

## Original Research Article

# EFFECTIVENESS OF ROLE PLAY IN VERTICAL INTEGRATION: A COLLABORATIVE STUDY OF PHYSIOLOGY WITH FORENSIC MEDICINE

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### ABSTRACT

**Background:** Academic role play has immense importance in teaching and learning methods where students can perform the roles of a case study and explain the condition more clearly. They participate enthusiastically and with full attention and concentration. The details mentioned in the AETCOM are also covered in the role play. However, the studies on role play implementation in the medical education in India are relatively less. Hence, the present study was undertaken. **Aim and objectives:** The present study was undertaken to observe the effectiveness of role play in vertical integration between physiology with forensic medicine.

**Materials and Methods:** All the students were divided into 15 groups with 10 students in each group. The clinical topics were distributed to them, that is, drowning, carbon monoxide poisoning, Rigor mortis, Diabetes mellitus, and Parkinson's disease. They have the freedom to select any of the topics. Groups are made based on their role numbers; that is, roll number 1 to roll number 10 is one group. This improves the interaction between the students. Teachers of both departments were appointed as mentors for each of the groups. To encourage the students a competition is announced and with three prizes. To test the importance of the role play an MCQ test for 20 marks was conducted on these topics before the preparation of the role play and also after the role play performance; one more MCQ test was conducted with different questions. Feedback was obtained at the end after the post-MCQ test.

**Results:** There was a significant increase in the students' performance in the MCQ test conducted after the role play performance by the students. The majority of the students perceived that the role play was an effective tool to promote the active learning of the clinical topics. The majority of students agreed to implement the role play in the curriculum.

**Conclusion:** The study provides results to support the implementation of role play in medical education to promote active learning and to promote the communication skills in the students. Further detailed studies with more integrations are recommended.

**Keywords:** Role play, Academics, Medical Education, Teaching methods.

## INTRODUCTION

Medical education has undergone many innovations from teacher-centric teaching to student-centric

methods.<sup>[1]</sup> Academic role play has immense importance in teaching and learning methods where students can perform the roles of a case study and explain the condition more clearly. They participate

enthusiastically and with full attention and concentration. In role play, students can apply the skills and knowledge to their best ability and learn the subject more clearly.<sup>[2]</sup> Here, they get a chance to integrate the subjects and learn much better about the concepts. The National Medical Council has introduced horizontal and vertical integrations in the CBME curriculum. Role play is one of the best teaching and learning methods to implement this integration.<sup>[3]</sup> This involves students actively when compared with the routine teaching method where the teacher delivers the lecture and students listen passively. Some students in the back benches will even sleep in class during passive lectures. Further, some students feel hesitant to ask questions in the passive lecture. In role play as the student has to perform the role of either the patient or the doctor so he must know the details in clear. So he tries to learn it from various sources and also with teacher as the role play preparation makes more interaction between the student and student and also between the student and teachers.<sup>[4-7]</sup> The details mentioned in the AETCOM are also be covered in the role play. However, the studies on role play implementation in the medical education in India are relatively less. Hence, the present study was undertaken.

**Aim and objectives:** The present study was undertaken to observe the effectiveness of role play in vertical integration between physiology with forensic medicine.

## MATERIALS AND METHODS

The present study was an observational study conducted in first-year MBBS students. All the students were divided into 15 groups with 10 students in each group. The clinical topics were distributed to them, that is, Sleep apnea, Myastheniagravis and Rigor mortis. They have the freedom to select any of the topics. Groups are made based on their role numbers; that is, roll number 1 to roll number 10 is one group. This improves the interaction between the students. Teachers from both departments were appointed as mentors for

each of the groups. To encourage the students a competition is announced and with three prizes. All students in the group, after selecting the topic, discussed the topic with the mentors and clarified all doubts. One day before the competition, a mock session was organized by the corresponding mentors. Each group was allotted 10 minutes to present the topic they had selected. They can make 8-9 roles in their presentation and have one anchor who introduces the topic and roles. Like there will be a patient who visits the Op with a family member and narrates the symptoms. Then, the senior doctor explains the diagnosis to the juniors. In Myasthenia gravis, there will be a death scene, and the forensic expert explains the time of death determination and other medicolegal aspects. They can make use of PowerPoint and charts to display the symptoms. Three judges were invited to rate the performance on a ten-point scale. To test the importance of the role play an MCQ test for 20 marks was conducted on these topics before the preparation of the role play and also after post role play performance; one more MCQ test was conducted with different questions. Feedback was obtained at the end after the post-MCQ test.

**Statistical Analysis:** Data was analyzed using SPSS 22.0 version. Descriptive statistics were used to assess the screen time and grouping of the subjects. Student t test was used to observe the significance of the difference between the MCQ test scores.

## RESULTS

Table 1 presents the Comparison of MCQ test scores before and after the role play performance. There was a significant increase in the students' performance in the MCQ test conducted after the role play performance by the students. Table 2 presents the perception of the students about the roleplay. The majority of the students perceived that the role play was an effective tool to promote the active learning of the clinical topics. The majority of students agreed to implement the role play in the curriculum.

**Table 1: Comparison of MCQ test scores before and after the role play performance**

Parameter	Before	After	P value
MCQ test score	13.27±1.10	15.70±1.34	0.0002***

Data was analyzed as mean and SD. \*\*\*P<0.001

**Table 2: Perception of the students about the roleplay**

Perception	Strongly agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly disagree (%)
Role, along with lectures play helps to acquire better clinical knowledge	95 (63.3)	30 (20)	20 (13.33)	5 (3.33)	0 (0)
Role play promotes active learning	110 (73.33)	20 (13.33)	20 (13.33)	0 (0)	0 (0)
Enjoyed the roleplay	140 (93.33)	10 (6.66)	0 (0)	0 (0)	0 (0)
Role play improves communication skills	130 (86.66)	20 (13.33)	0 (0)	0 (0)	0 (0)

Role play can be implemented in curriculum	140 (93.33)	10 (6.66)	0 (0)	0 (0)	0 (0)
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## DISCUSSION

The present study was undertaken to observe the effectiveness of role play in vertical integration between physiology with forensic medicine. There was a significant increase in the students' performance in the MCQ test conducted after the role play performance by the students. The majority of the students perceived that the role play was an effective tool to promote the active learning of the clinical topics. The majority of students agreed to implement the role play in the curriculum. The study provides results to support the implementation of role play in medical education to promote active learning and to promote the communication skills in the students. Further detailed studies with more integrations are recommended.<sup>[9]</sup> Role play is a simple and cost-effective method that can be adopted easily in medical education. It does not require any highly sophisticated software. In role play some or other time, every student takes the role of the patients at that time, they understand the concerns and expectations of the patients from their side.<sup>[10]</sup> This helps them to learn how to communicate with the patients. As a role of a doctor, they learn how to communicate the disease condition to patients and how to approach the diagnosis of the disease.<sup>[11]</sup> With the help of role play, students gain clear knowledge about the clinical condition and apply the knowledge to present it to the audience.<sup>[12,13]</sup> Earlier studies recommended the implementation of role play in the academics of medical curricula. Though role play has so many benefits there are some cons too. It needs the active involvement of the students.<sup>[14,15]</sup> The students should enthusiastically participate in the role play to gain clinical knowledge. There comes the role of the mentors who must take an active role and encourage the students.

## CONCLUSION

The study provides results to support the implementation of role play in medical education to promote active learning and to promote the communication skills in the students. Further

detailed studies with more integrations are recommended.

**Conflicts of interest:** None declared

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