



ORIGINAL RESEARCH PAPER

Medical Science

MERITS AND DEMERITS OF MICROTEACHING FOR MEDICAL GRADUATES AND UNDERGRADUATES

KEY WORDS: Microteaching, Medical Education, Skill and Knowledge Acquisition

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ABSTRACT

Microteaching is a technique for teachers to learn skills for teaching. It helps to improve art of teaching by going deeper in a subject. The object of the present study is to observe the impact of microteaching on undergraduates and junior teachers. Selected short topics were given to eight small groups each consisting of 4 medical undergraduate students and one junior faculty. Secondary data was also collected and analyzed. 55% subjects showed excellent performance while 35% showed moderate performance and 10% showed poor performance. The data so analyzed indicates that microteaching is very useful for improving learning and teaching in smaller groups. Microteaching method gives a good and everlasting impact in the minds of students as well as of the upcoming medical teachers. But it only benefits lesser number of students and not class of masses of medical undergraduate.

INTRODUCTION:

During the last eight to nine decades advances have been made in various fields of science and technology including in the teaching methodology. Advances in teaching methodologies have made the teaching more effective, grasping and meaningful not only for the students but even for teachers. Lot of changes and modifications have been made in teaching methodology from times of gurukul to the present digitalized and computerized era of educational technology. Microteaching is a recycling type of technology where repetition give rise to more clarity of the topic, long lasting and permanent impression both in the learner and the teacher due to its bimodal nature.

Today there is a burning need for competent skilled teachers. Training to make such teachers is a challenging problem especially due to vast expansion of literature in medical education. Fifty years back microteaching was introduced and it has effectively overcome the problems related to teachers training program. The objective of the present study is to acquire techniques of microteaching with minimal facilities which are available.¹ Developing skills is given more importance and helps to acquire deep knowledge in relation to art of teaching. Standford technique involves how to "plan, teach, observe, re-plan, re-teach and re-observe".²⁻⁷

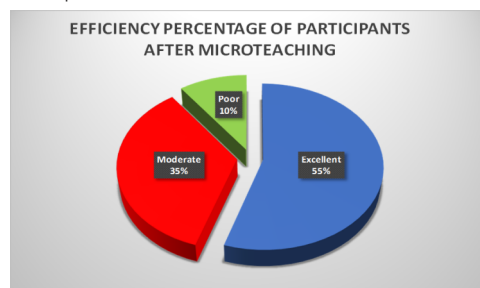
MATERIAL AND METHODS:

A study was undertaken on selected first year undergraduate medical students and junior faculty members who were interested to participate in such a training program. The study was conducted in the Department of Biochemistry at Saraswati Medical College, Unnao, UP during the year 2017 and 2018. Selected short topics were given to eight small groups each consisting of 4 undergraduate students and one junior teacher/faculty member. Each of the group was given the topic related to biochemistry and was asked to go through the prescribed textbooks, related journals, monographs as well as web and prepare slides. Then present it through power point presentation along with the use of white board or smart interactive white board⁸ in ten minutes time. Total microteaching session was kept for 45 minutes which includes planning, teaching, feedback, re-plan, re-teach and again feedback. Criteria for evaluation was on preparation of slides, speaking ability and communication, errors and fault committed, the manner, accuracy and precision with which the question raised were answered, the extent of modifications made in subsequent delivery of the lecture on basis of feedback and the overall performance. Secondary data was also collected and reviewed.

RESULTS:

The study included 40 participants. Evaluation of the forty

participants revealed that out of forty participants, twenty-two participants presented the topic in an excellent way whereas fourteen participants contributed moderately for the preparation of the topic. On the other hand, 4 participants were unable to grasp and present the topic perfectly. Pie chart given below shows the efficiency percentage of the participants after microteaching. 55% were excellent performers and are coherent with little or no doubts where as 35% were moderate performers who presented with some doubts because they have studied moderately with few mistakes. Their doubts were cleared and mistakes were rectified. Rest 8% showed poor performance both in collecting information as well as in presentation.



