

RESEARCH ARTICLE

Exploring the Role of Mindfulness Meditation in Facilitating English Learning and Optimizing Classroom Teaching

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ABSTRACT

Mindfulness meditation is a technique for regulating attention and emotions, which can help individuals enhance self-awareness and reduce stress. This paper aims at review the positive effects of mindfulness meditation on English learners and teachers, including improving English learning abilities and enhancing motivation, confidence, and enjoyment in English learning. Through systematic literature searches and screening methods from databases such as CNKI, Wan fang, Pub Med, and Web of Science, relevant papers on mindfulness meditation and English learning from the past decade were selected. Their research purposes, methods, innovations, and conclusions were analyzed. This paper specifically explores the literature review on the impact of mindfulness meditation on English learning, summarizing both the theory and practice of mindfulness meditation, and proposing future research directions and suggestions. Mindfulness meditation has a positive impact on English learning and classroom teaching, but its specific effects are influenced by various factors such as the type, duration, and frequency of mindfulness meditation. More empirical research is needed to validate its effects on English learning and to explore the optimal integration methods.

KEYWORDS

Mindfulness meditation; English learning; attention; educational psychology; mindfulness application in English classroom

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1. Introduction

Mindfulness is a psychological state of non-judgmental attention to present experiences and a skill for self-regulating attention (Reina & Kudesia, 2020). Mindfulness meditation is a method for cultivating this state, regulating attention through focused or open observation, and contributing to the improvement of mental and physical health (Bishop et al., 2004; Dimidjian & Linehan, 2003). In English teaching, mindfulness meditation can help students alleviate negative emotions, enhance attention, and improve self-regulation, thus optimizing the learning environment. Teachers can utilize mindfulness meditation to promote student relaxation, focus, and enhance classroom management and teaching effectiveness. This practice not only yields immediate benefits for English learning but also fosters lifelong learning skills such as self-awareness and emotional management.

2. Application of Mindfulness Meditation in English Learning

In recent years, mindfulness meditation has also garnered attention in the field of English teaching, with studies exploring its effects on English learners' cognition, emotion, and behavior (Table 1) (Jin & Liu, 2017). The significance of English learning for students' overall development and future prospects cannot be overstated, it is not merely a language course but a gateway to the world. However, the process of learning English is often accompanied by significant stress, posing a considerable challenge for many students (Chen & Klenowski, 2009; Jin & Cortazzi, 2002). Therefore, mindfulness meditation offers a fresh perspective and approach to English learning and teaching, aiding students in enhancing their effectiveness and enthusiasm for learning English.

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Emotion	Ability
Alleviate stress and anxiety	Enhance stability, flexibility, and acuity of attention
Boost confidence and self-esteem	Improve working memory
Increase learning motivation and interest	Enhance meta-cognitive levels
Augment happiness and satisfaction in learning	Heighten self-efficacy and autonomy

Table 1 The	benefits of	mindfulness	meditation	on English	learning

2.1 Positive Psychological Effects of Mindfulness on English Learning

Mindfulness meditation has significant psychological regulatory effects on students. When facing challenges in learning and life, students can cultivate a calm and balanced mindset through mindfulness meditation, effectively alleviating learning stress and anxiety, thus creating favorable conditions for better learning outcomes (Khoury et al., 2015). Through consistent mindfulness training, adolescents can develop more stable emotional and behavioral patterns, effectively avoiding the negative impacts brought by stress and anxiety, further promoting healthy brain development (Skelly & Estrada-Chichon, 2021).

Through meditation, learners can better recognize and accept their strengths and weaknesses, thereby promoting enhanced confidence and self-esteem. This internal growth directly reflects in motivation and interest in learning, inspiring learners to engage more actively in their studies. Learning itself is a dynamic process involving continuous events and phenomena. According to a quasi-experimental study conducted on third-grade students in public elementary schools in the United States, those who underwent mindfulness training showed the significant improvement in learning performance compared to the control group, demonstrating the positive facilitating effect of mindfulness meditation on learning outcomes (Bakosh et al., 2015). The foundation of learning lies in focused attention, while meta-cognition involves monitoring and adjusting one's cognitive processes. Mindfulness meditation, as a psychological training method, helps learners cultivate positive evaluations of the learning process, thereby enhancing satisfaction and happiness derived from learning, ultimately improving learning efficiency and quality (Hölzel et al., 2011). These abilities are crucial for English learners as they assist in more effectively processing and memorizing English information, as well as in timely planning and evaluating their own learning (Raoofi et al., 2012).

