ISELT 117
Interdisciplinary Studies in English Language Teaching

Pages 117 to 136

Effects of a Classroom-Adapted Mindfulness-Based Stress Reduction Intervention on Grit and Foreign Language Boredom among Generation Z EFL Learners

Hadis Sadat Haj Mir Alikhani [1], Neda Fatehi Rad [2*], Hassan Shahabi [3]

[1] Ph.D. Candidate, Department of English Language, Ke.C., Islamic Azad University, Kerman, Iran

[2] Associate Professor, Department of English Language, Ke.C., Islamic Azad University, Kerman, Iran

[3] Assistant Professor, Department of English Language, Ke.C., Islamic Azad University, Kerman, Iran

10.22080/iselt.2026.32086.1206

Received
June 17, 2026
Accepted
September 15, 2026
Available online
September 21, 2026

Keywords:
Emotional Regulation, English Language Teaching, Learner Engagement, Positive Psychology, Self-Regulation.

Abstract

Positive Psychology has increased interest in psychological factors that influence learners' engagement in second language learning. Mindfulness is one such factor, particularly because of its potential to support attention and emotional regulation. However, its use in language classrooms remains underexplored, especially in relation to grit and foreign language boredom. This study investigated whether a classroom-adapted Mindfulness-Based Stress Reduction (MBSR) programme influenced grit and foreign language boredom among 54 intermediate Iranian Generation Z English as a foreign language (EFL) learners. A quasi-experimental pretest–posttest control-group design was implemented with two intact classes. Over eight weeks, the experimental group completed brief mindfulness activities integrated into regular English lessons and the control group followed the same curriculum without the mindfulness component. Grit and foreign language boredom were measured before and after the intervention using the Short Grit Scale and the Short-Form Foreign Language Classroom Boredom Scale. MANCOVA and follow-up ANCOVAs indicated significant differences between the groups after pretest scores were controlled. Learners in the experimental group reported higher grit and lower foreign language boredom. The findings suggest that brief mindfulness activities can be incorporated into regular language instruction to support persistence and reduce boredom.

* **Corresponding Author:** Neda Fatehi Rad, Associate Professor, Department of English Language, Ke.C., Islamic Azad University, Kerman, Iran, **Email**: nedafatehi@yahoo.com

Copyright © 2027 The Author(s). Published by the Faculty of Persian Literature and Foreign Languages at the University of Mazandaran. This is an open access article under the terms of the Creative Commons Attribution-NonCommercial 4.0 International (CC BY-NC 4.0) license.

1. INTRODUCTION

Learning a foreign language requires more than the development of linguistic knowledge. Learners must continue participating when progress is slow, cope with errors and communication difficulties, and regulate their attention in tasks that may be repetitive or cognitively demanding. Therefore, psychological resources and classroom emotions form part of the conditions under which language development takes place (Plonsky et al., 2022). This understanding has contributed to the growth of Positive Psychology in second language acquisition (SLA), where attention has shifted from an almost exclusive concern with deficits and negative emotions toward a broader examination of the strengths and environmental conditions that help learners function effectively (Dewaele et al., 2019; MacIntyre et al., 2016). According to Ciarrochi et al. (2016), Positive Psychology does not propose that negative experiences should be ignored. In language education, Positive Psychology examines how learners can use psychological resources to deal with difficulties in learning. In second language (L2) learning, this approach has led to research on constructs such as resilience, enjoyment, well-being, self-regulation, and grit (Aydın & Tekin, 2023; MacIntyre et al., 2016). Research has also examined how these psychological resources relate to emotions that can reduce engagement. In this context, learners' ability to sustain effort when difficulties arise is an important part of language learning.

Grit and foreign language boredom are two different aspects of this relationship. L2 grit refers to learners' sustained effort and continued interest in pursuing language-learning goals despite setbacks (Teimouri et al., 2020). Learners with greater grit are generally more likely to remain engaged when language tasks become demanding and to continue investing effort over time (Zhao & Wang, 2023). In contrast, foreign language boredom is an achievement emotion associated with low stimulation and psychological withdrawal from classroom activity (Li et al., 2023; Pawlak et al., 2020). It may emerge when learners perceive tasks as repetitive, excessively difficult, insufficiently challenging, or disconnected from their interests. Persistent boredom can weaken participation and reduce the effort devoted to language learning (Li, 2021; Xie, 2021). Considered together, grit and boredom provide insight into whether learners remain productively involved when classroom experiences become difficult.

These issues may be particularly relevant to learners commonly described as Generation Z. Members of this generation have grown up with widespread access to digital technologies and rapidly changing sources of information (Llistosella et al., 2023; Seemiller & Grace, 2018). Frequent engagement with rapidly changing digital content has been associated with challenges in sustaining attention during activities that require extended concentration and repeated practice (Khamidova & Ziyodullayeva, 2025). This is relevant to English as a foreign language (EFL) learning because progress often requires continued effort over time. At the same time, Generation Z learners are not a uniform group and their experiences differ in educational and sociocultural settings. In the Iranian EFL context, practices that support attention may therefore have a useful place in classroom learning.

Mindfulness offers one possible way to support learners' attention and emotional regulation. It involves attending to present experience with openness and less judgment toward thoughts and emotions (Kabat-Zinn, 2013). In educational settings, mindfulness-based practices have been associated with better attention and lower stress, as well as more adaptive emotional responses (D'Souza & Smyth, 2025; Fazia et al., 2023; Fisher et al., 2023; Kriakous et al., 2021). Research in language learning has also linked mindfulness to lower anxiety and more positive classroom experiences (Fathi et al., 2023; Morgan & Katz, 2021; Wu & Zhao, 2023; Zeilhofer, 2020). These findings suggest a possible role for mindfulness in learners' persistence and experience of boredom, but direct intervention evidence remains limited.

Mindfulness-Based Stress Reduction (MBSR) is an eight-week program to help individuals cope with stress and pain through mindfulness practice (Kabat-Zinn, 1982). Later, Kabat-Zinn (1990) described the programme in greater detail and presented its principles and core practices. Because some of its features are not always practical in educational settings, many studies have adapted MBSR to fit regular instruction while preserving its central mindfulness practices (Khoury et al., 2015; Kriakous et al., 2021). Following this approach, this study incorporated brief MBSR-based activities into regular EFL lessons.

Much of the existing research on mindfulness, grit, and foreign language boredom is correlational. Although relationships among these constructs have been identified, there is less evidence on whether mindfulness activities used in regular language lessons can influence learners' grit or boredom. Intervention studies have focused more often on anxiety and broader aspects of psychological adjustment. The effects of classroom-based mindfulness on grit and foreign language boredom have received less attention. There is also limited evidence on the use of shortened MBSR programmes within regular EFL instruction. The present study addressed these gaps through an eight-week classroom-adapted MBSR intervention with Iranian Generation Z EFL learners. The relationships among mindfulness, grit, and boredom are discussed further in the literature review. Accordingly, the study addressed the following research questions:

RQ1. Does the classroom-adapted MBSR intervention have a significant effect on Iranian EFL learners' grit?

RQ2. Does the classroom-adapted MBSR intervention have a significant effect on Iranian EFL learners' foreign language boredom?

