

Status Quo and Countermeasures of Heuristic Teaching in Rural Primary and Secondary Schools from the Perspective of China's New Curriculum Reform of Basic Education

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Abstract: *Under the guidance of student-oriented and teacher-led teaching philosophy, heuristic teaching centers on provoking students' thoughts and advocates that teachers should arouse their enthusiasm and initiative in learning starting from the actual situation and in strict accordance with teaching tasks and the objective laws of learning. A string of new forms and features now label the heuristic teaching amid the implementation of new curriculum reform. Specifically, teachers improve students' ability to locate and solve problems, and cultivate their skills of cooperation, autonomous learning, and innovation through feasible inspiration and instructions. Middle and primary schools in rural areas, however, suffer from backward teaching amid the full swing of the new curriculum reform. In that case, teachers are obliged to dissect the problem and better the relatively lagging thought-provoking teaching through several paths.*

Keywords: *New curriculum reform; Heuristic teaching; Basic education; Rural primary and secondary schools*

1. Introduction

Under the guidance of student-oriented and teacher-led teaching philosophy, heuristic teaching centers on provoking students' thoughts and advocates that teachers should arouse their enthusiasm and initiative in learning starting from the actual situation and in strict accordance with teaching tasks and the objective laws of learning. Simply put, it recommends teachers to guide students to take the initiative in their studies.

2. Proposition and Requirements of New Curriculum Reform of basic Education in China

This 21st century-oriented new basic education curriculum reform is launched to cope with the increasingly fierce international competition, improve the quality of the nation in all rounds and enhance overall national strength, as the knowledge-based society and economy keep advancing.

2.1. Reform proposition

To keep up with the development and requirements of socialist culture, the new curriculum reform was born echoing the educational development of "deepening education reform and comprehensively boosting quality education" prosed by the Central Committee of CPC and the State Council in 1999, as China's socialist market economic system continued to flower. All efforts were invested to output a basic education curriculum system to favor the quality education in the 21st century. All parts of the country must carry out the new curriculum reform in a deep-going way to speed up the popularization of quality education nationwide, under the guidance of the important thought of Deng Xiaoping's "Three Faces" and Jiang Zemin's "Three Represents", stipulated "Outline of Basic Education Curriculum Reform (Trial)" promulgated by the Ministry of Education in 2001. And then the new curriculum reform was proposed.

2.2. Reform requirements

The new curriculum reform endows the education with the core concept of "for all students, and all for students", thus to enable every student embrace integrated growth and development while keeping individual characteristics. Nothing short of the reform can truly transform this concept into teachers' actions. Therefore, teachers must:

Foremost, master relevant knowledge and skills. Students' learning bases rudimentary knowledge and skills. The reform requires teachers to value the understanding-based learning and mastery of students' basic knowledge, so as to further their studies.

Second, improve students' ability. Efforts should be invested in cultivating students' innovative spirit and practical ability, and equipping them with the ability to collect and process information, analyze and solve problems, social practices and make a living.

Third, motivate students' learning and mobilize their learning initiative. Teachers must be good at guiding students to take the initiative to learn, explore, practice, and innovate, encourage students to think on their own, learn from each other, and solve problems independently.

Fourth, stress the all-round development. In addition to students' intellectual education, the reform values more the harmonious and comprehensive development in the education of morality, physiology, aesthetics, labors and psychology.

Fifth, carry on teaching democracy and integrate students into teaching. Teachers should make use of heuristic discussion-based and inquiry-based teaching and research-based learning, take the initiative to communicate and interact with students, thus to give full play to the teaching democracy.

3. Form and Features of Heuristic Teaching under the New Curriculum Reform of Basic Education

Heuristic teaching ushers in new forms and features under the requirements of the new curriculum reform as the society and technology develop rapidly, and progress is continuously made in quality education.

3.1. Form of heuristic teaching under the new curriculum reform of basic education

Following fresh forms of heuristic teaching are hastened by requirements and developments of new courses:

First, the heuristic question setting. General teaching requires instructive questions. Teachers should be adept in "(1) underlining teaching difficulties. Specifically, it grasps the main difficulties unsolved by teaching materials, and presents the internal connection between problems to arouse students' thinking and inquiry. (2) Solve teaching doubts. Teachers should clear up typical doubts encountered by students in a timely manner. (3) Answer teaching questions. Teachers should clear doubts and uncertainties of students with feasible approaches [1]. Meanwhile, priority should be given to a suitable quantity of moderately difficult problems.

