

Mindfulness Meditation as an Intervention for Foreign Language Anxiety: Evidence from Indonesian ESL Learners in Singapore

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Abstract

This exploratory single-group pilot study examined whether a brief mindfulness-meditation routine was associated with lower Foreign Language Anxiety (FLA) and improved language-learning experience among Indonesian ESL learners in Singapore. Through a mixed-methods action research design, the study conducted twelve face-to-face mindfulness sessions across four weeks with young learners who showed signs of language-related anxiety. The final analytic sample comprised 60 Indonesian-background learners aged seven to nine years, with complete pre- and post-intervention data and no recorded attrition. Within-group analysis showed a statistically significant reduction in FLA scores from pre-test to post-test ($M_{pre} = 4.25$, $SD = 0.85$; $M_{post} = 2.95$, $SD = 0.75$; $t(59) = 5.67$, $p < .001$, Cohen's $d_z = 0.73$). Because the study did not include a comparison or waitlist control group, the results should be interpreted as preliminary within-group associations rather than as causal proof of intervention effectiveness. Self-reported language gains were strongest for speaking (25%), followed

by writing (20%), listening (18%), and reading (15%), while a classroom-based performance indicator suggested improved willingness to attempt English tasks. Qualitative observations and learner feedback highlighted greater calmness, focus, engagement, and a more supportive classroom dynamic. The study suggests that age-appropriate mindfulness practices may be useful as a low-risk support within ESL instruction, while future controlled studies using stronger objective language measures are required.

Keywords: *Mindfulness Meditation; Foreign Language Anxiety (FLA); English as a Second Language (ESL); Exploratory Pilot Study; Language Skills Improvement*

Chapter 1: Introduction and Context

1.1 Introduction

English communication proficiency has become an important requirement in the increasingly interactive and multilingual world. This is a significant challenge for some Indonesian-background children in Singapore, especially when they have previously experienced English mainly as a foreign-language classroom subject rather than as a daily medium of instruction. In the Singapore context, English functions as a major school language and social language; therefore, this paper uses ESL to describe the empirical setting, while EFL is used only when referring to prior learning contexts or studies conducted in foreign-language environments. This transition may be heightened by Foreign Language Anxiety (FLA). FLA refers to a distinct complex of feelings, behaviours, beliefs, and self-perceptions linked to the uniqueness of language learning. It is a situation-specific construct, meaning that learners who do not usually appear anxious may still experience anxiety in language classrooms (Yan & Liang, 2022). This can create barriers to classroom participation, academic confidence, and social integration.

1.2 Background

The Singapore education system places strong emphasis on English as a medium of instruction and participation. This differs from many Indonesian schooling experiences where Bahasa Indonesia and regional languages such as Bahasa Sunda or Bahasa Jawa may play a more central role in everyday learning (Perwitasari, 2019). Young learners may therefore need to manage both a linguistic transition and a socio-emotional transition when studying in English. FLA can manifest through physical signs, avoidance behaviours, fear of mistakes, and reluctance to speak (Fattahi Marnani & Cuocci, 2022). These features can hinder language acquisition and classroom participation. Mindfulness meditation has been reported to be useful for children as young as seven or eight years when the practices are developmentally appropriate, brief, and guided (Sun et al., 2021). For this reason, mindfulness may offer a practical classroom support for attention, emotional regulation, and learner confidence.

1.3 Statement of the Problem

The challenge of FLA among Indonesian-background primary learners in Singapore is multifaceted. It involves language proficiency, self-confidence, classroom expectations, and cultural transition. Mindfulness meditation has been acknowledged as a method that may reduce FLA among English as a Foreign Language (EFL) learners (Morgan, 2019). However, less is known about how age-appropriate mindfulness may be applied to young ESL learners in Singapore, particularly Indonesian-background learners aged seven to nine. This gap highlights the need for cautious, practice-based inquiry into strategies that may reduce language-related anxiety and improve classroom engagement. Therefore, the problem addressed in this exploratory pilot is whether a short mindfulness routine is associated with lower FLA and better language-learning experience among Indonesian ESL learners in Singapore.

1.4 Purpose of the Study

This project aimed to investigate the usefulness of mindfulness meditation as a classroom support that may lessen FLA among young Indonesian-background children aged seven to nine years in Singaporean schools or supplementary English-learning

settings. The study was framed as an exploratory single-group pilot. It sought to identify possible benefits of mindfulness meditation for FLA self-regulation and to contribute practical insights for teachers who support young ESL learners. The study was not designed to establish definitive causality, because it did not include a comparison or waitlist control group.

1.5 Rationale

Mindfulness meditation may help learners deal with psychological barriers such as FLA. This study integrated brief mindfulness routines into English as a Second Language (ESL) learning for Indonesian-background learners in order to create a more supportive and productive learning environment. The working assumption was that lower anxiety may be associated with greater willingness to participate, a more positive attitude towards English, and improved learning behaviours. FLA can appear through classroom avoidance, physical discomfort, and fear of negative evaluation (Ran, Wang & Zhu, 2022). Research also shows that high language anxiety is connected to lower academic achievement in second or foreign language learning, while students with high anxiety may avoid interpersonal communication more than less anxious learners (Zheng, 2008). Most literature differentiates debilitating anxiety from facilitative anxiety. Debilitating anxiety affects quality of life and academic performance negatively, while facilitative anxiety may motivate learners to study and work harder (Hardacre & Güvendir, 2020).

1.6 Research Questions

This study was guided by the following research questions:

- a. Is there a within-group reduction in FLA among Indonesian ESL learners in Singapore after a four-week mindfulness-meditation routine?
- b. What changes are observed in the language-learning experiences and classroom participation of Indonesian ESL learners in Singapore after the mindfulness routine?

