

Research on the Role of the Recent Development Area on Cultivating College Students' Innovative Spirit

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Abstract: With the deepening of social and economic development, it is particularly urgent to promote the transformation of the country's scientific and technological strength into real productive forces, enhance China's key and core technology competitiveness and international discourse power, cultivate the innovative spirit of college students and cultivate innovative talents for the modernization construction. Colleges and universities are not only the strategic force of national scientific and technological innovation, but also the main force of innovative talent training. This paper aims to explore the recent development area theory of college students' innovative spirit, in view of the current problems existing in the innovative spirit cultivation work, and from the "scaffold" teaching, "construct" teaching, provide teachers with more training to improve the college students' innovative spirit training system, in order to promote college students' innovative spirit.

Keywords: Recent Development Area; College Students; Spirit of Innovation; Function

1. Introduction

To enhance China's overall strength, science and technology are the primary productive force, talents are the primary resource, and innovation is the primary driving force. We need to fully implement the strategy of rejuvenating the country through science and education, the strategy of strengthening the country through human resources, and the strategy of innovation-driven development, open up new fields and new tracks for development, and create new drivers of development and new advantages. Russian psychologist vegoski put forward the recent development area theory for education

provides a new perspective, the theory that teaching should go ahead of the development, guide development, help to improve college students' understanding of their own innovative spirit, better play its potential, more help to promote education reform, improve the quality and effect of university education. In combination with the theory of the recent development area, this paper designs the teaching method to cultivate the innovative spirit, and improves the students' innovative spirit through the teaching practice reform.

2. Content and Extension of the Theory of Recent Development Areas

The recent development zone theory was proposed by the outstanding Russian psychologist Vygotsky. Vygotsky, the founder of the school of social cultural history and the pioneer of social constructivism theory, is considered one of the most influential psychologists of the 20th century. His theory has a wide influence in China. In October 1998, the establishment of "National Vygotsky Research Society" marked that Chinese scholars' attention to the achievements of Vygotsky's theory has reached a new height, and the research on his ideological heritage has entered a new stage.

The "most recent development zone" theory is a concentration of Vygotsky ideas. This theory has exerted an important and far-reaching influence on the contemporary educational theory and practice. According to Vygotsky, teaching and development are two processes of mutual influence and mutual dependence. Teaching should be adapted to the certain level of children's development. He believes that children have two levels of development: one is the development level of children's existing psychological functions (the actual level of development), which marks the maturity of some functions of children; the other is the level of problem solving (potential level of

development of children) under the guidance and help of adults. [1] Vygotsky defines the distance between these two levels of development as the nearest development zone. Combined with teaching practice, Vygotsky also put forward the concept of "the best teaching period", pointing out that traditional teaching is oriented to the mature characteristics of children's thinking, which is in the lowest limit of teaching, and good teaching should be in the "best teaching period" (that is, the period between the minimum teaching limit and the highest teaching limit). The "best teaching period" is determined by the nearest development zone, and teaching beyond the nearest zone is not difficult for children; instead, teaching that reduces the level of the nearest development zone is boring because it repeats the problems that children have solved independently. Only teaching suitable for children's recent development areas is effective and good. [2]

While the study of the theory of "recent development zone" was put forward at the beginning, the current research scope of this theory is far more than the field of children's education. This paper will further extend this theory to the cultivation of college students' innovative spirit, in order to get some enlightenment. According to Vygotsky's "nearest development zone" theory, universities should not only educate students based on their actual level of development, but should be ahead and pay close attention to their nearest development zone to guide students' development. Educators should not only understand the actual development level of students, but also understand the potential development level of students, Can not only stay in the "training" and "strengthen" the students have formed the internal psychological function, but also to stimulate and form the psychological function that does not exist at present. Only the teaching of "walking ahead of development and guiding development" can truly cultivate innovative talents.

