

# To Identify the Errors on Learning in Respect of Subjects and Suggesting Suitable Remedial Technique

Raghavendra Pudathu  
Lecturer in Pedagogy Mathematics  
MNR Teacher Education College (B.Ed.), Kukatpally, Hyderabad, India

**Abstract** - Remedial teaching and how to finding problem in learning relevant subjects and give feed back to the students as well as teachers .

## 1. Introduction

“Accurate diagnosis of class and individual pupil difficulties, coupled with application of specific remedy, is the heart of enlightened use of exact method of teaching. The success of the remedial or corrective teaching depends upon accuracy and detail with which specific skills involved in successful achievement in the subject are identified and isolated in the test”

--- Greene, Jorgensen and Gerberich.

### 1.1 WHAT IS REMEDIAL TEACHING?

Remedial teaching is the constructive aspect of the entire process of teaching. Through diagnostic tests we can have the idea of common errors which are most frequently committed by the pupil. Our work does not end here. In fact, it is here that the real work begins. The topic in which pupils commit mistakes should be paid more attention to. The topic should be taught and re-taught in different ways so that we can avoid the difficulties of the pupils.

In remedial Teaching the following two points are involved:

- 1) Remedy in the methods of teaching.
- 2) Removal errors through intensive class work.

Remedial teaching, is nothing but the action side of the programme of educational diagnosis.

According to Blair Glen Myres, “Remedial teaching concerned with two types of deficiencies, the presence of bad habits and the absence of good habits”. How to make the programme of remedial Teaching successful?

There are in general two ways of maintaining high level of achievement of pupils in any subject after direct instruction has been discontinued. They are:

- 1) Board, drill with integral units of testing to discover breakdown in pupil mastery,
- 2) Systematic remedial drill devices to right forgetting plus diagnostic testing to discover the exact cause of weakness.

The later is the more economical method of maintaining mastery of desired skills on the part of pupils.

### 1.2 STEPS IN THE PROGRAMME:

- a) Teaching
- b) Reviewing
- c) Testing for weaknesses whenever they appear,
- d) Following with remedial drill units on the special weaknesses revealed by the tests.

The distinction between good content for initial teaching purpose and remedial drill purpose lies in when they are to be used

Necessary for valid drill for each identified skill:

If remedial work is to be effective, drill of established validity must be provided for each specific skill conditions. Drills must closely parallel the skills they are supposed to measure. That drill will be most productive which most nearly provides a complete coverage of the skills of basic importance in the hierarchy of habits

- a) Upon which successful achievement in subject depends
- b) Upon the degree to which this sampling covering the fundamental develop, the skills they purport to develop.

Illustration:

Branch: Mensuration – Mensuration of concrete things.

- a) Area
- b) Volume
- c) Surface Area.

## 2. Objectives of Remedial Programme:

1. To locate the exact spot of trouble with the help of a diagnostic test.
2. To take the remedial measures to eliminate the common errors.
3. To prepare the remedial drill assignments in mensuration to fight forgetting.

- To adopt a new method of teaching.

Procedure:

- Selection of one class for experimentation.
- Diagnostic test to the selected class.
- Study test results with a view to determining specific errors made by children.
- Note particularly the pupils who took much time and observe.
- Calculate the average achievement of the class.
- Teach and review the test for weakness as it appears.
- Follow with remedial drill units on the specific weakness revealed by the test
  - Area.
  - Volume.
  - Surface Area.

Minors and Major points to be touched:

- Areas of Geometrical figures.
- Volume of geometrical figures
- Surface area of Geometrical figures.
  - Concept of Area : A correct approach is necessary in Secondary schools  
Area of any thing is the measurement of the whole of its  
Surface: Convenient shape for the unit of area is a square.  
Exercise to be given:
    - How much space is covered by the book?
    - how much space is left uncovered by the book?
  - Concept of Volume : The volume of a solid is the measurement of the material of which it is made or the space it occupies. Convenient form for the unit of volume is cube.
  - Concept of Surface area : Surface area of any figure means the total area of all the outside surface of any figure.

EXAMPLE: If we cover all the out-side surface of a cylinder with a paper, the paper required for that will represent the surface area of a cylinder.

LEARNING EXPERINCES:

AREA:

- Assessing the number of pieces of wall papers needed for covering the walls of a room.
- Exercises in tiling emphasize the true nature of area.

VOLUME:

- Hot water system is a good example for comparison of volumes of cylinders and tanks.
- Certain substances such as sand for mining cement or gravel for making paths are sold by cubic measures.

SURFACE AREA:

Pointing of solid figure viz., rectangular box, cylindrical tin etc.

After teaching the topic, carefully review should be made:

Sub-topics in which satisfactory progress is not registered:

- Area and circumference of a circle.
- Volume of a cylinder.
- Volume of a cone.
- Surface area of a cylinder
- Surface area of a cone.

