

## Can Post Graduate Trainees benefit from Microteaching?

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### ABSTRACT

Training of post graduates is a fast changing field all over the world. Microteaching has been a time tested technique since long but its use has decreased over time especially in medical field. It is a group activity for teachers to learn how to teach. They plan and teach one by one a small lesson. It is watched by his group members and critiqued later. A special emphasis is upon evaluation whether teaching session has met its planned objectives or not. Use of teaching aids and other techniques are evaluated and discussed as a group. A recent interest in the technique has found many applications in learning how to teach. Post graduate trainees have been seen to benefit a lot from such learning activities. There is enough evidence pointing to the need for revisiting the concept and finding newer possibilities for its use. This article is a brief description of concept, techniques, advantages and uses of microteaching.

**Key words:** Medical Education, Microteaching, Teaching Skills.

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Medical science is a difficult science to learn. It needs higher order thinking and a wide imagination. The medical teacher is confronted by complex issues of training like too much to impart in too little a time. Clinical skills cannot be taught without apprenticeship and peer learning is pivotal to this form of learning. Will Durrant<sup>1</sup> had studied Aristotle who formalized scientific inquiry and finding answers to questions by keen observation. Aristotle was quick to realize the role of self motivated learning by his pupils. He established role modelling method of teaching for his pupils. The students learnt from him both formally and informally. He encouraged interactive form of scientific inquiry and would involve his student's active exploration of the knowledge. This active learning made the basis of our present day learning defeating the dogmatic style of passive learning.

Today's supervisor is challenged by groups of trainees who learn in variety of ways. Ivan Pavlov<sup>2,3</sup> proposed new learning theories whereas Aristotle had been practicing them in some form in his time. Present day medical teacher does not have time to improvise within a modern structured training program. The structured training program in post graduate training program requires passing of an exit examination at the end.<sup>4</sup> A minimum standard of knowledge, cognitive capabilities and clinical skills is required of the trainee. The supervisor has to improvise upon his methods of teaching to tailor learning for each student. Some may benefit from learning alone while others may learn better in small group settings. One such method is microteaching.

Microteaching is a training technique where a small group of learners learn to teach. The session is preplanned and a small teaching activity is planned and a lecture or demonstration is made by one of the participants through the method of his own choice. The master trainer or the supervisor supervises the session. At the end of the teaching activity the recording of the session is viewed by all together. During and after the session the presentation is evaluated in a group setting critiquing the whole exercise. The supervisor sums up and the activity is concluded expecting improvement or change in the future presentations of the student. Dr. Dwight Allen<sup>3</sup> at Stanford University introduced micro-teaching many decades ago, a novel way to date which helps teachers to learn how to teach. Recently the technique has been used in post graduate trainees of clinical sciences as well by Shilpashree YD and Aliya N.<sup>4</sup> They conclude that it improves their teaching skills and self confidence.

Although microteaching was developed to improve teaching abilities of trainee teachers but it developed with time in all parts of the world as a training tool in many other fields. Stanford University in the late 1950s lead by the work of by Dwight W. Allen, Robert Bush, and Kim Romney took the initiative of starting a formal teaching program for new teachers.<sup>3</sup> Over the years in different parts of the world newer ways of using the method was improvised. A more elaborate form of fortnightly sessions, spread over ten months in Israeli Institutes in 70s where each teaching session was reviewed formally later by senior peers and a re-teaching session followed by new critiquing was done.<sup>5,6</sup> The last two decades saw that microteaching transformed completely after it was used in Malawi, Namibia, China and South Africa where non availability of video recordings was made up for direct observation of sessions by specialists.<sup>7</sup>

Currently three newer groups of microteaching techniques are practiced:<sup>2,3</sup>

- I. Self-study groups: A group of four or five teachers are asked to teach in rotation. They make a self study unsupervised group.
- II. The 2 + 2 evaluation protocol: At the end of every teaching session 2+2 (two compliments + 2 Suggestions) protocol is used. Two good points and two improvements were to be suggested. These had to be focused on the predetermined skill being discussed. It makes learning planned and formal.
- III. Peer supervision: The original Stanford model required the presence of a master trainer in the

activity. However, with continual sessions the remarks and criticism of fellow trainees substitutes for the supervisor's presence every time. Later experience showed that the peer group proved to be a surrogate for a master trainer.

Difficulties and deficiencies cropped up during practical application of this method. Presently trainees are expected to choose their own objectives, technologies involved, timings and interactions as per their specific needs to gain some specific knowledge. University of Illinois has provided 4 workshops in a year spaced in between other learning activities.<sup>7,8</sup> Early 1970s saw introduction of Instructional Skills Workshop (ISW) and Microteaching Workshops. This achievement occurred initially at British Columbia's Education Ministry. These were adapted soon by Canada, US and other countries.<sup>9</sup> Indian Medical Council has also included it in the training programs recently.<sup>4</sup>

Feedback in microteaching is the back bone of the system. The learner gets to see his own presentation during review and faces the opinions and suggestions of his fellows who in their turn will get the same benefit. He gets a chance to improve presentation skills and over come his shyness and each session builds upon earlier achievements leading to continual capacity building. Unlike routine presentations on clinical topics in the ward or department a formal learning group is made which goes through a process based on planning, execution, review and repeat after remedial action. The learner cannot just walk away after delivering the lecture as in a ward setting but he has to participate in the review. Post graduate trainees in our setting can benefit from the method as well if the activity is made part of structured training program. A presenter's own self critique or reflection after the activity ensures active learning. In a way the small group acts as a surrogate for the supervisors. Busy supervisors can make use of this group learning with local improvisations. Session records can shared with the supervisor if desired. It has been seen that that generally most participants desire discussions with the master trainer at times.<sup>6</sup> The University of Illinois has developed "Strategies on feedbacks" with the aim to train the trainer in giving feed backs to the trainees.<sup>8</sup> This model should be considered by the post graduate institutes of the country with a futuristic approach.

Micro lessons present unique opportunity to reflect upon one's own performance. It is a chance to try new teaching methods. The learner gets to plan

and practice his skills before the days he gets to use his faculties to get into a real time experience.<sup>5,6</sup> A particular utility is for teachers who are moving from conventional didactic lectures to interactive coaching. This has a possible application in surgical specialties like orthopedics or gastro intestinal endoscopies where handicraft of intervention is sometime taught by simulation. The senior registrar gets a chance to see his own performance again while he demonstrates to junior trainees the ways to master certain hand-on skills. The American College of Surgeons trains Instructor Candidates for its Advance Trauma Life Support course in the same way.<sup>5</sup> ATLS is taught world over in a uniform way by instructors of indigenous origin. Conservative teachers however, believe that teaching skills cannot be acquired by workshops but by real life experiences.<sup>10</sup> Microteaching is also beneficial for medical teachers and post graduate trainees who plan to have teaching careers in future.<sup>7,11-13</sup> Many studies have shown that post graduate teaching incorporating microteaching techniques resulted in prolonged retention of knowledge, enhanced skill development and increased confidence level of the trainees.<sup>14-16</sup>

## CONCLUSION

Post graduate trainees can benefit from microteaching. Surgical specialties like Orthopaedics where manual skills are taught can benefit more easily because teaching and reviews makes it a unique combination to reflect upon one's own level of skills which is only possible in a simulated environment. This technique must be revisited and implemented.

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