

Creative Teaching Strategies and Cultivation of Creativity

Jianping Chen^{1*}

¹ Hubei Minzu University, Enshi, China

Email Address

13093246256@163.com (Jianping Chen)

*Correspondence: 13093246256@163.com

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Abstract:

With the rapid change of technology in society, Cultivating students' creativity is of utmost importance. The advent of ChatGPT has also posed higher requirements for teacher education. Therefore, traditional teaching methods are no longer suitable for this rapidly developing era. This paper proposes that that education should pay attention to creative teaching, cultivate and improve students' creativity, and put forward 20 creative teaching strategies.

Keywords:

Creative Teaching, Creativity, Critical Thinking

1. Introduction

With the rapid development of science and technology in the 21st century, human beings are facing the “third industrial revolution” - a “knowledge economy era” with “brain power”. In order to meet the challenges of the future and lead in international competition, it is important for everyone to master high-order thinking-creativity, critical thinking and problem-solving ability. Although fostering creativity-generating new and useful ideas-has long been a central goal of education [1]. People with creativity are considered as key resources for these economic developments [4]. Therefore, the cultivation of creativity is not only the key to improving the quality of the people but also the prerequisite for the development of the knowledge economy. Creativity education will become the driving force for future education work. [5] Therefore, focusing on creative teaching, cultivating and improving students' creativity has become the need of the times, and creative teaching is becoming more and more important in contemporary educational practice. It requires teachers to dare to teach creatively and master effective teaching strategies. Thus, this paper is aimed to identify creative teaching strategies that are useful to foster the creativity of students in the Chinese context.

2. Creativity and Creative Teaching

2.1. Creativity

Creativity is a complex and multifaceted concept that has been defined in various ways. Generally speaking, researchers believe that creativity involves a novel and useful idea or product in certain social contexts.

Guilford [7] pointed out that creativity is consisted by five abilities: a. Sensitivity-Being good at discovering things and being responsive what happened around them; b. Fluency- Coming up with various possible situations and answers from the same thing; c. Flexibility-Changing according to the situation without being bound by the inherent environment. d. Originality-Considering ideas or finding out inventions that others can't pay attention to. e. Elaboration-Constantly revising and beautifying the basic concepts, adding porcelain details and striving for perfection. Wallas [8] regarded creativity as four creation process-A. preparation; B. incubation; C. illumination; D. verification. The famous American scholar Williams (1920) proposed that curiosity, imagination, adventure, and challenge are four important mentalities and affection for cultivating and gaining creativity. Rhodes, M (1961) and Mooney (RL) [9] proposed to use the four P of creativity to integrate the scope of creation. He believes that research creation can proceed from four directions: a) Product; (2) Person; (3) Process; (4) Press.

2.2. Creative teaching

In the field of creative teaching, researchers have mainly explored the specific manifestations of creative teaching behavior and whether creative teaching behavior can effectively promote students' creativity development, and have obtained useful conclusions [19].

Wu Qingshan [12] believes that "creative teaching" means that teachers can adopt diverse teaching methods and teaching contents to stimulate students' inner learning interests and enhance students' learning ability. He summarized the important concepts of creative teaching into six aspects: active and pluralistic, active participation, resource utilization, class interaction, learning motivation, problem solving, etc., and proposed that the important difference between "creative teaching" and "teaching for creative thinking" lies in creative teaching's process and the purpose is not as important as teaching for creativity. Zeng Wangchao [4] also suggested that creative teaching means that teachers use their own creativity and adopt various methods or strategies in the teaching process to make classes interesting, which can attract students' concentration, inspire and enhance students' creativity and imagination. Liu et al. [18] argue that creative teaching behaviors include encouraging independence and autonomy, encouraging creative problem-solving, encouraging a positive attitude towards conflicts, and encouraging cooperation and interpersonal communication

The creative teaching mentioned in this study has two implications. On the one hand, it means that the teaching of teachers is creative; on the other hand, it also stimulates students' creativity in the teaching process.

2.3. Learning and teaching in the school context

Educators and researchers proposed that everyone has the potential to creative new thoughts or events, and education has a responsibility to foster student creativity [10], it also provides creative human resources with local and global technology as well as economic advancement. Teachers play a key role in developing students' creativity. Both extensive interdisciplinary knowledge and skills to foster students' creativity are

required for teachers [12]. Liu Fang [15] puts forward several prerequisites for fostering creative talents, among which creative teachers are the key. Zhang Dong (2006) proposed from the curriculum setting to make use of the creative teaching mode to make up for the shortcomings of the existing curriculum.

