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Review article

Delving into the role of mindfulness on the relationship among creativity, anxiety, and boredom of young EFL learners

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ABSTRACT

Anxiety may contribute to agitation and distress in learners that can influence learning. Along with anxiety, boredom has been the focus of many recent investigations in the context of second language (L2) learning involving young learners. Anxiety and boredom would limit learners' imagination power, and can deter creativity, one of the indispensable skills in the 21st century. Mindfulness is another construct that is in line with creativity and its perspective to control anxiety is assured in literature. The proposed programs of mindfulness can influence creativity positively in the moment and over time. This is made possible by enhancing the level of the person's attention on daily activities which yields creative outcomes. In a world where stress and, often, distress undermine creativity, mindfulness emerges as an essential contributor to learners' success in educational practice. The current review focuses on young English as a foreign language (EFL) learners given that many believe stress and anxiety are commonplace among youth, leading to a decrease in creativity. Research findings reveal that mindfulness enhances creativity. Therefore, the improvement of students' well-being can be achieved by gradually incorporating mindfulness into the educational domain. Considering the important role of these factors in the language learning process, the purpose of this review is to examine the possible interactional effect of mindfulness in relation to creativity, learners' anxiety, and boredom in the context of L2 education among young learners. This is followed by proposing some suggestions for future research, as well as pedagogical implications.

1. Introduction

A review of the literature reveals an increasing interest in emotion during the last decade, with the majority of scholars within the area of second language acquisition (SLA) believing that students experience a variety of emotions when it comes to second language (L2) learning. This is also the case in other areas of education [1]. Moreover, investigations have been carried out on what emotions L2 learners go through in L2 learning, with anxiety and boredom considered as two main types of emotions experienced by L2 learners [2–4]. Many studies have broadly examined anxiety related to SLA, focusing on the perceived pressure and fear associated with foreign language classes [5]. Indeed, learners are likely to suffer from anxiety which is stimulated by several characteristics of the teaching-learning process (e.g., the innate complexity of language) [6], the requirement to speak, the nature of L2 class, the manners of their classmates, the nature of tests, the characteristics of the L2 speakers, etc.) [7]. Anxiety has been seen as one of the important emotional factors that are highly worth noting as it results in agitation and distress in learners, which, in turn, influences learning [8]. The anxiety associated with foreign language learning (FLA) is considered an overwhelming factor that influences SLA negatively [9,

10]. In the same vein, anxiety can result in the learners' ability to take part in L2-related activities, even though they have the potential to gain it [11]. The studies conducted recently show that the type of anxiety arising from FLA influences the quality of learning performance and achievement negatively. Some investigations [12–14] have shown a negative relationship between general anxiety related to English as a foreign language (EFL) and the grades obtained in the course.

During the last decades, considerable attention has been paid to the instruction of English in kindergarten and elementary schools among young learners in different countries. For example, learning L2 is easily accepted among young learners; however, they become bored soon if the instructor uses traditional teaching methods and techniques [15]. As a result, another emotion that has been at the center of researchers' attention in the field of language learning is boredom [16], which, particularly, has been the subject of research in the educational psychology context [17]. This is because boredom has multiple effects on learning and it is one of the most typical emotions experienced by learners in school contexts [18]. Some latest inquiries have examined boredom related to EFL contexts and its possible destructive impact on language education. These studies have used instruments related to general psychology [e. g., [1, 19, 20]. In the context of school, boredom may take place as a reaction to subject matter, task characteristics, or as a prevalent response to school [e.g., 20, 4]. Indeed, boredom is an emotion involving changes in attention leading to a reduction in an individual's interest or motivation [21]. Such an emotional feeling can emanate internally from [i.e., no intrinsic motivation]; the task features or inconsistency between a learner's capability and the skill one requires fulfilling a task [22]. It is worth noting that fewer empirical studies have been carried out on this emotion compared to other emotions (e.g., anxiety, self-esteem, or eagerness) [23]. This indicates that although boredom is commonly experienced by students [24,25], its relation to a second/foreign language has not been investigated adequately [26]. A review of the literature shows that boredom has been traditionally perceived negatively by some researchers, particularly given its negative impact on academic achievement [e.g. [27, 28]. Therefore, educators have recommended reducing boredom in the classroom circumstance in any case [29].

