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Jigsaw Strategy: A Lesson Plan

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“Tell me and I forget.

Teach me and I remember

Involve me and I learn”

Benjamin Franklin once gave this quote, which emphasize on active participation of students for effective learning, which is one of the aims of education.

Education, which is a mightier weapon to build nation, must be visualized in broader sense for bringing desirable changes in the behavior of individuals. To accomplish this one must know the correct response for what to teach? and how to teach? The first question refers to the ‘content’ which is prescribed in the curriculum, and the education cannot be made effective without the effective transaction of the curriculum. There are many approaches, methods, techniques, devices... which are developed over time for effective transaction of the curriculum.

Children who come to schools will possess different personalities, abilities, skills, self-esteem, interest, emotions, attitude socio-cultural background, and many more diversities. This has led to the concept of inclusive classroom, which every institution is abided to take care. Students with such diverse needs need to be accommodated in such inclusive classrooms. Hence, we must create conducive classrooms for their better learning, which is a dire need of the present educational system. Co-operative learning is one among the strategies which help us to cater individual needs of the children as well as help to promote congenial environment for the progress of everyone, by providing scope for student-student interaction, which must be emphasized for their active participation in the teaching-learning process. Co-operative strategies are one among the best and most effective teaching strategy which provides scope for maximum participation of the students in the process of constructing their knowledge. In this strategy, students work in small groups to accomplish a common learning goal under the guidance of the teacher. This strategy helps to develop cognitive, conative, and affective domains. It is most widely investigated approaches. But teachers have failed to apply it in the real classrooms. The reason behind it might be Most of the teachers, are unaware of these co-operative strategies and hence through this article an attempt has been made to help to plan the lesson on one of the known strategies of Co-operative learning i.e., Jigsaw strategy. In the early 1970s Elliot Aronson and

his students at the University of Texas and the University of California invented and developed this Jigsaw strategy of teaching in the classroom. Jigsaw strategy consists of two kinds of groups -

1. Home group and
2. Expert group.

Home group is the base group, and every member of the home group will become a member of an expert group in which they have to discuss on a sub-topic assigned to them and get mastery over it. Then they must make sure that they share their expertise knowledge which they have obtained from their expert group will be learnt by each member of their home groups. This entire process will take place in ten steps, Viz.,

1. Divide the students into groups of 5-6 (depending on the content). These groups are called as home groups.
2. Appointing the students as a leader from each home group, and then to form expert group.
3. Divide the topic into sub-topics.
4. Assign each sub-topics to the expert groups.
5. Students are allowed to go through the learning material provided to them and to get familiar with it.
6. Students in the expert group discuss and get mastery over the content assigned to them.
7. Student come back to their home group.
8. Every Students then presents the mastered sub-topic to the rest of the group.
9. Students move from group to group for observation.
10. A quiz is given on the material mastered by the group.

Thus, by involving in this strategy students will have positive interdependency, individual accountability, effective interaction, development of social skills, and group processing. Therefore, to understand how a classroom teacher can plan this strategy, below is a lesson plan prepared in the subject Biology, on Jigsaw strategy of Cooperative learning.

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Content: Types of Nutrition

Lesson Plan

Subject Area: Biology

Topic: Heterotrophic Nutrition

Grade: VIII

No. of students: 30

Rationale: To make students to know the nutrition in different animals, to know that even smallest of smallest organism have its specific type of nutrition, to develop in them how the organisms in the ecosystem are interdependent, to develop the skill of observation, to understand the importance of every organism in the environment, to make them to appreciate the diverse nutrition in the organisms.

Instructional Objectives:**Knowledge:** Pupil

1. Recalls the different types of nutrition.
2. Recalls the meaning of holozoic, parasitic, and saprophytic nutrition.
3. Recognizes the nutrition in different organisms.

Understanding: Pupil

4. Identifies the type of nutrition in amoeba, paramecia, euglena, cat, dog...
5. Explains the three types of heterotrophic nutrition.
6. Gives examples for the three types of heterotrophic nutrition.
7. Gives reason for the saprophytic nutrition in bacteria and fungi.
8. Gives reason for calling the type of nutrition in insectivorous plants as holozoic nutrition.