Second, heuristic group discussions. In teaching, teachers should put forward some targeted questions according to the teaching arrangement and the situation of each student. These questions are difficult for students to understand and easy to confuse. Then divide the students into different groups, and the group can choose a meaningful name for their group according to the characteristics of each person, and then discuss. Teachers interact with students from time to time in order to inspire students and achieve better results. The form of discussion can be various, and the appropriate form should be selected according to the specific situation. The form of inspiration can cultivate their teamwork ability.

Third, heuristic guidance practice. It is the guidance given by the teacher after the students have completed the exercises assigned by the teacher. Oral practice is relatively simple, it is a direct answer after thinking, and it is the premise of written practice. Written practice can be divided into exams, homework assignments, classroom exercises and other forms. It is an important form of exercise inspiration and an indispensable link in teaching. It is a key form to test students' knowledge mastery, and can exercise students' ability to use their hands, brains and mouths.

Fourth, heuristically create situations. "Teachers should be good at arousing the emotions of students, touching the strings of students' hearts, and making good use of the emotional factors of textbooks, so

that students and authors can resonate with their thoughts and feelings" [2]. Teachers can imitate and create a real teaching situation according to the content to be taught, so that students can integrate into the situation, so that students' emotions can be contrasted and developed.

3.2. Features of heuristic teaching method under the new curriculum reform of basic education

Under the requirements of the new curriculum reform of basic education, influenced by the heuristic teaching method, heuristic teaching presents some new characteristics, mainly including:

First, students become the main body of learning. Students' individual subjectivity is the main manifestation of self in learning. Teachers should fully mobilize students' enthusiasm, initiative and creativity in teaching, so that students can truly become the main body of learning and become the master of learning.

Second, mobilize the initiative of students to learn. Under the guidance of the heuristic teaching method, teachers no longer instill ready-made concepts and structures into students, but attach importance to the initiation of students' internal causes, so that students always have a sense of responsibility for learning, from "I want to learn" to "I want to learn", "I can learn, I can learn".

Third, pay attention to the all-round development of students. In the continuous development and improvement of basic education, the development of students should not only maintain their own characteristics, but also develop comprehensively, and prevent one-sided development. Therefore, according to the spirit of the times and the development requirements of the new curriculum reform, heuristic teaching enables students to better grasp knowledge and develop intelligence, and promote students' intellectual and moral education, physical education, aesthetic education, labor education, mental education and other aspects. Harmonious and comprehensive development.

Fourth, the combination of theoretical knowledge and social practice. Practice is the only criterion for testing truth. In social practice, students can use their own theoretical knowledge and combine it with practice, which can not only deepen the understanding of knowledge, but also improve students' practical ability, and realize the combination of book knowledge and direct experience.

4. Application of Heuristic Teaching under the New Curriculum Reform of Basic Education

Under the new curriculum reform of basic education, heuristic teaching method is used more and more widely in teaching as an important means to cultivate innovative and creative talents. According to the requirements of the new curriculum reform and the all-round development of students, we can start from the following aspects:

4.1. Objectively understand the heuristic teaching

In teaching, heuristic teaching method is a kind of teaching method which is different from other teaching methods. Heuristic teaching method is the general requirement and guiding ideology of other teaching methods, and it cannot be opposed to other teaching methods. The heuristic teaching method is a teaching method that is combined with other methods under the condition of "inspiration" as the main line, and is carried out in combination with other methods. When choosing other teaching methods, it should be reformed in the spirit of the heuristic teaching method, which is in line with the requirements of students' development under quality education.

4.2. Properly grasp the timing of quasi-inspiration

Confucius said: "teachers should not guide students until they reach the end, thus to encourage them to draw inferences about other cases from one instance." Simply put, teachers should grasp the key points of inspiration in students' learning, and students should think or think about it. The discussion has the best time to express the idea but can't say it, and the teacher will give relative inspiration, and then it will have a good effect. In class, it is very important to grasp a certain opportunity to inspire and instruct students accordingly, only in this way can students better grasp the key points of the content and the difficulties in understanding. Teachers should start from the first contact knowledge, then carry out rational knowledge, and then practice; after that, they should grasp the best opportunity for inspiration appropriately and accurately. Teachers must be flexible and resourceful in the classroom, and when the time for inspiration is ripe, they must be able to use them and dare to use them, so that they will receive

unexpected good results.

4.3. Appropriately apply heuristic teaching

Teachers are encouraged to take "heuristic teaching ideas" as their purpose in class and run them throughout. This doesn't mean using it 100% of the time in the classroom, but in moderation. Blindly using it in teaching, students sometimes have a slack and rebellious mentality. In teaching, teachers should have inspiration in their hearts and minds, pay attention to guiding students, and grasp the principle of moderation when using heuristic teaching.