Where ever it was necessary the participants were given proper guidance and mistakes were rectified. The students felt happy and student-teachers rapport was improved due to their interest in such type of microteaching. However, the disadvantage of this study was that all undergraduate medical students could not participate in the study because of lack of time in their daily busy schedule. In addition to this, facilitators could not find convenient to accommodate all hundred fifty students of the batch in this type of microteaching program. Otherwise, the very purpose of microteaching methodology would have been defeated. Therefore, it appears to be of great value for the teachers but not for the medical students in masses at one time despite significant favorable results obtained in this study from the interested medical students.

DISCUSSION:

The results of the present study indicate that microteaching methodology is very useful and powerful methodology to bring the teaching program at par and excellence. However, despite being powerful, this methodology seems not to be very much applicable to the large number of medical students. But, if the curriculum of the Medical Council of India is so modified and designed that all the medical students can also find time for

microteaching program, it will fulfil the dream of the nation for the competent generation of doctors. The value of such program has been amply studied and recommended.

Remesh A, 2013¹ has reported that microteaching is very good technique for training a teacher which has been practiced all over the world for improvement of teaching skills and experiencing the teaching skills. Van OC, 1991⁹ suggested that use of microteaching will be of great help to develop art of teaching and increase good teachers for tomorrow.

Bahar OS et al, 2004¹⁰ evaluated and conducted study of faculty development program for the improvement of skills of teaching at Hacettepe University, Faculty of medicine Turkey. Assessment was made on 178 medical teachers to know the knowledge of education issues and knowledge skills whether it is good or bad. In 1998, eighty-three faculty teachers underwent this program and they showed a great satisfaction. They came to conclusion that after six months to year the trained teachers started using this into their teaching program.

Dayanindhi and Hegde, 2018¹¹ conducted a prospective experimental study on thirty volunteers who were faculties. Ethical committee approval was taken, later pre-videos of pre-microteaching and post microteaching of 30 students were graded with 7.1 teaching competency as criteria in five sessions. Efficacy of the study was estimated by paired sample 't'-test. The study showed improved participant behavior after attending five sessions. There was a statistically significant improvement of all the parameters. The participant thought that this method was time consuming though it was useful.

Horgan K, et al¹² conducted a study to examine pre-service teachers stress response using Heart Math monitor along with Heart Math Quick Coherence technique. It was found that physiological intervention was not effective in reduction of stress but participants were comfortable with microteaching situation with repeated practice.

Munir & Prem, 2016¹³ subjected RGUHS, Karnataka, India reported for short course training program of teachers through four modules. The university teachers who underwent this model training got strong platform to know the involvement of teaching and become a committed good teacher.

Gelula & Yudkowsky, 2003¹⁴ conducted a workshop to improve the skills of teaching using standardized students. The standard students were health professional students. In 2000-2001 a workshop was conducted where 36 participants took part from medical colleges, dental colleges, pharmacy colleges and nursing colleges. A high rating was done to the faculty members and a participant felt that they have learnt too much and they appreciated video tape interaction and interaction with colleagues. They concluded that this study provided high reliability with low risk.

Baseer et al, 2017¹⁵ performed a study on postgraduate research supervisors. This study was of great significance to provide timely and effective face to face feedback skill. Feedback allowed the participants about performance improvement but supervisors and participants did not have a common platform for understanding. This study showed incompatibility due to absence of pedagogic training of the professional people of the medicine. This study requires harmonization for acquiring this pedagogical skill. Microteaching is a systematic way of training method.

Praharaj SK, 2016¹⁶ did study on post graduate psychiatry residents by involving small groups wherein subtopics were allotted and feedback was collected by the persons who presented and other participants. The presenters came to conclusion that the sessions of microteaching will be of great help in the deep understanding of the topic.

Lang EV, et al 2005¹⁷ stated that microteaching helps to develop interpersonal and communication skill to train the radiological trainees by using rotating peer supervision.

