"Mistakes help us improve": Beliefs of high school students on English language learning

Jeffrey Dawala Wilang[1]*, Jebamani Anthoney[2], Alvina Kullu Sulankey[3]

ABSTRACT

This study examines high school students' beliefs about studying English, particularly their perceptions of language intelligence, aptitude, and age sensitivity in language learning. A total of 87 Year 12 students from a boys' school in Northeastern Thailand voluntarily participated in a pre- and post-intervention online language mindset questionnaire adapted from Lou and Noels' Language Mindset Inventory and wrote a reflective journal to capture their insights on English language learning. The intervention, the Language Mindset Toolkit, was a structured program designed to promote a growth mindset in language learning through six sessions primarily conducted in English with Thai subtitles. The quantitative results indicated that students maintained strong growth-oriented beliefs regarding language intelligence and aptitude, with only minor and statistically insignificant changes after the intervention. However, beliefs about age sensitivity in language learning declined, suggesting that students became more aware of potential challenges in learning languages at different life stages. Despite minimal quantitative shifts, qualitative findings revealed that students valued encouragement, self-efficacy, and the role of mistakes in learning. Many students reported increased confidence and motivation, reinforcing that growth mindset principles contribute to resilience and engagement in language learning. The study highlights the need to continuously reinforce growth mindset principles through instructional practices and teacher feedback. Future research should explore long-term interventions and contextual factors that influence students' language mindset development, particularly in multilingual educational settings where language learning challenges vary widely.

[1] Suranaree University of Technology, Thailand.   Email: wilang@g.sut.ac.th   Scopus Id: 57195297132   https://orcid.org/0000-0001-6322-8799   *Corresponding Author

[2] Asia-Pacific International University. Email: jebamani@apiu.edu   Scopus Id: 58577818500   https://orcid.org/0000-0001-5456-7182

[3] Asia-Pacific International University. Email: alvina@apiu.edu

INTRODUCTION

Language learning is a multifaceted process influenced by cognitive, psychological, and social factors. A key determinant of success in language acquisition is learners' beliefs about their ability to learn a new language. Dweck's (2006) mindset theory, which differentiates between fixed and growth mindsets, has significantly shaped research in education and language learning. According to this theory, individuals with a fixed mindset perceive their abilities as innate and unchangeable, whereas those with a growth mindset believe that effort and persistence can lead to improvement (Richardson et al., 2020; Qing & Xie, 2021). The extension of mindset theory into the language learning domain acknowledges that learners' perceptions of their linguistic abilities impact their motivation, resilience, and willingness to engage in effective learning strategies.

The concept of language mindset has been further explored through frameworks such as the Language Mindset Inventory developed by Lou et al. (2021), which assesses learners' perceptions of their language abilities as either fixed or adaptable. Adapting mindset theory to language learning has resulted in identifying three primary components: general intelligence beliefs, second language aptitude, and age sensitivity in language learning (Lou et al., 2021; Ebn-Abbasi et al., 2023). These factors shape students' learning behaviors and outcomes. Empirical studies suggest that students with a growth language mindset exhibit higher levels of motivation, engagement, and persistence in language learning (Shehzad et al., 2023; Altunel, 2020). Conversely, a fixed mindset can lead to heightened anxiety, reduced motivation, and disengagement from language learning activities (Wilang, 2024b; Papi et al., 2019). Given the strong influence of mindset on language learning, this study investigates high school students' beliefs about English language learning, focusing on their perceptions of language intelligence, language aptitude, and age sensitivity in language acquisition.

Fostering a growth mindset in language learning is particularly crucial for Grade 12 students as they transition to university, where English proficiency is essential for academic success and career opportunities. Research suggests that students' beliefs about language intelligence, aptitude, and age sensitivity significantly influence their motivation and willingness to improve their skills (Lou et al., 2021; Ebn-Abbasi et al., 2023). However, studies specifically examining high school students' language mindsets, particularly those preparing for higher education, remain limited.

