Region-Educational Research and Reviews, 2024,Volume 6, Issue 6
DOI:10.12238/rerr.v6i6.2239
ISSN Online:2661-4634
ISSN Print:2661-4626

Strategies for Teaching Large Units of Middle School Mathematics in the Context of Deep Learning

Bin Li

Wuhan YouYi Road middle school, Hubei Wuhan 430000

Abstract: In the context of the implementation of the new curriculum reform, the majority of junior high school mathematics teachers are constantly exploring new teaching methods in order to better promote the development of junior high school mathematics education. In secondary school mathematics teaching, it is necessary to pay attention to the students' main position, enrich the teaching content, develop students' mathematical skills, cultivate students' comprehensive ability, and broaden the field of mathematics learning. Large-unit teaching breaks the traditional way of teaching, uses the integrated teaching method, makes the knowledge of each chapter interconnected, and cultivates students' ability to comprehensively use mathematical knowledge. Based on this, the article analyzes the current characteristics of large-unit teaching in junior high school mathematics and discusses how to apply large-unit teaching in the mathematics classroom under the background of deep learning,Together for the majority of teachers and all walks of life to provide reference.

Keywords: deep learning, middle school math, large unit instruction

Introduction

In a deep learning environment, teachers should not only explain to students to ensure that they can master mathematical skills, but also teach students how to learn, in the teaching of mathematics, clarify the relationship between teaching and learning in teaching, broaden students' thinking, and cultivate students' mathematical logic ability, so that students can actively learn mathematics and explore on their own. Through the design of problem situations and related teaching activities, students are guided to carry out comprehensive inquiry thinking in the situation, and in the teaching structure of the unit, mathematical knowledge is highly integrated to ensure that students can make sense of the logical relationships in the structure of mathematical knowledge, so as to achieve valuable and meaningful in-depth learning, and to enhance students' mathematical skills and mathematical ability.

1. Characteristics of large-unit teaching of junior high school mathematics in the context of deep learning

1.1 Comparison

Comparisons in large units of instruction are characterized by analogical thinking and comparative analysis. The use of analogical thinking and comparative analysis is emphasized in the study of mathematics. In the learning process, mathematical thinking is important for students to master the same but inconsistent mathematical knowledge and situations.

Copyright © 2024 by author(s) and Frontier Scientific Research Publishing Inc.
This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).
http://creativecommons.org/licenses/by/4.0/

This creates a comparative characterization of the larger unit. In order for students to better understand the key points and difficulties of the unit, comparisons are targeted in the classroom. Let students take the initiative to analyze the similarities and differences of various mathematical knowledge and concepts, so that they can experience the whole process of discovering, analyzing, organizing and refining mathematical knowledge, and thus have a clearer understanding of the nature of mathematics. In a large unit of instruction, the basic laws of mathematical learning are summarized, as well as efficient ways of learning and putting into practice what has been learned[1].

1.2 Integration

Holistic nature is the distinguishing feature of large units in middle school mathematics. In large-unit teaching, the teacher organizes and integrates the main knowledge points of the unit, extracts the different course topics of the unit, and then integrates the knowledge learned before with the knowledge to be learned later to ensure that the course content has a clear internal logical relationship with the knowledge points at a certain level. In large-unit teaching, wholeness is its distinctive feature. The holistic nature of large-unit teaching refers to the combination of content and purpose. In the teaching process, the teaching activities constructed by teachers are mainly expressed in the mastery of mathematical knowledge and skills, the process and method of mathematical learning, and mathematical emotions and attitudes, which are precisely the core competencies of mathematics. In formulating the teaching strategy of a large unit, teachers should have a comprehensive understanding of the content of the unit textbook, conduct a thorough analysis of the teaching strategy and curriculum standards, then combine it with the current situation of the students, formulate appropriate teaching objectives, analyze the most critical and difficult problems in the classroom, distill the main tasks of the unit lesson, and carry out the corresponding subtasks in each lesson time. Designing a large-unit teaching approach from a holistic viewpoint gives students a comprehensive view of learning and helps them learn deeply in the overall program[2].

2. Strategies for teaching large units of junior high school mathematics in the context of deep learning

2.1 Carrying out in-depth learning, highlighting students' subjectivity

In the current middle school math teaching, teachers should pay attention to student-oriented teaching activities. Being a good guide and leader of the classroom, students can enter into the state of deep learning together. In this case, the interaction between teachers and students is particularly important. In the classroom, teachers can create suitable problem scenarios or unit lesson scenarios for students, bring them to the scenario, after the interest in the teaching content of the unit, the teacher also needs to design suitable interactive activities for students, so as to receive twice the result with half the effort. On the basis of focusing on teacher-student interaction, focusing on the interaction between students, guiding students to study on their own, establishing the knowledge structure of mathematics, so that students can better understand the teaching content of the unit, thus allowing students to improve their overall learning ability, and at the same time, focusing on the autonomy of the students in learning, and more on letting students take the initiative to study and think, and internalizing the knowledge as a basis to help students to build a knowledge system. In addition, when teaching a unit, it is necessary to try to combine the existing knowledge structure with the learned knowledge points and focus on the structure of knowledge. From the point of view of deep learning, teachers should guide students to effectively integrate their previous learning experiences with their knowledge, so as to build a complete and systematic mathematical knowledge system[3].