However, China's education has been plagued by "test-oriented education" for a long time, students are forced to learn for the exam and marks. To a certain extent, the work of our education is still concentrated on knowledge education. The students who are trained are often "high scores and low energy". In the view of some teachers, only those students who can answer the questions in strict accordance with the standard answer are "good students". This kind of educational thought is undoubtedly to make students become "examination machines", and the development of students' practical ability and creativity has been strongly suppressed. Few of teachers professed to know what creative teaching is; even if they do, they rarely practiced these teaching strategies in their classes.

3. Teaching Strategies

3.1. Playfulness and humor

Teachers teach the course content in a humorous way, helping students to be sensitive to humorous events in their home or school life and foster them to develop a sense of humor. Hennessey (1995) emphasizes the importance of playfulness and humor. Responding to tasks with a humorous attitude can eliminate anxiety, invigorate the spirit, build confidence, and improve interpersonal relationships. Humor, fun and games bring the brain from a cognitive, rule-bound state to a more fluid state [2], making it easier for people to solve problems. Besides, those who can maintain playfulness and humor may continue to pay attention to the interests they get from the mission and they are more likely to maintain their internal motivation.

3.2. Use of all senses

students are allowed to apply visual, auditory, olfactory and other senses to feel the surrounding things, and express their feelings so that they can master the skills to express emotions and enhance sensitivity to the surrounding things as well as exercise the imagination.

When we present our experience in cognitive space, most people prefer a single sensory model rather than a multi-sensory model, but at the same time, multiple senses can be trained. Sensory education enables students to use both left and right brains to have a more direct and profound feeling of learning, which is more conducive to students' understanding and even stimulate students' emotions and memories. It has a good explanatory role in natural sciences and humanities education and helps to understand memory while stimulating students' imagination.

3.3. Idea association through images

Image teaching is representative of modern educational innovation methods. It is characterized by intuitiveness and comprehensibility. Teachers display visual information such as pictures to guide students to observe the characteristics and meanings of images and let students cultivate imagination through visual images. Accelerated learning theory talks about learners having visual, auditory or kinesthetic learning tendencies. Vision is our truly unique remote sense. About 90% of the

information we receive comes from the eyes, so most of the subconscious truth maps are visually, visually organized information is more easily preserved. This strategy can improve students' observation and visual imagination.

3.4. Object probe

The teacher shows the students an item, asks the students to observe it carefully and then uses diffusion thinking to think about what the item can do besides the existing functions or how to transform the item to achieve a new purpose. For example, the teacher shows a pen to students and guide students to think about pens in addition to writing, and asks students to describe functions of the pen as much as possible with various senses or feelings including vision, hearing, touch, etc. This strategy not only improves the creativity of students but also improves the language ability of students.

3.5. Metaphor and analogy

When teaching knowledge, teachers inspire students to use imagination and metaphor to find out the commonalities and association of different things. For example, asking students to compare vehicles to animals, such as the aircraft is likened to a bird, the submarine is likened to a whale. It can not only achieve the purpose of making the classroom vivid, but also enable students to deeply understand and memorize the knowledge imparted by the teacher, and cultivate the students' ability of logical thinking, induction, and deduction.

3.6. Put oneself in role

In the class, the teacher allows students to use their imagination to play the role. It is an interesting way for students to learn knowledge, which can attract students to participate in learning. By playing the role, students can engage in the mind of other people or even animal to understand others' feelings as well as thoughts so that they can think about the problem at another angle when they are in trouble. Apart from that, role substitution can enhance the interaction between students and teachers. When students perform the role-playing required by teachers, they need to communicate with their classmates and teachers, and give full play to their creativity to elaborate the role of dialogue, which can improve students' creativity and expressive ability.

3.7. Imitate and re-construct

Teachers provide one or more learning materials, guide students to change the learning materials provided by teachers and imitate the materials to create new works. This strategy can improve students' flexibility and originality, and enable students to understand the learning content more deeply, improve their self-learning ability as well. However, this strategy has high requirements for students' understanding, expression and thinking ability, it may be difficult for some students with poor grades to implement.