2. LITERATURE REVIEW

Mindfulness-Based Practices in Educational and Language-Learning Contexts

Mindfulness refers to paying deliberate attention to present-moment experience with an attitude of openness and acceptance toward thoughts and emotions (Kabat-Zinn, 2013). Mindfulness does not encourage individuals to avoid or suppress unpleasant experiences. It can help them notice distraction or anxiety and respond more intentionally. In educational settings, mindfulness has been associated with better attention and emotional balance, as well as more adaptive responses to difficulties in learning (D'Souza & Smyth, 2025; Fazia et al., 2023; Fisher et al., 2023; Khoury et al., 2015). MBSR is an eight-week programme designed to help individuals manage stress and pain through mindfulness practice (Kabat-Zinn, 1982). Kabat-Zinn (1990) later provided a fuller account of the programme, including its main principles and practices. The original program combines instructor-led sessions with practices such as mindfulness meditation, body scanning, mindful movement, and reflection, together with regular practice outside scheduled sessions. Because this format is not always feasible in educational contexts, many researchers have adapted MBSR for classroom use by shortening practice time and integrating selected mindfulness activities into regular lessons (Khoury et al., 2015; Kriakous et al., 2021). These classroom adaptations typically include brief breathing exercises, body awareness, guided meditation, mindful listening, and reflective activities that can be incorporated into everyday teaching.

Research in educational settings generally indicates that mindfulness interventions can improve psychological adjustment and attentional functioning. Systematic reviews and meta-analyses have reported reductions in stress and anxiety alongside improvements in emotional regulation and well-being (D'Souza & Smyth, 2025; Fazia et al., 2023; Fisher et al., 2023; Kriakous et al., 2021). These findings may also apply to language learning, where learners often face pressure, difficulties in communication, slow progress, and concerns about making errors.

Evidence from L2 contexts is more limited but is gradually developing. Mindfulness practices have been associated with lower foreign language anxiety, higher motivation, greater awareness, and more positive classroom experiences (Morgan & Katz, 2021; Wang & Liu, 2016; Wu & Zhao, 2023; Zeilhofer, 2020). For example, Koçali and Aşık (2026) reported that learners who completed a mindfulness programme described lower speaking anxiety and stronger acceptance and attentional control. A recent meta-analysis found that mindfulness-based interventions reduced anxiety among L2 learners (Gao et al., 2026). These studies suggest that mindfulness may support learners' emotional well-being. However, most research has focused on anxiety, and persistence and boredom have received less attention.

Grit in Educational and Language-Learning Contexts

Grit is commonly defined as sustained effort and enduring commitment toward long-term goals (Duckworth et al., 2007; Duckworth & Quinn, 2009). The construct includes perseverance of effort and consistency of interest. Its relevance to language learning follows from the extended nature of language development. Learners must tolerate errors and repeated practice before achieving noticeable progress. L2 grit refers more specifically to perseverance and continued interest in learning a second or foreign language (Teimouri et al., 2020). This domain-specific formulation is important because general perseverance may not fully reflect the challenges associated with sustained language learning. Research has generally linked L2 grit with achievement, engagement, motivation, and continued effort (Teimouri et al., 2020; Zhao & Wang, 2023). Learners with stronger L2 grit may be more willing to continue participating when they cannot express themselves accurately or when progress appears slow.

Grit is often viewed as a relatively stable learner characteristic, but some intervention studies suggest that it can change through educational experience. Rusadi et al. (2023) found that mindfulness-based cognitive therapy improved academic grit among university students. Shafiee Rad and Jafarpour (2023) similarly reported developments in grit after a Positive Psychology intervention. Therefore, mindfulness may support persistence because it can help learners notice frustration and negative self-evaluation without seeing temporary difficulty as evidence of inability.

Direct intervention evidence in EFL settings is still limited. Most language-learning studies have examined grit as a predictor or correlate and did not focus on it as an outcome that may change through classroom practice. The question is, therefore, not simply whether mindfulness and grit are associated, but whether brief mindfulness activities incorporated into conventional English instruction can contribute to measurable changes in learners' perseverance.

Boredom in Educational and Language-Learning Contexts

Foreign language boredom is an unpleasant achievement emotion characterized by reduced stimulation and psychological withdrawal from classroom activity (Li et al., 2023). It may arise when tasks are repetitive, too easy, excessively difficult, disconnected from learners' goals, or conducted with little meaningful interaction (Pawlak et al., 2020; Xie, 2021). Boredom is particularly important in language learning because some degree of repetition is unavoidable. Vocabulary recycling, grammar review, pronunciation practice, and repeated exposure to linguistic forms are necessary for development and when learners interpret these activities as monotonous or lacking value, they may reduce their participation and effort. Persistent boredom can weaken engagement and slow learning over time (Li, 2021; Xie, 2021). Research has examined both learner-related and classroom-related sources of boredom. Learners' perceptions of control and

task value appear particularly influential (Li, 2021). Teacher practices, task characteristics, activity difficulty, and classroom interaction also contribute to how boredom develops (Li, 2022; Pawlak et al., 2020). However, intervention research remains less developed than research on antecedents and consequences.

Mindfulness may be a solution because boredom includes attentional as well as emotional components. Learners who notice that their attention is drifting may be better able to return to the immediate task before disengagement becomes complete. Mindfulness does not necessarily make a repetitive exercise more interesting. However, it may alter how learners relate to the experience of monotony and help them sustain involvement for longer periods. Cheng (2023) reported a relationship between mindfulness and lower boredom among young EFL learners, while Fathi et al. (2023) found that mindfulness was indirectly related to lower foreign language boredom through enjoyment. These findings suggest a possible connection, but they do not demonstrate whether classroom mindfulness instruction itself reduces boredom.

Relationships among Mindfulness, Grit, and Boredom

Some studies (e.g., Lyu, 2025; Mohammad Hosseini et al., 2024; Pawlak et al., 2025b; Solhi et al., 2025; Tu & Shi, 2024) have shown that mindfulness, grit, self-regulation, and boredom are connected. Mohammad Hosseini et al. (2024) found that mindfulness and grit significantly predicted boredom among EFL learners. Their findings indicated that mindfulness was associated with lower boredom partly through its relationship with adaptive psychological resources. Lyu (2025) similarly reported that learners with stronger mindfulness and grit experienced less L2 boredom, with self-regulation partly accounting for these relationships. Other studies have linked grit to learners' management of boredom. Solhi et al. (2025) found that L2 grit predicted boredom-coping strategies, particularly cognitive approaches that helped learners respond more actively to disengagement. Tu and Shi (2024) showed that mindfulness and grit contributed to EFL learners' well-being, while Pawlak et al. (2025b) reported relationships among mindfulness, psychological capital, L2 grit, and English achievement. Together, these studies suggest that mindfulness may be connected with persistence and reduced disengagement.

Nevertheless, most of this evidence is correlational or based on structural models. Such designs clarify the pattern of relationships among constructs, but cannot determine whether mindfulness-based classroom practices produce changes in grit or boredom. Existing intervention studies have more often examined anxiety, stress, well-being, or general academic adjustment. Few have tested grit and foreign language boredom as separate outcomes within the same classroom intervention. In addition, the available literature provides limited evidence concerning brief adaptations of MBSR in conventional EFL instruction. The original MBSR model requires guided practice and out-of-session work. A classroom adaptation must, therefore, balance fidelity to central mindfulness practices with the practical demands of language teaching. Examining whether such an adaptation can operate within regular lessons is pedagogically important because an intervention that depends on extensive additional training may be difficult for language institutes to maintain.