1.7 Nature of the Study

The research combined qualitative and quantitative methods to examine the experiences of Indonesian-background children in Singapore. This mixed-methods

strategy enabled a cautious evaluation of within-group changes, combining pre- and post-intervention scores with observational and open-ended feedback. Because the study was exploratory and single-group in design, the results were interpreted as practice-based evidence rather than as conclusive evidence that mindfulness alone caused the observed changes.

1.8 Significance of the Study

This study gives educators an opportunity to consider how language education can be supported by emotional-regulation practices. The findings may be useful for classroom teachers, programme designers, and researchers who work with immigrant or multilingual learners. Its contribution is modest but practical: it shows how brief mindfulness routines may be introduced within a language-learning environment and how learner anxiety, engagement, and participation can be documented in an action research format.

1.9 Definition of Terms

English as a Second Language (ESL): English learned and used in a context where English has institutional, educational, and social functions, as in Singapore.

Foreign Language Anxiety (FLA): A type of situation-specific anxiety experienced by people who learn second or foreign languages, often linked to fear of mistakes, negative evaluation, or communication difficulty.

1.10 Assumptions

The research project was conducted under several assumptions. First, it assumed that participants attended the mindfulness sessions with reasonable sincerity and engagement. This assumption matters because the intervention depended on learners' willingness to practise brief breathing, attention, and self-regulation routines. Second, the study assumed that the adapted child-friendly anxiety questionnaire could capture learners' perceived anxiety in a meaningful way when supported by simple wording and teacher clarification. Third, the study assumed that classroom observations and teacher-scored performance indicators could provide useful contextual evidence alongside self-reported survey data.

1.11 Limitations

The study acknowledges several limitations that affect its scope, generalizability, and interpretation. First, the intervention lasted only four weeks, so the study cannot determine whether the observed changes were sustained over time. Second, the design was a single-group pre-test/post-test pilot without a comparison or waitlist control group. Therefore, the findings cannot rule out maturation, teacher attention, repeated testing, or other classroom influences. Third, the anxiety instrument was adapted for seven- to nine-year-old learners and reviewed for age-appropriate wording, but it was not a fully validated psychometric instrument for this exact population. Fourth, language gains were supported by self-report and a classroom-based performance indicator, but not by a formal standardized English proficiency test. Finally, cultural differences may affect how Indonesian-background learners understand and respond to mindfulness practices.

Chapter 2: Literature Review

2.1 Mindfulness Meditation

Mindfulness meditation is one of the core practices associated with Buddhist contemplative traditions, but it has also moved into psychological interventions and educational settings. Charoensukmongkol (2019) states that mindfulness may facilitate the reduction of English language anxiety among Thai university students. This suggests that mindfulness can be applied beyond a meditation space and adapted into classrooms where English is practised. Such adaptation includes systematic inclusion in educational methods that help learners regulate attention and emotion. The mechanism through which mindfulness meditation may influence learning is multifaceted because it engages cognitive and emotional processes that are relevant to language acquisition. Mindfulness meditation fosters awareness and presence (Li et al., 2019), enabling learners to engage with language tasks with increased focus and reduced reactivity to stressors or anxiety-inducing stimuli.

Mindfulness may also support cognitive functions such as attention, memory, and executive functioning, which are important for language learning. Zeilhofer (2023) indicates that mindfulness has relevance in education because language learning

involves attention, memory, and executive processes. Mindfulness techniques may enable emotional regulation and make it easier for learners to manage the emotional demands of acquiring a new language or adapting to a new linguistic and cultural environment. Emotional regulation is important in creating a learning space where learners can face the challenges of second language acquisition with less discomfort and greater openness to learning material (Aşık, 2022).

Wang and Liu (2016) explored mindfulness learning with native Chinese speakers learning English as a foreign language. They found that mindfulness exercises supported classroom engagement, deeper comprehension, and learner reflection. Similarly, in a Thai context, Charoensukmongkol (2016) established that learners with higher mindfulness states reported lower FLA. Fallah (2017) also found that mindfulness can assist in reducing FLA. Mindfulness enables learners to observe situations with more awareness, notice coping mechanisms, and respond with less immediate emotional reactivity. Hardacre and Güvendir (2020) further review the broader literature on second language learning anxiety.

2.2 Foreign Language Anxiety: Nature and Impact

Foreign Language Anxiety (FLA) influences students' academic performance and psychological health. Toyama and Yamazaki (2021) note that FLA may appear as fear of negative evaluation, communication apprehension, and stress during examinations. These forms of anxiety can interfere with language learning processes and outcomes. FLA affects learners' ability to develop language skills and their enthusiasm for linguistically centred activities that are important for social and cultural integration.

The relationship between FLA and ESL or EFL education outcomes is multi-faceted and bi-directional. FLA can be associated with lower motivation, avoidance behaviours, and weaker language performance (Shen, 2022). These factors may limit the development of language proficiency. Mindfulness meditation has gained attention as one possible tool for lowering FLA. According to Nădrag and Buzarna-Tihenea (2022), mindfulness meditation can support non-judgmental, present-focused awareness, which may give students an opportunity to engage more deeply in learning activities with less anxiety.

Yoga and meditation methods have also been reported to reduce anxiety and stress among students. Mindfulness meditation is believed to be useful for addressing both symptomatic and non-symptomatic aspects of FLA, including depression, anxiety, and stress that may appear in educational settings (Wielgosz et al., 2019). Incorporating mindfulness meditation into ESL teaching methodology may offer an innovative way to address cognitive and emotional hurdles connected to FLA. Educators may support learners by creating an environment that values present-moment awareness and acceptance (Lopez-Maya, Olmstead & Irwin, 2019). In this way, learners may gain better access to academic participation and language practice. Mindfulness may also influence teachers' identity and motivation, suggesting its broader transformative potential for more relaxed classroom environments (Zhu, 2022).

