

Prospect of Mathematics Education Reform in China under the Background of Blockchain Technology

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Abstract: With the continuous progress of science and technology and the continuous development of the times, the teaching mode of mathematics is constantly changing, and the progress is in line with the development of the times. Because the information age has come, many teaching techniques closely related to the Internet have been put forward, in the process of mathematics education reform, the use of these techniques can be very effective to improve the teaching effect. Block chain technology is a typical representative. With the increasing maturity of block chain technology, it has played an important role in the reform of mathematics education in China. Modern teaching means and teaching mode are inseparable from block chain technology. China is also constantly pursuing quality education, that is, to improve the students' comprehensive literacy, such a process is naturally inseparable from the support of modern blockchain technology. Under the environment of advanced technology such as block chain, the core of mathematics education reform is to help students change the traditional mathematics learning mode, help students adapt to the new era of mathematics learning mode, so that students' mathematics core literacy can be effectively improved.

1. Introduction

The study of mathematics can be said to be accompanied by the whole study career of students. This means that the education mode and teaching mode of mathematics play a decisive role. The study of mathematics not only stays in helping students to improve their professional quality in mathematics, but also needs to help students to establish good thinking habits and learning patterns in the process of learning mathematics, so that students can build good thinking patterns in the process of long-term mathematics, that is, the core accomplishment we often say. The precision service of block chain technology can effectively reform mathematics education, so that students can get accurate information help in the process of mathematics learning, which is a powerful measure of the reform of mathematics education mode, because under the requirements of the new curriculum, students need to pay attention to the common development of many angles in the process of mathematics learning. Improve the students in the traditional mathematics learning deficiencies, so that students have a deeper understanding and understanding of mathematics[1].

2. Brief Concept of Blockchain Technology

Now blockchain technology is widely mentioned at all levels, and now with the arrival of information and socialization of technology, it has also been widely used in the reform of mathematics education in China. Many people don't know much about the emerging blockchain technology, so let's briefly talk about the popular blockchain technology. blockchain is a term in the field of information technology. In essence, it is a shared database, stored in the data or information, with the characteristics of "non-forgery", "full mark", "traceability", "open and transparent", "collective maintenance" and so on. Based on these features, blockchain technology has laid a solid "trust" foundation, created a reliable "cooperative" mechanism, and has a broad application prospect

(see figure 1 below). From the scientific and technological level, the block chain involves many scientific and technological problems, such as mathematics, cryptography, the Internet and computer programming. From the perspective of application, simply put, block chain is a distributed shared account book and database, which has the characteristics of decentralization, non-tampering, whole process indentation, traceability, collective maintenance, openness and transparency. These characteristics guarantee the "honesty" and "transparency" of the block chain, and lay the foundation for the block chain to create trust. And the rich application scenarios of block chain are basically based on block chain can solve the problem of information asymmetry and realize the cooperative trust and concerted action between multiple subjects. This is a macro concept of blockchain technology, and the mathematical education reform field of blockchain technology is to take advantage of the characteristics of blockchain technology, play the advantages of blockchain technology, help teachers and students in mathematics teaching and learning process to play a better role. This is the concept of blockchain technology in the reform of mathematics education in China[2].

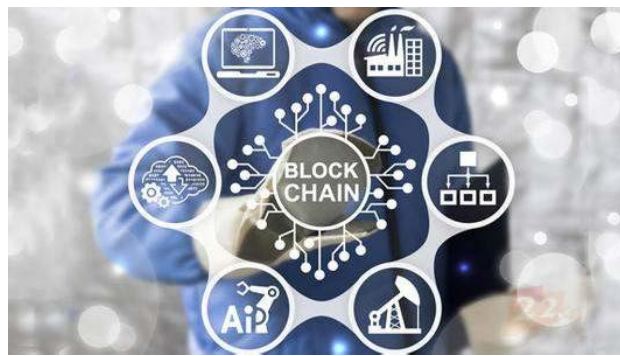


Figure 1 Block chain technology

3. Concrete Way of Mathematics Education Reform in China Under the Background of Blockchain Technology

This paper gives a brief analysis of what blockchain technology is widely used and how the reform of mathematics education in China is combined with blockchain technology:

