

Exploring the Application of Aromatherapy in Junior High School English Language Teaching

Yanying Yao^{1,*}, Xinyi Yang², Jiang Teng³

¹The University of Hong Kong

²City University of Hong Kong

³Changzhou Foreign Languages School

*Correspondence Author, yanying@connect.hku.hk

Abstract: *This study explores the impact of aromatherapy on junior high school English language teaching by diffusing four essential oils in an eighth-grade classroom for two months. Student reflections gathered after the experiment are discussed through discourse analysis, demonstrating that aromatherapy contributes to improved concentration, retention, and engagement among the majority of students. The findings underscore the potential of aromatherapy as a complementary tool in education, providing valuable insights into the role of sensory interventions in optimizing learning environments. Guidelines are proposed to ensure its safe and effective application, emphasizing the importance of using pure and natural essential oils and controlled concentrations. This study presents a novel approach to integrating sensory-based strategies into conventional educational practices, offering new avenues for enhancing the academic performance of junior high school students.*

Keywords: Aromatherapy, Concentration, Engagement, English language teaching, Essential oil, Junior high school, Power dynamics, Retention, Stancetaking.

1. Introduction

Zhu and Zhou (2012) point out that junior high school students need to learn the English language methodically in terms of grammar rules, sentence structures, and other topics. This is in contrast to the learning contexts they have previously encountered. Students struggle with sleep issues in addition to academic pressure. As they progress through grade levels, both total and nocturnal sleep duration decreases, regardless of school days or weekends. The gap between required and actual sleep time grows, resulting in increased daytime sleepiness and morning complaints (Gau & Soong, 1995). Engaging in extracurricular activities also results in teenagers not getting sufficient sleep (MA et al., 1989). Chronic sleep deprivation lowers the cognitive and academic performance of junior high school students, thus giving rise to other problems like memory impairment and reduced attentional focus in the classroom. This renders it more difficult for students to stay focused and succeed in learning English since it adds to their stress and anxiety levels. To take on these challenges, it is necessary to integrate traditional teaching methods with innovative alternatives.

Recent studies prove that aromatherapy, a complementary therapy utilizing essential oils extracted from various plant parts such as fruits, leaves, and flowers (Ali et al., 2015), can effectively manage symptoms related to anxiety, depression, and stress, making them a promising tool for improving psychological health (Watt & Janca, 2008), especially in the treatment of anxiety (Guo et al., 2020). According to a study carried out by the University of California, essential oils extracted from rosemary and orange can help people make great improvements in their retention (Woo et al., 2023). Rosemary, with its energizing and concentration-enhancing properties, can help combat mental fatigue and improve cognitive performance (Al-Sereiti et al., 1999). Orange, known to reduce anxiety and elevate mood (Goes et al., 2012), can contribute to a positive and relaxed classroom environment. Another essential oil used in this experiment,

frankincense, is closely associated with religious culture and is mentioned several times in the Gospel of Matthew (Morikawa et al., 2017). Considered the “aroma of communication with God,” it can be used for stabilizing the mood (Al-Yasiry & Kiczorowska, 2016). Patchouli, a common Chinese herb used in Chinese medicine for centuries (Lin et al., 2014), with its mood-regulating and stress-relieving effects, can support mental clarity (Shankaranarayan, 2002).

Their effects are more potent than the sum of their individual effects when used in combination (Sadeghi et al., 2022). The study seeks to combine these four essential oils and leverage their sensory and psychological benefits to explore the application of aromatherapy in junior high school English language teaching. This study is expected to address the following two questions: (1) Are aromatherapy beneficial to junior high school English language teaching? (2) How can essential oils be effectively utilized?

2. Methodology

2.1 Data Collection

The data collection process mainly revolves around the reflections composed by the students who participate in the experiment. Specifically, a two-month aromatherapy intervention was implemented in an eighth-grade class comprising 50 students. Two drops of each of the four pure and natural essential oils, frankincense, patchouli, rosemary, and orange, as well as a suitable amount of mineral water, were introduced to two medical-grade nebulizing aromatherapy diffusers that were set up in a corner of the classroom. This procedure was consistently carried out during English classes for two months, ensuring that students could fully experience the potential impact of the essential oils on the English language teaching and learning process.