Generation Z and the Present Context

Generation Z learners have grown up during a period of rapid technological expansion and widespread access to digital communication (Llistosella et al., 2023; Seemiller & Grace, 2018). These conditions can increase exposure to English through online media, games, social platforms, and international communication. These features may create competition for sustained attention as learners frequently move between rapidly changing sources of information.

This generation has been associated with academic pressure and concern about psychological well-being and attention (Chardonnens, 2025; Llistosella et al., 2023). It should be mentioned that these descriptions should not be treated as universal characteristics since learners' experiences can be shaped by various factors such as educational context, socioeconomic conditions, and individual differences. Nevertheless, the tension between rapid digital stimulation and the extended effort required for language learning makes attentional regulation and persistence relevant areas of investigation.

Iranian Generation Z learners often study English in formal institutes where instructional time is limited and regular opportunities for communication outside the classroom may vary. Sustained effort seems necessary because proficiency develops gradually. Haj et al. (2026) recently reported that an MBSR-based intervention improved academic buoyancy and psychological well-being among Iranian Generation Z EFL learners. The study provides relevant contextual evidence, but the effects of classroom-adapted mindfulness on L2 grit and foreign language boredom seem to be unclear.

Theoretical Framework

The present study is primarily situated within Positive Psychology in SLA. Positive Psychology examines the strengths and conditions that allow individuals to function effectively and continue developing in the presence of difficulty (MacIntyre et al., 2016; Seligman & Csikszentmihalyi, 2000). This orientation in SLA has broadened research beyond linguistic deficits and negative emotions by examining how well-being, resilience, enjoyment, self-regulation, and perseverance contribute to language learning. This framework is appropriate because the study concerns both an adaptive psychological resource and a potentially disengaging classroom emotion. Grit represents learners' capacity to continue pursuing long-term language goals. Boredom reflects an emotional state that may interfere with sustained engagement. In Positive Psychology, these constructs can be considered together without assuming that effective learning requires the absence of negative experience. The central issue is whether learners possess or develop resources that help them respond productively when difficulty or monotony occurs. Two supporting theories clarify the processes through which mindfulness may influence the outcomes.

The first one is *Self-Regulation Theory* which views learners as active participants who monitor and adjust their cognition, emotion, attention, and behavior when they are working toward academic goals (Zimmerman, 2000, 2002). Mindfulness can increase awareness of distraction and negative self-talk and, therefore, may support this process. Earlier recognition of these experiences can give learners an opportunity to redirect attention or continue effort before they withdraw from the task. This mechanism is closely connected to grit because perseverance depends on learners' ability to regulate their responses during repeated moments of difficulty.

The second supporting theory is *Control-Value Theory of Achievement Emotion*. This theory provides a more specific explanation of foreign language boredom (Pekrun, 2006). According to this theory, achievement emotions are influenced by learners' perceptions of control over an activity and the value assigned to it. Boredom is likely when an activity seems to offer little personal value or when the level of control is poorly matched with task demands. Mindfulness does not directly change a task's objective value or difficulty. It may, however, help learners notice their evaluations and emotional responses and re-engage before attentional withdrawal becomes established.

Therefore, Positive Psychology is the study's main framework, and Self-Regulation Theory and control-value theory explain the more specific processes related to grit and boredom.

Research Gap and Contribution

The literature shows that mindfulness is associated with more adaptive emotional functioning and that grit is related to persistence and achievement. It also indicates that mindfulness, grit, and boredom are statistically connected. However, despite the reported benefits of MBSR-based instruction, evidence remains limited on whether a classroom-adapted MBSR intervention can influence grit and foreign language boredom among Iranian Generation Z EFL learners**.** Accordingly, this study addresses this gap through a classroom-adapted MBSR intervention. The study contributes to this literature by moving from correlational evidence to a classroom intervention and by examining grit and boredom as distinct, but connected outcomes. It also evaluates a shortened form of mindfulness instruction under normal classroom conditions and provides evidence from Iranian Generation Z learners, who remain underrepresented in this area of EFL research.

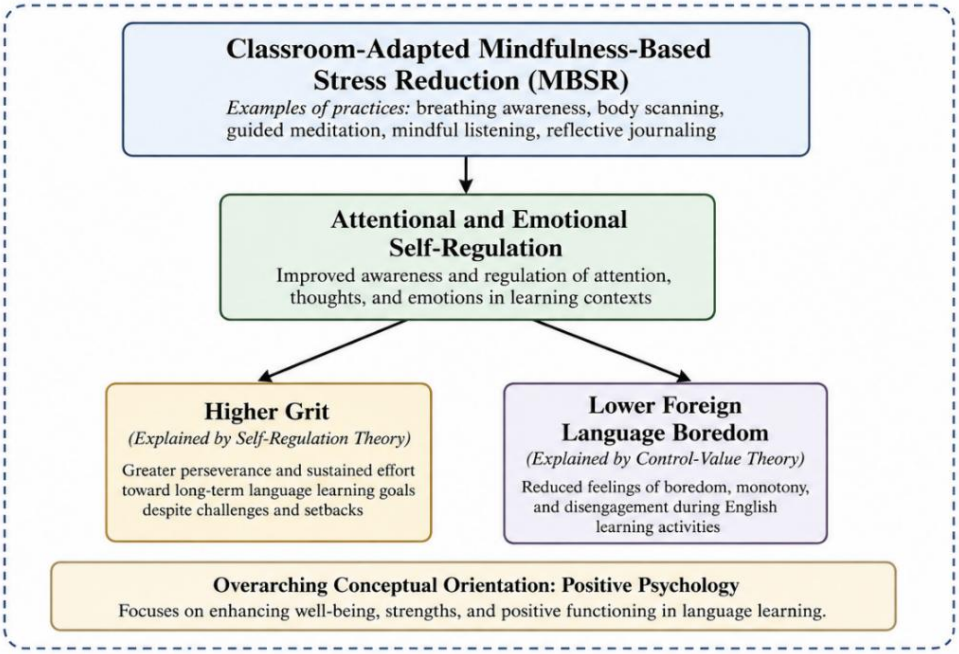


Figure 1. Proposed conceptual framework of the classroom-adapted MBSR intervention

3. METHODOLOGY AND DESIGN

Research Design

This study employed a quasi-experimental pretest-posttest control-group design to examine the effects of a classroom-adapted MBSR intervention on grit and foreign language boredom among Iranian Generation Z EFL learners. In line with this design, the participants were recruited from existing classes at a private language institute where random assignment of individual learners was not feasible. Intact classes were selected to allow the intervention to be delivered under routine classroom conditions with minimal disruption to regular instruction. Both groups completed pretest and posttest measures of grit and foreign language boredom. During the eight-week intervention, both groups received the same English instruction. The only planned difference was that the experimental group also participated in classroom-adapted mindfulness activities.