Application: Pupil

9. Reasons out for the dependency of insectivorous plants on insects and fleas.
10. Predicts the ecosystem, where bacteria and fungi does not exist.

Skill: Pupil

11. Observes the picture showing the images of different types of nutrition in different organisms keenly and curiously.

Appreciates: Pupil

12. Appreciates the importance of each organism in the environment.

Academics:

- By the end of this session the learners will be able to:
- Explain the different types of nutrition.
- Give examples for different types of nutrition.
- Predict the role of bacteria and fungi in the ecosystem.

Social/Life Skills:

- Respect each other's view.
- Help each other in understanding the content.
- Share the information.
- Improves communication ability.
- Develops concern towards the members of the group.
- Develops patience among students to lend their ears to others in the group.
- Develops integration attitude in the students.

Learning materials/ Preparation:

- Charts showing the pictures of different types of nutrition in different organisms viz. bacteria, fungi, tapeworm, lice, fleas, picture plant, drosera
- List of e-resources
- YouTube videos link
- Animated videos in smart learning for all
- Worksheets
- Pencil
- Highlighter

Classroom arrangement:

Furniture will be organised in a triangle.

Entry behaviour testing:

Students should know about the following before teaching them the different types of nutrition.

Content:

- The different microorganisms
- Organic substances
- Basic needs of organisms to survive.

Social skills:

- Positive attitude towards learning
- Feeling of belongingness
- Extravert
- Sharing and caring

Preparation and Presentation Phase

Phase 1: Classroom Activity preparation by teacher/Guide in classroom (5-10minutes)	
Teacher Activity	Students Activity
Teacher divides the entire class (30) into 10 home groups with 3 in each (heterogenous group with low, medium, and high ability) and ask them to sit in a triangle.	The students follow the instruction of the teacher and sit in a triangle.
Teacher asks the students to choose a name to their group	The students choose their names viz. name of animals/plants
The teacher gives the liberty to the members of homegroup to assign the role of leader, secretary, and timekeeper in their group.	They act accordingly.
Teacher instructs the group leader to distribute the materials that they need to use to understand the content. Teacher explains	They listen

that they will work as a whole class for some part of the time but will also work in groups and as individuals	
Explains the leader's role and responsibilities in performing the assigned task.	Leaders of the group listen carefully
Discuss with the children how the materials are to be used.	Listens carefully and observes keenly
Teacher guides the timekeeper and secretary of their roles.	Timekeeper and secretary of each home group listens to the teacher and understands their role.
<p>Give the following instructions to the whole class:</p> <p>Each member in the home group will be assigned a number i.e.,1,2,3.</p> <p>Students with the same code numbers will form new groups called 'expert groups.'</p> <p>First expert group will discuss upon the subtopic holozoic nutrition.</p> <p>Second expert group will discuss upon the subtopic parasitic nutrition.</p> <p>Third expert group will discuss upon the subtopic saprophytic nutrition.</p> <p>Even group members will frame questions in their minds for finding Students follow the instructions given by the teacher.</p>	Students will listen to the teacher and respond necessarily.

