Path Analysis of Cultivating Students' Innovative Ability in College Computer Teaching

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Abstract: College computer courses are one of the fundamental conditions for effectively promoting students' comprehensive progress. The efficient teaching of computer courses can not only significantly cultivate and improve the information knowledge level of college students, but also assist students in understanding the development value of modern technology to a certain extent. Due to the strong scientific research, practicality, professionalism, and particularity of computer courses, which are different from other courses, college students can quickly develop their own thinking logic and inspire them to think independently during the process of learning computer science. This has a strong promoting effect on the progress of innovation ability among college students. Based on this, this article conducts research on cultivating students' innovation ability in computer teaching, elaborates on the basic conditions for fostering students' innovation ability based on computers, and proposes several effective teaching strategies on this basis, in order to provide valuable references for related educational work.

1. Introduction

To effectively ensure and enhance the innovation ability of college students, teachers at all levels must actively innovate their educational concepts, abandon traditional and lagging thinking patterns, break through the constraints of traditional teaching, and significantly promote the comprehensive progress of college students. In the context of the new era, not only are the development and construction of various industries continuously pursuing innovation, but the reform of the education system is also gradually carrying out and implementing innovative teaching work, thereby striving to cultivate the innovative awareness and ability of college students. When carrying out teaching work, college teachers should actively explore teaching methods and approaches that help foster students' innovation abilities. In addition, computer courses are a crucial component of the college curriculum system, so teachers must focus more on this, effectively enrich and expand innovative computer-based teaching measures, and use correct teaching methods to make students see innovation as a learning and living habit, to foster high-quality talents in the progress of modern society, and on this basis, promote the sustainable development of computer science in China.

2. Basic Construction Conditions for Cultivating Students' Innovation Ability in College Computer Teaching

Firstly, it is necessary to actively innovate teachers' teaching concepts and models, and strengthen their innovative teaching awareness and abilities. In the teaching system of colleges, teachers are the core disseminators and interpreters of various theoretical knowledge, and they can significantly cultivate students' innovative awareness and enable them to maintain their own attitude of striving for excellence in their later learning and life. Therefore, to effectively ensure the innovative teaching level of teacher teams, colleges should encourage teachers to obtain relevant qualification certificates and scientifically create a highly valuable teaching team [1]. When teachers successfully master innovative teaching concepts and methods, they can share their knowledge, skills, and experiences with students during the teaching period, helping them stand higher and look

further. Teachers must fully demonstrate their innovative spirit and convey it to students, so that students unconsciously form innovative consciousness under the influence of teachers, laying the foundation for the smooth development of innovation ability [2].

Secondly, create a scientific and effective innovative teaching culture and create an innovative campus environment. Campus culture is one of the essential places for teachers and students to learn and progress together, and it is also the core battlefield for cultivating high-quality and innovative talents. Based on this, to effectively foster innovative teachers, college leaders must focus on the continuing education and training work of teachers. Whether before or during their tenure, they should conduct scientific and reasonable assessments, and on this basis, effectively create a highly innovative campus environment to create good conditions for the cultivation of students' innovative abilities. Specifically, colleges can strengthen their own cultural propaganda efforts and promote the value of cultivating innovative abilities through campus websites, school newspapers, and other means. Colleges can also scientifically refer to the practical work requirements and regulations of enterprise units, develop a targeted innovation training atmosphere and related systems for teachers. In addition, colleges can also utilize diverse campus cultural activities to demonstrate the role of innovative teaching, such as teacher practical ability competitions [3].

3. Paths of Cultivating Students' Innovation Ability in College Computer Teaching

3.1 Raise Teaching Questions and Cultivate Students' Exploration Consciousness

In order to efficiently ensure the quality and effectiveness of cultivating innovative abilities among college students, teachers should actively refer to computer course content, current affairs hot topics, and related work practices to effectively stimulate students' initiative, make them interested, and guide students to actively express their ideas by observing surrounding things. Based on this teaching environment, students will be influenced by the atmosphere and actively form a thinking consciousness, thereby deeply exploring relevant questions and answers. But because college students have not yet fully entered society and do not have sufficient social experience, teachers can start from this and assign highly innovative teaching questions to students, stimulating their desire to explore knowledge. In this way, students will find answers based on the questions assigned by the teacher and use their own thinking logic. The process of students' thinking and exploring problems is the process of gradually forming innovative consciousness and significantly stimulating the initiative of college students to explore [4].

