional Review Board (IRB) of SURANAREE UNIVERSITY OF TECHNOLOGY (EC-66-0080 and approved on 10 July 2023) for studies involving humans.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author.

Conflicts of Interest: The authors declare no conflicts of interest. The funders had no role in the study's design, data collection, analysis, or interpretation, manuscript writing, or decision to publish the results.

Appendix A

The Language Mindset Inventory

Table A1. Items in the Language Mindset Survey.

Items on Intelligence
1.1. To be honest, you can't really change your language intelligence. (พูดตามตรง คุณไม่สามารถเปลี่ยนความฉลาดทางภาษาได้จริงๆ)
1.2. Your language intelligence is something about you that you can't change very much. (ความฉลาดทางภาษาของคุณเป็นสิ่งที่คุณไม่สามารถเปลี่ยนแปลงได้มากนัก)
1.3. You have a certain amount of language intelligence, and you can't really do much to change it. (คุณมีความฉลาดทางภาษาในระดับหนึ่ง และคุณไม่สามารถเปลี่ยนแปลงมันได้มากนัก)
1.4. You can always improve your language intelligence substantially. (คุณสามารถปรับปรุงความฉลาดทางภาษาของคุณได้อย่างมาก)

Table A1. Cont.

1.5. No matter who you are, you can significantly improve your language intelligence level. (ไม่ว่าคุณจะเป็นใคร คุณก็สามารถพัฒนาระดับความฉลาดทางภาษาได้อย่างมาก)
1.6. No matter how much language intelligence you have, you can always improve it quite a bit. (ไม่ว่าคุณมีความฉลาดทางภาษามากแค่ไหน คุณก็สามารถปรับปรุงให้ดีขึ้นได้เสมอ)
Items on Ability
2.1. You can't change how capable you are at learning new languages. (คุณไม่สามารถเปลี่ยนความสามารถในการเรียนรู้ภาษาใหม่ๆ ได้)
2.2. To be honest, you can't really change your basic ability to learn and use new languages. (พูดตามตรง คุณไม่สามารถเปลี่ยนความสามารถพื้นฐานในการเรียนรู้และใช้ภาษาใหม่ๆ ได้จริงๆ)
2.3. To a large extent, your ability to learn new languages is innate and you can't change much. (ในภาพรวม ความสามารถในการเรียนรู้ภาษาใหม่ของคุณมีมาแต่กำเนิดและคุณไม่สามารถเปลี่ยนแปลงได้มากนัก)
2.4. You can always improve how good you are at learning new languages. (คุณสามารถพัฒนาความเก่งในการเรียนรู้ภาษาใหม่ๆ ได้เสมอ)
2.5. No matter who you are, you can always improve your basic ability to learn new languages. (ไม่ว่าคุณจะเป็นใคร คุณก็สามารถพัฒนาความสามารถพื้นฐานในการเรียนรู้ภาษาใหม่ๆ ได้เสมอ)
2.6. No matter how much ability you have in learning new languages, you can improve it considerably. (ไม่ว่าคุณจะมีความสามารถในการเรียนรู้ภาษาใหม่เพียงใด คุณก็สามารถปรับปรุงความสามารถของคุณได้อย่างมาก)
Items on Age Sensitivity
3.1. After a certain young age, you have very limited ability to learn new languages. (หลังจากอายุยังน้อย คุณมีความสามารถจำกัดในการเรียนรู้ภาษาใหม่ๆ)
3.2. You don't really have the ability to learn new languages after a certain young age. (คุณแทบไม่มีความสามารถในการเรียนรู้ภาษาใหม่หลังจากอายุยังน้อย)
3.3. Your ability to learn new languages is restricted after a certain young age, and you can't really change it. (ความสามารถในการเรียนรู้ภาษาใหม่ของคุณถูกจำกัดหลังจากอายุยังน้อย และคุณไม่สามารถเปลี่ยนแปลงได้จริงๆ)
3.4. No matter how old you are, you can always improve your ability to learn new languages. (ไม่ว่าคุณจะมีอายุเท่าไร คุณก็สามารถพัฒนาความสามารถในการเรียนรู้ภาษาใหม่ได้เสมอ)
3.5. Regardless of age, you can significantly improve how good you are at learning new languages. (คุณสามารถพัฒนาความเก่งในการเรียนรู้ภาษาใหม่ได้อย่างมากโดยไม่ต้องคำนึงถึงอายุ)
3.6. Even after a certain young age, you can substantially improve your ability to learn new languages. (แม้หลังจากอายุยังน้อย คุณก็สามารถพัฒนาความสามารถในการเรียนรู้ภาษาใหม่ได้อย่างมาก)