As Grade 12 students near the end of their secondary education, their perceptions of language learning will shape their approach to university studies, where English is often a key requirement for coursework, research, and professional development. Understanding their mindset is essential for designing interventions that equip them with the confidence and resilience needed to continue developing their English skills in higher education. Moreover, in a multilingual context like Thailand, where English serves as a bridge to international academic and career opportunities, it is critical to explore how students perceive their ability to learn and use English beyond high school. By examining their beliefs and identifying potential misconceptions, this study provides insights into how educators can better support students in adopting growth-oriented perspectives, ensuring a smoother transition to university-level English learning, and fostering long-term academic success.

This study seeks to answer the research question: What is the effect of the Language Mindset Toolkit on the English language mindsets of high school students in Thailand?

LITERATURE REVIEW

Mindset Theory and Language Learning

Dweck's (2006) mindset theory posits that individuals hold either a growth mindset, believing that abilities can be developed through effort and learning, or a fixed mindset, viewing intelligence and skills as static traits. In educational research, this theory has been widely applied to understand students' attitudes toward learning and performance, including language learning, where a growth mindset fosters persistence and adaptive learning strategies, while a fixed mindset may hinder progress (Richardson et al., 2020; Qing & Xie, 2021).

Lou et al. (2021) extended mindset theory to language learning by developing the Language Mindset Inventory, categorizing learners' beliefs about language aptitude and malleability. Their research identified three essential components of language mindset: general intelligence beliefs, second language aptitude, and age sensitivity in language learning. These components influence learners' motivation and engagement, with growth mindset-oriented students demonstrating greater resilience and persistence in language learning tasks (Gümüş & Başöz, 2023).

Mindset Interventions in Education

Mindset interventions have been widely implemented in educational settings to foster motivation, resilience, and academic success. Such interventions are designed to reshape students' beliefs about their abilities by reinforcing the idea that intelligence and skills can be developed through effort and learning. Research has shown that growth mindset interventions can enhance academic performance, particularly among students from disadvantaged backgrounds (Miller & Srougi, 2021; Fink et al., 2022). Encouraging a growth mindset has also been linked to greater resilience and improved stress management when facing academic challenges (Patall et al., 2022; Mohamoud, 2024; Ali et al., 2023). Furthermore, mindset interventions have been found to increase motivation and engagement, particularly in language learning contexts (Yeager et al., 2021; Campbell et al., 2021; Lewis et al., 2024).

Despite these positive outcomes, the effectiveness of mindset interventions varies across different student populations. Some studies have shown that high-achieving students do not significantly benefit from such interventions (Orosz et al., 2017). Additionally, Macnamara and Burgoyne (2022) found that mindset interventions may have weaker effects among students who strongly adhere to fixed beliefs about intelligence and learning. External factors, such as socioeconomic background and learning environment, also play a crucial role in determining the impact of mindset interventions (Yeager et al., 2021; Campbell et al., 2021; Smanova, 2024).

Existing studies in Thailand on growth mindset in English language learning (Wilang, 2021), chemistry (Wichaidit, 2023), and science (Limsantitham et al., 2023) indicate that while students generally demonstrate a growth mindset, many struggle with effort investment and subject-specific challenges. However, these studies primarily focus on identifying mindset levels rather than investigating how students' mindsets can be shifted through targeted interventions. Additionally, the effects of a language mindset intervention fostering a growth mindset remain underexplored.

Given these gaps, an intervention study is needed to examine how a language toolkit can promote a growth mindset among high school students, particularly in overcoming fixed mindset tendencies related to key aspects of language learning such as developing a

growth mindset, setting goals in language learning, putting effort into language learning, dealing with setbacks and feedback in language learning, and regulating negative emotions in language learning.