The development of technology and the popularity of web-based language learning platforms introduce both challenges and opportunities for managing FLA. Bashori et al. (2022) identify the ways digital learning environments may strengthen or weaken speaking anxiety. This is a critical area for further research and practical application. Considering the changing nature of ESL and EFL contexts, mindfulness practices may become one useful means for improving language-learning experience, reducing anxiety, and supporting educational outcomes.

2.3 Mindfulness Meditation in ESL Contexts

2.3.1 Efficacy of Mindfulness Meditation on FLA

Research on mindfulness meditation and FLA among language learners suggests that mindfulness may help learners manage anxiety. The literature provides preliminary evidence that mindfulness meditation can lower FLA and support active involvement in English learning. Wang and Zhang (2021) argue that online foreign language learning can generate psychological anxiety among college students, and they call attention to the emotional aspects of language barriers. These findings support the need for language programmes to explore methods that reduce anxiety and encourage sustained participation.

Wang and Zhang (2021) provide evidence that mindfulness can reduce stress. Such stress is often present in online or unfamiliar learning environments, where lack of face-to-face interaction may worsen feelings of isolation and anxiety. This is relevant for ESL learners who already face linguistic and social adjustment demands. Saul and Fish (2019) similarly reported reduced anxiety among meditation participants. Park, Riley, and Branch (2020) further note that mindfulness practice can support stress-management abilities and emotional control, both of which are important for learning a new language.

2.3.2 Mindfulness and Language Learning Performance

Morgan and Katz (2021) examined mindfulness and FLA and found that mindfulness helped learners understand FLA from a different perspective. Mindfulness meditation may reduce FLA among language learners and may also influence speaking, listening, reading, and writing through improved attention and emotional regulation. Wang (2022) explains that the affective field of EFL teachers can shape the classroom atmosphere and indirectly influence students' language learning. Song and He (2021) similarly show that teachers' dispositions towards mindfulness in EFL/ESL contexts can improve educators' ability to create supportive and efficient learning environments. This highlights the possible contribution of positive psychology and cognitive-behavioural approaches to anxiety reduction in language classrooms.

Jin, Dewaele, and MacIntyre (2021) reveal the interconnection between mindfulness, emotional intelligence, and learner competence. When educators introduce mindfulness strategies, they may create classroom conditions that accommodate learners who struggle with anxiety. As a result, learners may engage more actively in language learning. This may contribute to speaking confidence, listening comprehension, reading proficiency, and writing development.

Mindfulness meditation may benefit language learners by enhancing cognitive functions such as working memory and attention. Alnuzaili and Uddin (2020) point to the obstacles of FLA in the classroom and the possibilities that meditation offers. Russell (2020) explores the challenges of virtual learning spaces and the role of mindfulness in managing language anxiety through attention control and reduced distractibility. Overall,

by lowering FLA, enhancing emotional regulation, and improving cognitive functions that support language learning, mindfulness meditation may be a valuable tool for ESL educators and learners.

2.4 Integration of Mindfulness in ESL Teaching

The integration of mindfulness meditation into ESL teaching involves a shift from language acquisition alone towards more comprehensive support for learners' psychological readiness. Mindfulness-based learning emphasizes not only well-being but also attention, competence, and participation. Frank et al. (2021) and Coleman et al. (2019) argue that mindfulness helps manage emotions, increase focus, and cope with stress. These characteristics are useful during language learning, where pressure and tension can produce fear or avoidance. Coleman et al. (2019) add that one-minute mindfulness practices at the beginning of a class can create a learning atmosphere of calmness and alertness. Mindful listening exercises may also strengthen language attention and self-awareness.

The challenges that affect mindfulness-reinforced interventions in ESL educational settings are varied. A multi-faceted approach should be adopted because individuals and cultures may hold different perceptions of mindfulness. Mantzios and Egan (2019) evaluate the significance of educators using a mindfulness approach in teaching, arguing that educators' own mindfulness experience can help create a favourable learning environment and offer an authentic model for students. Frank et al. (2021) also note that logistical difficulties, time constraints, and institutional obligations can affect the success of such practices.

2.5 Teacher and Learner Perspectives

The attitudes and experiences of ESL teachers and learners towards mindfulness meditation play a critical role in its integration into educational practice. Lopez-Maya, Olmstead, and Irwin (2019) argue that mindful meditation can reduce depressive symptoms, and similar benefits may be relevant in educational settings through enhanced resilience, attention, and collaboration. Teachers, as facilitators of mindfulness activities, need to understand their own perceptions and experiences so

that they can introduce simplified practices to students. Giraldi (2019) advocates mindfulness among preservice teachers as a means of developing empathy and addressing students' diverse needs, which can support student-centred teaching.

Mindfulness practices can help students manage emotional anxiety and high pressure. Emotional stability and reduced anxiety may support more favourable learning processes. At the same time, scepticism towards meditation or disinterest in alternative teaching methods can create barriers to implementation (Giraldi, 2020). Brendel and Cornett-Murtada (2019) argue that mindfulness can transform educational practices. Introducing mindfulness education in ESL courses may therefore provide a useful tool for improving teaching and learning processes. The success of mindfulness programmes in ESL contexts requires collaborative engagement from both teachers and learners, guided by a clear understanding of mindfulness and its limitations (Giraldi, 2020). This reflects a holistic view of education in which students are enriched not only intellectually but emotionally as well.