Psychologically, it is claimed that creativity has a crucial function in learning. Accordingly, it allows researchers to account for the success of human beings, providing justifications for why people are different from each other. Creativity is believed to strengthen imaginative and novel thinking, enhance commitment to the learning procedure, foster their level of enthusiasm, and engage them more [30–32]. The inclusion of creativity into curricula has been on the rise in the area of education along with several other arenas [33]. Creativity has to do with the capability to find novel and effective ideas, artifacts, or solutions [34]. Indeed, As far as successful education and life are concerned, creativity, as a mental element, has been shown to make an important contribution to learning [35]. When it comes to selecting and devising tasks involved in the instruction of L2 to young learners [36], creativity plays an important role. Indeed, instructors in such contexts should select various creative tasks to retain youths' attention. As [37] stated, one cannot expect children to sit down or do the same activity for a long time given that they become demotivated after a while [38]. Besides, young students' attention span is short; therefore, the tasks must be as appealing as possible; otherwise, the students would lose interest after a short while. As a result, to enhance student learning, creative and innovative techniques play an essential role [39]. Despite the increasing attention to creativity in the context of education and its inclusion in the field of EFL around the world [30,40], it has been inadequately addressed among young L2 learners [41].

For students in the learning milieu, it is significant to regard intellectual activities or circumstances that maintain creativity such as mindfulness [42]. Indeed, in a world where stress and other negative emotions weaken creativity, mindfulness, the concept in the Positive Psychology literature, arises as a vital issue in learners' success [43–47], and it has been characterized as an attribute that serves as an important shield against anxiety or unpleasant states [48]. Indeed, it can be stated that mindfulness is associated with other skills and abilities, the most important of which is creativity [49]. Mindfulness is concerned with the individual's consciousness, which allows him/her to deal with moment encounters without passing any judgment or showing any response. The investigations show that mindfulness improves the individual's well-being [50], stimulating intimate affection, and reducing symptoms related to anxiety and boredom [51]. The majority of studies carried out on mindfulness have investigated its prospective to control stress and enhance better achievement [52]. Moreover, mindfulness involves the use of a strategy associated with constructive influences, which serves as a coping strategy to tackle anxiety and boredom. As much as the researcher knows, no reviews were examined on the relationship between creativity, anxiety, and boredom among young EFL learners and also the role of mindfulness regarding these issues in the language domain. As a result, the current paper makes an effort to inspect the role of mindfulness in the relationship between creativity, anxiety, and boredom and how this technique can influence young learners' creativity, anxiety, and boredom in EFL contexts.

2. Literature review

2.1. Anxiety

Anxiety is considered a negative, activating emotion aroused by predetermined results associated with future learning results or presentations [53]. It enlightens the bond between emotional concepts and achievement or nonachievement of language learning in Krashen's Affective Filter Hypothesis [54] that affects learning by avoiding input to reach the language learning device in the brain. It is known as a multi-layered type of emotion as the learners who grapple with language anxiety are likely to feel anxiety by taking part in L2 situations where they need to use L2. Anxiety has also been described as an abnormal emotion of apprehension and anguish. These emotions are reflected in physiological conditions, the unpredictable nature of the certainty and essence of threat, as well as the lack of awareness of one's capability to manage unpredictability [55].

Indeed, anxiety is considered a natural human feeling which can be stimulated by internal and external changes, novel circumstances, or perceived vagueness. In the same vein, most individuals tend to experience anxiety and pressure when encountering a

specific condition that is unfamiliar [56]. Broadly, several factors influence language anxiety, including psychological processes, cognitive and affective conditions, and contextual circumstances, among others, in various time scales [5]. As stated by Ref. [57], language anxiety affects L2 learning, recall, and production; consequently, the anxiety associated with foreign languages impacts the language-learning process negatively. This is upheld by the idea that anxiety deters learners from obtaining a target language [58].