Implications for Language Learning

The integration of mindset theory into language education has significant implications for teaching practices. Educators are encouraged to promote a growth mindset by emphasizing effort, persistence, and the belief that language skills develop over time (Ng & Cheung, 2024; Vaghei et al., 2020). This can be achieved through targeted interventions, such as constructive feedback highlighting effort rather than innate ability, helping students reframe their understanding of language-learning challenges (Lombardo et al., 2023). Studies indicate that students with a growth mindset are more likely to embrace challenges, seek feedback, and engage in self-regulated learning (Papi et al., 2019; Shehzad et al., 2023).

Given the mixed findings on the effectiveness of mindset interventions, this study aims to contribute to the ongoing discussion by investigating the impact of a growth mindset intervention on high school students' language learning beliefs and behaviors. By analyzing students' perceptions before and after the intervention, this study seeks to determine how much their mindset orientations are malleable and how exposure to growth mindset principles influences their motivation, confidence, and engagement in language learning.

METHODOLOGY
Research Design

This study employed explanatory sequential mixed-method design (Creswell, 2019). The quantitative component involved analyzing pre- and post-intervention questionnaire responses, while the qualitative component explored students' feedback through thematic analysis of the online reflective journal.

Participants

A total of 87 Grade 12 students from a boys' school in Northeastern Thailand voluntarily participated in this study. The participants were recruited through convenience sampling, with teachers sharing the study details with students. This sampling was used to ensure practicality and accessibility in participant recruitment. Since the intervention required consistent participation and engagement, selecting students from a single school allowed for efficient implementation, monitoring, and data collection. Additionally, using convenience sampling ensured that participants were willing and motivated to engage in both the intervention and reflective journaling, reducing the risk of attrition and incomplete responses.

Language Mindset Questionnaire

The study employed a pre- and post-intervention online language mindset questionnaire to assess students' mindset changes. The questionnaire was adapted from Lou and Noel's Language Mindset Inventory and consisted of nine items measuring growth mindset, rated on a six-point Likert scale. To ensure comprehensibility, the questionnaire was provided in both English and Thai. An open-ended question was included to gather students' feedback on the impact of watching the Language Mindset Toolkit.

The questionnaire was administered via Google Forms. Students had two weeks to complete it before and after engaging with the Language Mindset Toolkit intervention.

Language Mindset Toolkit

The Language Mindset Toolkit is a structured program designed to promote a growth mindset in language learning (see Wilang, 2024b). The intervention comprised six video-based sessions, primarily conducted in English with Thai subtitles. English subtitles were included when speakers used Thai. Each session covered key aspects of fostering a growth mindset:

- *Session 1: Mindset – Growth and Fixed (9:26 minutes)*
  - Introduced the concepts of growth and fixed mindsets, providing foundational knowledge.
- *Session 2: How to Develop a Growth Mindset (10:16 minutes)*
  - Presented strategies for fostering a growth mindset, including embracing challenges and viewing effort as essential for mastery.
- *Session 3: Setting Your Goals in Language Learning (9:58 minutes)*
  - Focused on goal-setting strategies to enhance motivation and guide learning progress.
- *Session 4: Putting Effort into Language Learning (8:41 minutes)*
  - Emphasized the role of consistent effort and challenged the notion that language proficiency is purely innate.
- *Session 5: Dealing with Setbacks and Feedback in Language Learning (10:43 minutes)*
  - Addressed ways to handle setbacks constructively, encouraging students to see mistakes as learning opportunities.
- *Session 6: Regulating Negative Emotions in Language Learning (9:27 minutes)*
  - Provided strategies for managing negative emotions such as anxiety and frustration to support language learning.

The Language Mindset Toolkit underwent expert validation to ensure its effectiveness and appropriateness for the target audience (see Wilang, 2024b). Experts evaluated the toolkit's factual accuracy, relevance to language learning mindsets, and potential impact on language learning.