3.8. Abstract to concrete

The concrete is that the teacher specifically presents the abstract concept in the way of narrative and depiction. Abstraction is the process in which the teacher abstracts and reduces a specific concept to generalize it.

The advantage of concrete is that when teaching an abstract and difficult concept, teachers can help students understand knowledge more clearly through specific

analysis and classification. The process of embodying abstract concepts is an attempt to create interactions and integrations. In terms of the function of abstract, it can improve students' comprehensive and analytical skills which are significant to foster creativity.

3.9. Group dynamics

Teachers ask students to divide a complete knowledge point into several parts by group relay, so that students can complete their work through cooperation. This strategy can not only train students' sensitive and fluency, but also cultivate students' sense of teamwork and team spirit, mobilize the atmosphere, ease the pressure of learning, and make students study happily in a relaxed atmosphere.

3.10. Modify for elaboration

Teachers guide students to change a writing style method to rewrite an article they learned, to interpret a concept in another way, or to improve a product's the function and beautify its appearance. This strategy can improve students' diffusive thinking, flexibility, and elaboration. Students always have their own unique understanding of learning materials, they are able to use their imagination to recreate, and they can express their thoughts and show others their results.

3.11. Hypothesis and imagination

Whether in the field of natural sciences or in the field of social sciences, every step forward is inseparable from bold assumptions. Students are always full of illusions about the unknown world and the future world. Teachers encourage students to assume and imagine things which are impossible happen in the real world can stimulate them to explore the possibilities of things and the different outcomes that ultimately result. The hypothesis questions can stimulate students' sensitivity and originality. Imagining how to deal with problems if these things happen in reality can help students solve practical problems and encourage them to face future challenges optimistically.

3.12. Forced connections

Teachers present two completely different things or concepts to students, forcing them to combine and create new structures or concepts, which is an effective method to foster creativity. In history, many inventors use forced combinations to combine unexpected things to create new products as it is a good way to break the inertia of people. The combination of things organized and systematically forces students to use their brains to stimulate creativity and invention to challenge new tasks.

3.13. Paradoxes

The teacher offers students some controversial and contradictory themes, asking students not to solve problems directly with a single mind. Students are required to keep in a state of contradiction and exert their creativity to think a better solution. This strategy is able to improve students' logical thinking skills and help them to find the best solution from complex problems.

3.14. Construct fictitious plot

Teachers set up a specific story for students, and then let students use their imagination to create a new plot. Novels and stories can attract students' attention, which is a good way to introduce the teaching content. It contains metaphors, scripts and subtexts to deal with problems. This method can improve students' imagination, interest in learning, fluency and refinement.

3.15. Problem-solving

The problem-solving strategy refers to the method in which the teacher conducts creative teaching centering on the problem in the teaching process. It is based on asking questions, analyzing problems, solving problems and keep them throughout the teaching process. That is, the teacher asks questions at first, then the students do self-study to understand the materials and discuss the problems with their classmates, finally, the teachers explain the questions according to the situation of the discussion and accurately guide the students to solve the problems. The problem is permeated throughout the teaching process so that the student's learning process becomes a process of "feeling- understanding the generation - development of knowledge", turning the process of learning knowledge into "rediscovery" and "re-creation" of students' independent inquiry. It can not only cultivate students' problem consciousness and scientific spirit but also effectively stimulate the initiative and enthusiasm of students' independent learning.

3.16. Through inquire

Teachers design a number of contradictory or novel cases and questions to stimulate students' curiosity. This strategy can stimulate students to explore problems consciously, master the methods of understanding and solving problems, discover the reasons for the development of things, and establish their own cognitive model and learning method system. At the same time, it uses students' curiosity to promote their independent learning, a better understanding of the truth, and enthusiasm for learning.

3.17. Interpretation through games

Teachers teach in the form of games, which enable students to learn knowledge in a relaxed atmosphere. This strategy can activate the classroom atmosphere, focus on students' attention, and exercise students' observation, memory, thinking, and imagination.

3.18. Grasp essence from complexity

For some students, it is difficult to catch the point of reading materials, they can't understand the frame structure of the article, and can't sum up the center. The teacher can provide some reading content so that students can make a suitable summary. It enables students to accurately master the key points of learning materials, so as to improve students' generalization and induction ability.