Context and Participants

The study was conducted at a private English language institute in Kerman, Iran. During the study period, the institute offered two intermediate English classes, which served as the experimental and control groups. All learners completed Oxford Placement Test (OPT), and only those whose scores fell within the intermediate range were included in the study. After screening, 54 learners remained eligible. One intact class (n = 27) was assigned as the experimental group and the other (n = 27) as the control group. No learners were reassigned between classes. The participants were between 18 and 24 years of age and belonged to Generation Z. All were native speakers of Persian learning English as a foreign language, and none had previously received formal mindfulness training. Participation was voluntary. Before the data collection, the learners were informed about the purpose of the study and their right to withdraw at any time without penalty. Written informed consent was obtained from all the participants. Ethical approval was granted by the university ethics committee before permission was obtained from the participating language institute. Institutional approval and participant consent were secured before the study began. Participant characteristics are presented in Table 1.

Table 1. Demographic, Linguistic, and Instructional Characteristics of the Participants

Characteristic	Experimental (n = 27)	Control (n = 27)	Total (N = 54)
Age, M (SD), years	20.6 (1.8)	20.8 (2.0)	20.7 (1.9)
Age range, years	18–24	18–24	18–24
Female, n (%)	16 (59.3)	16 (59.3)	32 (59.3)
Male, n (%)	11 (40.7)	11 (40.7)	22 (40.7)
Years of English study, M (SD)	6.4 (1.7)	6.2 (1.8)	6.3 (1.7)
OPT score, M (SD)	37.80 (2.67)	37.01 (3.19)	37.41 (2.94)
Previous mindfulness training	None	None	None

Instruments

Two validated instruments were used to measure the study variables before and after the intervention.

Short Grit Scale (Grit-S)

The Short Grit Scale (Grit-S; Duckworth & Quinn, 2009) was used to assess learners' grit. The scale consists of eight items that capture two key dimensions of the construct: consistency of interest and perseverance of effort. The participants responded to each item on a five-point Likert scale ranging from 1 (Not at all like me) to 5 (Very much like me). Several statements were reverse coded prior to analysis, with higher overall scores reflecting greater levels of grit. The Grit-S has been widely used in educational and L2 research, with acceptable psychometric evidence reported across different populations. The original validation study demonstrated acceptable reliability, with internal consistency coefficients ranging from .73 to .83, and also provided support for the scale's convergent and predictive validity (Duckworth & Quinn, 2009). The scale has been employed successfully in EFL research, including studies on L2 grit and language achievement (Teimouri et al., 2020). Reliability was examined separately for the pretest and posttest

administrations. Cronbach's alpha coefficients were .69 and .74, respectively, indicating modest to acceptable internal consistency.

Short-Form Foreign Language Classroom Boredom Scale

Foreign language boredom was measured using the Short-Form Foreign Language Classroom Boredom Scale (S-FLCBS; Pawlak et al., 2025a). The instrument contains 10 items assessing boredom experienced during English learning activities, including monotony, insufficient stimulation, reduced concentration, and disengagement. Responses were recorded on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). For ease of interpretation, boredom scores were reverse coded before analysis so that higher scores reflected lower levels of foreign language boredom. Pawlak et al. (2025a) reported satisfactory internal consistency for the scale (α = .888; ω = .890). In this study, Cronbach's alpha coefficients were .87 for the pretest and .88 for the posttest, indicating good reliability.

Before the main study, both instruments were reviewed by two specialists in applied linguistics to ensure their suitability for Iranian EFL learners. Minor wording revisions were made where needed while preserving the original constructs. The revised instruments were, then, piloted with learners who shared characteristics with the target sample to confirm the clarity of the items and administration procedures.

Intervention Procedures and Data Collection

Institutional approval and ethical clearance were obtained before recruitment. All the learners completed OPT, and those who scored at the intermediate level were invited to take part. They were told what the study involved and signed a consent form. In the first week, both groups completed Grit-S and S-FLCBS. The programme was run for eight weeks in the spring semester of 2026. Both classes continued with the same English course. The experimental class also spent part of each lesson on mindfulness practice. Since the original MBSR programme was developed for clinical use and normally involves longer sessions and regular practice at home, this format was not practical for an English class, so a shorter classroom version was used. It included breathing practice, body scanning, guided meditation, mindful listening, and journal writing. There were no long meditation sessions or assigned home practice.

Each mindfulness session lasted about 15 minutes within a 90-minute English lesson. The first two weeks focused on breathing and attention. In Weeks 3 and 4, learners practised body scanning. Guided meditation and mindful listening were used in Weeks 5 and 6. The last two weeks included short journal entries and classroom discussion. Learners considered how mindfulness might help when they made an error, became frustrated, lost attention during repeated practice, or found it difficult to stay involved in an activity. The control class used the same materials and was taught by the same instructor. It did not receive the mindfulness activities. This was the only planned difference between the classes.

Before teaching the programme, the instructor completed a 10-hour workshop on MBSR and mindful communication in the classroom. A weekly checklist was also kept to record whether the planned activities had been completed. Both groups completed the Grit-S and S-FLCBS again after the eight-week intervention. All 54 learners remained in the study, and the final dataset contained no missing values.

Table 2. Weekly Structure of the Classroom-Adapted MBSR Intervention

Week(s)	Mindfulness Focus	Classroom Activities	Practical Implementation	Instructional Purpose
1–2	Breathing awareness and attentional focusing	Guided breathing exercises, attention to breathing, brief awareness pauses before speaking tasks	The participants were asked to sit comfortably and focus on their inhalation and exhalation for five minutes. When their attention wandered, they were asked to acknowledge the distraction without judgment and gently return their attention to their breathing.	Develop present-moment attention and reduce initial distraction before language activities
3–4	Body awareness	Body scan exercises and brief reflection on physical sensations during learning	The instructor guided the learners to direct their attention to different parts of the body and notice physical sensations without judging them.	Increase awareness of bodily responses to stress and improve attentional regulation
5–6	Mindful listening and guided meditation	Guided meditation, mindful listening during pair and group interactions	The learners followed a brief teacher-guided meditation and then practiced mindful listening during pair or group activities by focusing on the speaker before responding.	Enhance concentration during communicative activities and encourage non-judgmental awareness
7–8	Reflection and classroom application	Reflective journaling and discussion of mindfulness strategies for responding to errors, frustration, repetitive tasks, and communication challenges	Learners wrote brief journal entries and discussed how they could use mindfulness when they made errors, became frustrated, or lost attention during classroom activities.	Promote transfer of mindfulness strategies to authentic EFL learning situations and strengthen self-regulation

Data Analysis

Data were analyzed with SPSS Statistics 26. Descriptive statistics and Cronbach's alpha coefficients were calculated to summarize the data and assess the internal consistency of the instruments. Before the main analyses, the assumptions for multivariate analysis of covariance (MANCOVA) were checked, including normality, linearity, homogeneity of variance-covariance matrices, homogeneity of regression slopes, multicollinearity, and homoscedasticity. All the assumptions were met. Because grit and foreign language boredom were examined together, one-way MANCOVA was used to compare the posttest scores after controlling for the corresponding pretest scores. In case the overall multivariate test was significant, separate analyses of covariance (ANCOVAs) were conducted for each dependent variable. Effect sizes are reported as partial eta squared (ηp^2), and the statistical significance was set at $p < .05$. Reverse-coded scores were used for the boredom scale so that higher scores represented lower levels of boredom.