Chapter 3: Methodology and Approach

3.1 Type of Study

This study investigated changes associated with mindfulness-meditation sessions among Indonesian ESL learners using a mixed-methods approach. The study combined quantitative pre- and post-intervention measures with qualitative observations and open-ended learner feedback. The mixed-methods design was chosen because it allows the researcher to examine both numerical changes in FLA and the lived classroom experiences of participants. This approach is suitable for action research, where the aim is to improve practice while documenting what appears to change during the process (Guillaumie, Boiral & Champagne, 2017).

3.2 Study Design

This study used an exploratory single-group pre-test/post-test pilot design. The mindfulness-meditation routine entailed three face-to-face sessions per week over four weeks, making a total of twelve sessions. Each session lasted approximately twenty-five minutes and was conducted before or during usual classroom activities. The earlier

reference to thirty-five sessions has been removed because it was inconsistent with the actual four-week intervention schedule; the intervention in this study consisted of twelve sessions only. Participants were also encouraged to use brief breathing and attention practices during spare moments to reinforce the skills introduced during class. Purposeful sampling was adopted to select learners who showed signs of FLA (Stratton, 2021).

The final analytic sample comprised 60 Indonesian-background ESL learners aged seven to nine years in Singapore. All 60 participants completed both baseline and post-intervention measures, so the attrition rate was 0%. The available demographic variables were age range, Indonesian linguistic or cultural background, and ESL learning context. Gender and socioeconomic background were not used as analytic variables in this action research project and were therefore not reported in the quantitative analysis. FLA was measured using an adapted child-friendly version of a foreign language anxiety questionnaire. The items were simplified, administered with teacher clarification, and supported by age-appropriate response anchors. The instrument was used as an indicator of perceived language anxiety rather than as a clinical diagnostic measure. Age appropriateness was strengthened through simple wording, short administration time, and review by language educators. Language-learning changes were assessed through self-assessment across speaking, listening, reading, and writing, supplemented by a classroom-based performance indicator in which learners completed a brief English task scored using a consistent teacher rubric. Observational data were also collected on behaviour, attention, and engagement during mindfulness sessions. Peer debriefing was used to discuss the research design and findings, and learner feedback was requested at the end of the study.

3.3 Action/Intervention

The action taken in this classroom study was a short, repeated mindfulness-meditation routine embedded into the existing ESL learning environment. The routine used breathing awareness, quiet attention, brief body awareness, and simple reflective pauses. It was intentionally delivered in non-religious and child-friendly language so that learners could understand the practice as a calmness and attention strategy rather than

as a doctrinal activity. The intervention was therefore practical, low-cost, and compatible with normal classroom routines, which supports the action research focus on improving teaching practice and learner experience.

3.4 Data Analysis

Data were analyzed after the completion of all twelve mindfulness-meditation sessions. The quantitative analysis used descriptive statistics and a paired-samples t-test to compare pre- and post-intervention FLA scores for the same learners. No ANOVA was conducted, because the study did not include more than one group or multiple experimental conditions. The effect size was reported using Cohen's d_z for paired-samples designs, calculated from the t statistic and sample size. The language-skill percentages were treated as descriptive self-report indicators and were not interpreted as standardized proficiency gains.

Observational notes and open-ended responses from the post-intervention questionnaire were analyzed thematically. Coding was applied to identify recurring themes relating to calmness, participation, attention, confidence, and learner engagement. The thematic analysis added depth to the quantitative results by showing how mindfulness practices appeared to influence learners' emotional and cognitive connection with English. Because this was a single-group pilot, qualitative themes were used to interpret the pattern of change cautiously rather than to claim direct causation.

3.5 Data Management

The data from surveys, performance indicators, and observations were stored securely and will be retained for five years after the study outcome. This follows ethical rules for research data management. The data were saved in encrypted electronic files accessible only to the study researcher. Names were replaced with codes to protect privacy and confidentiality. These procedures also support possible future re-analysis while protecting participant identity.

3.6 Ethical Considerations

The research approached each stage in accordance with British Educational Research Association (BERA) principles and the applicable institutional requirements for

educational research involving children. Ethics board approval was obtained before participant recruitment and data collection, and permission was also secured from the participating educational setting. The approval covered the recruitment of minors, administration of pre- and post-intervention questionnaires, classroom observations, the brief English performance indicator, and the anonymized use of findings for academic reporting. Approval documentation is retained by the author and can be supplied to the journal if required.

Because the participants were minors aged seven to nine, written parental or guardian informed consent and age-appropriate child assent were obtained before participation. Parents or guardians were informed about the purpose of the study, the voluntary nature of participation, the low-risk classroom nature of the mindfulness activities, the types of data collected, confidentiality protections, and the right to withdraw without penalty. Learners were also told in child-friendly language that they could choose not to answer a question or stop participating at any time. The mindfulness activities were brief, non-religious in delivery, and framed as breathing, attention, and calmness exercises suitable for classroom use. Privacy and anonymity were upheld by replacing names with codes and keeping all notes and electronic files password-protected.

Chapter 4: Findings and Outcomes

The research was based on guided mindfulness practice delivered over one month by the teacher in the classroom setting. The main aim was to explore whether brief meditation exercises were associated with lower academic and language-related anxiety. The study used a mixed-methods approach with transparent data collection. Surveys, classroom observations, and a brief performance indicator were collected at baseline and after the intervention. The results are presented through the two research questions. Because the design was a single-group pilot, the findings are interpreted as preliminary within-group changes rather than as causal evidence.

Research Question 1: Is There a Within-Group Reduction in FLA After Mindfulness Meditation?

