

# Impact of Microteaching in Enhancing Teaching Skills of Medical College Faculty

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DOI: [10.36348/jaep.2021.v05i06.003](https://doi.org/10.36348/jaep.2021.v05i06.003)

| Received: 18.05.2021 | Accepted: 24.06.2021 | Published: 27.06.2021

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## Abstract

**Background:** A structured faculty training method is needed to effectively train the medical teachers. Microteaching is one of the teacher training techniques for imparting teaching skills to the teachers. This study aims to assess the effect of improvement of teaching skills by self/peer evaluation of microteaching technique. **Materials and methods:** Thirty faculty from different departments with less than five years of teaching experience participated in the microteaching session. The session was videotaped and played back to the presenter. The presentation was evaluated by the faculty themselves and also by the peers using the checklist (NTTC JIPMER). After obtaining the constructive feedback, the participants were asked to do a repeat session on the same topic within a week and the same procedure was followed. **Results:** There was a statistically significant improvement of the post mean scores of all parameters assessed when compared to pre mean scores. Post mean score improved by 149% for aroused interest in the topic, 119% for organized materials in logical sequence, 204% for changing the pace of presentation by shifting emphasis and 246% for interaction during presentation. The Pre/Para-clinical faculty performed well when compared to clinical faculty both before and after the feedback. **Conclusion:** Self-assessment by digital video recording playback and also peer guidance helps to enhance their skills acquisition. Peer microteaching sessions must be conducted for early beginners in the department and introducing microteaching methods in post graduate curriculum would improve the teaching skills. Well-equipped microteaching laboratory is needed for microteaching programmes in all medical colleges.

**Keywords:** Microteaching, Faculty training, Medical faculty.

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## INTRODUCTION

Art of teaching is the art of better self-learning. Teaching is a dynamic mechanism that facilitates and influences the process of learning. Ability of a faculty is judged on how much the students could perceive and comprehend his thought process. The lecture rooms cannot be taken as a primary platform for learning teaching skills. Training the medical faculty in teaching skills is of paramount importance in medical education programs. A structured faculty training method is needed to effectively train the medical teachers. Microteaching is one of the specific training techniques meant for teachers to acquire educating skills. It provides a teaching environment in real, offers opportunity to sharpen their already Existing skills and also to acquire deeper insight regarding the science of teaching [1].

The concept of Microteaching was established by Dwight Allen and his friends at the Stanford Teacher Education Program in 1960s. The Stanford model involves the steps of “plan, teach, observe, re-plan, re-teach and re-observe [2]”. Art of Microteaching is nowadays been extensively utilized in most of the pre-service teacher education programs. It is also a widely accepted and a proven method to impart and improve teaching skills [3].

Many clinical teaching development programs have imparted the microteaching techniques to medical teachers, resulting in a significant decrease in the teaching intricacies. Training with peers has also been found to be an effective method in medical training programs [1, 4]. The medical curriculum has shifted from teacher centered to learner oriented which is indispensable. Microteaching helps in equipping teachers to be effective trainers in imparting medical skills [5].

### Phases of microteaching

The three essential phases of microteaching are knowledge acquisition, skill development, and transfer phase. Figure 1 describes the various phases of microteaching.

Knowledge acquisition phase is the initial phase, in which the teacher prepares the specific concepts through lectures, illustration, exchange of views, seminars, debate and skill demonstration by the experts in that field.

During skill acquisition phase, the faculty prepares a micro-lesson for demonstrating the technical competence. The peers and department colleagues can share knowledge and provide innovative ideas which helps the faculty to compare them with their own teaching performance. Seven senior colleagues and peers can evaluate the skills and practices which are essential for teaching and can help to remove those behaviors that are not needed as well.

In the Transfer phase, these activities finally may help to integrate and shift this learned skills from simulated teaching environment to lecture room teaching in reality [8].

An effective training program for medical teachers is not given much emphasis in India [9-11]. Training medical teachers in teaching skills needs high priority. This study had been planned to assess the effect of improvement of teaching skills by self/peer evaluation of microteaching technique.