Upon completion of the intervention, to gather their insights, all students in the class were invited to write their reflections

regarding the application of aromatherapy to assist in English language learning. Students were then asked to write candid descriptions of their emotional states, perceptions of the English language teaching atmosphere, and any other personal experiences related to aromatherapy exposure within the scented environment. In this way, richness and depth could be ensured for the samples. Following the collection of 50 reflections, a data screening process was carried out. The students were stratified and sampled, crossing the levels of academic performance and genders to confirm diversity and representativeness. The reflections provided by five students were meticulously chosen for extensive analysis in this study.

2.2 Analytical Methods

To linguists, “discourse” constitutes a component of language that is intimately linked to syntax, which is delineated as the structural framework of language, encompassing the manner in which words and phrases coalesce into sentences (Gee, 2014). As an analytical methodology, discourse analysis is employed to scrutinize the organization of language, with a particular emphasis on linguistic structures that extend beyond the confines of a solitary sentence, encompassing dialogues or entire texts (Stubbs, 1991). According to Budd and Raber (1996), the essence of discourse analysis resides in the examination of the form and function of language in use. In this study, discourse analysis is utilized as a refined method for text interpretation, enabling a profound comprehension of participants’ emotions and the impact of aromatherapy essential oils on them. By meticulously analyzing various aspects such as their learning status, emotional dispositions, and stancetaking, a more precise grasp of the efficacy of aromatherapy essential oils in the context of junior high school English language teaching could be gained. This comprehensive analysis may ultimately provide robust support for the subsequent research conclusions.

3. Data Interpretation

In this part, the reflections, originally authored in Chinese by five students from different groups, are accurately translated into English and then subjected to rigorous discourse analysis.

3.1 Exemplify Analysis

(1) After Miss Yao returned from Hong Kong, she began using unique essential oils for aromatherapy in our classroom. At first, I did not pay much attention to the faint, tenuous scent. However, over time, I gradually noticed a significant improvement in my focus during English class. Although my grades have always been decent, I used to zone out or lose concentration occasionally during lessons. Recently, I have found that the barely noticeable fragrance seems to play a subtle role in pulling me back whenever my mind starts to wander, helping me regain focus. While I still get distracted sometimes, the frequency has decreased significantly.

The student employs a mix of complex and compound sentences, organized chronologically with phrases like “at first,” “over time,” and “recently,” which guide the reader through the gradual transformation of his experience, from initial apathy to growing appreciation. Descriptive expressions, such as “faint,” “subtle,” and “barely noticeable,”

underscore the delicate yet impactful nature of the aromatherapy.

Rhetorically, the student contrasts his previous tendency to “zone out” with his current ability to “regain focus,” subtly downplaying initial disinterest in the scent. This contrast highlights the beneficial change in his focus achieved through the intervention. The emotional tone of the paragraph is reflective and mildly optimistic, suggesting a sense of surprise and gratitude for the unexpected benefits of aromatherapy.

The power dynamics in this reflection highlight the role of the teacher in introducing the aromatherapy intervention, positioning Miss Yao as the initiator. However, the student’s narrative shifts the power balance by taking ownership of his personal experience. While the teacher’s action initiates the change, it is his response to the intervention that matters. The reflection shows how he adapts to and benefits from the aromatherapy, positioning himself as an active agent in his learning process. This intimates collaborative power dynamics, where the teacher’s influence and the student’s autonomy coexist. It is not a top-down relationship. The student shapes his response to the intervention. This reflection underscores the bidirectional nature of educational interventions. While teachers provide techniques, students translate them into learning outcomes through their experiences. The effectiveness of aromatherapy is not solely based on the teacher’s actions but also on how students actively embrace and integrate it into their learning process. His narrative supports the application of aromatherapy in improving concentration and engagement in educational settings.

(2) I have always found learning English challenging, especially in memorizing vocabulary and grammar rules. When aromatherapy was introduced in the classroom, I did not have high hopes because I always thought that my difficulties in learning English were due to a lack of talent and ability, and not related to other factors. However, after some time, I noticed a change in my attitude toward learning English. During lessons, I actually began to feel motivated to participate, and I was able to remember a few words that the teacher taught during class. Although I’m still not sure if I will be able to master English, I can sense that the essential oil scent has helped me, giving me a bit more confidence and motivation in my studies.