To deal effectively with these sub-units, intensive treatment to all these may be given on the lines suggested below:

- Area and circumference of a circle: The teacher should explain the difference between the square measure and linear measure as shown in the figures.

Relation between diameter and circumference,

i.e.,  $C = 2\pi r$  or value of  $\pi$  should be explained by employing inductive method of teaching.

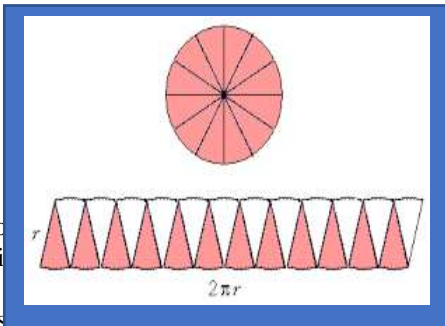
AREA OF CIRCLE:

If the circle is divided into 24 parts and arrange them one below and the other above as shown in figure, a figure of the rectangle can be obtained from the circle.  
Length of rectangle =  $\frac{1}{2}$  circumference of circle.

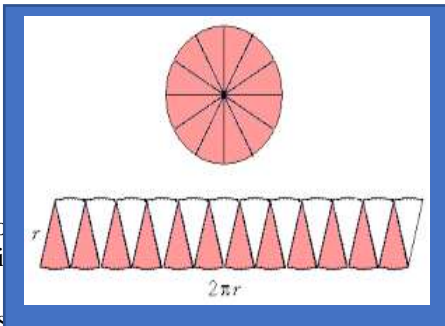
Breadth = Radius of Circle

$$\therefore \text{Area (A)} = \pi r^2$$

VOLUME OF A CYLINDER:

Diagram neatly drawn should be used to explain the concept. In such so g the area of the base by the vertical height. Extending concept, the volume of the cyli

VOLUME OF A CONE:

Take two vessels one a cone and the other cylinder of same base, radius tent in the conical vessel thrice to the cylinder and vessel, is the observed that the cylindrical vessel is full.

$$\therefore \text{Volume of cone} = \frac{1}{3} \pi r^2 h.$$

**SURFACE AREA OF CYLINDER:**

This can be explained by unfolding the curved surface of the cylinder. Then a complete rectangle whose length is the circumference of the circular base of the cylinder & the breadth is the height of the cylinder is formed.

$$\therefore \text{Surface area of a Cylinder} = 2 \pi r h.$$

**SURFACE AREA OF A CONE:**

This also can be explained by unfolding and observing that new figure formed is a sector, the radius of which is the short height of the cone and the length of arc of sector is the circumference of the base of the cone, is surface area of cone =  $\pi r l$ .

$$\text{where } l = \sqrt{(r^2 + h^2)}$$

Everyday one period may be devoted to this work. After teaching all the topics thoroughly, the teacher can give the remedial drill assignments. The work should regular doses of graded and drill assignments also.

**How to plan an assignment:**

1. The teacher should analyse the learning process required in the teaching of the unit and lay down, in precise terms, the objectives for planning the assignment.
2. The type of assignment that suites the learning situation, best, should be selected.
3. The interest of the pupils should be enlisted through proper motivation and a preliminary discussion.
4. The teacher should draw up a specific list of reference and source materials for the performance of an assignment.
5. Departure from routine type of assignment is essential.
6. Activities included in assignment:
  - i. Problem Solving.
  - ii. Field Trips.
  - iii. Construction of useful equipment's
  - iv. Arranging talks by experts.

Remedial teaching is the semiquinone of the efficient and effective teaching of any subject-teacher to be careful while teaching the subject that is in preventive diagnosis.

**List of common errors:**

1. Lacking basic information:
  - a) Excise duty on goods.
  - b) Commission of insurance agent.
  - c) Commit mistakes in finding the different types of taxes to which the particular item is subjected.
  - d) Understanding the basic difference between the different types of shares.
2. Confusion in interpreting the letters used in a formula and commit mistakes in using proper formula.
3. In foreign exchange, they cannot understand as to when a particular currency is at premium or at discount or at par value in comparison with other currency.
4. Commit mistakes in converting one currency into another. Not clear in using the exchange rate in conversion when two exchange rates are given.
5. Commit mistakes in finding the area of a parallelogram when measures of triangle and rectangle are given.
6. Commit mistakes in finding the perimeter of the geometrical figures such as rectangles.
7. Understanding the difference between the linear measure & the square measure.
8. Commit mistakes in finding out the volume of a cube when its surface area is given.

**TEACHING OF RIDERS****Causes of pupil's dislike for riders:**

1. Ignorance of basic properties.
2. Lack of confidence in application of principles
3. Lack of sufficient drill.
4. Abstract and logical nature of riders.

**REMEDIAL MEASURES:**

1. Drawing the diagram accurately
2. Analysis of the steps involved in solving riders.
3. Giving as many proofs as possible.

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