Phase 2: Focus on students Activity (25-40 minutes)	
Teacher Activity	Student Activity
The teacher will introduce the lesson- “Types of Nutrition” by explaining why we must learn this lesson.	Students listen to the teacher
Then the teacher divides the class into 10 home groups and provide instructions to the students about the use of materials issued to the leader for distributing it to the students respectively.	Group leaders and home group members of each home groups follow the instruction given by the teacher and act accordingly.
Teacher observes the response of each student in home group.	Students in every home group collects the learning material (worksheets, e-resources links, paper, and pencil) to be worked out in expert group from the leaders.
Teacher instructs the students in 10 home groups to move to their expert groups to form 3 expert groups.	Students from home group move accordingly and form 3 expert groups with 10 students in each.
Teacher observes the participation of each student in the 3 expert groups. He will listen to their discussion and if any group needs any guidance from the teacher or if any group is facing any difficulty, then the teacher helps them as a guide to move further. He will also be aware that no student in the group should dominate the group nor remain passive. He reminds the students in the expert group (experts) that they should teach their friends in home groups after learning from the expert group, for which they should make a note of all those things that they learn in the expert group.	Students in the expert group initially think about the content given to them and the worksheets assigned to them. Then they start discussing about their thoughts and findings with their friends in the expert group. After coming to the final discussion, everyone in the expert group makes a note of all key points of their discussions related to the content (subtopics) allotted to them. In this process they help each other in mastering the content and taking note of each point correctly.
Teacher instructs the students in the expert group to move to their home groups with the materials prepared by them in the expert group and to share the learnt information in the home group as per the direction of the group leaders.	Students act accordingly. All the 30 students in the 3 expert groups will move to their respective home groups. Then the group leader in each home group directs each expert of their group to present a well organised report in front of all the groups. Thus, every student is facilitated to

<p>Even if they are finding any difficulty in understanding any part of the content, then the Teacher assist the students to understand it.</p>	<p>share his expertise knowledge and to learn the other part of the content from their group members. At the end the students in the home groups discuss and summarize the reports of the experts, the details of which will be noted by the secretary of the home group.</p> <p>Here if the expert in the group finds any difficulty in any part of the content, he consults the group leader and then the teacher.</p>
<p>Teacher directs all the students in home group to come back to their seats.</p> <p>Then provides opportunity to the secretary of each home group to share the prepared report of their findings in the home group.</p>	<p>All the students retrieve to their position in the class.</p> <p>The secretary of each home group will present the prepared report in front of the whole class, while doing so, they avoid the repetition of ideas expressed by other home groups and present only the information that are not mentioned by others.</p>
<p>Phase 3: Performance/ Evaluation (10-20 minutes)</p>	
<p>At the end of the session, students are administered a test to know their learning. (Note: the copy of the test paper is attached at the end of this plan)</p>	<p>Learners will attend the given test.</p>
<p>Teacher will conclude the lesson by sharing correct answers generated by the groups.</p>	
<p>If the students have misunderstood any of the subtopics or content, they the teacher re-teach the material.</p>	
<p>Teacher appreciates the gesture of the students in mutually helping each other to understand the content and for respecting each other's views.</p>	<p>Students feel happy and they get encouraged to continue the desirable gesture which is appreciated by the teacher.</p>
<p>A reflection session will be organised at the end of the lesson by the teacher to provide an opportunity to the students to share their experiences in Jigsaw activity.</p>	<p>Students ponder upon all their experiences in this activity and reveal the plus and negative points of their experiences. Even they can</p>

	give suggestions for the better implementation of this activity.
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Reflection:

- Did my performance was in accordance with my plan or not?
- Did I accomplish the set objectives for the class?
- Where did I make mistake? How could I correct it to get better results next time?

TEST PAPER**Class: VIII****Subject: Biology****Topic:Types of Nutrition****Follow the below Instructions:**

- Test paper consists of two parts.
- Answer all the questions in both the parts.
- Answer the questions in the space provided below each question.

Total Marks: 26**Part - A****Write the answers for the below questions in about a paragraph each: 02 marks each**

1. What is holozoic nutrition?
2. What is parasitic nutrition?
3. What is saprophytic nutrition?
4. Give examples for each type of nutrition.
5. What type of nutrition exist in amoeba, paramecia, euglena, and dog?

02x05=10

Part - B**Write the answers for the below questions in about two paragraphs each: 04 marks each**

6. Why do insectivorous plants have holozoic nutrition, even though they carry out photosynthesis?
7. What is the importance of bacteria and fungus in the entire ecosystem?
8. How do the organisms depend upon each other in the ecosystem with respect to nutrition?
9. How do you appreciate the role of different types of nutrition in the ecosystem?

04x04= 16

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