2.2. Boredom

People experience boredom as an unfavorable psychological and emotional state which is a mixture of perceived frustration, hindrance, trouble, lack of attention, lack of interest in pursuing previously set goals, and lessened energy [26]. Boredom is defined scholastically as an emotion, state, internal drive, or psychological experience that can be moderate, unfavorable, or even painful. These experiences take place when one's surroundings are perceived as dull, boring, and without challenge [59]. In their definition, Li, Gao, and Sha [60] characterize boredom as a negative affective state involving a low level of activation/arousal that stems from challenging tasks. Li et al., [2020] put forth the concept of boredom, describing it as a three-dimensional achievement emotion within the framework of control-value theory [53]. One experiences boredom due to a perceived inability to take part in a current task [61]. The new meaning of boredom given by Kruk and Zawodniak [26] also characterizes boredom as a form of disengagement. They shed light on the possible reasons for boredom as follows: the monotonous nature of instructor-controlled tasks, learners' destructive perceptions of the target language, lack of ability to deal with boring circumstances, and inadequate teacher commitment. One more conceptualization of boredom that is commonly cited, especially in the areas of education and learning psychology, is that boredom is a multidimensional concept [28].

From the control-value theory perspective, as one type of academic emotion, boredom has proved to be a multi-faceted construct [17]. Indeed, as with other academic emotions, one can analyze boredom using the three-dimension taxonomy as follows: valence and activation/arousal, and objective focus [53]. Valence has to do with the desirability/undesirability of the emotion. Activation refers to several types of activation or deactivation, including physical or/and cognitive ones related to the emotion, and finally, the objective focus has to do with dual aspects of the emotion, namely, an activity or outcome. More specifically, whether the emotion arises out of an ongoing activity or it emanates from the outcomes of these activities in the past or future. Based on this taxonomy, one can conceptualize boredom as an unpleasant, deactivating emotion coming from enduring learning tasks; alternatively, it can stem from enjoyable tasks, which induce a positive, activating emotion coming from continuing learning tasks [53].

2.3. Creativity

In the framework of education, the term "creativity" refers to the procedure, individual, result, or setting; however, the definitions may involve one or multiple factors together, even in a conflicting manner [62]. Creativity is regarded as one of the central scopes of Sternberg's theory of effective intelligence [63] as its incorporation of creativity in L2 classes increases skills, capabilities, knowledge, eagerness, and other traits [64]. There is a consensus among researchers and educators that creativity has to do with the capability of producing work that is unfamiliar and simultaneously suitable so that the final result meets the desires of a task [30,65]. Additionally, creativity has to do with an individual's ability to produce something new, or new combinations including thoughts or concrete actions that are distinctive [66]. Such innovations involve flexibility, fluency, originality, and the capability of explicating an idea. Therefore, such a combination reinforces curiosity, bravery to take risks, and facing off challenges for pluralism.

As pointed out by Vasudevan [67], creative teaching enhances the students' motivation and self-esteem. A teacher's creativity paves the way for fostering the students' interest since it can raise the learners' motivation for L2 learning. English teachers need to have the capability of managing the class, developing curriculum, designing teaching material, selecting and using media of learning, and evaluating the teaching and learning process. As a result, English teachers make significant contributions to teaching English. As far as English instruction is concerned, Cremin [68] elaborates on the opportunity teachers can provide for creativity. This can realize through active engagement, the freedom to select and use knowledge as well as the skill to contemplate the L2 learning experience. The cultivation of creativity might be the same in the context where language is taught as a foreign language. It provides more options to children, who can ask questions and plan tasks to navigate diverse ideas [69]. Indeed, the foreign language classroom is dubbed as 'a nest of creativity' where students can have an enjoyable and satisfying experience by taking part in creative tasks, motivating them to take risks in putting to use the target language [70].

