

An Analytical Study on the Role of Activating Creativity in Regulating Secondary School Students' Emotional Management—Shanghai, China As An Example

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ABSTRACT

Secondary school students in their adolescence are facing great physiological, cognitive and social changes, and thus are troubled by many negative emotions. Starting from the emotional characteristics of adolescent students, the study explores the importance and necessity of providing emotional management support to students at this stage and proposes corresponding implementation strategies. Research shows that, on the one hand, adolescents have stronger emotional sensitivity, and negative emotions can hinder students' learning and cognitive development; on the other hand, adolescents have better physiological mechanisms for emotional management, schools should pay attention to the mental health education of students at this stage, scientifically guide students to manage their emotions, create a more favourable environment for the sustainable and healthy development of students, cultivate more interests, form an atmosphere of solidarity and mutual help, and thus create a more favourable environment for students' sustainable and healthy development. , forming an atmosphere of solidarity and mutual help, so as to promote interpersonal relationships and interactions.

1. Introduction

The China Youth Development Report released by the China Youth Research Centre in August 2021 shows that 30 million young people and children under the age of 17 in China suffer from a variety of emotional, psychological and behavioural problems. For many adolescents, it is difficult to free themselves from emotional distress. If not intervened in a timely manner and effectively controlled, emotional problems can erode their psychological and physiological health, which in turn affects students' life, learning and even long-term development. Therefore, schools should pay special attention to the emotional problems of secondary school students, and do a good job

in students' emotional management intervention and education. Research in educational neuroscience has brought many insights in this regard. Based on empirical evidence, it has shown the characteristics of adolescents' emotions and their brain development, revealed the physiological causes of adolescents' emotional problems and their effects, etc. This also provides scientific strategic support and effective practical guidance for schools to carry out education on emotion management for secondary school students and to create a positive emotional environment in schools. Students in secondary school, i.e., adolescence (about 12 to 18 years old), are gradually moving from childhood to adulthood, experiencing significant physical, psychological and social changes, and facing pressure

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to advance to higher levels of education, which leads to greater psychological pressure on secondary school students. Psychological studies have found that many adolescents suffer from negative emotions. The proportion of adolescents experiencing negative emotional distress is on the rise.

2. Adolescents have stronger emotional sensitivity and a better foundation for emotional management

From the perspective of neuroscience, adolescents have the following two main emotional characteristics.

On the one hand, adolescents have stronger emotional sensitivity. Psychological research shows that adolescents' emotions are highly sensitive and unstable, and adolescents react more strongly to both negative and positive emotions than children and adults. Adolescents are more susceptible to negative emotions than adults and children. For example, peer acceptance or rejection has a direct impact on adolescents' self-esteem, sense of belonging, sense of control, and sense of being; and adolescents experience greater emotional changes than adults when they are socially excluded. In addition, adolescents respond more strongly to positive emotions than adults and children. One study found that the ventral striatum of adolescents showed stronger activation in response to expressions showing happy emotions. And this region is involved in the process by which people process rewards. This study also reveals why adolescents are more likely to adopt risk-taking behaviours, as risk-taking gives them more positive emotional experiences.

On the other hand, adolescents have a physiological basis for better emotion management. Emotion management is the act of monitoring, evaluating, and regulating emotional responses, and involves both implicit emotion management, which is unconscious automatic control, and explicit emotion management, which is the use of strategies to regulate one's emotions.

First of all, studies have shown that the brain undergoes a process of grey matter pruning during adolescence, in which the grey matter density of the brain tends to decrease with age, and this process is considered to be a gradual maturation of the brain. In particular, the frontal grey matter is pruned to become more efficient in the areas of the brain that are primarily responsible for planning, reasoning, judging, managing emotions and controlling impulses. Secondly, neuroscience research has also shown that the amygdala's connections to brain regions involved in control become stronger in adolescence. For example, the medial and lateral orbitofrontal cortex, the anterior cingulate cortex, and the dorsolateral prefrontal cortex

are better connected to the amygdala as a result of the increasing volume of white matter in the brain. These are the brain regions that play a role in controlling emotions in adults when faced with emotion-related stimuli. This suggests that brain functions related to emotional control are more involved in emotional processes during adolescence. In turn, the continued development of the prefrontal cortex, particularly the dorsolateral region, during adolescence promotes continued progress in impulse control, working memory, and complex reasoning. Although adolescents are still less capable of emotional processing than adults, they are more able to exercise self-control than in childhood, and this ability continues to develop.

3. Emotions have a significant impact on students' learning and cognitive development

Although adolescents' emotional control ability is developing gradually, it is not yet compatible with the development of their limbic system (including the amygdala and the ventral striatum), which leads to specific behavioural preferences in adolescence, such as impulsivity and low mood. Strong emotional experiences not only affect adolescents' daily lives and behaviours, but also their academic and cognitive development. Research has shown that students' perceived emotional experiences such as happiness, hope, anxiety, and shame have a significant impact on their motivation, learning strategies, cognitive resources, self-management, and academic achievement. At the same time, emotions also affect students' memory and attention. However, the relationship between emotions and cognition is often overlooked by many schools and teachers, and neuroscience has provided deeper insights into this relationship. The resting network of the brain is an important brain area that is activated during cognitive activities such as elaboration, creation, and reflection that focus on past experiences or future scenarios. Students in secondary school need to learn and think through a lot of these cognitive activities. A neuroscience study found that people's resting networks are inhibited to varying degrees when they feel different emotions, with less inhibition of the resting network when they feel happy than when they feel sad or angry. This suggests that it is more difficult for people to engage in cognitive activities such as creativity, which require detachment from the current situation, when they are in a negative mood. This also explains why positive emotions stimulate more open and creative thought patterns.

