Teaching Methods and Strategies: Problem Solving Method

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PROBLEM SOLVING METHOD OF TEACHING

The problem-solving method is a **highly effective teaching strategy** that is designed to help students **develop critical thinking skills and problem-solving abilities.**

It involves providing students with **real-world problems and challenges** that require them **to apply their knowledge, skills, and creativity to find solutions**.

- This method encourages active learning, promotes collaboration, and allows students to take ownership of their learning.
- Problem-solving is a process of identifying, analyzing, and resolving problems.

Definitions of Problem Solving Method

(i) According to Skinner, "Problem solving is the process of overcoming difficulties that hinder the achievement of a goal."

(ii) According to John Dewey, "Problem solving is woven into the fabric of logical thinking. The problem determines the goal and the goal controls the thinking process."

What Skills Do You Use In Problem Solving?

➢Planning

Critical thinking skills

➢Analytical skills

Collecting information

Decision making

PURPOSE OF PROBLEM SOLVING METHOD

- \checkmark Train the students in the act of reasoning.
- \checkmark Gain and improve the knowledge
- ✓• Solve puzzling question
- ✓• Overcome the obstacles in the attainment of objectives.

STEPS OF PROBLEM SOLVING

> Following are the steps in this method: if problem is very simple.

- \checkmark Creating a problem.
- \checkmark Explain the importance of the problem.
- ✓ Organization and compilation of necessary facts.
- \checkmark Evaluation of facts.

STEPS OF PROBLEM SOLVING

- Following are the steps in this method:
 - \checkmark (i) Selection of problem.
 - (ii) Presentation of problem.
 - ✓ (iii) Gathering of data.
 - \checkmark (iv) Formulation of hypothesis.
 - \checkmark (v) Arriving at solution and conclusion.
 - \checkmark (vi) Evaluation.
 - \checkmark (vii) Recording of activities.

Steps in Problem-Solving Method

The problem-solving method involves several steps that teachers can use to guide their students. These steps include

- **Identifying the problem:** The first step in problem-solving is identifying the problem that needs to be solved. Teachers can present students with a real-world problem or challenge that requires critical thinking and collaboration.
 - Analyzing the problem: Once the problem is identified, students should analyze it to determine its scope and underlying causes.
- **Generating solutions:** After analyzing the problem, students should generate possible solutions. This step requires creativity and critical thinking.
- **Evaluating solutions:** The next step is to evaluate each solution based on its effectiveness and practicality
- Selecting the best solution: The final step is to select the best solution and implement it.



FEATURES OF THE PROBLEM/ CRITERIA FOR PROBLEM SELECTION

- The problem should be **meaningful**, **interesting**, and **worthwhile** for children.
- 2. It should have some **correlation with life.**
- 3. It should have some **correlation with other subjects** if possible.
- 4. It should **arise out of the real needs** of the students.
- 5. The problem **should be clearly defined**.
- 6. The solution of problem should be found out by the student themselves working under the guidance and supervision of the teacher.
- 7. The problem **should be intellectually challenging** to children..
- 8. The problem **should not be entirely unfamiliar** to the learners
- 9. The problem should be related to their previous experience.
- 10. The problem **should have practical relevance**.
- 11. The problem **should have the potential to create interest** among in the specific problem in particular and problem solving in general.

TEACHER ROLE IN PROBLEM SOLVING

Help the students to define the problem clearly.

Got them to make many suggestions by encouraging them:

✓ **To analyse** the situation in parts.

✓ **To recall previously** known **similar cases** and **general rules** that apply

✓ To guess **courageously** and formulate guesses **clearly**.

Get them to evaluate each suggestion carefully by encouraging them:

✓ To maintain a state of doubt or suspended conclusion.

✓ **To criticize the suggestion** by appeal to know facts minister and experiment Get them to organize the material by proceeding:

 \checkmark To build an outline on the board To use diagrams and graphs

✓ To formulate concise statement of the **net out -come of discussion**.

Merits

- 1. It serves as a **preparation for adult life**.
- 2. It develops the power of critical thinking.
- 3. It makes pupil active recipient of knowledge.
- 4. It develops values of tolerance and open mindedness.
- 5. It helps for the easy assimilation of knowledge.
- 6. It is a general procedure in **finding solutions to daily occurrences** that urgently need to be addressed.
- 7. The students become appreciative and grateful for the achievement of scientists.
- 8. Critical thinking, open-mindedness and wise judgment are among scientific attitudes and values inculcated through competence in the scientific method.
- 9. The students learn to accept the opinions and evidence shared by others.

Demerits

- 1. This method will become **monotonous if used to frequently**.
- 2. The problem solving method can easily lead to the selection of trivial and untimely topics.
- 3. This is appropriate for developing cognitive competencies, but not for bringing about affective changes.
- 4. Generally speaking problem solving involves **mental activity only**.
- **5. Small children do not posses sufficient background information** & therefore they fail to participation in discussion.
- 6. Students may not have adequate reference and sources books.
- 7. It need very capable **teacher to provide effective guidance and knowledge** to students.
- 8. It is a **time consuming process**, teacher may find it difficult to complete the syllabus.



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