This reflection traces the student’s evolving perspective on learning English, indicating the impact of aromatherapy on her learning journey. The mix of compound and complex sentences reflects a natural flow of thought. The narrative progresses from skepticism to a more positive realization, marked by phrases like “I have always found” and “after some time,” setting up her experience. Expressions like “challenging,” “lack of talent and ability,” and “not related to other factors” reveal her initial self-doubt, suggesting internal conflict and inconfidence in learning English. Her language usage signals a change in mindset and a move from frustration to hope and accomplishment.

Rhetorically, the student contrasts her initial belief that difficulties were due to a lack of talent and ability with a growing sense of agency and success. This shift from a fixed

mindset to a growth-oriented outlook strengthens the argument for the potential benefits of aromatherapy.

The emotional tone evolves from self-doubt and resignation to cautious optimism. Early phrases like “I did not have high hopes” convey frustration, but later expressions like “confidence” and “motivation” reflect personal growth and empowerment, indicating a favorable impact from small changes in English class.

Her stancetaking is one of tentative optimism. While uncertain about mastering English, the student recognizes the constructive results of aromatherapy, inferring a balanced view that combines hope with realistic awareness. In the reflection, she acknowledges that while aromatherapy may not be the ultimate solution, it plays a significant role in fostering a more engaged and confident learning experience.

(3) I have always been good at learning English and have achieved good results in every exam. I really like Teacher Yao and am always willing to listen to her advice. She did something that no other teacher had done before, and I thought it was very special. I fully supported her. I asked her about the principles behind it. After hearing her explanation, I started to believe in the power of plants. After experiencing aromatherapy for some time, I have made it an important assistant in my study. Every day, I look forward to Teacher Yao bringing the “magic tool” to our class. I believe this is an essential part of my learning process.

Her discourse reflects positive engagement with the English learning process and support for an innovative teaching method introduced by Teacher Yao. The overall tone is appreciative, showing a transition from curiosity to belief in the effectiveness of Teacher Yao’s aromatherapy approach. The expressions she adopts show a high degree of recognition, such as “achieved good results” and “fully supported.”

She uses metaphor, especially when referring to aromatherapy as a “magic tool.” This rhetorical device amplifies the sense of intrigue and value associated with the new method, depicting it as a nearly mystical and potent instrument for assisting English language learning. The emotional tone is upbeat, with expressions such as “really,” and “special,” conveying a sense of enthusiasm, admiration, and anticipation.

The power dynamics in her reflection are subtle. While Teacher Yao is positioned as an authority figure whose techniques inspire respect and compliance, the student also demonstrates autonomy by striving to understand the principles underlying the approach. This reflects a balanced relationship where the teacher provides guidance, and she actively engages with and adopts the new method.

The stancetaking of the student shows trust and support for Teacher Yao, demonstrating a strong belief in aromatherapy. It has a clear endorsement of the effectiveness of essential oils in amplifying her personal growth.

(4) In the past, I was indifferent toward English learning, and my grades were always average. But ever since the scent of essential oils filled the classroom, I have noticed a renewed sense of connection with English. The smell is a bit like

traditional Chinese medicine, not particularly fragrant, but it has a calming effect. Although my English grades have not shown significant improvement, the scent always gives me a boost. Maybe it is just a psychological effect, but it makes me feel more confident in class and encourages me to speak up. As a result, I have received praise from my teacher. I have started to enjoy English class, and I look forward to receiving more recognition.

This reflection details his journey from indifference to a newfound interest in English, facilitated by the introduction of essential oils in the classroom. The sentence structure is mostly compound, creating a clear causality between the introduction of aromatherapy and his emotional changes. The expressions are simple yet expressive, like “calming effect” and “boost,” revealing the emotional support provided by the oils, even though his academic impact is less tangible.

Rhetorically, the use of simile, “a bit like traditional Chinese medicine,” creates a relatable image to explain the scent, which is initially unappealing but ultimately soothing. This indicates his growing comfort with something unfamiliar.

With regard to power dynamics, the teacher is depicted as a supporter of his English language learning. His discourse implies a motivation driven by the desire for continued praise and encouragement from the English teacher, influencing his positive stancetaking towards aromatherapy. Overall, his increasing positivity in English language learning is rooted in his expectation of affirmation from an authority figure. It is this external factor that drives his support for aromatherapy.