The investigation began with the identification of FLA levels among participants using an adapted anxiety scale for young ESL learners. The initial statistics showed a group facing moderate to high FLA ($M_{pre} = 4.25$, $SD = 0.85$). After the four-week mindfulness routine, the post-intervention mean was lower ($M_{post} = 2.95$, $SD = 0.75$). A paired-samples t-test showed a statistically significant within-group decrease in FLA scores, $t(59) = 5.67$, $p < .001$. The mean change was -1.30 points, with an estimated 95% confidence interval of approximately -1.76 to -0.84 when expressed as post-minus-pre change. The effect size was Cohen's $d_z = 0.73$, which indicates a moderate-to-large within-group effect. However, because no control group was included, this result should be interpreted as evidence of association between the mindfulness period and lower anxiety scores, not as proof that mindfulness alone caused the decrease.

Table 1: Pre- and Post-Intervention FLA Results (Single-Group Pilot)

N	Pre-test M (SD)	Post-test M (SD)	Mean change	t(df)	p	Effect size
60	4.25 (0.85)	2.95 (0.75)	-1.30	5.67 (59)	< .001	Cohen's $d_z = 0.73$

Note. FLA = Foreign Language Anxiety. Mean change is expressed as post-test minus pre-test; negative values indicate lower anxiety after the four-week mindfulness period. Cohen's d_z is reported as a within-group effect size. The absence of a comparison group means that the result should not be interpreted as definitive causal evidence.

Research Question 2: What Changes Were Observed in ESL Learners' Language Skills?

The assessment of language skills was carried out through learners' self-assessments across four domains: speaking, listening, reading, and writing. The post-intervention responses indicated perceived improvements across all four areas. Speaking showed the largest reported gain, which aligns with the study's focus on reducing anxiety linked to oral participation. Because these data were self-reported, they should be interpreted as perceived language-learning gains rather than direct evidence of standardized

proficiency improvement. To supplement self-report, the researcher also used a classroom-based performance indicator. In a brief English task scored with the same teacher rubric before and after the intervention, learners showed stronger willingness to attempt English responses and required fewer prompts. This observation supports the self-report pattern, although it remains a classroom indicator rather than a formal proficiency test.

Figure 2: Percentage Improvement in Language Skills Post-Intervention

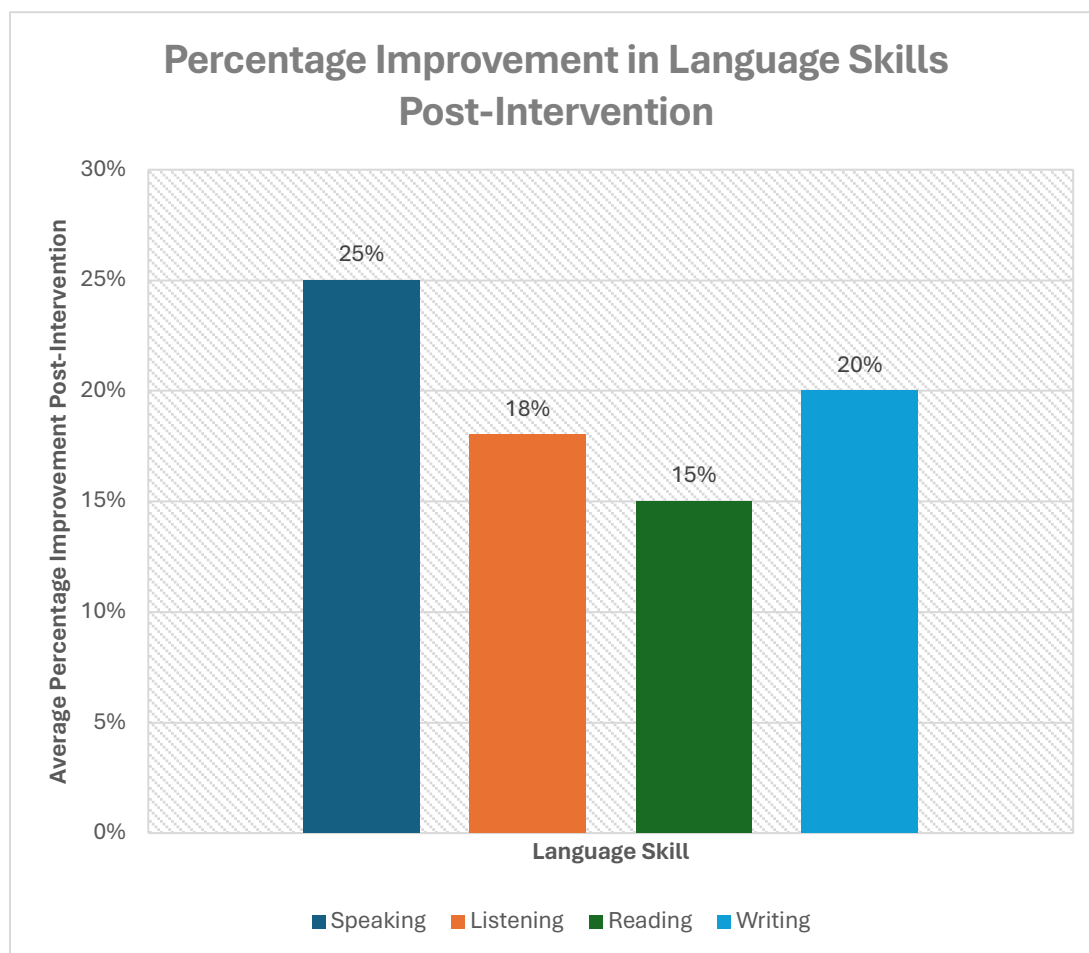


Figure 2 indicates perceived improvement in ESL learners' language skills after the mindfulness period. Speaking showed the largest reported improvement (25%), followed by writing (20%), listening (18%), and reading (15%). These percentages should not be read as standardized proficiency scores; they are descriptive indicators of perceived improvement. The corrected pattern shows that writing was 20%, listening was 18%, and reading was 15%. The results suggest that reduced language anxiety

may be associated with greater confidence and willingness to use English, especially in speaking. The observational notes further indicated stronger attention, more voluntary participation, and greater willingness to complete classroom English tasks. These findings give useful preliminary insight into the possible role of mindfulness practice in language teaching, while also showing the need for objective and standardized language measures in future studies.