### MATERIALS AND METHOD

A cross sectional study was carried out in a tertiary care teaching institute in South India between June 2018 and August 2018. The medical faculties who have not completed five years of their teaching experience and who were willing to participate in this study were included. Thirty faculty (16 pre/para clinical

and 14 clinical) from different departments participated in the microteaching session, chose a topic of their choice and delivered a lecture, in front of their peers (minimum of one or two senior colleagues of the same specialty and two senior professors from other departments). A micro teaching session was planned and implemented for each core teaching competence in a logical sequence for time duration of 5-7 minutes. The session was videotaped and played back to the presenter. A scoring system developed on the basis of checklist (NTTC JIPMER) was used to assess the parameters in the study.

Seven major skill components were identified for the purpose of evaluation. Each component has one to three sub components for evaluation. Those who fulfilled the criteria were given a scoring of two. Those who were partial in fulfilling the criteria were given a score of one and those who never covered the content were given a score of zero. After the presentation, the presenters were given the checklist without the scoring system to evaluate themselves and were asked to provide a feedback. The presentation was also evaluated by the peers and the peers gave a constructive feedback. Similarly, all the study participants presented the topic in order. Then they were asked to do a repeat session on the same topic within a week and the same procedure of assessment was followed.

The scoring recorded by the principal investigator was used for the purpose of analysis. The difference in scores for the microteaching session before and after the feedback was analyzed using SPSS 27.0 and Paired-T test was employed to compare the difference between them. Independent sample T test was used to test the association between before and after intervention scores with gender.  $P < 0.05$  was set as statistically significant.

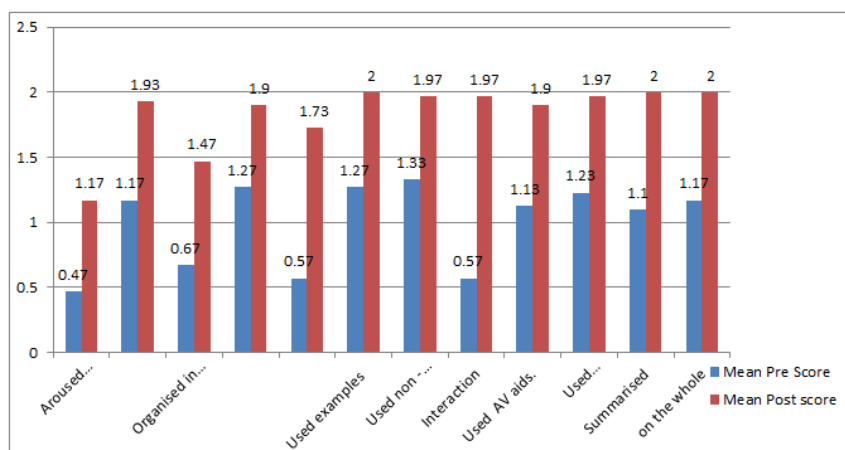
## RESULTS

**Table-1: Association between pre and post feedback based on checklist (NTTC JIPMER)**

S. No	Skill	Teacher's action	Mean of Pre Score	Mean of Post score	P value
1	Set induction	Initially aroused interest by relating to already acquired learning, questioning, throwing a new concept for discussion etc.	0.47	1.17	<0.001
		Specified the objectives of the presentation.	1.17	1.93	<0.001
2	Planning	Organized material in a logical sequence.	0.67	1.47	<0.001
		Used relevant content matter.	1.27	1.9	<0.001
3	Presentation	Altering the pace of presentation by telling jokes and shifting emphasis etc.	0.57	1.73	<0.001
		Used specific examples to illustrate main ideas.	1.27	2	<0.001
		Used non - verbal cues, eye contact.	1.33	1.97	<0.001
4	Reviewers presentation	Interaction	0.57	1.97	<0.001
5	Use of AV aids	Used proper AV aids.	1.13	1.9	<0.001
		Used the aid(s) effectively.	1.23	1.97	<0.001
6	Closure	At the end of session, summarizing the key points.	1.1	2	<0.001
7	Overall lesson	Lesson on the whole was effective/ineffective.	1.17	2	<0.001

**Table-2: Association of overall mean scores between Clinical and pre/para clinical staff**

Mean Score	Clinical	Pre/paraclinical	P Value
Pre Feedback	9.44	14.79	0.001
Post Feedback	20.56	22.50	0.047



**Comparison of mean score of pre and post feedback session (graph-1)**

There was a statistically significant improvement in all parameters assessed. Post mean score improved by 149% for aroused interest in the topic, 119% for organized materials in logical sequence, 204% for changing the pace of presentation by shifting emphasis and 246% for interaction during presentation (Table 1).

