ORIGINAL ARTICLE

Effect of Microteaching Sessions on Teachers' Rating by Students in A Public Sector Medical University

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ABSTRACT

Objective: To determine the effect of microteaching and students' feedback on teachers' performance in a Medical University.

Methodology: Secondary data analysis was done at Sindh Medical College, a constituent college of Jinnah Sindh Medical University Karachi. Duration was two years from 2015 to 2017. Teachers' evaluation was conducted through students' feedback for the years 2015 and 2016. Quantitative data was generated by a Higher Education Commission (HEC) designed questionnaire which was circulated among the students of 2nd, 3rd and 4th year MBBS. The average mean score was calculated and teachers who scored below 2 were mandated to attend the microteaching and professional development workshops. The data was analyzed on SPSS version 20. The average mean scores of teachers' evaluation of years 2015 pre microteaching and 2016 post microteaching were compared by applying Wilcoxon test and paired "t" test. Improvement in teaching quality among teachers of different genders and designations was observed.

Result: The study revealed that teaching quality improved after the microteaching sessions which was reflected in the increased mean scores of students' feedback and p-value of 0.0001 was obtained for the faculty of 2nd and 3rd years, while the p-value of 4th year faculty was 0.010.

Conclusion: The results indicated that the students' feedback is a powerful tool for teachers' self-reflection which, combined with professional development programmes and microteaching, can enhance teaching capabilities of an individual.

Key words: Students' feedback, Teachers' evaluation, Teachers' effectiveness, Microteaching, Quality Enhancement Cell

How to cite this article: Pario A, Zahid S, Ilyas A, Qureshi GS, Sarwat S, Kausar T. Effect of microteaching sessions on teachers' rating by students in a public sector medical university. Ann Jinnah Sindh Med Uni 2021; 7(1):25-30

DOI: 10.46663/ajsmu.v7i1.25-30

INTRODUCTION

Teaching is a skill, in which a teacher effectively imparts knowledge. Effective teachers are ones who are knowledgeable, motivated, skilled, competent and focused on students' learning[1]. They enhance students' learning by using different modes of teaching and maintain a healthy, interactive environment within the classroom which motivates and encourages them to accomplish their goals[2]. Good teachers serve as role models for their students as they are responsible for career as well as character building of their students. Their warm, friendly nature towards their pupils ensures a good interpersonal relationship where a learner feels appreciated and admired[3].

The value of good and effective teachers has been identified by the education stakeholders. They have realized that without capable and highly skilled teachers, the educational system will decline. In the current era, the aim of university administrations is to give better education and learning to their students which can be achieved by enhancing teaching quality and professional development that, in turn, is thought to be possible through teachers' appraisal[4]. Traditionally, teachers were assessed by their educational qualifications and years of experience for appointments and subsequent promotions[5]. Teachers' evaluation is now a part of an international trend in which their performances are being evaluated by different methods, like classroom observations, students' feedback, analysis of students' test scores, teachers' portfolio, etc[6-7]. The administrations of several universities are using evaluation tools for promotion, contract renewal, and

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salary adjustments[8]. However, most of the researchers suggest that to drive professional development[9], students' feedback can be best used to identify the weaknesses and deficiencies in a teachers' performance.

The main objective of the administration is to get desirable students' learning and achievement for which teachers' effectiveness is measured by highly sophisticated statistical models[10]. These tools should be properly designed, effective, measurable, unbiased and reliable[11]. To have a highly refined faculty in medical education programmes, training of specific skills to the teachers is a need, and for this, teacher training programmes, like microteaching are introduced. Microteaching is an effective method by which a teacher can gain instructional experiences and stronger skills regarding the art of teaching.

Microteaching was introduced in 1960s by Stanford University, the original model involved a cycle of steps: plan, teach, observe, re-plan, re-teach and re-observe. This cyclical exercise enables to identify the weaknesses, reduce the errors, build self-confidence and develop classroom management skills with improved and enhanced in-class performance[12]. Microteaching along with students' feedback produces a dual effect on the performance of teachers, as students' feedback is considered as one of the most important improvement and performance measuring tool, as it is a method that gives insight regarding teachers' knowledge, efficacy and skills assessed by their students[13]. Students' feedback gives key information to the teachers regarding their teaching practices, their strengths, and gives clues regarding the areas which should be improved. This information can be used to build faculty development programmes and improve teaching instructional skills, as well as giving the administration a justification for teachers' accountability[14-15]. Teachers should be held accountable as well as rewarded for their evaluation results, the administration must also give some benefit to highly rated teachers and guide the low rated ones by organizing peer consultation and professional development programmes[16]. Thus, it may be hypothesized that students' feedback incorporated with professional development creates an opportunity for growth and is one of the best ways in motivating and improving the faculty to fulfill the needs of modern era medical education[13].