Chapter 5: Reflection, Implications, and Suggestions for Further Study

5.1 Discussion

The students generally appeared more at ease and seemed to develop better coping skills for the anxiety they encountered while learning a new language. The approach to learning among many participants was observed to become calmer and more willing. The findings suggest that mindfulness meditation may be associated with lower FLA among young ESL learners, but the single-group design prevents a strong causal claim. The statistical evidence showed a decrease in mean FLA scores from 4.25 to 2.95 after the intervention period. This difference was statistically significant, $t(59) = 5.67$, $p < .001$, with a Cohen's d_z of 0.73. The reduction in anxiety indicates that mindful practices may help build a more supportive and less stressful learning environment. The educational value of mindfulness lies in its potential to support learners' emotional health while creating conditions for more confident participation.

The findings suggest that mindfulness meditation may equip learners with simple stress-management strategies, as reflected in the lower FLA scores after the intervention. The movement from 4.25 to 2.95 in the anxiety scale, together with the paired-samples t-test and effect size, provides preliminary evidence of meaningful within-group change. However, the study does not confirm that mindfulness was the sole cause of improvement. The same period also included teacher attention, repeated classroom exposure, and normal language practice. Therefore, the findings should be viewed as promising but tentative.

According to Figure 2, speaking showed the strongest perceived improvement (25%), followed by writing (20%), listening (18%), and reading (15%). These corrected percentages indicate that learners felt more confident across multiple domains, especially those involving performance and expression. Narrative feedback suggested that mindfulness helped learners enter lessons with a calmer frame of mind, which may have enhanced attention and willingness to participate. The classroom-based performance indicator and observation notes also suggested more spontaneous participation and more supportive peer interaction. These changes may reflect not only individual transformation but also an emerging classroom atmosphere that was more cooperative and learning-rich.

5.2 Significance of the Data

The findings from the study show an association between mindfulness meditation and anxiety-management techniques for young ESL learners. This is useful because students learning English may need emotional support as well as language instruction. The observed improvement in language-learning confidence presents an important implication: psychological readiness may be connected to academic participation. The data therefore support a more integrative model in which psychological well-being is treated as complementary to traditional language instruction.

5.3 Critical Thinking and Application

The results of this process suggest a meaningful relationship between psychology and education. They point to the importance of an integral educational system that attends to emotional and intellectual development together. The approach in this study offers a cautious blueprint for addressing similar classroom challenges, especially within modern educational philosophies that consider the whole learner. These insights provide groundwork for adopting psychological concepts in educational practice while also reminding researchers that stronger controlled designs are needed before making firm claims about effectiveness.

5.4 Future Directions

Several areas may be considered for future research. One important direction is longitudinal research that traces the long-term effects of mindfulness exercises. Such studies would provide valuable information about whether the benefits of mindfulness are sustained over time and whether they influence mental health, cognitive abilities, and language-learning outcomes. Future studies should also include comparison or waitlist control groups, larger samples, standardized language measures, and more detailed reporting of ethics approval procedures across multiple sites where relevant. Digital technology and online mindfulness programmes introduce further questions about accessibility, implementation, and large-scale adoption. These developments deserve further scrutiny, especially in post-pandemic learning environments where online and blended learning are common.

6.0 Conclusion

This exploratory single-group pilot suggests that brief mindfulness meditation may be associated with lower FLA and improved language-learning confidence among Indonesian ESL learners in Singapore. The study showed a statistically significant within-group decrease in anxiety and descriptive improvements in perceived language skills, especially speaking. The classroom observations also suggested greater calmness, attention, and willingness to participate. However, the results should be interpreted cautiously because there was no comparison or waitlist control group, the instrument was adapted for young learners, and the language indicators were not formal standardized tests. The implications of the study therefore lie in its practical value for classroom action research rather than in definitive proof of causal effectiveness. Future studies should examine mindfulness in ESL settings using controlled designs, objective proficiency measures, longer follow-up periods, and fuller reporting of approval details and consent procedures where required.

Ethics Statement

Ethics board approval, participating-site permission, written parental or guardian informed consent, and age-appropriate child assent were obtained before participant recruitment and data collection. Participants' identities were anonymized, and all study data were stored securely.

Conflict of Interest

The author declares no conflict of interest.