Anxiety and stress are common negative emotions affecting English learners, which can disrupt learners' attention, memory, and confidence, thereby reducing their learning effectiveness and motivation (MacIntyre & Gardner, 1991). In challenging learning environments, such as English listening and speaking practice, anxiety often becomes a stumbling block to learning progress. This anxiety may not only weaken learners' confidence but also hinder them from fully utilizing learning resources and opportunities, thereby affecting learning outcomes (Rahimi & Abedini, 2009). Mindfulness meditation, by training practitioners to observe their feelings, thoughts, and emotions in a non-judgmental and accepting manner, can reduce practitioners' reactions to negative emotions and avoidance behaviors, thereby lowering practitioners' levels of anxiety and stress (Baer, 2003). Studies have shown that mindfulness meditation can enhance self-esteem, reduce anxiety, increase self-acceptance, decrease negative self-denial, and increase brain network activity related to the attention regulation in patients with anxiety disorders (Goldin et al., 2009). Therefore, learners can learn to face and accept their anxiety through mindfulness, thereby reducing anxiety levels, which is beneficial to improving English learning outcomes. Mindfulness can improve students' academic performance and mood states, increase their self-awareness of negative thoughts, construct positive mindfulness, with behavioral change as the ultimate goal, and reduce test anxiety occurrence (Liu et al., 2022). Thus, practitioners can participate in English learning more relaxed and confidently, especially in challenging situations such as English listening and speaking (Rahimi & Abedini, 2009). Research shows that individuals who practice mindfulness regularly have reduced the amygdala activity, decreased distraction, anxiety, fear, depression, and stress (Goldin & Gross, 2010; Hölzel et al., 2011).

A study specifically examined the effects of mindfulness practice on 13-16-year-old Spanish adolescents undergoing psychotherapy as outpatient patients. They found that, compared to the control group receiving no treatment, those who practiced mindfulness for 20 minutes under coach guidance and 25 minutes at home reported a significant decrease in anxiety levels (Mc et al., 2018). Another group of first-grade students from a compulsory secondary school in Spain measured students' self-concept levels and anxiety levels. They used questionnaires both before and after the test. The experimental group received 1 hour and 30 minutes of mindfulness training per week, and based on the 10-week training, they practiced mindfulness for 30 minutes at home every day. They analyzed differences between the control group in the following areas: total academic performance, Spanish language and literature, foreign language, self-concept, state, and trait anxiety. They found that the most of significant improvement was in academic performance (Siqueira et al., 2011). In a study conducted in a high school in Chile involving adolescents aged 12 to 14, after introducing the experimental group to mindfulness classes eight times a week, each lasting 45 minutes, stress and anxiety levels significantly decreased (Ál et al., 2017). These studies demonstrate that mindfulness practice

significantly reduces anxiety levels among adolescents, applicable not only to outpatient patients but also to student populations, improving academic performance and alleviating stress and anxiety.

2.2 Impact of Mindfulness on English Learners' Abilities

Mindfulness meditation can help learners improve the stability, flexibility, and sharpness of attention, enabling them to better focus on English learning (Lutz et al., 2008). Some carefully designed mindfulness training techniques have shown significant effects in cultivating individuals' awareness and adaptability in the field of education. These techniques, validated through practice, not only contribute to improving the mental and physical well-being of teachers and students but also significantly enhance their self-efficacy, learning motivation, and self-actualization abilities. These positive outcomes fully demonstrate the importance and practical value of mindfulness training in the field of education (Ludwig & Kabat-Zin, 2008; Ruff & Mackenzie, 2009). A study explored the correlation between mindfulness and attention, assessing 97 students over 24 weeks, with results showing that mindfulness training helped improve students' levels of attention focus (Napoli et al., 2005).

Mindfulness meditation can help learners enhance their meta-cognitive levels, allowing them to strategically plan, monitor, and evaluate their own learning processes. Mindfulness meditation, through contemplation, not only aids students in regulating attention and improving academic performance but also enhances students' empathy and social skills, promotes moral development, increases individual happiness, and assists in applying self-insight and new experiences to social services and public affairs (Guo & Liu, 2020). A large-scale research project on attention and reading/writing scores also indicated that inattentive behavior during learning significantly negatively impacts reading performance (Rowe & Rowe, 1999). Students with more focused attention tend to be less anxious during public speaking, and these students also score higher in presentations compared to those with higher levels of presentation anxiety (Charoensukmongkol, 2019).