4. RESULTS

Preliminary Analyses

All 54 learners completed the study, and no data were missing. Participant characteristics and baseline comparisons are presented in Table 3. The two groups did not differ significantly in age, English proficiency, grit, or foreign language boredom before the intervention (all $p > .05$). Effect sizes were small and indicated that the groups were comparable at baseline.

Table 3. Participant Characteristics and Baseline Comparisons

Variable	Experimental (n = 27)	Control (n = 27)	*t*(52)	*p*	Cohen's *d*
Age, years	20.70 (1.98)	20.85 (1.85)	−0.28	.778	−0.08
OPT score	37.80 (2.67)	37.01 (3.19)	0.98	.331	0.27
Grit pretest	3.06 (0.40)	2.95 (0.31)	1.11	.273	0.30
Foreign language boredom pretest	2.95 (0.41)	2.90 (0.35)	0.47	.644	0.13
Gender - Female/Male (n)	16/11	16/11	—	—	—

Note. **Values are presented as *M* (*SD*) unless otherwise indicated. OPT = Oxford Placement Test. Foreign language boredom scores were reverse coded so that higher scores indicate lower boredom.**

Cronbach's alpha coefficients ranged from .687 to .883 (Table 4), showing acceptable to strong internal consistency for the study instruments.

Table 4. Internal Consistency Reliability of the Instruments

Instrument	Number of items	Cronbach's α
Grit-S pretest	8	.687
Grit-S posttest	8	.744
S-FLCBS pretest	10	.874
S-FLCBS posttest	10	.883

Descriptive statistics are reported in Table 5. The two groups had similar scores at pretest. The experimental group showed higher grit and higher reverse-coded boredom scores than the control group on the posttest.

Table 5. Descriptive Statistics for the Main Study Variables

Variable	Group	*n*	M	SD	Min	Max	Skewness	Kurtosis
Grit pretest	Experimental	27	3.06	0.40	2.30	3.78	−0.27	−0.74
	Control	27	2.95	0.31	2.44	3.60	0.00	−0.63
Grit posttest	Experimental	27	3.21	0.35	2.41	4.22	0.39	1.98
	Control	27	2.76	0.36	2.30	3.54	0.48	−0.79
Foreign language boredom pretest	Experimental	27	2.95	0.41	2.19	3.80	0.05	−0.69
	Control	27	2.90	0.35	2.15	3.47	−0.16	−0.57
Foreign language boredom posttest	Experimental	27	3.09	0.37	2.37	3.76	−0.23	−0.57
	Control	27	2.72	0.38	2.20	3.54	0.42	−0.27

Note. **Scores range from 1 to 5. Higher scores indicate greater grit and lower foreign language boredom.**

Preliminary analyses indicated that the assumptions for MANCOVA and the follow-up ANCOVAs were met (Table 6).

Table 6. Summary of Assumption Checks

Assumption	Test	Result
Normality	Shapiro–Wilk	W = .933–.980, all p > .05
Homogeneity of variance	Levene's test	F = 0.002–2.337, all p > .05
Equality of covariance matrices	Box's M	M = 1.902, p = .593
Homogeneity of regression slopes	Group × covariate interaction	F = 0.395–1.679, all p > .05
Residual normality	Shapiro–Wilk	W = .969–.985, all p > .05
Correlation between dependent variables	Pearson correlation	Pretest: r = .502, p < .001; Posttest: r = .415, p = .002

Effects of the Classroom-Adapted MBSR Programme

A one-way MANCOVA was conducted to examine the group differences in posttest grit and foreign language boredom after controlling for the corresponding pretest scores. As can be seen in Table 7, the multivariate effect of group was significant, Wilks' Λ = .417, $F(2, 49) = 34.21$, p < .001, ηp^2 = .583. Both pretest measures also made significant contributions to the model.

Table 7. MANCOVA Results for Posttest Grit and Foreign Language Boredom

Effect	Wilks' Λ	*F*	Hypothesis df	Error df	*p*	ηp²
Group	.417	34.21	2	49	< .001	.583
Grit pretest	.365	42.61	2	49	< .001	.635
Foreign language boredom pretest	.376	40.65	2	49	< .001	.624

Follow-up ANCOVAs showed a significant group effect for grit, $F(1, 50) = 39.35$, $p < .001$, $\eta p^2 = .436$. The group effect was also significant for foreign language boredom, $F(1, 50) = 30.17$, $p < .001$, $\eta p^2 = .372$. After adjustment for pretest scores, the experimental group had higher estimated means on both outcome measures (Table 8). Because boredom scores were reverse coded, the higher adjusted mean indicates lower foreign language boredom.

Table 8. Follow-up ANCOVA Results and Adjusted Posttest Means

Outcome	*F*(1, 50)	*p*	ηp²	Experimental Adjusted *M* (SE)	Control Adjusted M (SE)
Grit	39.35	< .001	.436	3.17 (0.04)	2.81 (0.04)
Foreign language boredom	30.17	< .001	.372	3.07 (0.04)	2.74 (0.04)

Note. **Adjusted means were estimated after controlling for the corresponding pretest scores. Higher foreign language boredom scores represent lower levels of boredom because the scale was reverse coded.**

Figures 2 and 3 show the changes in grit and foreign language boredom across the intervention. Grit increased in the experimental group, but declined slightly in the control group. Foreign language boredom showed a similar pattern, with lower boredom in the experimental group at posttest and little change in the control group.