2.2 Optimizing unit review and improving structured evaluation

In the process of teaching large units of middle school mathematics, teachers should evaluate the teaching and review the students in order to make them better consolidate what they have learned, so as to achieve better teaching results. Most of the students will have a deep impression of what they have learned. Students' failure to review and consolidate what they have learned in a timely manner after the examination will inevitably have an adverse effect on their learning. In the

process of internalizing, transferring and applying the knowledge points, it is necessary to review the knowledge points in a systematic way in order to have a deeper understanding of the knowledge points and to really master the knowledge and skills. Therefore, teachers should review students structurally for the overall characteristics of the unit, so that students can go deeper into the center of knowledge and consolidate the mastery of knowledge. Transform superficial learning into deep learning. Provide students with appropriate situational inquiry and application assignments so that they can solve problems in context. Turn what they have learned into competencies by consistently applying the knowledge points and reviewing the unit with a deep understanding perspective[4].

2.3 Developing module objectives and complete module pre-assessments

From the viewpoint of deep learning, a new "big unit" teaching mode has been proposed. At the initial stage of mathematics teaching, teachers should conduct a comprehensive analysis of the knowledge structure and individual content of mathematics textbooks, extract them, then formulate unit teaching objectives and then conduct unit evaluation, so as to better adapt to the actual learning situation of students.

In the large-unit teaching model of deep learning, teachers should always take students as the main focus. At this stage, students show different individual characteristics in unit learning due to their previous learning experiences, life experiences and learning abilities. When students receive new knowledge, they tend to form a more original point of view based on their previous learning experiences, and from this they form a preliminary understanding of the knowledge structure of the unit. In classroom teaching, teachers should design teaching activities according to students' existing level of mathematical knowledge. From the perspective of deep learning, the teaching and learning activities of the whole unit will be assessed and appropriate teaching and learning activities will be predetermined, so as to ensure that the teaching and learning content meets the developmental needs of students. Teachers will use interviews and assessments to anticipate student behavior and responses in the classroom. On this basis, through case studies and other teaching strategies, the teacher will grasp students' knowledge of the content of the unit, and then design suitable and diversified teaching strategies for the students and make timely adjustments in the classroom. Large-unit teaching should be based on the development of students' abilities and combined with classroom practice to ensure its effectiveness[5].

3. Conclusion

To sum up, under the new concept of quality education, teachers should make appropriate application of large-unit teaching, focusing on in-depth learning, guiding students from structured unit learning to a deep learning state, gradually exploring mathematical knowledge, reinforcing the intrinsic connection of each knowledge point, and allowing students to construct a complete and systematic mathematical knowledge structure, so as to make the students' mathematical literacy and ability be further Enhancement. Under the clear objectives of unit teaching, teachers should improve the quality of unit teaching and evaluation, put students in the first place, implement in-depth learning in the process of unit teaching, and guide students to review and evaluate the structure of the unit, so as to make junior middle school mathematics really give full play to its core values in the process of in-depth learning.

Conflicts of interest

The author declares no conflicts of interest regarding the publication of this paper.

References

[1] Zhang Huanhuan. The exploration of mathematics teaching strategies in junior middle school under the concept of deep learning —— takes the teaching design of "axial symmetry and coordinate change" as an example [J]. Mathematics Learning and Research. 2023; (05): 71-73.

[2] Chen Jinming. On on deep learning strategies in junior middle school [J]. Math Learning and Research. 2022; (25): 32-34.

[3] Wang Dongsong. Based on Classroom Teaching Practice, Implementing Regional Integral Advancement Strategies - Exploring the Integral Teaching Design of Middle School Mathematics Units Based on Deep Learning[J]. Middle School

Mathematics. 2022; (04): 68-69.

[4] He Zhimian. The five bases of mathematics unit design--Taking the unit teaching design of "quadratic equations" as an example[J]. Fujian Education. 2021; (28): 38-39.

[5] Fan Shengna. Design and Practice of Unit Theme Assignment in Junior Middle School Mathematics under Deep Learning Theory--Taking "The Maximum Value of Line Segment" as an Example[J]. Journal of Fujian Institute of Education. 2021; 22(06): 25-26.