

“Simulation for Training in Communication Skills: Active Participant vs. Active Observer” - An Interventional Case Control Study

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Abstract

Communication skills can be taught effectively by role play which is a form of peer teaching. To engage large group of learners in a role play session is a challenge. Group of students can be assigned as observers, since learning is also possible by active observation. One hundred and forty-eight medical students were randomly grouped as performers or observers. Role play by performers on essentials of “Doctor patient communication” was observed and rated by experts. This was with regard to only history taking of the respiratory system. The learning outcome of performer/observers of the role play session was evaluated based on the OSCE score (1-4 core elements of Kalamazoo essential elements of communication). A subjective feedback on the satisfaction and confidence was sought after in students of both the groups. Effective learning and subjective impact obtained by both group of learners, as indicated by the equal mean OSCE (student t test $p \leq 0.00$), feedback score on self-satisfaction and confidence level. We conclude that either performance as role play or observation of the same among medical students produced similar communication skills with regard to taking history concerning the respiratory system.

Keywords: Active Observers, Medical Communication Skills, Role Play, Teaching

1. Introduction

Communication skill in teaching is an integral part of medical curriculum¹. Teaching of this critical skill happens effectively in a one to one encounter with Standardised Patient². Since graduate students are large in number, delivery of such teaching session creates enormous demand of personnel and resource³⁻⁵.

The “Banduras social observational learning theory” supported by the mirror neuron concept state learning is possible by active observation⁶⁻⁸. Effective learning by vicarious observation of a simulated patient session is researched and documented⁹. Hence assigning a section of learners as observers can be adopted as a strategy to teach communication for group of learners¹⁰. Role play, a form of Peer Assisted Learning is being experimented as a

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cost-effective alternate to Simulated Patient encounter for teaching communication skill¹¹. But the learning outcome by observation of role play by peers must be researched to authenticate inclusion of group of students as observers in a role play session.

2. Aims

- To run a role play session with Specific Learning Objective "History taking of respiratory symptoms" focusing "Empathetic doctor patient communication" to learners grouped as performers and observers.
- Compare the learning and subjective outcome of the two groups.

3. Hypothesis

- Learning of communication skill by peer observation may not be as effective as active participation.

4. Methodology

Interventional case control study.

4.1 Subject

148 Graduate medical students of a Malaysian medical university undergoing their initial clinical posting. Students were divided randomly into two groups Group A - performers and Group B - observers (n=74). Introduction to the critical concepts of "History taking by effective physician patient communication" was delivered as a large group lecture to the entire group of learners. Students were divided into small groups of four each, learner role assigned sequentially as performer and observer. Pre-brief done for 10 minutes on the plan of the session and the student role. Script provided for performers to practice and observers to check the actions pertaining to the Kalamazoo essential elements of communication¹². Facilitators guide the role play by performers as doctor and patient. Actions of performers on the core communication skills were evaluated by peer observers using critical action checklist. Trained facilitator also rates the performance using the same tool. Facilitator leads debrief at - Roussin Sim zone level one was conducted¹³. The reflections of performer and feedback of observers were included in the debrief.

4.2 Outcomes

4.2.1 Objective Assessment

Objective evaluation by OSCE Score on the first four core elements of Kalamazoo essential elements of communication tool for effective physician patient communication¹⁴. It consists of seven core competencies assessed by a global rating on a Likert scale (1 = poor to 5 = excellent). Since the learning objective of the session was on history taking, the assessment was restricted to the initial four elements.

- Element 1: Build relationship
- Element 2: Open discussions
- Element 3: Ask information
- Element 4: Understand patient perspectives
- Element 5: Share information
- Element 6: Reach agreement
- Element 7: Provide closure

Assessment was conducted as an Objective Structured Clinical Examination - OSCE. All students are evaluated by the steps they follow to extract history from a simulated patient adhering to the Kalamazoo essential elements. Each element is scored in likret score 1-5.

4.2.2 Subjective Assessment

Feedback on the satisfaction and confidence level by the Educational Practices Questionnaire (Student Version) validated by the National League for Nursing^{15,16}. It is a 13-item questionnaire with two sections. Section 1 comprises of five items on the satisfaction level, section 2 has eight items on the confidence level of learners.

5. Results

All the 148 students completed the study. The mean OSCE score of the groups were analysed by student t test ($p < 0.00$). Equal mean OSCE score except item 4 (Table 1).