4.4. Have a comprehensive understanding of all students

According to the requirements of the new curriculum reform, in heuristic teaching, every teacher must have a planned and systematic understanding of the students. Including students' ideological situation, basic learning situation, family background, ability to accept and apply knowledge, and students' interests and hobbies. Starting from the real situation of the students, the students are taught individually in a targeted manner. Teachers should understand students comprehensively and continuously. Understand all aspects of them and every student, let every student participate in learning, and combine independent learning with mutual learning to promote students' comprehensive and harmonious development.

4.5. Make use of heuristic teaching and value on all-round development

Teachers are the leaders and promoters in the new curriculum reform. The new curriculum reform requires teachers to constantly pay attention to the development of their own professional ethics, which is the key for teachers to use heuristic teaching well in the classroom.

First, in terms of professional ethics, teachers must love their own education; they must be strict and lenient in dealing with students, and they must respect, trust, care, understand and liberate students; in dealing with the collective, they must unite and cooperate with each other; be strict with yourself in dealing with your own issues and be a role model for students.

Second, in terms of knowledge, teachers should continue to learn continuously. Knowledge is the premise and foundation for teachers to teach and educate people. Without knowledge in all aspects, teachers may not be able to complete relevant educational activities, and they will not become teachers. Every teacher must master relevant professional knowledge, some necessary educational scientific knowledge and social practice knowledge.

Third, in terms of ability, "the basic ability of education and teaching is the first thing teachers must master. For example, language expression ability, ability to organize and cooperate, and ability to respond to emergencies, etc., are the fundamental guarantee for the completion of education and teaching. In addition to This teacher should also have certain self-regulation and reflection ability, strong learning ability and certain scientific research ability" [3].

Fourth, in terms of teacher skills, teachers should continuously improve their teaching skills and combine their previous skills with modern skills, which is the basis for teachers to use heuristic teaching.

5. Significance of Heuristic Teaching under the New Curriculum Reform of Basic Education

In the context of the new curriculum, the charm and vitality of the heuristic teaching method in teaching can be seen. Especially after the new basic education curriculum reform in China, the heuristic teaching method has shown great vitality and is constantly developing and improving. Heuristic teaching method has such great vitality because it has great significance, mainly in the following aspects:

5.1. Heuristic teaching helps students to build a complete knowledge framework and enable students to develop in an all-round way

In the heuristic teaching under the new curriculum reform, students are effectively guided by teachers during learning, and the knowledge they have learned is divided into different levels and differentiated on the basis of the original knowledge. Through the mind map, put the new knowledge you have learned into the appropriate position of the existing knowledge structure, which can help

students classify the entire knowledge and actively establish their own knowledge framework, which can not only consolidate the old knowledge. The new knowledge can also grasp the newly learned knowledge and form a complete knowledge framework. At the same time, heuristic teaching helps to cultivate students' practical ability, cultivate students' ability to solve problems independently, and improve students' various skills.

5.2. Heuristic teaching helps to promote students' independent thinking and innovation ability

In heuristic teaching, students' thinking has always been divergent and open, and has been in an active atmosphere for a long time. Through the change of thinking, students actively participate in learning, and can also complete the analysis, reasoning and induction of problems independently through the inspiration of teachers, so as to discover the connection between various problems, and then solve the problem. Can improve students' ability to collect and process data, improve students' problem-solving ability and their ability to collaborate. Heuristic teaching strongly advocates the spirit of innovation. Under the environment of heuristic teaching, students' ability to grasp knowledge and innovation will definitely develop continuously.

5.3. Heuristic teaching helps to mobilize students' initiative in learning and stimulate students' curiosity

In the teaching process, teachers can create conditions and create various difficult situations in heuristic teaching, stimulate students' curiosity, make students have a desire for knowledge and take the initiative to ask questions and questions, and then find the answer to the question. This is conducive to mobilizing students' openness, initiative and creativity in learning.

The educational value of the heuristic teaching method under the new curriculum reform will be greater and greater in teaching. According to the requirements of the new curriculum reform, teachers should take the heuristic teaching method as the main purpose, and use it throughout the whole teaching. "The harmonious, people-oriented and developmental educational spirit of the heuristic teaching method under the new curriculum reform reflects the subjective and objective laws of social development. Its strong vitality, scientific truth, and its educational spirit will become the basic trend of modern education and even the development of future education" [4].