2.4. Mindfulness

Mindfulness has a fundamental function in the area of constructive psychology which yields important benefits. For example, it improves working memory and well-being, which leads to a reduction in tension [71]. Some attribute the source of mindfulness to traditions performed by Hindu and Buddhist. Mindfulness involves being thoroughly aware of the current moment. It also has to do with being aware of one's physical, mental, and communal experiences and those of others with no bias [72]. It is also defined as a psychological state or attribute that is stimulated by concentrating on a goal. This is done without any bias, which leads to the disclosure of experience every minute [73] and it is deemed as a route rather than a final product; rather than being static, mindfulness is dynamic as it focuses on continuing experiences in life. Being aware of unprejudiced practices is a main concern and proposition in the descriptions of mindfulness. Mindfulness consciousness refers to experiences and incidents at the moment that can be obtained by paying attention. Indeed, it is a simple activity, a process of using one's ability to concentrate on what's occurring in the surrounding environment [74]. As a multi-layered and distinctive concept, mindfulness is considered a concept made up of several factors. It is

concerned with individual and career attributes helping teachers to make a connection with various features of involvement in life [75].

2.5. Young learners

Along with [76], the individuals whose age ranges from five to twelve years old and study in primary school are categorized as young [77]. are numerated the following characteristics of young learners, among others: being curious, having imaginative power, and being energetic and playful. Overall, they tend to actively listen, watch, model, and practice. it is argued that young learners are obsessed with learning a new language [78]. Consequently, instructors need to present useful, appealing instructional programs through the magic of creativity and innovation. Indeed, language learning can turn into an entertaining activity through creativity. The combination of L2 learning and entertainment makes learning activity meaningful and purposeful. Moreover, the way in which children get to learn about their surroundings should be facilitated through the development of language skills, which is a by-product of this activity.

2.6. The role of mindfulness in the relationship between creativity, anxiety, and boredom

Broadly speaking, creativity has been described as an important capacity for learners nowadays [79]. There is a consensus that education needs to pave the way for young people's preparation for the future given the uncertainty of the future. Indeed, creativity in elementary and middle schooling provides young people with purposeful experiences in dealing with uncertain conditions. More specifically, creativity allows the learners to think innovatively which can result in the development of confidence and competence in dealing with difficulties. As stated by Ref. [42], mindfulness is assumed to be related to creativity in education. This is made possible by mitigating the barriers, which results in reduced fear of judgment, anxiety, agitation, and perceived failure. It also enhances factors that can enhance creativity. It involves the individuals' habitual tendency to pay attention to the status quo with a high level of inquisitive, non-judgmental awareness. Also, investigations indicate that mindfulness is likely to reduce students' fear of judgment, improving open-minded thinking [51]. It also mitigates their self-conscious obsessions. These factors are associated with creative thinking habits [e.g., calming state or flow states, daring to take risks, and inquisitiveness or being open to experience) [80]. Shedding light on how mindfulness enhances working memory and decreases an individual's fear of judgment is particularly advantageous to creativity [81].

Some barriers to creativity exist, the most notable of which are stress, fear of failure, and the negative self-image that slows down most human thought. However, mindfulness is useful in helping people to take on challenges rather than evading them. When it comes to EFL, mindfulness can improve the learners' performance as it mitigates the level of anxiety, increasing self-assessment, self-consciousness, and self-preoccupation [82]. Moreover, mindfulness can play an important role in removing the psychological obstacles to L2 learning. Accordingly, it has been gradually incorporated into the educational domain to improve student well-being [83]. This is because an individual who has self-awareness, i.e., cognizant of his/her strengths and weaknesses can deal better with problems compared to those who lack such knowledge. Literature shows that the development of self-awareness and the present moment as techniques of mindfulness enables individuals to be less anxious and bored [84]. This induces positive emotions and engagement, yielding mental and emotional advantages [85,86].