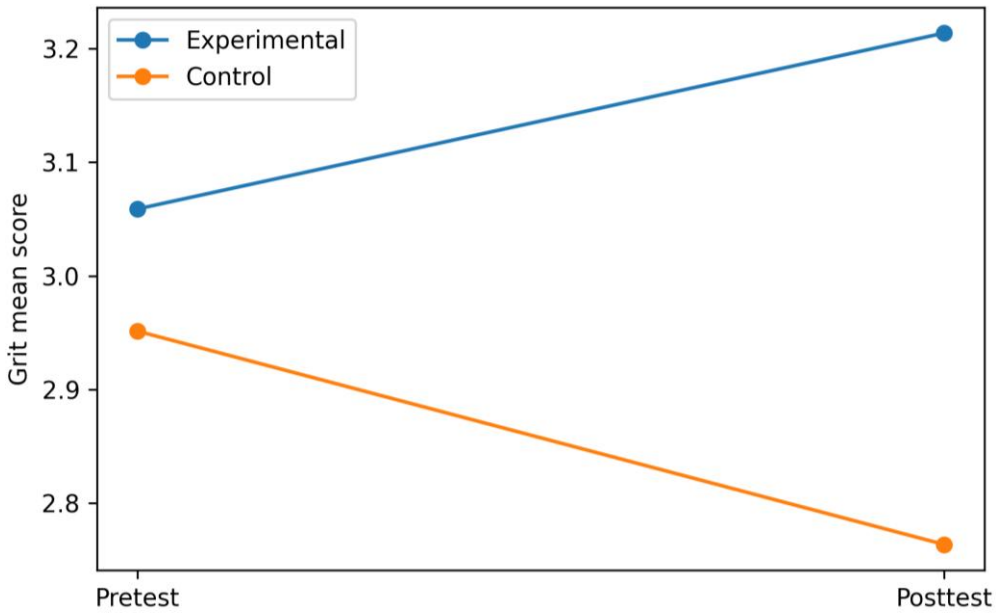


Figure 2. Grit Scores across Time by Group

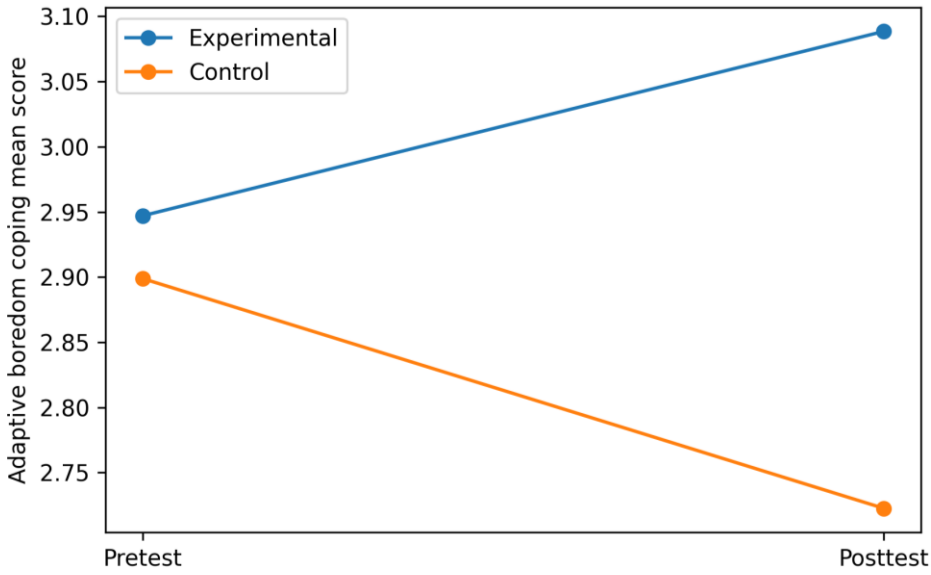


Figure 3. Foreign Language Boredom Scores across Time by Group

5. DISCUSSION AND CONCLUSION

The present study examined whether a classroom-adapted MBSR programme influenced grit and foreign language boredom among Generation Z Iranian EFL learners. Compared with learners who received regular English instruction alone, those who participated in the mindfulness activities had higher grit and lower foreign language boredom after the eight-week intervention. Therefore, brief mindfulness practices can be incorporated into regular language lessons and may support learners' persistence while reducing negative emotional experiences associated with language learning. The intervention was incorporated into conventional classroom instruction, suggesting that brief mindfulness practices can be integrated into existing teaching routines without substantial changes to the curriculum.

Effects of the Classroom-Adapted MBSR Intervention on Grit

Learners in the mindfulness group showed higher grit than those in the control group at the end of the intervention. This finding is consistent with studies that have reported positive associations between mindfulness, grit, self-regulation, academic buoyancy, and learner well-being (Lyu, 2025; Mohammad Hosseini et al., 2024; Rusadi et al., 2023; Shafiee Rad & Jafarpour, 2023; Tajoldini et al., 2018; Tu & Shi, 2024). Most of this research, however, has examined relationships among these variables using correlational designs. The present study extends that literature and shows that mindfulness activities incorporated into regular English lessons may also contribute to the development of grit. The findings are noteworthy because the intervention required only a small amount of classroom time and did not replace the language-learning activities already planned for the course. Mindfulness was incorporated into regular lessons through short practices that encouraged learners to focus their attention, notice their emotional responses, and return their attention to the task when it wandered. The higher grit scores observed in the experimental group suggest that these practices may have helped learners remain engaged with the ongoing demands of learning English.

One possible explanation is that mindfulness changed the way learners responded to common classroom difficulties. Learning a foreign language usually involves repeated practice, communication problems, delayed progress, and errors which can discourage learners, particularly when improvement is not immediately visible. Mindfulness does not remove such difficulties, but it may help learners notice their emotional and attention difficulties without reacting to them automatically. This may make it easier to continue working toward longer-term goals instead of withdrawing from classroom activities. This interpretation is consistent with Self-Regulation Theory (Zimmerman, 2000, 2002), which views learning as an active process in which learners monitor their thoughts, emotions, and behaviour while working toward academic goals. Mindfulness may strengthen self-regulation because it can aid learners to recognise shifts in attention or emotion before these interfere with learning. They may be better able to return their attention to the task and keep working towards their goals. The findings also fit within the broader perspective of Positive Psychology, which emphasizes the role of personal resources that help learners adapt to challenges and remain engaged in learning.

Generation Z learners may benefit from this approach, although learners within this generation differ in their experiences and learning preferences. Many learners study in environments characterised by constant digital interruptions and frequent shifts in attention. By contrast, successful language learning often requires sustained concentration and repeated practice over an extended period. The mindfulness activities used in this study, including breathing awareness, body scanning, mindful listening, and reflective journaling, may have provided learners with practical strategies for maintaining attention during classroom learning.

Effects of the Classroom-Adapted MBSR Intervention on Foreign Language Boredom

One of the clearest findings of the study was the reduction in foreign language boredom among learners who participated in the mindfulness activities. In other words, both groups completed the same English course with the same materials, but learners in the experimental group reported a more positive emotional experience by the end of the programme. Thus, the difference was not related to changes in instructional content, but to the way learners experienced routine classroom activities. This point deserves attention because boredom is difficult to avoid in language learning. Progress depends on repeated exposure to language skills, subskills, and communicative practice, and many classroom tasks must be revisited several times before they become familiar. These activities are essential for learning, yet they can gradually become less engaging. This study suggest that short mindfulness activities may help learners remain involved even when classroom work becomes repetitive.

A similar pattern has been reported in studies linking mindfulness with better emotional regulation and more positive learning experiences (Fathi et al., 2023; Lyu, 2025; Mohammad Hosseini et al., 2024; Morgan & Katz, 2021; Roziqin et al., 2024; Solhi et al., 2025; Wu & Zhao, 2023; Zeilhofer, 2020). Most of these studies, however, have focused on broad indicators of well-being. The findings of this study extend this line of research by showing that foreign language boredom, a specific classroom emotion, may respond to relatively brief mindfulness practice delivered during ordinary lessons. The mindfulness activities used in this study were simple. Learners practiced breathing awareness, body scanning, short periods of reflection, and mindful listening. None of these activities changed the lesson content and just offered learners opportunities to pause, notice where their attention had moved, and return to the task. Over time, this may have made periods of distraction or monotony less likely to develop into sustained boredom.

Control-Value Theory (Pekrun, 2006) provides one way of understanding this result. This theory proposes that achievement emotions are shaped by how learners evaluate learning activities and by the degree of control they believe they have over them. Mindfulness is unlikely to change these evaluations directly. However, it may help learners recognize emotional reactions as they emerge instead of responding automatically to them. In a language classroom, where attention often shifts during repeated practice, this small change in awareness may help learners stay engaged with the learning process.