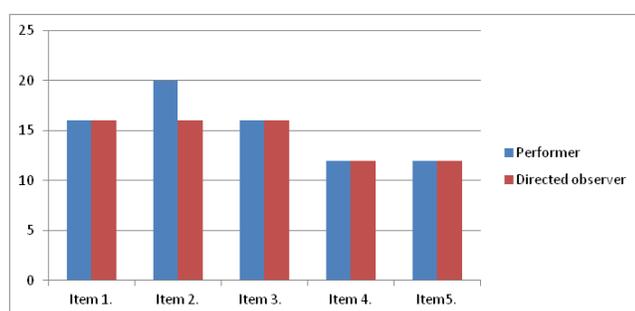
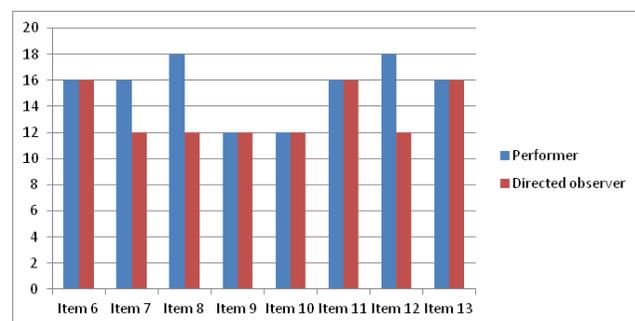
5.1 Subjective Outcome

Both groups' mean subjective score on the satisfaction was equal except item 2 (the session promoted learning) (Figure 1&2).

Item 1: Teaching was effective, Item 2: Promote my learning, Item 3: I enjoyed the session, Item 4: It motivated

Table 1. Comparison of OSCI scores

		Mean	N	Std. Deviation	Std. Error Mean	t	p
Element 1	Group A	3.67	74	0.021	1.000	3.560	.117
	Group B	3.71	74	0.143	0.400		
Element 2	Group A	3.98	74	1.725	1.003	3.000	.412
	Group B	4.10	74	0.497	1.000		
Element 3	Group A	3.56	74	1.071	0.060	2.667	.119
	Group B	3.64	74	1.243	0.041		
Element 4	Group A	4.26	74	0.885	0.653	4.143	.001**
	Group B	3.14	74	1.445	1.050		

**Figure 1.** Learners satisfaction level.**Figure 2.** Learners self confidence level.

me, Item 5: I feel it is suitable for me. Item 6: Confident in mastering skill, Item 7: Confident the session covered necessary skills, Item 8: Confident that I can use in clinical practice, Item 9: Confident that I used the recourses, Item 10: Confident that I took responsibility, Item 11: Confident that I know to get help, Item 12: Confident to use Simulation, Item 13: I feel the instructor must take responsibility. Subjective feedbacks on self confidence level of observers were equal to performers except items 6, 7 and 11.

6. Discussion

Equal mean OSCE score and pass grade of competency acquisition was obtained by more than 95% of students. Hence effective and equal learning outcome was achieved by performance and observation. Yet minor discrepancies were reported which needs consideration. Comparing each element of communication, observers scored lower for element four of Kalamazoo checklist which checks the expression of empathy to patients. Role allocation was not the student choice in our study, which might have been the contributing factor.

Our study design was aligned to the recommendations of Melody L Bethards. He recommends designing simulation session where observers must be provided with equal opportunity for learning¹⁷. The task assigned to observers of our study to rate peers by a checklist and provide feedback had enabled vicarious participation. Similar result was reported by Stegmann, *et al.* who analysed the learning outcome of students observing peers interact with Simulated Patient. Learning of communication skill by both observers was as much as learners who actually interacted¹⁸. The concept of learning by observation was further justified by the Norwegian project on undergraduate students learning by assuming different roles as physician, nurse, family member and observer. The project reports that, students develop practical, communication and collaborative skills by taking diverse roles¹⁹. Our teaching mode adapted the Peer Assisted Learning PAL advocated by Field, *et al.* He utilized PAL as a form of tuition for clinical skills training where collaborative learning happens by peer feedback. Delayed feedback after 6 months of Field M

et al. study gave 90% rating for PAL and willingness to become peer trainer¹¹. The usefulness of role play a mode of PAL was concurred by Lac. KC *et al.* He studied the impact of "role play" exercises during the introductory communication skills training for medical graduates. He witnessed an enhanced perceived communication skill on both interpreter and observer²⁰. The recommendations of Nestle D to teach communication skills by role play were considered in our study design who explored the contributing and impeding factors. Guidelines, preparation, alignment with previous knowledge are reported as the enhancing factors. Lack of realism and negative emotions were the impeding factors²¹. Mark Bullard reports apart from communication, clinical skill learning is also possible by vicarious observation. Acquisition of clinical skills and long term knowledge retention analysed by the 3 month follow up was reported satisfactory by Mark Bullard²². Though our results revealed the level of satisfaction was almost equal in both groups. Subjective feeling of self-confidence of observers was lower in few elements compared to performers. The report of Roger T *et al.* could explain the subjective outcome of our study. Comparison of impact on the affective domain by simulation was researched by Rogers obtaining the immediate the positive negative affect scale. In his study positive and negative emotions were raised in the participants compared to observers²³. Anxiety and stress on performance might have resulted in such an outcome.

7. Limitations

Long term retention of knowledge and skill, extent of translation to clinical practice by both groups must be evaluated. This is a single centre study with a single batch of students.

8. Conclusion

Effective learning of communication is possible by performance and observation of role play. Facilitators must take additional steps to promote confidence level of observers and to make them understand patient perspective. We conclude that either performance as role play or observation of the same among medical students produced similar communication skills with regard to taking history concerning the respiratory system.

9. Affiliations

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Disclosure of interest

Study presented as INSPIRE ALERT proposal 2019 and project report presented during INSIPRE 2020 at Chennai, India.

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