3.1. Improved Learning Hardware Facilities for Students Using Blockchain Information Technology

This is an information age, computer and network technology rapid development. The current education deepening reform is also continuing, which means that the current mathematics teaching needs and information technology in our country are closely combined, which has gradually become a new teaching trend. Using good blockchain technology can integrate information technology perfectly with mathematics and diversify the traditional single mathematics teaching mode. Can also provide more help for teachers, so that the overall strength of teachers have been promoted, over time, our mathematics teaching model and teaching system has been changed imperceptibly. The most obvious is that the teaching model is no longer as boring and tedious as the traditional classroom model, the whole mathematics education system has become more vivid image, but also improve the quality of mathematics teaching and teaching efficiency, which is also very suitable for the requirements of quality education. Specifically, in the course of teaching mathematics, when teachers explain some of the more difficult or abstract concepts, teachers can no longer use monotonous narration to explain to students, but can make good use of block chain technology to provide students with better learning conditions, teachers can make good use of a lot of media technology in the teaching process, so that students can understand these knowledge points more clearly and clearly. Because the most difficult part in the traditional mathematics teaching mode is some more abstract and difficult points, but with the maturity of blockchain technology, teachers have more effective means to facilitate students, further highlight the key

points and difficulties of teaching, and transform some difficult parts into vivid elements. Students' learning and motivation will also improve, because blockchain technology can simplify students' unnecessary learning process. For example, students may need to make manual excerpts in the past, which may waste students' study time and greatly affect their efficiency, but the maturity of blockchain technology can help students save a lot of time and energy in this link. "Internet Price + Education "(Figure 2), which is often referred to as" Internet Price Education ", is based on the continuous development of blockchain technology[3].



Figure 2 Internet + campus

3.2. Full Access to Students' Learning and Development of Timely Teaching Strategies

In the process of mathematics teaching, one of the most needed links is "feedback ". The feedback refers to the learning situation of the students that teachers need to know in time. Such a process is convenient for teachers to adjust their teaching methods and teaching progress in time. Before blockchain technology matures, such a feedback is often not timely, because teachers do not have more effective measures to understand students' learning situation except asking questions in class, and after-school assignments and exams make it difficult for students to give timely feedback in class. In the course of teaching, teachers can understand the students' learning dynamics in time, so that the students' problems can be solved in time in the classroom, and teachers can adjust the teaching policy according to the students' actual situation, which is that blockchain technology plays a vital role in the current mathematics education reform, can play the role of metronome in the overall mathematics education reform, and provide an inexhaustible power for the education reform.[4].

3.3. Better Integration of Home and School Using Blockchain Technology

With the deepening of our understanding of education, we gradually understand that education is a complex process, which requires the joint efforts of teachers, students and parents. The concept of "home-school integration "(Fig .3) has been paid more attention to by more people. The unity of home and school in the past may be a formalistic slogan, because it is difficult to establish effective contact between school and parents without sufficient technology or awareness, which leads to the difficult situation of teachers in the absence of students, and the performance of students in school, parents can not fully understand. This is a very difficult problem, because the situation of students is crucial to the development of learning activities, if the performance of students at home and school is not the same, it means that their mathematics learning is inefficient, proving that there are problems in students' learning thinking and learning attitude, such problems need to be solved by the continuous upgrading of home-school integration. Now the maturity of block chain technology, for home and school to build a peer-to-peer bridge, the situation of students can be timely

understood by school teachers and parents, in such a situation, teachers and parents can better play a supervisory role, Students' math learning efficiency can be improved, can slowly develop good math learning habits.



Figure 3 Integration of home and school

4. Concluding Remarks

With the continuous improvement of science and technology level and information level in China, the reform of mathematics education in China is also deepening. The continuous improvement of blockchain technology can greatly help our country's mathematics teaching reform, in many ways to provide convenience and help for our country's mathematics teaching, for students and teachers to build more practical platform, make the whole teaching process more efficient and practical, and promote the continuous improvement of mathematics education reform in our country.

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