References

- Dweck, C.S. *Mindset: The New Psychology of Success*; Random House: New York, NY, USA, 2006.
- Blackwell, L.S.; Trzesniewski, K.H.; Dweck, C.S. Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child Dev.* **2007**, *78*, 246–263. [[CrossRef](#)] [[PubMed](#)]
- Lou, N.M.; Noels, K.A. Language Mindsets, Meaning-Making, and Motivation. In *The Palgrave Handbook of Motivation for Language Learning*; Palgrave Macmillan: Cham, Switzerland, 2019; pp. 537–559.
- Davis, K.; Christodoulou, J.; Seider, S.; Gardner, H.E. The theory of multiple intelligences. In *Cambridge Handbook of Intelligence*; Sternberg, R.J., Kaufman, S.B., Eds.; Cambridge University Press: Cambridge, UK, 2011; pp. 485–503.
- Li, S. The associations between language aptitude and second language grammar acquisition: A meta-analytic review of five decades of research. *Appl. Linguist.* **2015**, *36*, 385–408. [[CrossRef](#)]
- White, E.J.; Hutka, S.A.; Williams, L.J.; Moreno, S. Learning, neural plasticity and sensitive periods: Implications for language acquisition, music training and transfer across the lifespan. *Front. Syst. Neurosci.* **2013**, *7*, 90. [[CrossRef](#)] [[PubMed](#)]
- Fang, Z.; Chang, B.; Dang, J. Growth mindset matters: Influences of socioeconomic status on Chinese secondary vocational students' learning engagement. *J. Pac. Rim Psychol.* **2022**, *16*. [[CrossRef](#)]
- Lou, N.M.; Li, L.M.W. The mindsets × societal norm effect across 78 cultures: Growth mindsets are linked to performance weakly and well-being negatively in societies with fixed-mindset norms. *Br. J. Educ. Psychol.* **2023**, *93*, 134–152. [[CrossRef](#)] [[PubMed](#)]
- Limeri, L.B.; Carter, N.T.; Choe, J.; Harper, H.G.; Martin, H.R.; Benton, A.; Dolan, E.L. Growing a growth mindset: Characterizing how and why undergraduate students' mindsets change. *Int. J. STEM Educ.* **2020**, *7*, 35. [[CrossRef](#)]
- Ponjuntik, P. The Effect of Resilience Program with Growth Mindset on Stress among Undergraduate Students. Master's Thesis, Srinakharinwirot University, Bangkok, Thailand, 2022.
- Suanthong, D. The effectiveness of the growth mindset program in developing the projects proposal writing skills. *J. Educ. Learn.* **2023**, *12*, 102–107. [[CrossRef](#)]