3.19. Deferred judgment

The teacher will assign a task to the students at first. After the students complete the task, teachers will not immediately evaluate them. They just ask students to wait and ask the remaining students to continue to complete the tasks. Finally, they will be evaluated. It can improve students' endurance and resistance, and always maintain a normal attitude to deal with problems.

3.20. Engage in risk-taking tasks

The teacher designed some unconventional or unexpected learning goals. These learning tasks may be areas that students are not familiar with. Students carry out their activities independently according to the instructions of the teacher. This strategy will enrich students with curiosity and excitement about the unknown, improve their decision-making ability, jump out of the boundaries of thinking, and be able to adapt to this situation.

4. Applications and Comments on Four Teaching Strategies

4.1. Use of all senses

4.1.1. Characteristics and functions

The “Use of all senses” mainly refers to use various ways, such as the arrangement of the learning environment, the performance of dramatic physical movements, the use of multimedia networks for pictures, and the display of stories to stimulate the students’ senses of hearing, vision, movement, language, feelings, etc. It is characterized by intuitiveness and comprehensibility. At the same time, teachers can effectively mobilize the students’ sight, hearing, taste, smell and touch through the creation of a good teaching environment, so that the students’ senses (eyes, ear, mouth, nose, and limbs) can be stimulated by information. Therefore, sensory education enables students to use both left and right brains to have a more direct and profound feeling of learning, which is more conducive to students’ understanding and mastering of learning content, and even stimulate emotions and memories.

4.1.2. Applications

Activity A: Creating an article about a kind of fruit

Age stage: primary 2

Activity procedure:

- a. The teacher gave each student a kind of fruit including apples, pears, banana, grapes, etc.
- b. The teacher asks the student to smell it, touch it, observe its color, appearance, shape and taste it.
- c. Giving students the opportunity to speak freely to describe the appearance, smell, appearance, shape, and taste of the fruit.
- d. Asking students to write an article to illustrate a kind of fruit.

Activity B: Drawing a picture of the autumn landscape.

Age stage: primary 5-6

Activity procedure:

The teacher shows the students pictures and the video of summer and asks students to carefully observe the summer scenery in the picture or video, what the people are doing and listen to the sound of howling, etc.

If it was summer, the teacher could lead the students out of the classroom, feel the summer atmosphere, observe the people on the street and the surrounding scenery.

Asking students to create a picture to show the scenery of summer.

4.1.3. Comments

The development of multimedia technology has improved the feasibility of this strategy. Teachers can use pictures, audio, and video to create teaching environments so that students can intuitively feel learning materials through their eyes, ears, noses, and limbs. This strategy helps students to absorb and experience learning materials in a multi-sensory way, which fully mobilize the enthusiasm of students so that students of different levels and different traits can get the maximum benefit and development. It's a good way to improve teaching efficiency and students' learning effect. In the future, "Use of all senses" strategy will become more convenient and practical with the development of science and technology. Students may use VR technology to go to the distant Jurassic era in the classroom, see dinosaurs, hear the sound of dinosaurs and even touch dinosaurs, they can also see the scene of the War of Resistance Against Japan and feel the cruelty of war.

4.2. Put oneself in role

4.2.1. Characteristics and functions

The substitution of characters is to let students look at the problem from the perspective of new things instead of the ordinary view of things. Students play the role of others to understand the feelings of others and to think about problems in order to explore and apply knowledge.

4.2.2. Applications

Activity A: Chinese class :Jing Ke assassinate emperor Qin

Age stage: primary 7-8

Producers:

After explaining the text, the teacher divided the students into groups, each of which consisted of 8 people. The teacher asks each group to write the text into a script. Each person performed a different role and performed the story.

After each group's performance, students are asked to vote for the best group.

Activity B:

Age stage: primary 7-9

Procedure:

The teacher creates a situation: Xiao Ming is a student who has high academic achievement, but his grades have fallen because of his parents' divorce recently. The teacher knows this situation and hopes to communicate with Xiao Ming and his parents.

b. The teacher divides the students into groups of four and asks each group to perform role substitution, create a scenario, and simulate the dialogue of four people. Students need to help Xiao Ming overcome psychological obstacles and improve academic performance.

4.2.3. Comments

This policy has great feasibility in teaching which implementation cannot be restricted by location and tools. It is a teaching strategy that is very popular among teachers. However, the implementation of this strategy has high requirements for students' imagination, understanding as well as expression skills, it also has high requirements for teachers' ability to control the classroom. Otherwise, it is impossible to achieve the desired goal. In my opinion, this teaching strategy will still be widely used in the future. Because the future world not only demands the students' high-order thinking abilities such as creativity but also demands the students' emotional attitudes and values. It's an ideal way to train students in these two areas.