Table 2 shows a significant difference in the teaching skills of pre/para clinical and clinical teachers. There is a considerable improvement in all the parameters. The pre/paraclinical faculty performed well compared to clinical faculty both before and after the intervention. There were no gender differences in score neither before nor after the intervention.

## DISCUSSION

Microteaching is a tailor made training methodology for individuals. It provides a secured and a controlled environment for the practice of teaching. Microteaching intervention improves the teaching skills of the medical teachers [12]. There was a significant improvement in post intervention scores in our study. Similar results were observed by studies done by Remesh [1], Umeh et al. [13] and Kilic [14].

The entire faculty played dual role of trainee and constructive evaluators. This also improves the evaluating skills of a teacher. Criticism done on the microteaching session should be constructive and need to be helpful to the participants. The study established that the inclusion of micro-teaching training pro-grams

provide an optimistic impact on teachers awareness and attitudes regarding teaching competencies.

The immediate self-evaluation by video playback and feedback by peers helps in self-improvement of the faculty [15]. It provides a chance to observe them and helps in uplifting their self-confidence to present in any scientific forum. It trains them to overcome their initial anxiety and how the content must have been taught [12].

Anshu *et al.* [16] in their study also found that immediate feedback was helpful in improving the teaching skills. Digital recording and playing the video back made them played a significant role in changing their teaching method [17]. Studies done by Umeh *et al.* [13], Kilic [14], Shanu [18] and Savas [19] also described that self-evaluation by video playback fulfill the short comings by making the faculty understand where they need to change. Gender has no influence on

learning teaching skills. The results were in tandem with studies done by Remesh [1], Shanu [18], Savas [19] and Ekpo-Eloma *et al.* [20].

## CONCLUSION

Microteaching is an effective method of improving the teaching skills of medical teachers. Self-assessment by digital video recording playback and also peer guidance helps to enhance their skills acquisition. Peer microteaching sessions must be conducted for early beginners in the department. The introduction of microteaching methods in post graduate curriculum would improve the teaching skills of medical teachers.

## LIMITATIONS

1. Teaching skill of theory alone was assessed. The clinical teaching skills were not assessed
2. All the participants repeated the same topic during post feedback assessment

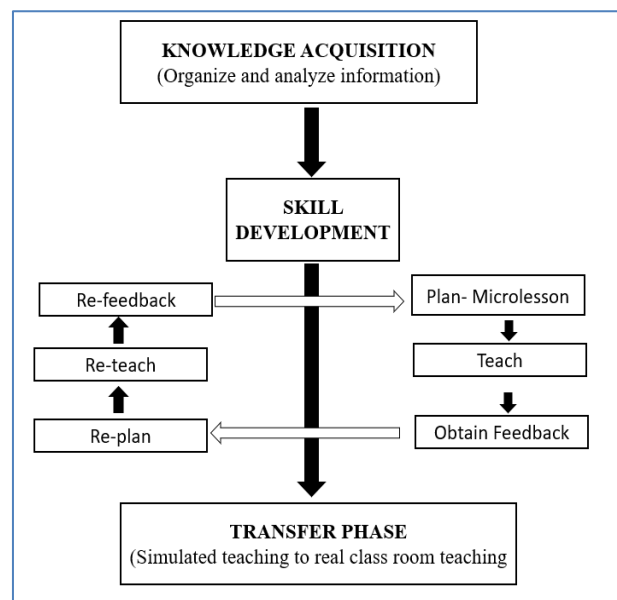


Fig-1

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