12. Bhattachaiyakorn, S.; Phettakua, S. English speaking anxiety among Northeastern Thai university students. *LEARN J. Lang. Educ. Acquis. Res. Netw.* **2023**, *16*, 384–407.
13. Oranpattanachai, P. Relationship between the reading strategy, reading self-efficacy, and reading comprehension of Thai EFL students. *LEARN J. Lang. Educ. Acquis. Res. Netw.* **2023**, *16*, 194–220. Available online: <https://so04.tci-thaijo.org/index.php/LEARN/index> (accessed on 20 November 2023).
14. Phetsangkhad, P.K. Exploring the Thai EFL landscape: Implications for English language teaching. *Law Humanit. Q. Rev.* **2023**, *2*, 44–50. Available online: <https://ssrn.com/abstract=4380565> (accessed on 20 November 2023). [[CrossRef](#)]
15. Dweck, C.S.; Leggett, E.L. A social-cognitive approach to motivation and personality. *Psychol. Rev.* **1988**, *95*, 256–273. [[CrossRef](#)]
16. Yeager, D.S.; Dweck, C.S. Mindsets that promote resilience: When students believe that personal characteristics can be developed. *Educ. Psychol.* **2012**, *47*, 302–314. [[CrossRef](#)]
17. Lou, N.M.; Zarrinabadi, N. *Mindsets. The Routledge Handbook of Second Language Acquisition and Individual Differences*; Routledge: London, UK, 2022; pp. 128–144.
18. Molway, L.; Mutton, T. Changing mindsets in the modern foreign languages classroom: An intervention combining intelligence theories and reading strategies. *Lang. Learn. J.* **2020**, *48*, 598–612. [[CrossRef](#)]
19. Barroso, C.; Ganley, C.M.; Schoen, R.C.; Schatschneider, C. Between a growth and a fixed mindset: Examining nuances in 3rd-grade students' mathematics intelligence mindsets. *Contemp. Educ. Psychol.* **2023**, *73*, 102179. [[CrossRef](#)]
20. Sadeghi, F.; Sadighi, F.; Bagheri, M.S. The relationship between Iranian EFL learners' language mindset with goal orientation and responses to failure. *Cogent Educ.* **2020**, *7*, 1833814. [[CrossRef](#)]
21. Papi, M.; Wolff, D.; Nakatsukasa, K.; Bellwoar, E. Motivational factors underlying learner preferences for corrective feedback: Language mindsets and achievement goals. *Lang. Teach. Res.* **2021**, *25*, 858–877. [[CrossRef](#)]
22. Yao, Y.; Zhu, X. Modeling chinese high school EFL writers' language mindsets, goal orientations, and feedback-seeking behavior: The interaction effect between language mindsets and writing competence. *Read. Writ.* **2022**, *37*, 539–561. [[CrossRef](#)]
23. Falout, J. Coping with Demotivation: EFL Learners' Remotivation Processes. *TESL-EJ* **2012**, *16*, 1–29. Available online: <https://files.eric.ed.gov/fulltext/EJ995738.pdf> (accessed on 20 November 2023).
24. Lou, N.M.; Noels, K.A. Measuring language mindsets and modeling their relations with goal orientations and emotional and behavioral responses in failure situations. *Mod. Lang. J.* **2017**, *101*, 214–243. [[CrossRef](#)]
25. Khajavy, G.H.; MacIntyre, P.D.; Hariri, J. A closer look at grit and language mindset as predictors of foreign language achievement. *Stud. Second Lang. Acquis.* **2021**, *43*, 379–402. [[CrossRef](#)]
26. Ryan, S.; Mercer, S. Language Learning Mindsets across Cultural Settings: English Learners in Austria and Japan. *OnCUE J.* **2012**, *6*, 6–22.
27. Barber, J.D. The Relationship between Language Mindsets and Foreign Language Anxiety. Ph.D. Thesis, Liberty University, Lynchburg, VA, USA, 2021. Available online: <https://digitalcommons.liberty.edu/doctoral/3149> (accessed on 20 November 2023).
28. Lou, N.M.; Noels, K.A. Breaking the vicious cycle of language anxiety: Growth language mindsets improve lower-competence ESL students' intercultural interactions. *Contemp. Educ. Psychol.* **2020**, *61*, 101847. [[CrossRef](#)]
29. Bernardo, A.B. Growth mindset and reading proficiency of ESL learners: Examining the role of students' socioeconomic status using PISA 2018 Philippine data. *Eur. J. Psychol. Educ.* **2023**, *38*, 675–693. [[CrossRef](#)]
30. Papi, M.; Bondarenko, A.V.; Wawire, B.; Jiang, C.; Zhou, S. Feedback-seeking behavior in second language writing: Motivational mechanisms. *Read. Writ.* **2020**, *33*, 485–505. [[CrossRef](#)]
31. Sun, Y.; Huang, Y. The relationships among Chinese university EFL learners' feedback-seeking behavior, achievement goals, and mindsets. *Behav. Sci.* **2023**, *13*, 190. [[CrossRef](#)] [[PubMed](#)]
32. Paunesku, D.; Walton, G.M.; Romero, C.; Smith, E.N.; Yeager, D.S.; Dweck, C.S. Mind-set interventions are a scalable treatment for academic underachievement. *Psychol. Sci.* **2015**, *26*, 784–793. [[CrossRef](#)]
33. Yeager, D.S.; Dweck, C.S. What can be learned from growth mindset controversies? *Am. Psychol.* **2020**, *75*, 1269–1284. [[CrossRef](#)] [[PubMed](#)]
34. Burnette, J.L.; Billingsley, J.; Banks, G.C.; Knouse, L.E.; Hoyt, C.L.; Pollack, J.M.; Simon, S. A systematic review and meta-analysis of growth mindset interventions: For whom, how, and why might such interventions work? *Psychol. Bull.* **2023**, *149*, 174–205. [[CrossRef](#)] [[PubMed](#)]
35. Macnamara, B.N.; Burgoyne, A.P. Do growth mindset interventions impact students' academic achievement? A systematic review and meta-analysis with recommendations for best practices. *Psychol. Bull.* **2023**, *149*, 133–173. [[CrossRef](#)] [[PubMed](#)]
36. Poe, L.F.; Brooks, N.G.; Korzaan, M.; Hulshult, A.R.; Woods, D.M. Promoting positive student outcomes: The use of reflection and planning activities with a growth- mindset focus and smart goals. *Inf. Syst. Educ. J.* **2021**, *19*, 13–22.
37. Woods, D.M. Using goal setting assignments to promote a growth mindset in it students. *Inf. Syst. Educ. J.* **2020**, *18*, 4–11.
38. Parada, S.; Verliac, J.F. Growth mindset intervention among French university students, and its articulation with proactive coping strategies. *Educ. Psychol.* **2022**, *42*, 354–374. [[CrossRef](#)]
39. Martow, J.H.; Heaman, J.A.; Lumley, M.N. The what, why, and how of adolescent interpersonal goal setting following a growth mindset intervention. *J. Adolesc. Res.* **2022**. [[CrossRef](#)]
40. Cai, J.; Wen, Q.; Qi, Z.; Lombaerts, K. Identifying core features and barriers in the actualization of growth mindset pedagogy in classrooms. *Soc. Psychol. Educ.* **2023**, *26*, 485–507. [[CrossRef](#)]