The present findings do not suggest that mindfulness should replace effective teaching practices or more engaging classroom tasks and indicate that learners' emotional experiences are influenced not only by what teachers do, but also by how learners manage their own attention during classroom activities. Supporting this aspect of learning may, therefore, be another way to reduce boredom without making substantial changes to the curriculum.

Educational Implications

The intervention was part of regular English lessons, not a separate programme. Only about 15 minutes of each lesson were devoted to mindfulness activities, and the existing course content remained unchanged. This suggests that mindfulness can be incorporated into conventional language classes without reducing time for language instruction. Such an approach may be useful for private language institutes and other teaching contexts where there is limited flexibility to modify the curriculum. The findings also highlight the importance of supporting learners' psychological resources alongside language development. Language teachers typically focus on providing input, practice, communication, and feedback, but helping learners manage attention and emotional reactions may also improve classroom engagement. Short mindfulness activities before demanding classroom tasks or assessments may help learners approach these situations with greater concentration and less emotional distraction. Teacher educators may also consider introducing simple mindfulness strategies in teacher preparation programmes so that future teachers can apply them confidently in their own classrooms.

The programme was adapted for classroom use and did not include the full MBSR programme. As a result, it required little preparation and could be incorporated into existing lessons without major changes to classroom routines. This may make the approach practical for teachers with limited time or training. The findings may also be useful for language institute administrators, assessment designers, and educational policymakers when considering ways to support learners' well-being and engagement within existing language programmes.

Limitations and Future Research

The findings of this study should be interpreted in light of several limitations. The study was conducted in a single private language institute and included 54 intermediate Iranian EFL learners. In addition, the intervention was implemented with two intact classes because individual random assignment was not feasible in the instructional setting. Although this design helped the programme be delivered under normal classroom conditions, the findings may not generalise to learners with different proficiency levels, age groups, locations, or educational contexts. A second limitation concerns the intervention itself. The programme used in this study was a classroom adaptation of MBSR. To fit within regular English lessons, the intervention consisted of brief mindfulness activities integrated into 90-minute classes and did not include longer meditation sessions or daily home practice. The findings, therefore, apply to this educational adaptation and should not be interpreted as evidence for the complete MBSR programme.

The study also relied on self-report questionnaires to measure grit and foreign language boredom. Although both instruments demonstrated acceptable reliability, learners' questionnaire responses provide only one perspective on their classroom experiences. Future research could combine questionnaire data with classroom observations, learner interviews, teacher reflections, or behavioural measures to provide a more detailed understanding of how mindfulness influences learning and classroom participation. Finally, outcomes were measured immediately after the eight-week intervention, so it is unclear whether the observed improvements would continue over time. Studies including delayed posttests could examine the stability of these effects after the programme ends.

Concluding Remarks

This study explored the effects of a classroom-adapted MBSR programme on grit and foreign language boredom among Generation Z Iranian EFL learners. After eight weeks, learners who participated in the mindfulness activities reported greater grit and lower foreign language boredom than those who received regular English instruction. The results contribute to growing research on Positive Psychology in second language learning by providing evidence that brief mindfulness activities can be integrated into everyday English lessons. The programme required only minor adjustments to existing classroom routines, yet participation was associated with greater grit and lower foreign language boredom. Effective language teaching depends on much more than mindfulness alone. Even so, the findings indicate that brief mindfulness activities can complement regular classroom practice by helping learners manage attention and emotional reactions during the normal ups and downs of learning a foreign language.

References

Aydın, S., & Tekin, I. (2023). Positive psychology and language learning: A systematic scoping review. *Review of Education*, *11*(3), Article 3420. https://doi.org/10.1002/rev3.3420

Chardonnens, S. (2025). Adapting educational practices for Generation Z: Integrating metacognitive strategies and artificial intelligence. *Frontiers in Education, 10*, Article 1504726. https://doi.org/10.3389/feduc.2025.1504726

Cheng, L. (2023). Delving into the role of mindfulness on the relationship among creativity, anxiety, and boredom of young EFL learners. *Heliyon*, *9*(2), Article 13733. https://doi.org/10.1016/j.heliyon.2023.e13733

Ciarrochi, J., Atkins, P. W. B., Hayes, L. L., Sahdra, B. K., & Parker, P. (2016). Contextual positive psychology: Policy recommendations for implementing positive psychology into schools. *Frontiers in Psychology, 7*, Article 1561. https://doi.org/10.3389/fpsyg.2016.01561

D'Souza, F., & Smyth, L. (2025). The array of outcomes associated with mindfulness interventions in schools: A systematic review and meta-analysis. *Mindfulness, 16*(8), 2132–2155. https://doi.org/10.1007/s12671-025-02627-3

Dewaele, J. M., Chen, X., Padilla, A. M., & Lake, J. (2019). The flowering of positive psychology in foreign language teaching and acquisition research. *Frontiers in Psychology*, *10*, Article 2128. https://doi.org/10.3389/fpsyg.2019.02128

Duckworth, A. L., & Quinn, P. D. (2009). Development and validation of the Short Grit Scale (Grit-S). *Journal of Personality Assessment, 91*(2), 166–174. https://doi.org/10.1080/00223890802634290

Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: Perseverance and passion for long-term goals. *Journal of Personality and Social Psychology, 92*(6), 1087–1101. https://doi.org/10.1037/0022-3514.92.6.1087

Fathi, J., Pawlak, M., Kruk, M., & Naderi, M. (2023). Modelling boredom in the EFL context: An investigation of the role of coping self-efficacy, mindfulness, and foreign language enjoyment. *Language Teaching Research, 30*(3), 1276-1306. https://doi.org/10.1177/13621688231182176

Fazia, T., Bubbico, F., Berzuini, G., Bruno, S., & Cortesi, M. (2023). Mindfulness for university students: A systematic review and meta-analysis. *Frontiers in Psychology, 14*, Article 1123456. https://doi.org/10.3389/fpsyg.2023.1123456

Fisher, A. J., Upton, M. G., & Kelly, M. (2023). Mindfulness-based interventions in educational settings: A systematic review and meta-analysis. *Educational Psychology Review, 35*(4), 65. https://doi.org/10.1007/s10648-023-09765-2

Gao, K., Zhang, J., Mao, Y., & Wu, C. (2026). Examining the impact of mindfulness-based interventions on anxiety in second language learners: A meta-analysis. *School Psychology International*, *47*(2), 131-159. https://doi.org/10.1177/01430343251404942

Haj, M. A. S., Fatehi, R. N., & Shahabi, H. (2026). MBSR-based instruction for enhancing psychological well-being and academic buoyancy among Generation Z EFL learners in Iran. *International Journal of Body, Mind & Culture*, *13*(3), 129-144. https://doi.org/10.61838/rmdn.ijbmc.11.7.2

Kabat-Zinn, J. (1982). An outpatient program in behavioral medicine for chronic pain patients based on the practice of mindfulness meditation: Theoretical considerations and preliminary results. *General Hospital Psychiatry, 4*(1), 33–47. https://doi.org/10.1016/0163-8343(82)90026-3

Kabat-Zinn, J. (1990). *Full catastrophe living: Using the wisdom of your body and mind to face stress, pain, and illness.* Delacorte Press.

Kabat-Zinn, J. (2013). *Full catastrophe living: Using the wisdom of your body and mind to face stress, pain, and illness.* (Revised ed). Bantam Books.