6. Problems Encountered in Heuristic Education Reform in Rural Primary and Secondary Schools under the Background of New Curriculum Reform

The new curriculum reform encourages students to use independent thinking and independent learning to analyze problems, which is more suitable for basic education. However, at this stage, there are many problems in the implementation of the new curriculum reform in rural primary and secondary schools, which are mainly reflected in the following points. [5]

6.1. Lack of faculties, poor adaptability to curriculum reform, and low enthusiasm of teachers

The implementation of the new curriculum reform has higher requirements for teachers than traditional teaching, and there is a certain gap between the number and quality of teachers in rural primary and secondary schools. Teaching mode. The traditional teaching mode of "cramming" is still the mainstream of primary and secondary school teaching at this stage; teachers unilaterally impart knowledge to students, ignoring the interaction with students; The effect of student learning is not considered. This situation not only reduces the enthusiasm and initiative of students to study independently, but also is not conducive to cultivating students' innovative thinking. Due to the performance plan and the limited number of professional titles, the income and treatment of teachers in rural areas is lower than that in urban areas, and some teachers are not very enthusiastic about their work. Especially in remote and poor areas, few teachers are willing to teach. In recent years, due to the decrease in the number of newborns in rural areas, the scale of rural primary schools has been shrinking, and the teaching staff has become even weaker. Most rural schools lack subject leaders and backbone teachers, lack a strong understanding of teaching research, and a considerable number of teachers have insufficient basic skills, all of which directly affect the improvement of classroom teaching quality.

6.2. Misunderstanding and obstruction from parents

The obstructing role of students' parents in the new curriculum improvement program is mainly reflected in two aspects: First, most parents in rural areas are not of high quality, and they often lack concern for their children because they go out to work. On the issue of children's education, they rely too much on traditional education. The teaching mode lacks active cooperation with education; second, many parents do not understand the concept of the new curriculum reform and hold an oppositional attitude, thinking that allowing students to learn independently is a waste of valuable classroom time, which is a manifestation of teachers' irresponsibility. In this era of heroes based on fractions, if the new curriculum reform cannot significantly improve academic performance in the short term, parents will scoff at the implementation of the new curriculum reform, or even obstruct it, which to a certain extent hinders the implementation of the new curriculum reform in primary and secondary schools implement.

6.3. A large number of stay-at-home children, and extreme polarization of grades

Statistics records more than 65 million stay-at-home children in rural areas in China, where over 90% of students are left-behind children. Due to living in a special environment for a long time and lacking the direct care of their parents, some left-behind children are sensitive and fragile and have no interest in learning. At the same time, primary school students are young and have poor self-restraint ability. They often have bad learning behaviors such as talking, small movements, and desertion in the classroom. The homework after school is mainly based on completing tasks, and they do not check after finishing the homework, which is full of mistakes. Parents Busy with their own affairs, there is no time to take care of the child's study, which leads to the child developing the bad habit of laziness. At the same time, compared with urban students, rural primary school students often have unsatisfactory grades, and their grades are very polarized, which has a serious impact on rural primary and secondary school teaching.

6.4. Lack of teaching materials and poor teaching facility

The limitation of rural educational resources is mainly caused by the backward level of regional economic development, which is reflected in various aspects such as teachers, teaching materials and teaching equipment. In rural areas, primary school students often only have one textbook, which contains very limited content, which has a big gap with urban students and directly affects the learning of the curriculum. We often encounter the problem that rural teaching equipment is incomplete and outdated. Due to the problem of teaching equipment, the originally designed teaching objectives cannot be achieved, especially when facing the task of new curriculum reform, teachers are often overwhelmed and lacking in strength. Some schools allow students to make tools by themselves in practical courses, which wastes valuable classroom time, and often affects the overall teaching quality because the tools do not meet the requirements. Multimedia teaching is very common in urban classrooms, but very rare in rural areas. The traditional "blackboard + chalk" model is still the mainstream, which has lagged far behind in terms of teaching efficiency.

7. Ways to Improve the Heuristic Teaching Ability of Rural Primary and Secondary Schools under the Background of New Curriculum Reform

7.1. Study new teaching concepts and improve vocational skills of rural teachers

The new curriculum reform concept points out that students are the masters of learning, and teachers are organizers, guides and collaborators. Due to various reasons, there are not many opportunities for rural teachers to participate in the learning of various new skills and new concepts, which leads to the relatively backward educational concepts of rural teachers and affects the improvement of teaching quality. Therefore, in the process of implementing the new curriculum reform, teachers should change their traditional concepts and reposition their roles in teaching. This transformation should be reflected in the following three points: (1) From indoctrination teaching to heuristic teaching. (2) Change from exam-oriented education to quality education. (3) Change from closed teaching to teaching that combines classroom and practice.