For example, taking the innovative teaching of the "PS Image Processing" course in colleges as an example, it is highly appropriate to carry out innovative teaching work for this course because the layers of PS images are extremely common, and it is a basic teaching content in computer courses. Specifically, after completing the corresponding explanations, teachers can assign students a task with moderate difficulty, requiring them to draw an Olympic Five Rings through their mastery of layer knowledge, and freely display specific details. In the stage of completing this task, it can not only cultivate students' innovation ability, but also promote their mastery and digestion of classroom knowledge, and assess their learning effectiveness. In the actual drawing process, students can stack five rings together, then copy some of the rings, arrange them in an orderly manner according to the five ring drawings, and fill in the colors to complete the task. During the arrangement and coloring process of the five rings, students' innovation abilities can be effectively exercised. Through continuous experimentation and practice, students can form various drawing methods, each of which is an innovative manifestation and is extremely effective in fostering students' innovation abilities. After the task is completed, teachers need to propose new requirements based on this, guiding students to engage in independent learning through extracurricular practice. Based on this task-driven computer teaching model, computer learning activities can be more interesting and innovative [5].

3.2 Create A Democratic Classroom to Cultivate Students' Innovative Awareness

At present, with the promulgation and implementation of relevant education policy documents in China, the reform of teaching courses in colleges is gradually deepening, which leads to continuous innovation in classroom teaching activities. In the field of college computer teaching, some teachers still use traditional and lagging teaching concepts to carry out teaching work, without correctly recognizing the importance of innovation awareness, which leads to serious deficiencies in the cultivation of innovation ability among some college students. Based on this, to effectively cultivate and enhance the innovative awareness and ability of college students, colleges and teachers must jointly create a relaxed and enjoyable learning environment. Teachers should also actively innovate their teaching concepts, correct their own teaching problems, develop computer teaching plans that keep up with the times, implement student-centered teaching concepts, guide students to actively participate in highly innovative learning interactions, and create democratic classrooms, then significantly cultivate the innovative ability of college students. Teachers should also guide students to independently unleash their imagination to efficiently promote the cultivation of innovation awareness [6].

For example, during computer teaching work, teachers can assign learning tasks to students, requiring them to use their imagination to independently draw a dynamic starry sky that not only has the moon and stars, but also should have light. During the task completion stage, to fully meet the teacher's requirements and achieve the above effects, students will use their own thinking ability and knowledge foundation to flexibly adapt to this creation. Through various techniques, they will achieve the depiction and production of the above scenes, so they can proficiently operate and master the various steps and functional options of image processing. Specifically, teachers can first guide students to think about how to achieve this drawing, fully reflecting the shining stars and moon. During the process of learning PS software image processing, students are unable to directly grasp relevant practical knowledge and skills. Therefore, teachers can guide students to first understand what gradient is and how to operate feathering tools. After students fully understand the above knowledge, they can be motivated to draw stars first, and at this stage, the area can be clearly drawn through a rectangular tool box, gradually forming a gradient effect. In this way, through such computer teaching methods, not only can diverse and differentiated renderings be achieved, but also the goal of images and fonts emitting light can be achieved, helping students to smoothly and efficiently complete teaching tasks. This flexible and creative process is extremely important for cultivating students' innovation awareness, laying the foundation for the improvement and exercise of students' innovation ability [7].

4. Conclusion

In summary, college computer courses are one of the basic conditions for effectively promoting students' comprehensive progress, and the cultivation of innovative ability is an essential component of promoting students' overall development and comprehensive quality cultivation. Therefore, it is crucial and imperative to carry out the cultivation of students' innovative ability based on college computer teaching science. Based on this, to effectively enhance the innovation awareness and ability of college students, college computer teachers must actively innovate their teaching concepts and models, keep up with the development of the times, strengthen their correct understanding of innovation ability and cultivate their awareness. Through various innovative teaching activities, teaching work is carried out to significantly promote the rapid progress of innovation ability among college students and ensure their comprehensive progress. This will cultivate more innovative talents for the progress of modern society in China, and also contribute to the innovation and construction of China's education industry.

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