2.2.1 Neurological Mechanisms of Mindfulness Meditation on English Learning

Mindfulness meditation is a beneficial psychological training method that, scientifically validated, effectively enhances individuals' working memory capacity and efficiency (Ramsburg & Youmans, 2014). For language learners, this means they can better process and memorize English, thus achieving better results in learning and application. Therefore, it is recommended that learners actively try and persist in mindfulness meditation practice to optimize their learning experiences and outcomes. After engaging in 10 minutes of mindfulness practice daily for two weeks, participants' vocabulary test scores increased by an average of 30% (Mrazek et al., 2013). Using functional magnetic resonance imaging (fMRI) technology, researchers studied the neurological mechanisms of mindfulness meditation training on English learning. The results showed that mindfulness meditation training significantly enhanced the activity of the hippocampus and prefrontal cortex, which are associated with learning and memory. Additionally, researchers observed enhanced functional connectivity in language-processing-related areas, such as the left temporal lobe and left frontal lobe, after meditation training (S et al., 2018). These findings provide preliminary evidence of how mindfulness meditation promotes language learning by influencing brain plasticity. Mindfulness can directly increase the working memory capacity of the hippocampus and alleviate the pressure and cognitive load on the prefrontal cortex during adolescent development. Supporting mindfulness as a means to reduce stress and anxiety in adolescents and enhance their working memory capacity (Mc et al., 2018; Quach et al., 2015), research results showed that after four weeks of mindfulness practice, 12-17-year-old adolescents showed improved scores on working memory tests compared to the control group (Quach et al., 2015).

Some scholars have extensively investigated the neurological mechanisms of mindfulness meditation training on English learning using electroencephalogram (EEG) technology. The results showed that after several weeks of mindfulness meditation training, participants exhibited significantly enhanced theta wave activity in the left temporal lobe area when performing language processing tasks. Meanwhile, during language learning tasks, the brain's alpha wave rhythmic activity also showed a significant increase, which is closely related to language processing and memory functions (Witkiewitz et al., 2013).

Some studies aimed at explore the effects of mindfulness meditation on exam scores, using exam scores as an important evaluation indicator of academic progress. These studies have all shown that engaging in mindfulness meditation practice for a period of time can significantly impact exam scores. Student groups that meditated before studying and before exams generally scored higher on exams than student groups that did not meditate (Fiebert & Mead, 1981; Mrazek et al., 2013).

2.2.2 Mindfulness Meditation Enhances English Learners' Self-Efficacy and Autonomy

Self-efficacy refers to an individual's belief in their ability to accomplish a task, while autonomy refers to the degree of control and choice an individual has over their actions. Mindfulness meditation, by training practitioners in attention and emotion regulation, can increase practitioners' confidence and evaluation of their learning abilities, thereby enhancing their self-efficacy (Bandura, 2000). Mindfulness meditation helps practitioners clarify their learning goals and strategies more clearly and consistently, thereby enhancing individual autonomy (Ryan & Deci, 2000). These abilities are highly beneficial for English learners as they can effectively stimulate learners' intrinsic motivation, cultivate enduring learning interests, and help them better cope with the challenges and

setbacks encountered during the learning process. Rigorous training effectively curbed aggressive classroom behavior among seventh-grade students. This improvement is not only reflected in the reduction of behavior frequency but also in the significant decrease in the frequency and intensity of behavior occurrences (Singh et al., 2007). Mindfulness training plays a significant role in helping students better understand their own emotions, enhance self-regulation abilities, and reduce impulsive behavior.

3. Application of Mindfulness Meditation in Classroom Environments

Neuroscientific research has shown that the practice of mindfulness in educational settings enhances the self-regulatory abilities, self-reflection, and metacognitive strategies of both educators and learners (Flook et al., 2013; Meiklejohn et al., 2013). This not only helps improving students' academic performance but also promotes the psychological well-being of teachers and students. Emphasizing the cultivation of students' mindfulness literacy during teaching and integrating the mindfulness dialogue, mindful walking, and other psychological intervention methods into foreign language classroom teaching can help guide students to engage more attentively and mindfully in foreign language learning (Shen, 2023). In order to effectively enhance students' mindfulness meditation into English classroom teaching (Tao, 2017). This teaching method aims at help students better manage their thoughts, improve concentration, and achieve better results in English learning by cultivating students' mindfulness awareness. Through the practice of mindfulness meditation, students will learn how to focus their attention on classroom content, reduce distractions, and improve learning outcomes. Through carefully designed meditation activities and guidance, students will experience and practice mindfulness meditation in a relaxed atmosphere, injecting new vitality and motivation into their journey of English learning. Research results show that students' attentive listening in class has a significant impact on their academic engagement and achievement (Langer, 2000).