Khamidova, D., & Ziyodullayeva, Z. (2025). Digital transformation in EFL education: Opportunities and challenges. *Central Asian Journal of Academic Research*, *3*(3-1), 162-166. https://doi.org/10.5281/zenodo.15074348

Khoury, B., Sharma, M., Rush, S. E., & Fournier, C. (2015). Mindfulness-based stress reduction for healthy individuals: A meta-analysis. *Journal of Psychosomatic Research, 78*(6), 519–528. https://doi.org/10.1016/j.jpsychores.2015.03.009

Koçali, Z., & Aşık, A. (2026). Exploring mindfulness and language learning: EFL students' journey coping with speaking anxiety. *BMC Psychology*, *14*(1), Article 370. https://doi.org/10.1186/s40359-026-04161-w

Kriakous, S. A., Elliott, K. A., Lamers, C., & Owen, R. (2021). The effectiveness of mindfulness-based stress reduction on the psychological functioning of healthcare professionals: A systematic review. *Mindfulness, 12*(1), 1–28. https://doi.org/10.1007/s12671-020-01500-9

Li, C. (2021). A control–value theory approach to boredom in English classes among university students in China. *The Modern Language Journal*, *105*(1), 317-334. https://doi.org/10.1111/modl.12693

Li, C. (2022). Foreign language learning boredom and enjoyment: The effects of learner variables and teacher variables. *Language Teaching Research, 29*(4), 1499-1524. https://doi.org/10.1177/13621688221090324

Li, C., Dewaele, J. M., & Hu, Y. (2023). Foreign language learning boredom: Conceptualization and measurement. *Applied Linguistics Review*, *14*(2), 223-249. https://doi.org/10.1515/applirev-2020-0124

Llistosella, M., Miñarro, M., & López-Muñoz, F. (2023). Understanding Generation Z students in higher education. *Education Sciences*, *13*(8), 764. https://doi.org/10.3390/educsci13080764

Lyu, J. (2025). A mixed-methods approach to the psychological predictors of boredom in second language learning: Mindfulness, grit, and self-regulation. *Frontiers in Psychology*, *16*, Article 1609330. https://doi.org/10.3389/fpsyg.2025.1609330

MacIntyre, P. D., Gregersen, T., & Mercer, S. (2016). Positive psychology in SLA. *Studies in Second Language Learning and Teaching*, *6*(2), 213–219. https://doi.org/10.14746/ssllt.2016.6.2.2

Mohammad Hosseini, H., Derakhshesh, A., Fathi, J., & Mehraein, S. (2024). Examining the relationships between mindfulness, grit, academic buoyancy, and boredom among EFL learners. *Social Psychology of Education*, *27*(3), 1357–1386. https://doi.org/10.1007/s11218-024-09934-9

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

Pawlak, M., Botes, E., Kruk, M., & Stempfer, L. (2025a). Development and validation of the Short-Form Foreign Language Classroom Boredom Scale (S-FLCBS). *Language Teaching Research*. https://doi.org/10.1177/13621688251368647

Pawlak, M., Fathi, J., Rezaei, N., & Kruk, M. (2025b). An exploration of psychological capital resources, mindfulness, L2 grit, and L2 achievement: An explanatory mixed-methods study. *Applied Linguistics*. https://doi.org/10.1093/applin/amaf056

Pawlak, M., Kruk, M., Zawodniak, J., & Pasikowski, S. (2020). Investigating factors responsible for boredom in English classes. *Language Teaching Research*, *24*(6), 724–744. https://doi.org/10.1177/1362168819836481

Pekrun, R. (2006). The control-value theory of achievement emotions: Assumptions, corollaries, and implications for educational research and practice. *Educational Psychology Review*, *18*(4), 315–341. https://doi.org/10.1007/s10648-006-9029-9

Plonsky, L., Sudina, E., & Teimouri, Y. (2022). Language learning and emotion. *Language Teaching*, *55*(3), 346-362. https://doi.org/10.1017/s0261444821000434

Roziqin, A., Ni'mah, I. K., Fauzi, A. R., & Barwi, N. B. (2024). The role of mindfulness in managing academic stress: Implications for student well-being and mental resilience. *Education and Sociedad Journal*, *3*(1), 62–72. https://doi.org/10.61987/edsojou.v1i2.628

Rusadi, R. M., Sugara, G. S., & Isti'adah, F. N. (2023). Effect of mindfulness-based cognitive therapy on academic grit among university students. *Current Psychology*, *42*(6), 4620–4629. https://doi.org/10.1007/s12144-021-01795-4

Seemiller, C., & Grace, M. (2018). *Generation Z: A century in the making*. Routledge. https://doi.org/10.4324/9780429442476

Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, *55*(1), 5–14. https://doi.org/10.1037/0003-066X.55.1.5

Shafiee Rad, H., & Jafarpour, A. (2023). Effects of well-being, grit, emotion regulation, and resilience interventions on L2 learners' writing skills. *Reading & Writing Quarterly*, *39*(3), 228-247. https://doi.org/10.1080/10573569.2022.2096517

Solhi, M., Derakhshan, A., & Ünsal, B. (2025). Associations between EFL students' L2 grit, boredom coping strategies, and emotion regulation strategies: A structural equation

modeling approach. *Journal of Multilingual and Multicultural Development, 46*(2), 224–243. https://doi.org/10.1080/01434632.2023.2175834

Tajoldini, S., Tohidi, A., & Mousavinasab, H. (2018). The effect of mindfulness-based-stress reduction (MBSR) training on academic buoyancy and academic self-regulation in high school students. *Journal of Educational Psychology Studies, 15*(31), 59-88. https://doi.org/10.22111/jeps.2018.4267

Teimouri, Y., Plonsky, L., & Tabandeh, F. (2020). L2 grit: Passion and perseverance for second-language learning. *Language Teaching Research, 26*(5), 893–916. https://doi.org/10.1177/1362168820921895

Tu, H., & Shi, H. (2024). Personal attributes contributing to Chinese EFL students' well-being: Uncovering the role of mindfulness and grit. *European Journal of Education, 59*(4), Article 12759. https://doi.org/10.1111/ejed.12759

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://doi.org/10.22492/ije.4.2.08

Wu, J., & Zhao, Q. (2023). The contribution of mindfulness in the association between L2 learners' engagement and burnout. *Heliyon*, *9*(11), Article 21769. https://doi.org/10.1016/j.heliyon.2023.e21769

Xie, J. (2021). The effects of boredom on EFL learners' engagement. *Frontiers in Psychology*, *12*, Article 743313. https://doi.org/10.3389/fpsyg.2021.743313

Zeilhofer, L. (2020). 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

Zhao, X., & Wang, D. (2023). Grit in second language acquisition: A systematic review from 2017 to 2022. *Frontiers in Psychology*, *14*, Article 1238788. https://doi.org/10.3389/fpsyg.2023.1238788

Zimmerman, B. J. (2000). Attaining self-regulation: A social cognitive perspective. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), *Handbook of self-regulation* (pp. 13–39). Academic Press. https://doi.org/10.1016/b978-012109890-2/50031-7

Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. *Theory into Practice, 41*(2), 64–70. https://doi.org/10.1207/s15430421tip4102_2