

**METHODS OF
TEACHING PRIMARY SCHOOL
SCIENCE**

DISCOVERY METHOD

Outline

- What is the Discovery Method?
- Steps in the Discovery Method
- Role of the Teacher
- Role of the Student
- Advantages
- Disadvantages

What is the Discovery Method?

- Discovery is a teaching method which enables students/learners to find out answers to problems by themselves.
- In discovery students are involved in learning how to learn.
- Discovery-learning is the learning that takes place when students are not presented with subject matter in its final form but rather are required to organize it themselves.

What is the Discovery Method?

- **Pure discovery** is where pupils find out answers or facts for themselves based on a problem or something that already existed but was not known.
- **Directed discovery** is where the teacher generally creates the conditions under which the pupils will discover for themselves that which someone else has previously discovered.

Steps in the Discovery Method

There are five steps/phases of the discovery-learning method.

1. Identification of the problem. In the first step, spontaneous guesses are made which might or might not lead to the choice of the appropriate problem or topic.
2. The second step entails the location and the definition of the problem through a systematic and rational perusal of the problem isolated. This is the stage where the student begins to understand the various aspects of the problem.

Steps in the Discovery Method

3. In the third step of the process, the student formulates a working hypothesis which leads to gathering further information. The working hypothesis serves as a model that guides the student towards the resolution of the problem.
4. In the fourth step, the student engages in critical thinking which helps him to forge relationships between ideas.
5. In the fifth and final step the student embarks upon experimentation and direct observation which ultimately help him to accept or reject the hypothesis which he has formulated.

Role of the Teacher

- Creates the necessary conditions for the learning to be successful.
- Ensures that the learners understand the problem.
- Supervises carefully to prevent chaos.
- Act as a co-learner
- Serves as a facilitator, a catalyst and not a purveyor of knowledge.
- Sees to it that resources and materials are available to facilitate the resolution or the problem.
- Encourages students through the use of questions to look for related issues, state hypothesis and clarifies the hypothesis.

Role of the Student

- Identify a problem.
- Analyze the problem.
- Find alternative solutions to the problem.
- Participate in a general discussion with the teacher.
- Communicate among group members and their teacher

Advantages

- Since the learners actively discover the information and knowledge, retention will be increased.
- Discovery helps the learner to learn how to follow leads and clues and record findings.
- When learners discover knowledge for themselves they are motivated.
- Learners develop attitudes and skills essential for self-directed learning.

Advantages

- Offers the learners the opportunity to master the art of problem solving.
- Makes what the students learn more of his own and part of him.
- Offers the student an insight into the fact that real knowledge is the product of inquiry.
- The methods to increase the self-confidence of the student. And this, in turn, makes him rely on his own intellectual capacities to learn.

Disadvantages

- Permitting the students to discover knowledge on their own is time-consuming.
- Learners may/often get stuck or lose direction before the problem is solved.
- Learners may/often discover things other than what was intended to be discovered.
- Learners usually may not be able to discover anything significant.

Disadvantages

- The method is very costly in terms of the amount and variety of material and equipment needed to operationalize it effectively.
- In some instances, the student get confused since the method does not make for an organized and exact statement of what is to be learned.