

Role Play: an Innovative Method of Low Cost Teaching Learning



Biosciences

KEYWORDS : Curriculum, Role play, Inductive component

JHUMUR BANERJEE

Head of the Department of Biosciences. M C Kejriwal Vidyapeeth.Liluah, Howerah.West Bengal

ABSTRACT

To make the best use of the learning situations, it is essential that the teacher is provided with effective learning materials in addition to the textbooks. Emphasis should be led on hands-on minds-on learning approaches rather than on rote memory based learning. Hence the urge to fulfill the void is generated, with a challenge to maintain a low cost level through the present study- Role play.

The topic, Nervous system was explained to the students of class 10. They were asked to personify the various components of Nervous System. Before and after the play, a set of questions were given to the students in order to analyse the impact of the Role play technique adopted and the results were graded as A, B, C and D, depending on the marks obtained.

It was found that there has been significant increase in understanding after the role play activity.

INTRODUCTION

There has been a rapid expansion of knowledge in recent years. Realization of the relevance of education as reflected in human thought, style, social values and culture have made it imperative to upgrade the curriculum and learning approaches to satisfy the student diversity in a classroom situation. In the present day scenario the teacher acts not only as an instructor but a facilitator. To make the best use of the learning situations, it is essential that the teacher is provided with effective learning materials in addition to the textbooks. New ideas about teaching and learning began to take shape as early as the 1960. Holt (1964, 1967) and Kozol (1967) were the two pioneers in pointing out the shortcomings of passive learning for learners of all age groups. As the textbooks solely cannot provide the right learning material, it is necessary to shift our emphasis from rote memory based, content oriented and teacher-centered method of teaching to hands-on minds-on learning approaches like: Problem solving-based; activity oriented; performance-based; learner-centered approaches; investigate; develop observation skills; record observations; structure, organize and communicate information; hypothesize; collect and analyze data; draw relevant inferences; design solutions and act accordingly. Thus, these approaches should be adopted which provide plenty of opportunity for thinking, reasoning and looking at science in its totality as a highly rational, intellectual problem-solving human activity.

Making teaching aids is an emotionally, intellectually, aesthetically and professionally rewarding experience. It is an act of creation. It is an affirmation that one as a teacher cares for the pupils and believes that, with the help of these learning aids, they can learn. It is an act of love. Teaching aids provide a stimulus for exploration and thinking. With the added input of verbal, personal communication with an adult, interaction and discussion arise and these are crucial to reel, activity-based learning. Adults (and older children) help younger ones to interpret sensory and language experiences, to clarify them and relate them to their previous understandings. Children then learn by blending language with experiences. They learn to think. For maximum mental growth and personality development, a child's life needs to be filled with stimulating, encouraging experiences. Appropriate learning materials (teaching aids) help children to develop their innate abilities. It has been seen that learning changes the organizational structure of neurons in the brain, and according to Zull (2002) the extent of change increases when there is emotional involvement in learning environment, for example in Role play technique.

Hence among the different innovative teaching methods, the Role Play Model was chosen in this study to make the pupils comprehend the topic Nervous System at class 10 level.

MATERIALS AND METHODS

A total number of 150 students from Class 10 were chosen as the study group. The topic selected was an important chapter of Biology, namely the Nervous system. After explaining the topic to the students, 10 groups of 15 students each were selected. They were given the problem of personifying the various components of Nervous System. The play was scripted and edited by the students themselves. Each of the group members was involved in the dramatization of the play and gave their innovative inputs to the play in order to surpass each other. The play was video recorded by the students for the purpose of using it as a teaching aid in future. After the explanation of the topic by the teacher and before the play was staged, a question paper comprising 40 marks were handed over to the students, marked as the pre learning session questions. After the play was staged the students were evaluated on the basis of the same set of questions – marked as post learning session questions and the scores obtained by them were evaluated. The marks obtained were graded as follows : Grade A – 31 -40; Grade B – 21 – 30; Grade C – 11 – 20 and Grade D – 0 – 10 marks. Both the sets of answer papers were evaluated and analysed to see the trend caused by this teaching aid of role play which practically involved a very low cost.

RESULTS

The results obtained after evaluating the answer scripts were tabulated and categorized as follows:

[Total no. of study subjects (n) = 150]

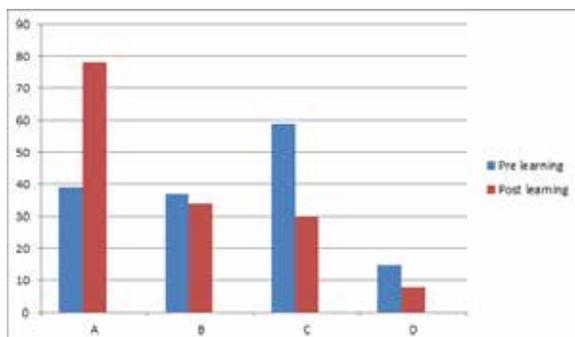
	A	B	C	D
	39 (26%)	37 (24.6%)	59 (39.3%)	15 (10%)

TABLE 1: Results before role play

[Total no. of study subjects (n) = 150]

	A	B	C	D
	78 (52%)	34 (22.6%)	30 (20%)	8 (5.3%)

TABLE 2: Results after role play



Graph 1. Graphical representation of the results

DISCUSSION

The students' performance can improve with their understanding the nature of science, the basic principles that underlie biological systems. From the results obtained, it can be noted that there has been a major impact on the understanding of the subject by the students by the method adopted here. By taking into consideration the grades individually, it is seen that the number of students under the highest category (Grade A) has doubled – from 26% to 52%. In the average category (Grade B) – there has not been a significant change; just a slight decrease from 24.6% to 22.6%. In the below average categories i.e. Grade C and Grade D – there has been a roundabout 50% decrease – signifying an improvement in understanding of the subject. Thus the proper learning situation facilitated personal investigation/small group activity to conduct the investigation for presentation of result and useful discussion. In doing so, not only their concepts got cleared but they developed language skills and organizational skills which will further ensure the overall development of the pupil which is sole purpose of education.

CONCLUSION

Learning brings about neurological changes. In addition to or in place of listening passively to a lecture, reading the text books, students should spend time actively engaged with the subject matter. According to Tanner et al (2003), organizing students into groups can transform the nature of study from competitive to collaborative, and allow the students to learn from each other. It is preferable for the students to perform all such activities in small groups as students working in cooperation with each other and collaborating in small group provide plenty of opportunity for thinking, reasoning and looking at science in its totality as a highly rational, intellectual problem-solving human activity.

Moreover, Prince and Felder (2007) have made a study on the contrasting deductive teaching with that of inductive one. When teaching is inductive, the students are presented with a real-world scenario; their motivation turns intrinsic with an urge to find a solution to a given problem. For example, disease related case studies are given to medical students and are asked to arrive at a diagnosis, and this model is extensively used in medical education (Albanese and Mitchell 1993).

The role play model which has both deductive as well as inductive components thus helped the students to integrate their skills at various levels. The adoption of Role play created a major impact on better preparing the students for their future endeavors and led to significant gain in the learning process.

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