

Heuristic Method Of Teaching Mathematics

अनुसन्धान विधि

pedagogy of mathematics

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Meaning and Definition of Heuristic Method

अनुसन्धान विधि का अर्थ एवं परिभाषा

The word 'Heuristic' has been derived from the Greek word 'Heurisco' which means 'I find' or 'I discover'. This method implies that the attitude of students shall be that of the discoveries and not of passive recipients of knowledge.

Armstrong originally introduced this method for learning of science. This method emphasis experimentation as the teacher becomes on looker and the child tries to move a head independently without any help. This method makes the student self-reliant and independent.

But the teacher should develop the heuristic attitude by making a lot of preparation. The question should be so planned that it may be possible for the students to find the solution independently by proceeding in the proper direction.

DEFINITION

परिभाषा

According to H.E.Armstrong,

“This is the method of teaching which places the pupils as far as possible in the attitude of a discoverer.”

According to westaway,

“the heuristic method is intended to provide training in method. Knowledge is a secondary consideration altogether.

PROCEDURE | प्रक्रिया:

This method requires the student to solve problems experimentally. Each student is required to discover everything himself and is to be told nothing. The students are led to discover facts with the help of experiments, apparatus and books. In this method the children behaves like a research scholar.

In Heuristic method,

- A problem sheet with minimum instruction is given to the student and he is required to perform the experiments concerning the problem in hand.
- He must follow the instruction and enter in his note book.
- He must record everything about his experiment, research, observation, result, and draw conclusion.

उदाहरण \ Example : Prove that $a^0 = 1$

Teacher : what is $10/5$?
Student : 2
Teacher : what is $5/5$?
Student : 1
Teacher : what is $7/7$?
Student : 1
Teacher : what is a/a ?
Student : 1
Teacher : what is a^m/a^m ?
Student : 1. **Equation I**
Teacher : how do you get the result?
Student : if we divide a number by itself , we will get 1.
Teacher : how can you write $a^m \times 1/a^m$?
Student : $a^{m-m} = a^0$ **Equation II**
Teacher : what do you infer?
Student : $a^0 = 1$

Merits of heuristic method

अनुसन्धान विधि के गुण

- This is a psychological method as the student learns by self-practice.
- It creates clear understanding
- It is a meaningful learning
- The student learns by doing so there is a little scope of forgetting
- It develops self-confidence, self-discipline in the students

- The students acquire command of the subject. He has clear understand and notions of the subject.
- It gives the student a sense of confidence and achievement.
- The methods make them exact and bring them closer to truth.
- It inculcates in the student the interest for the subject and also develops willingness in them.

Demerits of Heuristic Method

अनुसन्धान विधि की सीमाएँ

- It is not suitable for lower classes as they are not independent thinkers.
- Discovery of a thing needs hard work, patience, concentration, reasoning and thinking powers and creative abilities.
- It is very slow method. That is time consuming method.
- It is lengthy.
- The students have to spend a lot of time to find out minor results.
- The teacher may find it difficult to finish the syllabus in time.

- It does not suit larger classes.
- It suits only hard working and original thinking teachers.
- A method is successful if well-equipped libraries, laboratories and good textbook written in heuristic lines but such facilities are lacking in our school.

Conclusion \ निष्कर्ष

Heuristic method is not quite suitable for primary classes. However, this method can be given a trail in high and higher secondary classes. At school, each topic cannot be taught in this method. But teachers can at least do two to four topics in a year to develop Heuristic attitudes of children.