(5) I really think essential oils are effective! I want to recommend them to all the teachers. After experiencing them for two months, I have noticed a significant improvement in my concentration and retention! Now I can sit quietly, concentrate on my homework, and even memorize two units of vocabulary at once. To be honest, rosemary is truly my lifesaver!

In this reflection, the student reveals her enthusiastic endorsement of essential oils, particularly rosemary, for improving concentration and retention. Her confident and excited tone shows strong support and avid interest in bringing aromatherapy into educational settings.

The sentence structure is simple yet effective, opening with declarations such as “I really think essential oils are effective!” and “I want to recommend them to all the teachers.” These sentences set an assertive tone, establishing her strong support for essential oils in English language teaching. Exaggeration can be seen in her discourse. The word “lifesaver” elevates essential oils from a mere study aid to something extraordinary.

Her personal involvement is underlined by utterances like “I want to recommend,” presenting her stancetaking as an active promoter of aromatherapy who is eager to share her discoveries with others.

3.2 Key Findings

Through discourse analysis of reflections written by students

from diverse groups, several key findings emerge. Despite individual differences among the students, the majority perceived the application of aromatherapy in junior high school English language teaching as effective. By diffusing four essential oils, including frankincense, patchouli, rosemary, and orange, students' retention, concentration, and engagement in English classes are improved to varying degrees. Consequently, the application of aromatherapy as an innovative approach in junior high school English language teaching deserves attention and merits further recommendation.

4. Discussion

4.1 Implementation Guidelines

When integrating aromatherapy into educational settings, particularly in junior high school English language teaching, it is crucial to adhere to certain guidelines to ensure safety and efficacy.

Olfactory and respiratory stimulation are the primary pathways through which inhaled aromatherapy influences the body. They directly impact emotional and physiological responses by activating the olfactory nerve, which connects the nose to the brain (Vora et al., 2024). This underscores the need for pure and natural essential oils to avoid potential harm and maximize therapeutic benefits. Rather than using inexpensive synthetic fragrances or perfumes, which may contain harmful chemicals posing risks to students and teachers, especially with prolonged inhalation, pure and natural essential oils derived from plants are recommended for their therapeutic benefits.

Additionally, the concentration needs to be controlled. Excessive use of essential oils may lead to overstimulation or adverse reactions, such as dizziness, or respiratory irritation, in some individuals. Fan and Lou (2004) also claim that some essential oils can even cause cellular DNA damage when used at high concentrations. Thus, to ensure the safety of both teachers and students, this experiment utilizes essential oils at a low concentration. A safe concentration range for aromatherapy in enclosed spaces, such as classrooms, is between 0.5% and 2%. This means diluting 0.5 to 2 drops of essential oil per teaspoon of a carrier substance, such as water or a diffuser base. Therefore, it is advisable to start with a low concentration and gradually adjust it based on the responses of the students and teachers in the classroom.

4.2 Broader Implications

Previous research on aromatherapy in China has been relatively limited in scope and depth, with the majority of studies focusing on its applications in healthcare and wellness rather than the educational domain. Notably, the integration of aromatherapy into educational practices, particularly in junior high school English language teaching, remains an unexplored territory. This study, therefore, represents a novel contribution to the field by investigating the potential applications and benefits of aromatherapy in enhancing the teaching and learning experience.

The findings of this research not only provide new insights

into the feasibility and effectiveness of incorporating aromatherapy into junior high school English language teaching but also offer practical suggestions for teachers on how to utilize this holistic approach. This study introduces an innovative perspective that could inspire further research and practice in the field of education, particularly in exploring alternative and complementary methods to traditional teaching strategies.

4.3 Limitations and Future Studies

This study gains results about the effects of the application of aromatherapy in junior high school English language teaching. However, it is undeniable that the sample size is relatively limited. Future studies are expected to expand the scope and depth of data collection to enrich the findings. Additionally, diversified research methods, such as questionnaires and interviews, could also be employed to gain a deeper understanding of the feedback of junior high school students regarding the application of aromatherapy in English language learning. Through these studies, we may offer more effective recommendations for junior high school English teachers to support the advancement of their teaching practice with aromatherapy integration.