Data Collection Procedures

The data collection process involved four key stages. First, students completed a pre-intervention language mindset questionnaire via Google Forms to assess their initial mindset towards language learning. Following this, they participated in the intervention phase, where they watched the Language Mindset Toolkit videos in class over a two-week period. After engaging with the toolkit, students were asked to reflect on their experiences by writing their thoughts and insights in a reflective journal, which was also collected through Google Forms. Finally, students completed the post-intervention language mindset questionnaire via Google Forms to measure any changes in their mindset resulting from the intervention. Language Mindset Toolkit on students' growth mindset in language learning.

Data Analysis Methods

Descriptive statistics were used to analyze the Likert-scale questionnaire data. The mean score and standard deviation (SD) were calculated to assess students' growth

mindset levels before and after the intervention. A paired-sample t-test was conducted to determine any significant differences between pre- and post-intervention scores.

Thematic analysis was conducted on the open-ended responses to identify emerging themes related to students' experiences and perceptions of the Language Mindset Toolkit. Responses were coded to capture key insights into how the toolkit influenced students' mindsets.

By integrating both quantitative and qualitative methods, the study aimed to provide a holistic understanding of the impact of the Language Mindset Toolkit on students' growth mindset in language learning.

RESULTS

Table 1. Language intelligence beliefs of high school students

Language intelligence belief	Pre-survey M, SD	Post-survey M, SD
1. Language intelligence		
1.1 You can always improve your language intelligence substantially.	4.41, 1.15	4.49, 1.29
1.2 No matter who you are, you can significantly improve your language intelligence level.	4.59, 1.36	4.57, 1.28
1.3 No matter how much language intelligence you have, you can always improve it quite a bit.	4.70, 1.24	4.66, 1.25

Table 1 shows slight increases or stability in students' beliefs about the potential to improve their language intelligence. The first statement shows a minor increase, suggesting a slight reinforcement of this belief over time. The second statement remains nearly unchanged, indicating that students maintained their initial belief. Similarly, the third statement shows a negligible decrease, suggesting that students largely retained their original perspective. These findings suggest that high school students generally hold a strong belief in the ability to improve their language intelligence, and this belief remained stable or slightly strengthened after the intervention. The minimal changes indicate that while students already endorsed growth-oriented views about language intelligence, the intervention had a limited but positive reinforcement effect.

Table 2. Language aptitude beliefs of high school students

Language mindset belief	Pre-survey M, SD	Post-survey M, SD
2. Language aptitude		
2.1 You can always improve how good you are at learning new languages.	4.52, 1.20	4.55, 1.37
2.2 No matter who you are, you can always improve your basic ability to learn new languages.	4.75, 1.18	4.66, 1.31
2.3 No matter how much your ability you have in learning languages, you can improve it considerably.	4.67, 1.26	4.60, 1.33

Table 2 shows a minimal increase in the belief that language learning ability can be improved. This suggests that students' confidence in their capacity to develop language

skills remained stable or slightly strengthened. However, some slight decreases in statements 2 and 3 indicate that while students largely maintain a growth-oriented perspective on language aptitude, their confidence in substantial improvement may have slightly diminished over time.

The results in Table 3 indicate a noticeable decline in students' confidence that language learning ability remains highly malleable regardless of age. Compared to the pre-survey responses, post-survey results show a decreased belief that language learning ability can be significantly improved at any age. This suggests that after the intervention, students may have become more aware of potential challenges related to learning languages as they grow older. The reduction in mean scores across all statements implies a slight shift toward a less optimistic view regarding the impact of age on language acquisition.