References

- Alnuzaili, E. S., & Uddin, N. (2020). Dealing with Anxiety in Foreign Language Learning Classroom. *Journal of Language Teaching & Research*, 11(2).
<http://dx.doi.org/10.17507/jltr.1102.15>
- Asik, A. (2022). A Systematic Review of Mindfulness Studies in ESL and EFL Contexts. *Journal on Educational Psychology*, 15(3), 47-61.
<https://eric.ed.gov/?id=EJ1354544>
- Bashori, M., van Hout, R., Strik, H., & Cucchiarini, C. (2022). Web-based language learning and speaking anxiety. *Computer Assisted Language Learning*, 35(5-6), 1058-1089. <https://doi.org/10.1080/09588221.2020.1770293>
- Bernardez, B., Durán, A., Parejo, J. A., Juristo, N., & Ruiz–Cortés, A. (2020). Effects of mindfulness on conceptual modeling performance: A series of experiments. *IEEE Transactions on Software Engineering*, 48(2), 432-452.
<https://doi.org/10.1109/TSE.2020.2991699>
- binti Mohamad, M. (2020). Investigating second language anxiety among polytechnic students. *International Journal of Academic Research in Business and Social Sciences*, 10(7), 632-637. <https://www.semanticscholar.org/paper/Investigating-Second-Language-Anxiety-among-Mohamad/2db54d9010014390b9599fba07e05b31cf5dc13a?p2df>
- Breedvelt, J. J., Amanvermez, Y., Harrer, M., Karyotaki, E., Gilbody, S., Bockting, C. L., ... & Ebert, D. D. (2019). The effects of meditation, yoga, and mindfulness on depression, anxiety, and stress in tertiary education students: A meta-analysis. *Frontiers in psychiatry*, 10, 193.
<https://doi.org/10.3389/fpsy.2019.00193>
- Brendel, W., & Cornett-Murtada, V. (2019). Professors practicing mindfulness: An action research study on transformed teaching, research, and service. *Journal of Transformative Education*, 17(1), 4-23.
<https://doi.org/10.1177/1541344618762535>
- Charoensukmongkol, P. (2019). The role of mindfulness in reducing English language anxiety among Thai college students. *International journal of bilingual education*

- and bilingualism, 22(4), 414-427.
<https://doi.org/10.1080/13670050.2016.1264359>
- Coleman, C. N., Coleman, K. F., Coleman, C. N., & Coleman, K. F. (2019). Learning the Essential Techniques of Mindfulness and Meditation Practice. *Mindfulness for the High Performance World: A Practical, Skill-Based Approach to Developing and Sustaining Mindfulness, Equanimity and Balance*, 51-69.
https://doi.org/10.1007/978-3-030-18582-4_6
- Fallah, N. (2017). Mindfulness, coping self-efficacy and foreign language anxiety: A mediation analysis. *Educational Psychology*, 37(6), 745-756.
- Fattahi Marnani, P., & Cuocci, S. (2022). Foreign language anxiety: A review on theories, causes, consequences and implications for educators. *Journal of English Learner Education*, 14(2), 2. <https://stars.library.ucf.edu/jele/vol14/iss2/2/>
- Frank, P., Fischer, D., Stanszus, L., Grossman, P., & Schrader, U. (2021). Mindfulness as self-confirmation? An exploratory intervention study on potentials and limitations of mindfulness-based interventions in the context of environmental and sustainability education. *The Journal of Environmental Education*, 52(6), 417-444. <https://doi.org/10.1080/00958964.2021.1966352>
- Giraldi, T. (2019). Psychotherapy, mindfulness and Buddhist meditation. Springer Nature. <https://doi.org/10.1007/978-3-030-29003-0>
- Guillaumie, L., Boiral, O., & Champagne, J. (2017). A mixed-methods systematic review of the effects of mindfulness on nurses. *Journal of advanced nursing*, 73(5), 1017-1034. <https://doi.org/10.1111/jan.13176>
- Hardacre, B., & Güvendir, E. (2020). Second language learning anxiety. *The TESOL Encyclopedia of English Language Teaching*, 1-7.
https://www.researchgate.net/publication/344193947_Second_Language_Learning_Anxiety
- Jin, Y., Dewaele, J. M., & MacIntyre, P. D. (2021). Reducing anxiety in the foreign language classroom: A positive psychology approach. *System*, 101, 102604.
<https://doi.org/10.1016/j.system.2021.102604>

- Lemay, V., Hoolahan, J., & Buchanan, A. (2019). Impact of a yoga and meditation intervention on students' stress and anxiety levels. *American journal of pharmaceutical education*, 83(5), 7001. <https://doi.org/10.5688/ajpe7001>
- Li, C., Cai, Q. A., Elias, S., & Wilson-Jones, L. (2019). Mindfulness and well-being: A mixed methods study of bilingual guided meditation in higher education. *Journal of Research Initiatives*, 5(1), 3. <https://digitalcommons.uncfsu.edu/jri/vol5/iss1/3/>
- Lopez-Maya, E., Olmstead, R., & Irwin, M. R. (2019). Mindfulness meditation and improvement in depressive symptoms among Spanish-and English speaking adults: A randomized, controlled, comparative efficacy trial. *PLoS One*, 14(7). <https://doi.org/10.1371/journal.pone.0219425>
- Lymeus, F., Lindberg, P., & Hartig, T. (2019). A natural meditation setting improves compliance with mindfulness training. *Journal of Environmental Psychology*, 64, 98-106. <https://doi.org/10.1016/j.jenvp.2019.05.008>
- Mantzios, M., & Egan, H. (2019). An experiential reflection of a mindful lecturer: exploring enhancement of active learning in higher education. *Higher Education Pedagogies*, 4(1), 304-306. <https://doi.org/10.1080/23752696.2019.1629826>
- Morgan, W. J. (2019). *Investigating the effects of mindfulness meditation on l2 learners' self-efficacy in an instructed foreign language context*. The University of Alabama. <https://ir-api.ua.edu/api/core/bitstreams/2ba66bdf-7fdd-4815-8f28-75073dce7c0f/content>
- Morgan, W. J., & Katz, J. (2021). Mindfulness meditation and foreign language classroom anxiety: Findings from a randomized control trial. *Foreign Language Annals*, 54(2), 389-409. <https://doi.org/10.1111/flan.12525>
- Nădrag, L., & Buzarna-Tihenea, A. (2022). Teaching English through guided meditation. <https://pdfs.semanticscholar.org/1871/7277ef50756aeac4814fe33931d6c2c5db4f.pdf>
- Park, M. H., Riley, J. G., & Branch, J. M. (2020). Developing self-awareness using mindfulness meditation with preservice teachers: Reflections on practice. *Journal of Early Childhood Teacher Education*, 41(2), 183-196. <https://doi.org/10.1080/10901027.2019.1695692>