References

- [1] Zhu, B., & Zhou, Y. A Study on Students' Affective Factors in Junior High School English Teaching [J]. *English Language Teaching (Toronto)*, 2012, 5(7): 33-. <https://doi.org/10.5539/elt.v5n7p33>
- [2] Gau, S. F., & Soong, W. T. Sleep problems of junior high school students in Taipei [J]. *Sleep*, 1995, 18(8): 667-673.
- [3] MA, C. Impact of part-time employment on adolescent sleep patterns [J]. *Sleep Res.*, 1989, 17: 74.
- [4] Ali, B., Al-Wabel, N. A., Shams, S., et al. Essential oils used in aromatherapy: A systemic review [J]. *Asian Pacific Journal of Tropical Biomedicine*, 2015, 5(8): 589-598. <https://doi.org/10.1016/j.apjtb.2015.05.007>
- [5] Watt, G. van der, & Janca, A. Aromatherapy in nursing and mental health care [J]. *Contemporary Nurse: A Journal for the Australian Nursing Profession*, 2008, 30(1): 69-75. <https://doi.org/10.5172/conu.673.30.1.69>
- [6] Guo, P., Li, P., Zhang, X., et al. The effectiveness of aromatherapy on preoperative anxiety in adults: A systematic review and meta-analysis of randomized controlled trials [J]. *International Journal of Nursing Studies*, 2020, 111: 103747.
- [7] Woo, C. C., Miranda, B., Sathishkumar, M., et al. Overnight olfactory enrichment using an odorant diffuser improves memory and modifies the uncinate fasciculus in older adults [J]. *Frontiers in Neuroscience*, 2023, 17: 1200448-1200448. <https://doi.org/10.3389/fnins.2023.1200448>
- [8] Al-Sereiti, M. R., Abu-Amer, K. M., & Sena, P. Pharmacology of rosemary (*Rosmarinus officinalis* Linn.) and its therapeutic potentials [J]. *Indian Journal of Experimental Biology*, 1999, 37: 124-130.
- [9] Goes, T. C., Antunes, F. D., Alves, P. B., et al. Effect of sweet orange aroma on experimental anxiety in humans [J]. *The Journal of Alternative and Complementary Medicine*, 2012, 18(8): 798-804.

- [10] Morikawa, T., Matsuda, H., & Yoshikawa, M. A Review of Anti-inflammatory Terpenoids from the Incense Gum Resins Frankincense and Myrrh [J]. *Journal of Oleo Science*, 2017, 66(8): 805–814. <https://doi.org/10.5650/jos.ess16149>
- [11] Al-Yasiry, A. R. M., & Kiczorowska, B. Frankincense - therapeutic properties [J]. *Postępy Higieny i Medycyny Doświadczalnej*, 2016, 70: 380–391. <https://doi.org/10.5604/17322693.1200553>
- [12] Lin, R. F., Feng, X. X., Li, C. W., et al. Prevention of UV radiation-induced cutaneous photoaging in mice by topical administration of patchouli oil [J]. *Journal of ethnopharmacology*, 2014, 154(2): 408-418.
- [13] Shankaranarayan, V., & Perfumery, G. M. Patchouli constituents and its usage in perfumery [J]. *Indian Perfumer*, 2002, 46(4): 313-314.
- [14] Sadeghi, Z., Farimani, M. M., Khorrami, F., et al. Insecticidal and oviposition deterrent effects of pure and combined essential oils of *Salvia* subg. *Perovskia* species against *Phthorimaea operculella* [J]. *South African Journal of Botany*, 2022, 151: 126–132. <https://doi.org/10.1016/j.sajb.2022.09.041>
- [15] Gee, J. P. *An introduction to discourse analysis: theory and method (Fourth edition)*[M]. London: Routledge, 2014.
- [16] Stubbs, M. *Discourse analysis: The sociolinguistic analysis of natural language* [M]. Hoboken: John Wiley & Sons, 1991.
- [17] Budd, J. M., & Raber, D. Discourse analysis: Method and application in the study of information [J]. *Information Processing & Management*, 1996, 32(2): 217-226.
- [18] Vora, L. K., Gholap, A. D., Hatvate, N. T., et al. Essential oils for clinical aromatherapy: A comprehensive review [J]. *Journal of Ethnopharmacology*, 2024, 330: 118180-. <https://doi.org/10.1016/j.jep.2024.118180>
- [19] Fan, P., & Lou, H. Effects of polyphenols from grape seeds on oxidative damage to cellular DNA [J]. *Molecular and cellular biochemistry*, 2004, 267: 67-74.