Mindfulness yields the following positive outcomes: the ability to focus, a decrease in dreading judgment, and an improvement in open-minded thinking, which results in reduced aversive thinking [87]. These are all characterized by creative habits [7] that show that practicing mindfulness in the language process can foster the creativity of the mind. Our findings indicate that the participants saw the incorporation of meditation practice into learning as a supporting element for their creativity. Therefore, it might be highly helpful to incorporate mindfulness in L2 education.

In addition, mindfulness plays important role in mitigating anxiety, enhancing focus, and building awareness of the mind. This paves the way for clarity of thought, laying the groundwork for innovative ideas and new perspectives. This also provides the students with an opportunity to work effectively [88]. It proved that mindfulness has been beneficial to cause healthy reactions to anxiety as it is an effective strategy that enhances focus and appreciation among young learners and lets educators use their time more effectively [89]. Also, there is another study carried out by Ref. [90] who concluded that mindfulness is influential for reducing apprehension and cultivating the general emotional well-being of students. Investigations have consistently indicated that by raising consciousness about one's mind and the status quo, individuals would experience a reduction in anxiety levels. This would also result in the development of constructive emotions and engagement along with other positive mental and emotional outcomes [85,87]. Being highly conscious of their thinking, learners in this class may gain a high level of skill at exploring mental practices effectively [91]. Such a capability of tackling stresses and anxieties is very crucial to learners of all ages given the burdens of a fast-paced society. In a nutshell, the implementation of training programs on mindfulness has an encouraging impact on creativity in the moment and over time by raising the level of thoughtfulness and attentiveness in everyday routines. This, in turn, enhances creative outcomes [92].

3. Conclusions

Creativity plays multiple roles in the educational context as it enhances students' self-esteem, helping the teachers by providing them with the chance to draw on skills, thoughts, and feelings to offer a diverse, pleasant, and vivid lesson [93]. As pointed out by Ref. [69], creativity in the language classroom has several characteristics: creating positive self-esteem, serving as a role model for creativity, providing children with free choice, posing questions effectively, creating relations, probing ideas, and boosting critical

reflection. These elements are developed to create a positive classroom both theoretically and practically, with teachers required to provide the students with guidelines on the use of each element in the classes [69]. Pushing for a more creative and learner-centered setting mediated by mindfulness strategies can be a vehicle for them to carry out the intensive work required for learning. Through this outlet, students can participate more actively in creative activities, which is essential for dissipating boredom and strengthening a vital and effective classroom for young EFL learners. Theoretically, this review relates the negative emotions felt by learners to creativity, contributing to raising awareness of the impact of such emotions on creative progression. When students resort to different mindfulness strategies to untangle issues despite the emergence of adversity, there would be an increase in cognitive flexibility. This causes growth in motivation, which sequentially creates opportunities for the enhancement of creativity. Providing teachers and educators with an opportunity to figure out how mindfulness practices foster their learners' creative tasks may be beneficial. Given that these concepts play important roles in both individuals' and society's well-being and development, understanding them is key to the future of human thinking. Mindfulness is noteworthy in the enhancement of positive affections, resulting in the modification of negative affections, such as weariness, boredom, and anxiety. These positive affections are likely to help the students to build individual reservoirs. This, in turn, leads to a higher level of life appreciation, and further perceived life meaningfulness.

In specific terms, the onus is on foreign language teachers to design appealing and exciting learning activities that pose a challenge for students as well [17,57]. This is highly significant in the Chinese EFL situation where the construct of boredom is mainly ignored. Indeed, teachers should create a classroom with a positive atmosphere by implementing proper mindfulness strategies that may enable the learners to overcome their anxiety. As literature shows, students experience anxiety when it comes to using English; consequently, the teacher must be creative enough given that a creative teacher influences success positively in learning a foreign language. Enhancing creativity in class is of great importance as it gives the learners ample opportunity for their engagement in L2 learning cognitively [94]. This is because creativity stimulates learners' interest, reducing their anxiety levels. To decrease the anxiety associated with language learning, teachers need to implement more fun and pleasant classroom activities. In such a context, the learners can reduce their anxiety. Indeed, the effective application of creative thinking in the L2 learning process enables children to gain the required intellectual skills (e.g., observing, inquiring, comparing, comparing, imagining, and hypothesizing). They require these skills in all areas of the curriculum [69].