Table 3. Language sensitivity beliefs of high school students

Language mindset belief	Pre-survey M, SD	Post-survey M, SD
3. Age sensitivity		
3.1 No matter how old you are, you can always improve your ability to learn new languages.	4.83, 1.15	4.34, 1.36
3.2 Regardless of age, you can significantly improve how good you are at learning new languages.	4.75, 1.17	4.48, 1.23
3.3 Ever after a certain age, you can substantially improve your ability to learn new languages.	4.62, 1.20	4.46, 1.35

Using paired samples t-tests, language intelligence beliefs was not a statistically significant increase in the post-survey scores (M = 3.45, SD = 1.53) compared to the pre-survey scores (M = 3.43, SD = 1.34), $t(10) = -1.65$, $p = .16$. Similar findings were also found with language aptitude, of which, there was not a statistically significant difference in participants' beliefs from pre-survey (M = 3.58, SD = 1.29) to post-survey (M = 3.64, SD = 1.44), $t(5) = -1.30$, $p = .25$. And with age sensitivity, the test revealed no statistically significant change from the pre-survey (M = 3.72, SD = 1.28) to the post-survey (M = 3.61, SD = 1.43), $t(5) = -0.59$, $p = .579$.

The quantitative results indicate that high school students generally maintained strong growth-oriented beliefs about language intelligence and aptitude, with slight increases or stability in their perceptions of language learning potential. However, beliefs about the influence of age on language learning declined, suggesting that students became more aware of potential age-related challenges. Despite these minor changes, statistical analyses revealed that none of the differences between pre-survey and post-survey scores were statistically significant, indicating that the intervention had a limited measurable impact on shifting students' overall mindset beliefs.

The table below categorizes various student reflections on language learning and mindset development based on reflective journals. Responses indicate a strong recognition of the importance of growth mindset principles, with students expressing that encouragement and accepting mistakes contribute to greater efficiency in learning. The students acknowledge the concept of lifelong learning, emphasizing that language acquisition is a continuous process rather than a fixed ability.

Table 4. Reflections on Language Learning and mindset Development

Categories	Example statements
Growth Mindset Encouragement	Encouraging to try and accepting of not being afraid to make mistakes can significantly improve efficiency.
Lifelong Learning	It made me realize that we can learn endlessly.
Self-Efficacy	I feel I'm The King.
	It gave me more courage to speak.
Active Learning and Improvement	Can learn from practice and making mistakes.
	It made me realize that mistakes help us improve.
	It made me changed my mind about wanting to continue improving my English.
Openness to Development	Must know how to learn, develop, and accept mistakes.
	We can always develop ourselves.
Language Learning Process	It makes understanding English easier, to understand the principles correctly.
Influence of Age and Mindset	I think age and mindset affect language development.
Value of Mindset Shift	From watching the video clip, it made me change my mind about wanting to continue improving my English.

Statements also highlight increased self-efficacy and confidence, with students expressing a stronger sense of capability and courage in using the language. Active learning and improvement emerge as key themes, with students recognizing the role of practice and mistakes in their development. This reflects an evolving perspective where errors are seen as valuable learning experiences rather than failures.

Openness to development is evident as students recognize the need to learn, develop, and adapt. Their reflections suggest a willingness to engage in personal growth and improvement in language skills. Additionally, some responses focus on the language learning process, indicating that mindset interventions helped students better understand how English can be learned effectively.

The influence of age and mindset is another noted factor, with students acknowledging that these aspects can impact language learning outcomes. Lastly, the value of mindset shifts is highlighted, with students explicitly mentioning that their perspectives on learning English changed after engaging with mindset-related content. Overall, the responses suggest that exposure to mindset concepts positively influenced students' attitudes, motivation, and approaches to language learning.

The qualitative results suggest that students experienced positive changes in their attitudes and approaches to language learning. Categories such as growth mindset encouragement, lifelong learning, self-efficacy, and active learning emerged, highlighting students' recognition of the importance of persistence, practice, and learning from mistakes. Reflections also emphasized openness to development and an improved understanding of the language learning process, with some students explicitly mentioning a shift in their motivation to continue improving their English skills. While some acknowledged the influence of age and mindset on language acquisition, the overall qualitative responses suggest that exposure to mindset concepts positively influenced students' motivation and engagement.