Therefore, mindfulness learning is an effective tool and strategy for improving learning outcomes. Through just two weeks of practice, mindfulness training can significantly enhance individuals' ability to learn new information. This new information will be processed by the left hippocampus of the brain using working memory mechanisms (J et al., 2019). In Sri Lanka, where English is taught as a second language, teachers' focus and professional skills in creating classroom atmospheres significantly affects student outcomes. Through quantitative observation of 230 students and 9 English teachers before and after an 8-week mindfulness intervention, teachers can alleviate stress and influence student performance through mindfulness and professional skills (Peiris et al., 2022). In a 9-week study involving students in grades two and three at a primary school, whose native language is Spanish and the second language is English, classroom atmosphere was optimized, and students' attention to teaching content was improved through mindfulness teaching (Mortimore, 2017).

3.1 Mindfulness Meditation Training and the Effects on English Learning Compared with Other Psychological Interventions or Teaching Methods

The implementation of Psychological Capital (Psy Cap) and mindfulness learning training and practice contributes to learners' proficient mastery of English, academic success, and maintaining high levels of mental health (Lin, 2020). Studies have found significant gender differences in English learning fatigue among college students, with females exhibiting greater proficiency in foreign language learning. Elevating the standards of English teaching in primary and secondary schools before higher education and encouraging and reinforcing language learning skills among male students may be beneficial (Xu et al., 2022).

The use of mindfulness meditation has been found to effectively reduce anxiety, demonstrating how mindfulness affects language learning. In the instructional environment, incorporating lavender scent, in an aromatically enriched setting, meditation has positive effects on both anxiety and learning (Önem, 2015). Music are also effective in reducing anxiety in English teaching (Önem, 2012). In fact, apart from relaxation and breathing exercises, the use of music in English classrooms is related to anxiety and the success of English teaching (Önem & Ergenç, 2013). Guided meditation was conducted in English as a Second Language (ESL) classrooms for students of different races with an average age of 12.5. Teachers can use mindfulness applications or audio to guide students in mindfulness practice, providing guidance and support. Before the first guided meditation, she explained the concept of meditation and the potential benefits of meditation, followed by a 3-minute meditation, during which researchers played gentle background music and read prepared scripts. She pointed out that meditation is a "classroom management technique, a method of introducing new vocabulary, a way to quickly create a calm, focused environment, and thus a method to reduce emotional filtering" (Jenkins, 2015).

4. Conclusion and Discussion

Students hold an overall positive attitude towards meditation practice, and various meditation exercises have significant value in designing new teaching methods (Zeilhofer, 2023). Mindfulness intervention, as an intervention method integrating positive psychology, has broad application prospects in the medical field. Mindfulness not only enhances individual well-being but also improves interpersonal relationships and increases psychological resilience (Seear & Vella-Brodrick, 2013). With the deepening

research and promotion of mindfulness intervention in China, it is believed that in the near future, it will bring positive effects to more people's lives (Allen et al., 2021).

Mindfulness is widely applied in the medical field, but its relationship with positive psychology remains to be further explored. This paper aims at study the effects of different types and degrees of mindfulness meditation training on English learning and the neural mechanisms of these effects, such as hippocampus and prefrontal cortex working memory, and the psychological mechanisms of anxiety. Methods such as breathing exercises, mindful walking, and mindful activities show significant positive effects in English learning by regulating emotions, enhancing focus, and reducing anxiety levels, effectively enhancing English learning outcomes and student motivation. However, during implementation, special attention should be paid to the timing of mindfulness meditation practice, such as whether it is during or after class, to ensure its positive effects on English learning. Future research can further explore the application effects of mindfulness meditation in various stages of English learning, providing richer and more specific theoretical and practical support for English teaching.

Although mindfulness meditation has significant advantages in learning, there are also some limitations in practical implementation. For example, individuals need to invest a certain amount of time and effort in mindfulness meditation practice, which may cause some learners to feel time pressure and anxiety during English learning. Therefore, teachers need to carefully schedule mindfulness meditation time in actual teaching to ensure its positive impact on students' English learning. Mindfulness meditation has a positive impact on English learning and classroom teaching, but its specific effects are influenced by various factors such as the type, duration, and frequency of mindfulness meditation. More empirical research on neural and psychological mechanisms is needed to verify its effects on English learning and explore the best combination methods. Mindfulness shows broad application prospects in the field of education. By cultivating students' awareness, emotional regulation abilities, and self-efficacy, mindfulness training can significantly improve the lifelong learning outcomes of teachers and students. The promotion and application of mindfulness training education system will undoubtedly inject new vitality into the development of education.

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Exploring the Role of Mindfulness Meditation in Facilitating English Learning and Optimizing Classroom Teaching

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