

Exploration of Mathematics Culture and Stimulation of Ethnic Students' Interest in Learning Mathematics

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Abstracts: The interest, attitude, habit and ability of ethnic students in primary and secondary schools in Western China are not optimistic. In the mathematics classroom teaching of primary and secondary schools, appropriate infiltration of relevant mathematical cultural knowledge can enhance students' self-confidence in learning mathematics, and stimulate students' interest in mathematics learning, in order to promote students to understand and master mathematical knowledge and its ideological methods, and produce correct views on Mathematics and mathematics learning, which can promote the improvement of students' mathematical achievements and the development of teachers themselves. The western region has many ancient cities, small border villages, classical culture, human geography, overview of natural scenery, unspoiled ecological environment, legends, wind washing dust, weddings and funerals, etc., all these are materials that can be used for mathematics classroom teaching in primary and secondary schools, which are of great educational significance to students' mathematics development. According to the requirements of mathematics curriculum standards, primary and secondary school mathematics teachers should fully explore the rich and colorful traditional mathematics culture curriculum material resources in ethnic minority areas, reorganize the content of national general mathematics teaching materials, and design classroom teaching, as well as compile teaching plans for primary and secondary school mathematics classroom teaching according to the reality of students in the western region. It can improve the mathematics learning achievement of ethnic students in primary and secondary schools in the western region, so as to improve the quality of science teaching in the western region.

Keywords: Explore Mathematical Culture; Ethnic Areas; Mathematics Learning; Interest Stimulation

1. Research background and significance

Good mathematics learning achievement is the prerequisite for improving science teaching achievement. The minority students in primary and secondary schools in Western China are not optimistic about their interest, learning attitude, learning habits and mathematical ability. Only relying on the teaching of mathematical knowledge cannot improve the performance of mathematical teaching. Only the thinking methods, spirit, viewpoints, mathematicians and their stories, mathematical history, mathematical interesting problems, mathematical beauty, mathematical education, humanistic elements in mathematical development, the relationship between mathematics and society, mathematics and economy. The connection between mathematics and various cultures and other mathematical cultural knowledge are penetrated into primary and secondary school mathematics textbooks, compile teaching plans and carry out mathematics

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teaching, students can better understand mathematics knowledge, understand mathematics and love learning mathematics. Proper infiltration of relevant mathematical cultural knowledge in mathematics classroom teaching in primary and secondary schools can enhance students' self-confidence in learning mathematics, stimulate their interest in mathematics learning, and promote them to understand and master mathematical knowledge and their ideological methods, so as to produce correct views on Mathematics and mathematics learning, which can not only promote students' mathematics performance, but also conducive to teachers' own development. In the process of understanding mathematicians and their stories, mathematical history, interesting mathematical problems and mathematical beauty, students not only learn mathematical knowledge, but also understand mathematical ideas, methods, spirit and views, so as to cultivate students' ability to find problems, put forward problems, analyze problems and solve problems. Therefore, the research on exploring mathematics culture and stimulating ethnic students' interest in mathematics learning has important theoretical significance and practical value for improving the science teaching achievements of ethnic students in Western China.

2. Ethnic areas have rich and colorful traditional national mathematics culture

The western region has many ancient cities, small border villages, classical culture, human geography, overview of natural scenery, unspoiled ecological environment, legends, wind washing dust, weddings and funerals, etc., all these are materials that can be used for mathematics classroom teaching in primary and secondary schools, which have important educational significance for students' mathematics development.

3. Ways to infiltrate relevant mathematical cultural knowledge into mathematics classroom teaching in primary and secondary schools

According to the requirements of the mathematics curriculum standards formulated by the state, teachers should fully explore the rich and colorful traditional mathematics culture curriculum material resources in ethnic minority areas, reorganize the content of national general mathematics teaching materials, and design classroom teaching, as well as prepare teaching plans for mathematics classroom teaching in primary and secondary schools according to the reality of students in the western region. It can improve the mathematics learning achievement of ethnic students in primary and secondary schools in the western region, so as to improve the quality of science teaching in the western region.

We should carefully study the concept and spirit of mathematics curriculum standards in primary and secondary schools, deeply understand the contents of mathematics textbooks in primary and secondary schools, and master the solution methods of all exercises in mathematics textbooks after class, in order to figure out what to teach? Why? How to teach. Mathematics curriculum standard is the action guide for primary and secondary school mathematics teachers to carry out classroom teaching, the first-hand programmatic material for teachers to implement mathematics curriculum, and the most basic basis for primary and secondary school mathematics teachers to carry out mathematics teaching. Therefore, primary and secondary school mathematics teachers should first understand the basic concepts of their mathematics courses, memorize the contents of primary and secondary school mathematics textbooks, and understand what level this class should reach and how to evaluate learning. Only in this way can we truly understand the concept of mathematics curriculum and lay a good foundation for compiling mathematics teaching plan.

3.1 Teachers should conduct social surveys

By showing students interesting mathematical stories and interesting mathematical problems, we can stimulate students' interest in mathematics learning. Therefore, primary and secondary school mathematics teachers must go to the social life around students to conduct on-the-spot investigation and find available mathematics teaching materials. The western region has many ancient cities, small border villages, classical culture, human geography, overview of natural scenery, unspoiled ecological environment, legends, wind washing dust, weddings and funerals, etc. "Mathematics teaching should be as close to students' real and social life as possible. Our mathematics teaching should be as close to students' real and social life as possible, reflect that mathematics comes from life and is used in life, and make mathematics teaching full of vitality, so as to stimulate students' enthusiasm and initiative in learning mathematics." If primary and secondary school mathematics teachers start from the students' most familiar daily life and practical problems inside and outside the campus, they can not only make students perceive the close relationship between mathematics knowledge and the real world, but also attract students' attention and arouse students' interest in learning mathematics knowledge.

3.2 Primary and secondary school mathematics teachers should understand the differences of students' mathematics level

Mathematics teachers should deeply understand the life reality of Western students. First of all, understand the ideological reality and mathematical level of Western students. The difference between students' ideological status and mathematical level determines students' attitude towards mathematics learning. Therefore, mathematics teachers must go deep into their classes to understand the differences in students' ideological status and mathematics level. This is helpful for teachers to accurately judge the difficulties that students will encounter when learning new mathematical knowledge. Finally, mathematics teachers should understand the psychological development and personality characteristics of the students in their classes. Only by understanding the psychological development and personality characteristics of students' mathematics learning and mastering the differences of students' mathematics learning level, can we design an effective mathematics teaching scheme.

3.3 Reorganizing the mathematics teaching materials and designing a new mathematics teaching plan

According to the requirements of mathematics curriculum standards, primary and secondary school mathematics teachers should make use of the rich and colorful traditional mathematics culture curriculum resources in the western region, reorganize the contents of mathematics teaching materials and adjust the difficulty of mathematics curriculum according to the differences of students' ideological status and mathematics learning level in the western region, in order to process and design a new mathematics teaching plan for mathematics classroom teaching and let students feel that there is mathematics everywhere in life and life everywhere in mathematics. Mathematics teaching is a beautiful class.

4. Some suggestions

We should fully explore the rich and colorful teaching resources of traditional culture mathematics courses in ethnic minority areas, and strive to compile mathematics teaching plans for teaching. It can improve the mathematics learning achievement of ethnic students in primary and secondary schools in the western region, so as to improve the quality of science teaching in the western region. It puts forward higher requirements for mathematics teachers in primary and secondary schools in Western China; And it is also a good opportunity for students with mathematics learning difficulties in the western region to improve their mathematics learning achievements, and the quality of science teaching in the western region.

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