41. Goodman, S.G.; Goodwin, M.M.; Ahmed, N.T.; Picardo, K.F.; Erklenz-Watts, M. *Successful Failure: Leveraging Mindfulness and Growth-Oriented Reframing to Build Undergraduate Research Resilience*; Fisher Digital Publications: Rochester, NY, USA, 2022.
42. Janssen, T.W.; Atteveldt, V.N. Explore your brain: A randomized controlled trial into the effectiveness of a growth mindset intervention with psychosocial and psychophysiological components. *Br. J. Educ. Psychol.* **2022**, 1–23. [[CrossRef](#)] [[PubMed](#)]
43. Wilang, J.D. Exploring the Mindsets of Thai Undergraduate Students: A Comprehensive Study of General and Language-Related Beliefs. *SAGE Open* **2024**, *14*, 1–17. [[CrossRef](#)]
44. Braun, V.; Clarke, V. Using thematic analysis in psychology. *Qual. Res. Psychol.* **2006**, *3*, 77–101. [[CrossRef](#)]
45. Warunwutthi, N.; Wattananonsakul, S.; Ekpanyaskul, C. Effectiveness of a Growth Mindset Counseling Program to Enhance Student Resilience in a Public Autonomous University in Thailand. *J. Res. Curric. Dev.* **2022**, *12*, 58–66. Available online: <https://so03.tci-thaijo.org/index.php/jrcd/article/view/260705/174231> (accessed on 20 December 2023).

Disclaimer/Publisher’s Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.