Jorgans V, 1995¹⁸ conducted study at Central Research Institute for Ambulatory Health Care in Germany which was organized for postgraduates on "How to take care of diabetic patients" in association with society of panel physicians. With the help of expert's, contents and media was developed. Aim of this microteaching was to improve teaching behavior. 1315 physicians took part in 38 postgraduate courses. Thus, this course provided useful information for the improvement of medical education to postgraduates.

Fiedler KM & Beach BL, 1979¹⁹ conducted five-day intensive workshop for undergraduate students to improve the skills at Tennessee University, Knoxville. This workshop showed great improvement of participants. Self-perception of confidence scale (SPOC) indicated that they felt more comfort in handling potential employee counseling.

Bhosale UA, et al 2013²⁰ conducted a questionnaire-based study on methodology of teaching learning process and evaluation of the method in pharmacology subject read by second year medical students. The study showed various percentage of student's interest in different chapters namely 60.1% in cardiovascular system, 44.15% in CNS and 54.06% in chemotherapy because these chapters will be of paramount interest during their internship. Students also preferred clinical and patient related pharmacology and audiovisual lectures.

The study found that there is vital need for the conduction of microteaching program to overcome the existing problems in teaching. By this method students develop interest to gather information in recent advances, formation of new drugs and compiling with that of drugs of prototype thus, microteaching was of great help in the class in teaching pharmacology to undergraduate students.

Popovich & Katz, 2009²¹ conducted an exercise to improve the abilities for students of pharmacy, to develop communication skills of critical thinking and problems and capacity to solve the problems. This study was done in two semesters of developmental series. They came to conclusion that microteaching will be of great help to students for the development of communication skills and critical thinking skills and problem-solving skills. This study provided a constructive feedback of peer assessment.

Nayton K, et al 2014²² has conducted study on dementia patients in Australia. This program was conducted for nurses and allied staff to treat and improve the conditions of dementia patients through microteaching model. Higgins A & Nicholl, 2003²³ came to conclusion that planning, preparation, implementation and evaluation in microteaching is of great importance in education of nurses. Moss S, et al 1991²³ did a conversational study along with microteaching video tapes and supervision was done on 11 therapists. The study showed good maintenance of acquired skill and great increase in rendering information and explanation.

Kamboj M, et al 2010²³ have stated that microteaching is of great importance in dental education also because teaching skills and techniques were of effective outcome. Microteaching is a good exercise and provides immediate feedback. It is also useful in various skills namely presentation skills, interpersonal skills and intelligent skills. This teach, re-teach gives an opportunity for the faculty member to know good teaching values.

Visioli S et al, 2009²⁴ conducted a qualitative study in an Italian Dental School to know how much the teachers had skills of lecturing, then their attitudes and effect of teaching on students and for feedback provision. The methods employed were divided into four class namely explaining, questioning, visual aids and attitude of lecturer. This method was taken part by two people namely participant and a researcher who is not active. Observations were made on two types of lectures i.e., traditional lecture and interactive lectures. Both type of lectures provided great concentration and attention for students. This study emphasized on speaking loud during lectures and a good verbal communication which had very good impact on attitude of

lecturers. This research on microteaching was cost effective and opportunity to improve lecturing skills by lectures.

Gupta M et al, 2016²⁵ conducted pilot study on quality improvement of home-based post-natal care by microteaching done for multipurpose workers in slum areas of Chandigarh both in urban and rural areas. This was done to improve the quality of home base post-natal care. Microteaching of this pilot study improves the skills of health care workers.

No doubt the importance of microteaching has been amply emphasized and accepted for better teaching in medical, paramedical, social sciences and universities⁹⁻²⁵. However, this is not manageable for large number of students in the class but presently it can be employed for certain specific topics of commonly occurring clinical disorders such as cardiovascular disorders, endocrine disorders (such as diabetes), CNS disorders, malnutrition, acute traumatic condition including chemotherapeutic agents. Further, the undergraduate curriculum may be modified to include microteaching technique.

CONCLUSION:

Take home message is that microteaching is best tool both for learners and teachers. Improvement in teaching can be done through this method not only for junior postgraduate degree holders but also for the undergraduate medical students though it involves a more time.

Conflict Of Interest: The authors have no potential conflict of interest.

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