3. The Present Situation and Problems of the Innovative Spirit of Chinese College Students

At present, there are some problems in Chinese university education, such as weak innovation education and students' low

innovation ability, which are mainly manifested in the following aspects: 1. Due to the influence of the deep-rooted traditional education, Teachers in college classes still instill knowledge, It is not on the premise to stimulate students' curiosity and interest in knowledge, Cause the breadth of students' knowledge is not enough, The absorption of knowledge is independent and unrelated, Not too much new idea and breakthrough; 2. Some students are also innovative, Those motivated for innovation, Hoping to generate new ideas and theories in the learning process, And are proactively looking for new learning methods, However, due to the lack of scientific guidance from teachers or others, many students have the sense of innovation, but due to the lack of appropriate external assistance, Thus leading to the disconnection between college students' innovative consciousness and innovative practice activities; 3. Current higher education places too much emphasis on adapting to society, The emergence of education eager for quick success and instant benefit and training requirements of uniform, And simply take the students' knowledge and ability as the evaluation criteria, These practices will also limit the innovative spirit and innovative ability of college students.

4. The Role of the Recent Development Area Theory in Cultivating the Innovative Spirit of College Students

The theory of "recent development zone" is a great breakthrough in dealing with the relationship between teaching and development. The theory emphasizes the dominant and decisive role of teaching in child development. Focus on the important role of students' main role, teachers, peers and social interaction on the knowledge construction of learners. It emphasizes the social interaction of education and the initiative and decisive role of children in the process of cognitive development, and reveals that the essential feature of teaching lies in stimulating students to form the learning potential that does not exist yet and the intermediary role of teachers in teaching. College students also have two levels, namely the existing level and the potential level of higher level under the guidance of teachers or students better than themselves. The reference to cultivate the perspective of the college students' innovative

spirit, is the teacher in the teaching process to clear students, the two levels of students have innovative consciousness and ideas, don't rush to kill, but use their extensive professional knowledge to guide students, stimulate students' curiosity and interest, encourage students to actively explore knowledge, find knowledge. Many students have the consciousness of innovation, because of the lack of guidance from teachers, their motivation for innovation is abandoned. Teachers should change the traditional teaching methods, use the theory of "recent development area", guide students to break through the existing level, and transform the innovative consciousness into innovative practice.

The university education mode and teaching content should face the modernization, the world and the future. Colleges and universities should become the place to create new knowledge, new methods and new technology, and pay attention to cultivating the innovative spirit of contemporary college students. We should consciously cultivate the innovative spirit of the contemporary college students, and open up the students' innovative thinking. Vygotsky's "recent development zone" theory holds that learning and development are social and cooperative activities that can never be "taught" to someone. It is suitable for students to build their own understanding in their own minds. It is in this process that teachers play the role of "promoter" and "helper" to guide, motivate and help students to develop in an all-round way.

Under the influence of Vygotsky's theory of "recent development zone", many teaching methods have been conducive to cultivating students' innovative spirit, which have been developed. Teachers can use various teaching strategies in teaching activities to help students solve problems and help students learn through communication with other students. The specific measures are taken as follows:

4.1 "Stent-type" Teaching Mode

The "scaffold teaching" mode is a teaching mode proposed by the famous American educational psychologist Bruner according to Vygotsky's theory of "the most recent development area".^[3] Support theory hypothesis, children's ability to mature is not synchronized, those who have not mature

ability cannot participate in the solution of the problem, need teachers in relying on the ability of the stent, the teachers provide the stent will not make the task itself easier, but it can make learners support the task.^[4] The teaching mode can also be introduced into the university education, many courses and content can use this method. For example, when teachers teach students to do experiments, the teacher first establishes the purpose and goal of the experiment for the students, let the students explore and try, and the teacher should control the direction of exploration. When students encounter difficulties, teachers can give students inspiration and guidance, make demonstrations, provide prototypes to solve problems, and give feedback to students, but they should gradually increase the exploratory components of the problem, and gradually let students explore by themselves. Finally, the teacher lets the students decide the direction and problems to explore, choose their own methods, and explore independently. At this point, different students may explore different experimental results. Compared with the traditional hand-in-hand teaching experimental method, this experimental teaching method has an absolute advantage in cultivating students' innovative spirit and innovative ability.^[5]