While the quantitative results show stability or slight changes without statistical significance, the qualitative responses suggest that students experienced meaningful

perspective shifts. The numerical data indicate minimal measurable changes in mindset beliefs. In contrast, the open-ended responses reveal a more profound acknowledgment of the role of mindset in language learning, suggesting that mindset interventions may have an impact that is not easily captured through quantitative measures alone.

DISCUSSION

The findings from this study align with previous research on mindset theory and its application to language learning (Dweck, 2006). The results indicate that high school students generally maintain strong growth-oriented beliefs about language intelligence and aptitude, with minimal changes observed after the intervention. While there were slight increases in some beliefs about language intelligence and aptitude, no statistically significant improvements were detected. These findings are consistent with studies that suggest mindset interventions often have a limited impact on deeply ingrained beliefs unless they are sustained and reinforced over time (Limeri et al., 2020; Macnamara & Burgoyne, 2022).

The study also revealed a decline in students' confidence regarding the role of age in language learning. This suggests that after the intervention, students became more aware of potential challenges related to learning languages at different life stages. This finding supports prior research indicating that age sensitivity plays a role in shaping students' perceptions of their ability to acquire new languages (Lou et al., 2021; Ebn-Abbasi et al., 2023). The decrease in the belief that language learning remains equally accessible at any age might reflect a growing awareness of biological and cognitive factors that influence language acquisition (Papi et al., 2019).

Despite the limited quantitative changes, qualitative findings suggest a positive impact of the intervention. Many students expressed greater confidence, motivation, and openness to learning, highlighting themes such as growth mindset encouragement, lifelong learning, self-efficacy, and the importance of learning from mistakes. This aligns with research showing that students with a growth language mindset demonstrate higher motivation, engagement, and resilience in learning contexts (Shehzad et al., 2023; Altunel, 2020). The qualitative reflections further emphasize the role of teacher encouragement and the value of shifting from a fixed mindset to a growth mindset in improving language learning experiences (Ng & Cheung, 2024; Lombardo et al., 2023).

The mixed results in this study are consistent with prior research on the effectiveness of mindset interventions. While some studies have reported positive effects on academic performance and motivation (Yeager et al., 2021; Campbell et al., 2021), others have found that mindset interventions do not always lead to significant cognitive or behavioral changes, particularly among students who already exhibit growth-oriented beliefs (Miller & Srougi, 2021; Fink et al., 2022). The effectiveness of mindset interventions appears to be influenced by multiple factors, including students' pre-existing beliefs, the duration and design of the intervention, and the broader educational environment (Limeri et al., 2020; Smanova, 2024).

Furthermore, the role of individual differences in responding to mindset interventions is crucial. While some students benefited from the intervention by gaining confidence and motivation, others showed little change in their perspectives. This variation is supported by research indicating that students with strong fixed mindsets may be more resistant to change, requiring more targeted or prolonged interventions (Macnamara & Burgoyne, 2022; Wilang, 2024). Additionally, external factors such as social and academic pressures

may influence how students internalize mindset concepts, as interventions are less effective in environments where fixed mindset beliefs are reinforced (Yeager et al., 2021; Campbell et al., 2021).

The findings underscore the need for a more comprehensive approach to fostering a growth mindset in language learning. Simply introducing mindset concepts may not be sufficient to create lasting change. Instead, continuous reinforcement through instructional practices, supportive learning environments, and repeated exposure to mindset principles is necessary (Ng & Cheung, 2024; Vaghei et al., 2020). Future research should explore how long-term interventions, peer influence, and teacher involvement contribute to mindset development in language learning contexts.