The study found that people also activated the above areas when feeling the emotion of fear, and that people's accuracy in attentional tasks was inversely proportional to brain activation. This suggests that the processing of

fearful emotions uses key brain regions of the attentional network, taking up brain resources. In contrast, positive emotions promote more cognitive flexibility than negative emotions. In the task-switching paradigm, subjects in the positive mood condition had shorter reaction times and more flexible responses. Emotions can have a significant impact on students' cognitive activities. Negative emotions not only occupy attention-related brain networks and inhibit students' attention to learning content, but also negatively affect students' creativity, cognitive flexibility, etc., and hinder their learning and cognitive development.

4. Guiding secondary school students to manage their emotions based on evidence-based science

Compared with adults, adolescent students and children are more susceptible to emotions, and negative emotions may even affect students' cognitive development and learning outcomes to a greater extent. Therefore, schools should pay particular attention to the mental health education of students at this stage, and guide students to manage their emotions in a scientific manner, so as to effectively improve their mental health and create a more favourable environment for their sustainable and healthy development. To this end, schools can focus on the following implementation strategies.

4.1 Build a harmonious environment and guide students to form correct self-knowledge

Individual self-perception and emotion management are closely related, and adolescents' self-perception and identity construction are mainly realised through social cognition. Schools and teachers should endeavour to build a harmonious and friendly campus and classroom environment, lead students to establish and maintain healthy and good peer relationships, and guide students to rationally view others' evaluations, so as to form a comprehensive and correct social cognition and self-perception. Research shows that adolescents are particularly sensitive to peer relationships, such as peer acceptance and rejection, and evaluations from friends and classmates may trigger their positive or negative emotions. Social perceptions of adolescent students largely influence their self-perceptions, and peer and even teacher evaluations shape students' views of themselves, leading to different emotions. Therefore, schools can rely on teachers' evaluation, classmates' evaluation, parents' evaluation and other diversified evaluation methods to guide others to make comprehensive and positive evaluations of students in terms of moral conduct, classroom performance, extracurricular participation, etc.

Through the selection of the school's virtuous teenagers, the establishment of class honour wall and other activities and methods, students can feel the attention, affirmation and appreciation from their peers, teachers and even their parents, which will trigger their positive emotions and positive actions.

4.2 Make good use of positive assessment to motivate students to develop a positive mindset in learning and mistakes

Emotions are closely related to students' learning and cognitive development. Positive and optimistic emotions and mindsets are conducive to enhancing students' motivation and endurance in learning, which in turn enhances students' learning outcomes.

When assessing students' learning, teachers need to focus on positive emotions about the content and outcomes of learning through timely affirmations, challenges, and encouragement to leapfrog, so that students are willing to continue to engage in new learning.

However, creating positive emotions about learning does not mean that teachers can only give positive feedback; in fact, paying attention to and correcting mistakes is an essential part of learning. On the one hand, teachers can mould students' growth mindset, and on the other hand, they can guide students to pay more attention to mistakes, so as to cultivate a positive mindset and the ability to think positively in learning, thus improving students' learning effectiveness. Teachers can improve students' self-reflection ability through the feedback method of "reminding mistakes-inspiring thinking-affirming positive expression", make students realise that learning is a process of constantly correcting mistakes, encourage students to express themselves, and create a learning atmosphere of "I don't agree with your viewpoint, but I respect your expression". Encourage students to express themselves, create a learning atmosphere of 'I don't agree with your opinion, but I respect your expression', and build a learning scaffold for students by using ingenious rhetorical questions or successive follow-up questions to promote students' in-depth understanding of knowledge in the process of correcting mistakes, so as to guide students to look at mistakes in learning scientifically and correctly and let them make progress and growth in the midst of their mistakes.

4.3 Create a positive emotional environment through a variety of 'mental education' activities

The school pays attention to the psychological state of students, and through carrying out a variety of mental

health education activities and establishing the ‘first lesson’ education mechanism, creates a positive emotional environment for students’ learning and life, and accumulates inexhaustible “heart” power for empowerment and development.

On the one hand, through a variety of forms of activities to regulate the psychological state of students. The school routinely carries out psychological screening at the beginning of the school year, stress relief group counselling for graduating classes, and organises the ‘Mental Health Month’ for nine consecutive years to help students relax, relieve stress and adjust their psychological state. For example, the school carries out students’ “self-management day” and teachers’ ‘zero-criticism day’ activities, guiding teachers to see students’ strengths and flashpoints with the eyes of appreciation and development, so as to mobilise students’ self-management of the positive emotions, and cultivate students’ ability of self-assessment, self-education and self-development, so that students’ self-management and self-development can be improved. The students’ ability of self-evaluation, self-education and self-development will be cultivated, so that they can gradually realise self-management.

4.4 Explore the implementation of positive evaluation and organise a variety of activities to stimulate growth potential

The school innovates the evaluation mechanism, optimises the evaluation content, and carries out the exploration and practice of positive evaluation, aiming to bring positive emotional experience to students through evaluation and motivate them to grow up continuously. For example, the implementation of the ‘Happy Growth Climbing Card Evaluation System for Students’ invites staff, parents, students and even the community to participate in the evaluation system. When students are found to have good performance in academics, character, participation in activities, etc., they can be issued with cumulative cards, so that they can be evaluated positively in time for their positive behaviours; and stimulate students to move forward and continue to climb up the ladder of positive emotions and potential for growth. This stepped evaluation mechanism pays full attention to the psychological characteristics of young students.

Each progress is not only a positive experience of

success, but also a new starting point for the next station. Some students have created a climbing wall in their homes and posted their climbing cards on the wall according to their grades, forming a pyramid-like climbing path to motivate them to keep moving forward.

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