4.2 "Constructive-type" Teaching

Vygotsky's "recent development zone" theory holds that all the more advanced forms of human thinking, including thinking, planning, intentional memory, intentional attention, creativity, and control of symbolic systems (especially language), occur in mutual communication with others. It can be seen that social communication plays a crucial role in the process of cognitive development.^[6] Learners are the active builders of knowledge, knowledge is the object of construction, and teachers are the organizer, instructor of the teaching process, and the helper and facilitator of meaning construction. In the face of a strange learning area, the knowledge structure initially constructed by learners is mostly fragmented, decentralized and skilled, which is often easy to form a vague theoretical state, which is difficult to form the corresponding systematic knowledge, which is not conducive to the efficient development of students. By summarizing rich teaching experience and making full preparation, teachers can

concentrate and systematize the teaching materials suitable for students' physiological characteristics. Teaching process, with learners as the center, combined with the characteristics of the existing knowledge structure, using situation, collaboration, give full play to the initiative of learners, enthusiasm and creativity, and give appropriate tips and help when necessary, finally make learners to the purpose of the current knowledge construction, as soon as possible to form a level of clear mesh knowledge structure, realistic ability to effectively improve, potential and creative ability also get corresponding development, contributed to the learners a new recent development area.

4.3 Provide More Training for Teachers to Improve the Overall Quality of the Teachers

Teachers are the creators and practitioners of all kinds of new teaching methods and teaching methods. The quality of teachers is directly related to the teaching results and quality. Therefore, the contemporary university teachers should in addition to have excellent professional knowledge, but also have the spirit of innovation, to be good at combining their own majors for innovation, to guide students to study creatively. Encourage students to dare to express different opinions, strengthen the two-way communication between teachers and students, between students, break the "one voice", cultivate students "divergent", "seeking the opposite sex" thinking habits. Students' learning enthusiasm and initiative should be stimulated by means of guidance and guidance; To carefully design the classroom, By digging out the creative factors in the textbook and the teaching process, Create an environment conducive to students' creativity, To exert a creative influence on the students, Cultivate students' creative thinking ability; Heuristic, discussion and speech teaching methods should be adopted, Pay attention to mobilizing students' all their cognitive senses, Make their attention, observation, memory, imagination and other aspects are in a positive state; The teaching content of teachers should be exploratory, Be good at asking questions, Inspire students to think independently, Seeking the right answers, Sometimes you can't help but go to extremes, Or doubt to negate everything, Teachers should guide them

correctly, Patiently and carefully analyze and solve some questions with the students, And give them positive encouragement, Then a comprehensive evaluation, On this basis, we will put forward new ideas and new questions; Advanced teaching methods and teaching techniques, It is an important way to cultivate college students' innovation ability.

5. Epilogue

This paper, by exploring the recent development area theory to cultivate the significance of college students' innovative spirit, analyzes the problems existing in the current college students' innovative spirit cultivation work, in order to through the "scaffold" teaching, "construct" teaching, provide teachers with more training to improve the college students' innovative spirit training system, in order to promote college students' innovative spirit. The cultivation of college students' innovative spirit is the inevitable requirement of the national economic development, and also the inevitable requirement of enhancing the independent innovation ability and building an innovative country. As the main position of cultivating talents for the country, colleges and universities shoulder the mission and task of cultivating the innovative spirit of college students. The theory of the recent development zone can help college students understand their own development potential, stimulate the spirit of innovation, provide learning goals and motivation, cultivate the ability to solve problems independently, and promote teamwork. By understanding each student's most recent development zone, teachers can better organize team activities and promote collaboration among members, thus cultivating their innovative spirit and teamwork ability. In short, the recent development area is of great value to the cultivation of college students' innovative spirit.

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