Generally, research in the area of students' feedback has focused on the utility of students' rating as a teacher evaluation tool or the teachers' perceptions and attitudes toward microteaching has been observed, hence a study was designed to observe that whether the students' feedback and microteaching have an impact on teacher's performance and teaching quality. This study aimed to measure the improvement caused by microteaching and students' feedback on teachers' performance, and also to compare the improvement among faculty members of different genders and designation.

METHODOLOGY

This study is based on analysis of secondary data, undertaken at a large public sector medical university, Jinnah Sindh Medical University. This study is based on data collected by conducting online survey of teachers' evaluation in the years 2015 and 2016. The teaching faculty of Sindh Medical College, a constituent college of JSMU was the subject of the study, while teachers who were new and were not present in this two-year duration were excluded.

Data was obtained by requesting all the students of 2nd, 3rd, and 4th years to fill the teachers' evaluation pro forma online at the end of the academic year before their exams in 2015. The questionnaire was validated by HEC and is used by our university. It comprises 12 items measuring teaching skills, subject knowledge, communication skills, class preparation and clarity of explanation, enthusiasm, availability, and punctuality on a 5-point rating scale. The questionnaire was administered by the Quality Enhancement Cell of JSMU.

The responses to the questionnaires were compiled by the QEC department and an over all feedback score was tabulated for each teacher. The response rate was around 80%. The evaluation reports were forwarded to the Medical Education Unit, which gave the results to the respective teachers in sealed envelopes. The results were kept confidential so that only the concerned teacher and the head of the respective department know about the strengths and weaknesses.

Following the gathering of the first cycle of students' feedback, the teachers were asked to reflect on the data and identify areas to be improved. The JSMU administration decided that teachers who received low ratings (a score below 2) will be restrained from teaching for three months and were encouraged to attend microteaching and professional development workshops. Microteaching workshops were mandatory and two sessions were conducted by the Medical Education department of JSMU. After this three months' period, all these teachers were given equal opportunity to teach and interact with the students for the whole year. At the end of the academic year 2016, the online evaluation form was once again filled by the students. The response rate was almost 80%.

The data of two years for 76 teachers who were involved in teaching the students of 2nd, 3rd, and 4th years, was obtained from the Quality Enhancement Cell of JSMU after coding to maintain confidentiality. The mean scores of the teachers were compared and analysis was done using SPSS version 20. The data was first analyzed for normality, and then descriptive statistical analysis was done by applying Wilcoxon signed ranks test and paired samples t-test to observe the following variables.

Improvement in mean score of teachers in consecutive two years
Effect of microteaching on the rating of teachers by students' feedback
The comparison of improvement among male and female teachers
Improvement among teachers of different designations: lecturers, assistant professors, associate professors, and professors

The research synopsis was approved by the Institutional Review Board of JSMU, and the data was analyzed with the help of the Research Department of JSMU.

RESULTS

The data was analyzed using SPSS version 20. It was found that the data of 2nd and 3rd years failed to fulfill the assumption of normality therefore Wilcoxon test was applied and the p-value obtained was 0.0001, which is highly significant. The paired t-test was applied for the data of 4th year as it fulfilled the assumption of normality and a p-value of 0.010 was obtained (as shown in table I).

The analysis of the data revealed that among the 66 teachers involved in teaching 2nd year MBBS students, 19 teachers got their average mean score below 2, out of these 17 teachers improved their mean score after attending the microteaching and professional development workshops. While from 3rd year faculty (total 42), only 3 teachers scored below 2, and they all improved in the consecutive year. Similarly, from 20 teachers of 4th year faculty, only 2 teachers scored below 2, and they all improved in the next year. Both male and female teachers showed remarkable improvement in their respective weighted mean scores. As shown in table II, 71% of the male teachers and 86% of the female teachers involved in teaching the 2nd year MBBS students increased their mean scores, while 93% of the male and 84% of the female teachers belonging to 3rd year faculty raised their mean score, while the 4th year faculty teachers about 66% male and 100% female teachers improved their mean scores.