Implications for Teaching

As Grade 12 students prepare to transition to university, their language learning beliefs play a crucial role in their academic and professional readiness. The findings suggest that while students generally maintain growth-oriented beliefs about language learning, interventions to reinforce these beliefs must be integrated into instructional strategies and classroom practices. Since university studies demand a higher level of English proficiency for coursework, research, and professional communication, supporting students in strengthening their confidence and resilience in language learning is essential. Teachers play a critical role in fostering a growth mindset by creating a learning environment that encourages effort, persistence, and the ability to navigate linguistic challenges (Ng & Cheung, 2024; Lombardo et al., 2023). To maximize the impact of mindset interventions, educators should embed mindset principles into daily instruction rather than relying on short-term programs. This can include explicit discussions on the malleability of language aptitude and real-world examples of successful language learners who have improved their proficiency over time.

Additionally, qualitative findings indicate that students value encouragement and normalizing mistakes as essential parts of the learning process. Teachers should adopt feedback strategies emphasizing effort, progress, and personal improvement rather than focusing solely on linguistic accuracy, reinforcing that consistent practice leads to growth (Yeager et al., 2021; Campbell et al., 2021). Formative assessments and self-reflection activities can help students track their language development, fostering a sense of ownership over their learning and preparing them for the independent language use required in university settings.

The decline in students' confidence regarding age and language learning highlights the need for explicit instruction to address misconceptions about language acquisition across different life stages. As students transition to higher education, they may encounter diverse learning environments where language ability varies widely. Providing them with evidence that language proficiency continues to develop throughout life can counter negative beliefs and encourage a mindset of continuous learning (Lou et al., 2021; Ebn-Abbasi et al., 2023). Furthermore, fostering a classroom culture where students feel safe to take risks in communication can reduce language anxiety and increase their willingness to engage in academic discourse and collaborative learning (Papi et al., 2019; Wilang, 2024b).

By implementing these pedagogical strategies, educators can ensure that students leave high school with a strong foundation in both English proficiency and a growth mindset,

equipping them with the confidence, motivation, and resilience needed for success in university studies and beyond.

Implications for Future Research

The mixed results in this study highlight the complexity of mindset development in language learning and suggest several directions for future research. First, while qualitative data suggest that students experienced positive shifts in motivation and confidence, the quantitative results did not indicate statistically significant changes. Future studies should explore longer-term interventions and examine how sustained exposure to growth mindset principles affects students' beliefs over time (Limeri et al., 2020; Macnamara & Burgoyne, 2022). Longitudinal studies could provide deeper insights into how mindset interventions influence language learning behaviors and academic performance.

Another important area for future research is investigating the role of contextual factors, such as teacher influence, peer interactions, and school culture, in shaping students' language mindsets. Studies have shown that mindset interventions may be less effective in environments where fixed mindset beliefs are reinforced (Yeager et al., 2021; Campbell et al., 2021). Understanding how external influences impact students' mindset development can help educators design more targeted and context-specific interventions.

Additionally, future research could explore the effectiveness of different types of mindset interventions, including digital platforms, peer mentoring, and gamified learning experiences. Studies have found that online mindset training can be effective in reducing fear of failure and increasing engagement in remedial activities (Lewis et al., 2024). Investigating how technology can be leveraged to promote a growth mindset in language learning may provide new insights into scalable and accessible intervention strategies.

Finally, given the decline in students' beliefs about age sensitivity in language learning, future research should examine how age-related mindset beliefs develop and whether specific instructional approaches can counteract misconceptions about language learning at different life stages. By understanding how students' perceptions of age and aptitude evolve, educators can implement more effective strategies to promote lifelong language learning.

While these findings suggest that while mindset interventions hold promise, their success depends on multiple factors, including instructional practices, the duration of exposure, and the broader learning environment. Future research should continue to refine intervention strategies to better support language learners in developing a sustained growth mindset.

CONCLUSION

While this study did not find statistically significant changes in students' mindset beliefs, qualitative findings suggest that exposure to growth mindset principles positively influenced students' confidence, motivation, and engagement in language learning. The results highlight the complexity of mindset development and the need for sustained interventions that integrate mindset principles into teaching practices. Future studies should focus on identifying the most effective strategies for fostering a lasting growth mindset in language learners, particularly in diverse educational contexts.

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