Good education is inseparable from good teachers. Due to interest and consideration of future development, a large number of outstanding rural teachers enter towns every year. The continuous replacement of teachers in rural areas makes it difficult for students to adapt and the quality of teaching cannot be guaranteed. Therefore, a key to improving the teaching quality of rural primary and secondary

schools is to maintain a stable and high-quality teacher team. I think it should be improved from the following aspects: (1) Improve the salary of rural teachers, provide a platform for teachers to fully display themselves, and give some spiritual and material encouragement to those outstanding teachers who are willing to take root in the countryside. (2) The education department should strengthen the training of rural primary and secondary school teachers, so that they can better learn various advanced teaching skills, and provide technical support for improving the teaching quality and level of rural primary and secondary schools.

7.2. Offer a good teaching environment and underline the problem of stay-at-home children

The new curriculum reform points out that effective learning activities cannot rely solely on imitation and memory. Hands-on practice, independent exploration and cooperative communication are also important ways for students to learn. Students' learning activities should be a lively, active and individual process. In order to provide students with an excellent learning environment, teachers should abandon the previous practice of taking classes step by step and leading the classroom, and should start from students' life experience and existing knowledge background, provide them with sufficient opportunities to engage in learning activities and exchanges, and help them in the process of self-exploration, students truly understand and master basic knowledge and skills, develop their thinking, and gain extensive experience in learning activities.

Left-behind children are one of the main components of rural primary school students in my country and one of the difficulties in rural teaching. We should strengthen the education and management of left-behind children from the following aspects: (1) Increase the ratio of boarding schools, especially in areas with many left-behind children, where schools and teachers are responsible for the life and learning of left-behind children. (2) The school regularly communicates with the parents of students about their children's education issues, so that parents can fully participate in the education of left-behind children. (3) Organize left-behind children in rural areas to go out for more walks, broaden their horizons, and realize the value of knowledge and the importance of learning. (4) The curriculum should focus on the combination of knowledge and practice, and stimulate students' curiosity and curiosity through interesting game stories, surprising phenomenon explanations, and wonderful scientific discoveries.

7.3. Prepare courses meticulously, arrange homework reasonably, and conduct comprehensive course evaluation

Careful lesson preparation is the premise of an excellent classroom and determines the quality of the curriculum. Teachers should actively create a good learning atmosphere when preparing lessons, pay attention to communication with students and give students a certain space for thinking, pay attention to the skills of teaching lessons in the classroom, and introduce new knowledge with interesting things or life practice as the starting point, so as to turn students' attention into the exploration of new knowledge. At the same time, the functions of the teaching and research group should be actively used in the preparation of lessons. Through the form of collective lesson preparation, brainstorming and exchange of ideas, in lesson preparation, class and after-class reflection and discussion, improve the overall teaching ability.

Homework is a learning activity that students carry out independently in extracurricular time. It is a necessary supplement to classroom teaching and plays an important role in consolidating the learning of new knowledge. In the setting of homework, we should strive to be less and more precise, closely focus on the weak and error-prone points of students, and avoid "the sea of questions". At the same time, teachers should design interesting homework according to the interests and hobbies of rural students and innovate the form of homework, so that students can generate spontaneous motivation to do homework, so that each homework can achieve the proper training and guiding significance.

In terms of the last part of teaching, curriculum evaluation, the reform points out that the evaluation should cover the level of students' learning, and their emotions and attitudes shown in learning activities to help them understand themselves and build confidence. Appropriate evaluation is conducive to emotional communication between teachers and students, stimulating students' interest and motivation in learning, and showing them their learning progress, which is of great significance for boosting students' learning and future development.

7.4. Improve teaching facilities and make the most of existing resources

Teaching facilities connects teachers' teaching and students' learning. Following improvements are suggested in view of insufficient teaching facilities in rural primary schools: (1) The government and the public should invest more energy and funds in rural schools to upgrade the basic teaching equipment and materials urgently needed by rural schools, and even apply modern information technology to improve teaching efficiency. (2) Enhance the cooperation between rural and urban schools. Outdated or surplus equipment and materials of urban schools should be gifted to support rural schools. (3) Rural schools should share teaching equipment, materials and experience, thus to maximize the use of all kinds of teaching resources.

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