Instructors need to create a kind of classroom setting that reinforces creativity rather than rote learning. Moreover, instructors should develop the relevant techniques of instruction such as mindfulness to foster creativity. Creativity allows the learners to come up with innovative techniques to resolve authentic solutions. Instructors need to be cognizant of the benefits of creativity. Accordingly, they are advised to use methodologies that improve the student's creativity. By implementing the programs to enhance creativity and bring about innovative changes in the learning and teaching context, L2 instructors can enhance the students' creativity. Learners' creativity can be fostered by acquiring new strategies for effective thinking, a skill that is very helpful in their academic efforts.

If the students in an EFL context can put to use their creative thinking skills successfully, they would be able to easily produce the language and create new meanings. Likewise, teachers need to incorporate more creative teaching strategies, particularly, in countries such as China that are highly dependent on conventional methods of instruction. For instance, instructors need to motivate students to take part in creative tasks. This is likely to increase enjoyment and positive emotions during instruction that consequently decreasing boredom and anxiety. This can also push them to navigate their creativity, bringing out their playful side while also reducing anxiety and stress. Consequently, it would be equally important to enhance the instructors' constructive growth mindset so that they see creativity as an asset in learning. This would change their outdated and negative perceptions of creative students [95].

4. Implications, and suggestions for future directions

By fostering mindfulness, both instructors and learners can form effective relationships. They can make a positive, constructive connection. By incorporating mindfulness into EFL classes, instructors and learners can mitigate the stress and anxiety arising from L2 learning. Likewise, they can concentrate on deriving fun and meaning in their learning. The acquisition of the habit of mindfulness enables instructors and learners to gain efficiency, creativity, and productivity. They would also be able to make informed decisions in class, leading to fulfillment and accomplishment. English as foreign language instructors must take part in training and workshops on how to develop creativity through mindfulness strategies. Consequently, the EFL curriculum must cover these strategies in the EFL context. More specifically, the teacher trainers need to provide explicit explanations of creative approaches, activities, and strategies to L2 teachers. Furthermore, it is suggested that syllabus designers incorporate content materials that motivate and stimulate mindfulness followed by creativity. Indeed, various kinds of interventions and programs can be developed [96] to improve creativity which can reduce learners' anxiety and boredom. Moreover, the officials dealing with educational policy, as well as curriculum developers are advised to design curriculums and teaching methods aimed at enhancing young EFL learners' mindfulness and creativity. Accordingly, they need to focus on creative pedagogy, to boost young EFL learners' level of creativity in the L2 settings. This also enhances their engagement thanks to purposeful activities aimed at improving their creativity and reducing their anxiety.

Given that not enough research had been carried out on the relationship between creativity and destructive emotions such as anxiety and boredom, this work might reveal a prominent role of mindfulness in literature. Yet, there need to be more studies, in particular, empirical ones to enhance knowledge shared by the disciplines of education and psychology. These research findings shed light on the possibility of innovative instruction activities and their role in improving L2 performance and creativity in the context of EFL activities. Moreover, the newly found insights contribute to the growth of theoretical and practical literature. This is particularly the case in China where there is a recent focus on whole-person curricula, of which creativity forms an essential part. Indeed, whole-person learning is defined as the procedure of practicing significant shifts in the ways students notice the recently learned knowledge and their own internal knowing, by developing and incorporating new consciousness on individual and transpersonal levels, which is

mindful and creatively learned [97]. Hopefully, the results of this study make it easier for prospective researchers to carry out more comprehensive studies on the potential connection between creativity and mindfulness, which sequentially will result in the emergence of effective learning.

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