- Perwitasari, A. (2019). The acquisition of English vowels by Javanese and Sundanese native speakers. LOT, Netherlands Graduate School.
- Ramasamy, S., Panneerselvam, S., Govindharaj, P., Kumar, A., & Nayak, R. (2018). Progressive muscle relaxation technique on anxiety and depression among persons affected by leprosy. *Journal of exercise rehabilitation*, 14(3), 375.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6028227/>
- Ran, C., Wang, Y., & Zhu, W. (2022). Comparison of foreign language anxiety based on four language skills in Chinese college students. *BMC psychiatry*, 22(1), 558.
<https://bmcpsy psychiatry.biomedcentral.com/articles/10.1186/s12888-022-04201-w>
- Russell, V. (2020). Language anxiety and the online learner. *Foreign Language Annals*, 53(2), 338-352. <https://doi.org/10.1111/flan.12461>
- Saul, A. D., & Fish, M. T. (2019). Anxiety and college students: The benefits of mindfulness-based meditation. *Recreation, Parks, and Tourism in Public Health*, 3(1), 139-154. <https://doi.org/10.2979/rptph.3.1.09>
- Shen, Y. (2022). Mitigating students' anxiety: the role of resilience and mindfulness among Chinese EFL learners. *Frontiers in Psychology*, 13, 940443.
<https://doi.org/10.3389/fpsyg.2022.940443>
- Song, X., & He, X. (2021). Teachers' Dispositions Toward Mindfulness in EFL/ESL Classrooms in Teacher-Student Interpersonal Relationships. *Frontiers in Psychology*, 12, 754998. <https://doi.org/10.3389/fpsyg.2021.754998>
- Stratton, S. J. (2021). Population research: convenience sampling strategies. *Prehospital and disaster Medicine*, 36(4), 373-374.
<https://doi.org/10.1017/S1049023X21000649>
- Sun, Y., Lamoreau, R., O'Connell, S., Horlick, R., & Bazzano, A. N. (2021). Yoga and mindfulness interventions for preschool-aged children in educational settings: A systematic review. *International Journal of Environmental Research and Public Health*, 18(11), 6091. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8201280/>
- Toyama, M., & Yamazaki, Y. (2021). Anxiety reduction sessions in foreign language classrooms. *The Language Learning Journal*, 49(3), 330-342.
<https://doi.org/10.1080/09571736.2019.1598474>

- Wang, N. (2022). EFL teachers' mindfulness and emotion regulation in language context. *Frontiers in Psychology*, 13. <https://doi.org/10.3389/fpsyg.2022.877108>
- Wang, X., & Zhang, W. (2021). Psychological anxiety of college Students' foreign language learning in online course. *Frontiers in psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.598992>
- Wang, Y., & Liu, C. (2016). Cultivate mindfulness: A case study of mindful learning in an English as a foreign language classroom. *IAFOR journal of education*, 4(2), 141-155. <https://files.eric.ed.gov/fulltext/EJ1142103.pdf>
- Wielgosz, J., Goldberg, S. B., Kral, T. R., Dunne, J. D., & Davidson, R. J. (2019). Mindfulness meditation and psychopathology. *Annual review of clinical psychology*, 15, 285-316. <https://www.annualreviews.org/doi/abs/10.1146/annurev-clinpsy-021815-093423>
- Yan, J. X., & Liang, J. (2022). Foreign language anxiety and dependency distance in English–Chinese interpretation classrooms. *Frontiers in Psychology*, 13, 952664. <https://www.frontiersin.org/articles/10.3389/fpsyg.2022.952664/full#B48>
- Zeilhofer, L. (2023). Mindfulness in the foreign language classroom: Influence on academic achievement and awareness. *Language Teaching Research*, 27(1), 96-114. <https://doi.org/10.1177/1362168820934624>
- Zheng, Y. (2008). Anxiety and second/foreign language learning revisited. *Canadian Journal for New Scholars in Education/Revue canadienne des jeunes chercheurs et chercheurs en education*, 1(1). <https://files.eric.ed.gov/fulltext/ED506736.pdf>
- Zhu, D. (2022). English as a Foreign Language Teachers' Identity and Motivation: The Role of Mindfulness. *Frontiers in Psychology*, 13, 940372. <https://doi.org/10.3389/fpsyg.2022.940372>
- British Educational Research Association. (2018). Ethical guidelines for educational research (4th ed.). British Educational Research Association.
- Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Lawrence Erlbaum Associates.
- Horwitz, E. K., Horwitz, M. B., & Cope, J. (1986). Foreign language classroom anxiety. *The Modern Language Journal*, 70(2), 125-132.

Appendix

Appendix A: Research questionnaire and classroom observation notes

Pre-Test Questionnaire

1. Attitude: Describe your feelings about learning English and what you find enjoyable or challenging.
2. Mindfulness awareness: How often do you feel fully present in daily activities? Give an example.
3. Perceived proficiency: Which English skills are strongest or most difficult for you?
4. Attention: Describe a recent distraction while learning or using English and how it affected you.

Post-Test Questionnaire

1. Attitude change: How have your feelings about learning English changed after the mindfulness sessions?
2. Mindfulness change: What changes have you noticed in calmness, attention, or being present?
3. Language change: What changes do you notice in speaking, listening, reading, or writing?
4. Attention change: How have distraction levels changed, and how has this affected your English learning?