

Semester III

Unit IV

Topic - diagnosis of learning difficulties
in Biological Science

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Diagnosis of learning difficulties in Biological Science:

- In teaching, a problem emerges when students are unable to learn all that teaches in the class.
- Students are of a different type in a class that is they have individual differences.
- Some students of a class are intelligent while some students are of general grade or average and other students be backward.
- Backward students of a class can be traced through examinations, interviews, class work, question answer and inspection by the teacher.
- Various types of diagnostic tests have been formed for this purpose. A diagnostic test in mathematics is like the achievement or intelligence test to make diagnose about difficulties of students faced by them in mathematics so that treatment may be provided.
- Marks are not given to students in a diagnostic test but a type of errors done by students is observed through answers of questions given by students and the special points of errors done by students which are required to know why teachers are marked.

Diagnosis of Persistent learning difficulties involves much more than diagnostic testing, but such a test is useful in the total process. The diagnostic is the test taken place where the formative test leaves off. If people do not respond to the feedback corrective prescriptions of formative testing they need for a more detailed search for the source of learning error is indicated.

Uses of Diagnostic Test:

- Diagnostic tests are useful in finding out the strength and weaknesses of the individuals.
- They help in designing course and curriculum according to the capabilities of the learner to help him overcome his deficiencies in knowledge skills and abilities and to assist him in making the best use of his potentialities.
- These are helpful in finding out the causes of problems which remain unchecked and unremedied by formative evaluation.
- The tests are useful to both the attainment as well as difficulties of children whose achievements are not up to the mark.
- These are helpful in locating the areas in which additional instruction is required or in which teaching method has to be improved.

How to Identify Students for Diagnostic Test:

- poor memory, habits of learning slowly and forgetting quickly
- lack of learning motivation
- lack of self-confidence and relatively low self-expectation
- fail to grasp information effectively and mix things up easily

- fail to transfer knowledge to the related learning areas appropriately
- Lack of originality and creativeness.
- Inability to analyze, to do problem-solving or think critically.
- Short sentences, grammatically incorrect, Spelling Mistake
- Short attention and concentration span is less
- Interaction with other students
- Classroom Discussion
- Reading problem, relatively poor comprehensive power
- Slow response/decision making

Main causes of weakness:

- Lack of understanding/misconceptions
- Faulty teaching method
- Fear of the subject
- Incorrect study habits
- Physical and emotional factors like - poor health, some mental shock etc.
- Teacher's attitude

Remedial Teaching:

While diagnosis is the process of investigating the learner's difficulties and the reasons for this, its follow up leads to actions that may help children make up their deficiencies. This step is generally termed Remedial Teaching.

- Remedial teaching focuses on skills rather than on content.
- Remedial teaching is not re-teaching.

According to **Yoakman and Simpson**, "The purpose of remedial teaching is the development of effective techniques for the correction of errors in all types of learning. As yet, it has been more effectively used in the skill subjects than in the Commerce."

According to **G.M. Blair**, "remedial teaching is essentially good teaching which takes the pupil at his own level and by intrinsic methods of motivation leads him to increased standards of competence. It is based upon a careful diagnosis of defects and is geared to the needs and interests of a pupil."

Objectives of Remedial Teaching:

- To timely solve doubts of the students
- To solve the problems arise during teaching
- To develop good tendencies among the students
- To correct the emotional difficulties of students
- To overcome deficiencies in work, study, and skills

Principles of remedial teaching:

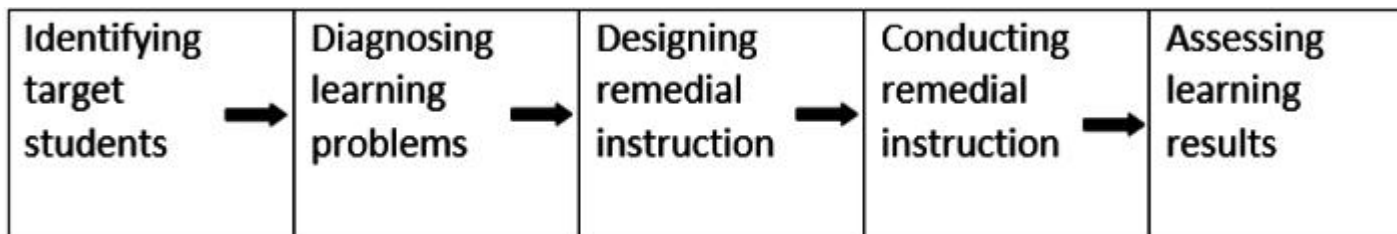
- Teaching preparation
- Make various learning activities
- Design meaningful learning situations
- Teaching approaches
- Provide clear instructions
- Summarize the main points
- Enhance learning interest and motivation
- Show concern for the performances of individual pupils.

Steps of effective Remedial Teaching:

The programme that coincides most closely with the experience of successful teachers and with a sound psychology of learning calls for the following steps in the order indicated:

1. Teach
2. Review
3. Test for weakness whenever they appear
4. Follow with remedial drill units on the specific weaknesses revealed by the tests.

Procedures of remedial teaching:



Types of Remedial Teaching:

For remedial teaching teacher can select any process out of the below-mentioned process as following:

1. **An arrangement of special classes** - students may be called for special classes arrange below-mentioned opening of school in the daytime or after the closing of the school in the evening for removing their difficulties by the teacher concerned.
2. **Individual teaching** - If the teacher has sufficient time then him he or she must make efforts to remove the errors of students individually.
3. **Additional classes work** - These students may be given additional work in the class that is additional class work for removing their difficulties and for providing them with more opportunities to clear the doubts errors.

4. **Additional homework** - These students may be given additional homework which may not felt has to burden by them and the given homework may be checked by a teacher in a regular manner.

Possible cures and remedies:

Once the cause(s) having been identified, suitable remedial measures (depending upon the cause) should be suggested which may be:

- Remedial teachers should adapt the curriculum to accommodate the learning characteristics and abilities of pupils.
- Teaching should not be directed by textbooks.
- The homework should have clear objectives and can accommodate the level and needs of pupils.
- Re-teaching of the subtopic
- Computer Aided Teaching
- Categorizing the problem areas – Spelling or reading or math
- Remedial-ideal 1 to 1 or not more than 3 students per sessions
- Personal and individual attention by the remedial teacher
- No humiliation
- Special carefully devised activities
- Read-Re-read-Write-Re-Write-Reproduce-Drill

Summary:

Teachers should exercise their discretion in the appropriate use of teaching aids. Appropriate teaching aids not only help to enhance pupils' interest in learning but will also consolidate the knowledge they learned, thus achieving the objective of teaching. Common teaching aids are concrete objects, figures, models, flash cards, number cards, and audio-visual equipment. The design and organization of teaching materials should be people-oriented. If educational diagnosis may be added with a remedy, it will certainly be beneficial for the students.