4.3. Hypothesis and imagination

4.3.1. Characteristics and functions

Imagination and assumptions are hypothetical interpretations of the causality and regularity of things in a problem. Imagination is the assumptions made by students after they have been exposed to problems, these assumptions are based on students' existing knowledge and experience and combined with perceptual knowledge of objective reality. The hypothesis is based on students' imagination, observation, analysis as well as summary to eliminate some impossible conjectures and get more scientific assumptions. In the imagination, students make full use of the subjectivity, proactively propose as many guesses as possible, and do not need to consider the causal logical relationship between the problem and the conjecture. Therefore, students' thinking is often in an active, non-logical, divergent state. In the hypothetical section, students need to put forward reasonable guesses and assumptions, thus, a logical aggregation thinking is needed. Therefore, this strategy can fully develop students' imagination and creativity.

4.3.2. Applications

Activity A: writing an article

Age stage: primary 5-6

Procedures:

In the writing class, the teacher creates a situation: a hungry mouse wants to steal rice, but the owner has a cat. If you are this mouse, what do you think, how to do, why? Students are required to discuss in groups, express their opinions, and then write a small composition.

Activity B: A history class

Age stage: primary 8-9

Procedures:

In history, China has a splendid culture and developed science and technology. China has always been ahead of the West in technology and economy before the Qing Dynasty. However, due to the Qing government's policy of retreating the country, the gap between China and the West has widened. China's science and technology lag behind the West, and the West invades China and plunders China's wealth. Students are asked to imagine if the Qing government does not adopt this policy, how China will develop and what will happen in China and in the western countries.

4.3.3. Comments

This strategy is quite feasible as it can adjust the classroom atmosphere and enable students to use their imagination in a relaxed and pleasant atmosphere. At the same time, it requires teachers to guide students appropriately according to the content of the inquiry and the students' existing knowledge and objective facts. It not only can train students' imagination but also stimulate students' enthusiasm for learning and guide students to explore the truth. In the future, it can be combined with brainstorming to make it more effective.

4.4. Imitate and re-construct

4.4.1. Characteristics and functions

Imitate and re-construct is the process of applying existing experience and knowledge to new situations and generating new things. We can create new results by modifying, transforming, and adding to the achievements of our predecessors.

4.4.2. Application

Activity A:

Age stage: primary 7

Procedure: In the Chinese class, the teacher taught the article Back View written by Zhu Ziqing to explain the content sentence structure, rhetorical methods, methods of describing characters and psychology of the article and ask the students to imitate this article to write an article about what happened between them and their father.

Activity B:

Age stage: primary 7-9

Procedure: In the art class, the teacher shows a picture- sunflower painted by Van Gogh's to the students, explaining creating background and painting techniques. Then the students are asked to imitate Van Gogh's painting style to draw a picture of flower.

4.4.3. Comment

It's a feasible strategy because firstly, in modern state-of-the-art classrooms, teachers have sufficient conditions to present visual and auditory examples to students through multimedia; Secondly, teachers don't need to spend too much time preparing lessons which can reduce the burden on teachers; Last but not the least, when students face a new learning problem, they are willing to open their own ideas with existing models to solve problems through imitation and innovation.

Students can draw on the best results of their predecessors and combine their existing knowledge as well as experience to create new results. In this process, students can not only improve their creativity, but also gain a sense of accomplishment from their own creative achievements, which can increase their motivation to learn.

This strategy has great development potential in the future. It can be widely used in language learning subjects such as Chinese and English, and can play an important role in art subjects such as music, art, and dance.

5. Conclusions

These creative teaching methods are quite feasible in the transition from teacher-centered to student-oriented teaching strategies because they promote active learning for students. In contrast, traditional teaching style cannot stimulate students' learning enthusiasm and creativity which have become a significant ability in the modern world. These 20 strategies will offer teachers reference and guidance when they carry out creative strategies. What's more important is to encourage teachers to create more feasible and effective teaching methods in their teaching careers and cultivate more students with creative abilities.

Conflicts of Interest

The author declares that there is no conflict of interest regarding the publication of this article.

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