Teachers of various designations also improved their mean scores. As described in table III, 88% of Lecturers, 100% Senior Lecturer, 83% Assistant Professors, 50% Associate Professors, and 71% Professors increased their mean scores. Similarly, in the 3rd year, 100% of Senior Instructor, 90% of Lecturers, 100% Senior Lecturers, 100% Assistant Professors, 60% Associate Professors, and 66% of the Professors improved their mean scores. From the faculty of 4th year, 100% Senior Instructors, 60% Lecturer, 80% Assistant and Associate Professors, and 100% Professors increased their weighted mean scores.

Table I: Descriptive Statistics of Average Mean Scores

Class	Year	N	Median score	Std. Deviation	Minimum	Maximum	P-Value	Test Statistics
2nd Year	2015	66	2.4567	0.60696	1.60	3.78	0.0001	Wilcoxon Signed Ranks Test
	2016	66	3.0370	0.63626	1.73	4.24		
3rd Year	2015	42	2.5218	0.60987	1.78	4.14	0.0001	Wilcoxon Signed Ranks Test
	2016	42	2.9960	0.62078	1.84	4.47		
4th Year	2015	20	2.8298	0.49883	1.78	3.94	0.010	Paired Samples Test
	2016	20	3.1804	0.56070	2.01	4.38		

*Std. = Standard deviation, *N = total number of teachers * p value < 0.05 is significant.

Table II: Gender Weighted Difference Cross Tabulation

	2nd year faculty			3rd year faculty			4th year faculty		
Gender	Weighted mean decrease	Weighted mean increase	N	Weighted mean decrease	Weighted mean increase	N	Weighted mean decrease	Weighted mean increase	N
Male	6(28.57%)	15(71.42%)	21	1(6.25%)	15(93.75%)	16	4(33.33%)	8(66.66%)	12
Female	6(13.33%)	39(86.66%)	45	4(15.38%)	22(84.61%)	26	0(0%)	8(100%)	8
Total	12(18.8%)	54(81.82%)	66	5(11.90%)	37(88.09%)	42	4(20%)	16(80%)	20

*N = total number of teachers

Table III: Designation Weighted Difference Cross Tabulation

	2nd year faculty			3rd year faculty			4th year faculty		
Designation	Weighted mean decrease	Weighted mean increase	N	Weighted mean decrease	Weighted mean increase	N	Weighted mean decrease	Weighted mean increase	N
Senior instructor	-	-	-	0(0%)	2(100%)	2	0(0%)	2(100%)	2
Lecturer	4(11.42%)	31(88.57%)	35	2(9.09%)	20(90.90%)	22	2(40%)	3(60%)	5
Senior lecturer	0(0%)	4(100%)	4	0(0%)	2(100%)	2	-	-	-
Assistant professor	2(16.66%)	10(83.33%)	12	0(0%)	8(100%)	8	1(20%)	4(80%)	5
Associate Professor	4(50%)	4(50%)	8	2(40%)	3(60%)	5	1(20%)	4(80%)	5
Professor	2(28.5%)	5(71.42%)	7	1(33.33%)	2(66.66%)	3	0(0%)	3(100%)	3
Total	12(18%)	54(81.82%)	66	5(11.90%)	37(88.09%)	42	4(20%)	16(80%)	20

*N = total number of teachers

DISCUSSION

Highly skillful and trained doctors are the need of society. They should be knowledgeable, kind, and empathic to their patients, as they bear a great responsibility. Producing such highly refined professionals is the responsibility of medical universities. Teachers play an important role in building the characters and careers of their students. Medical universities are trying to recruit the best faculty to improve their standards and quality of education. They are continuously refining their teaching by using students' feedback and microteaching sessions, as these are effective tools. The students' feedback and microteaching programmes help in building the teachers' self-esteem and encourage them to improve their teaching skills by reflecting on their teaching practices. This is supported by a study done by Jonas Floden 2017 which states that the teachers having a positive attitude towards students' feedback have improved more in comparison to teachers having a negative attitude[17].

In our study, we observed that microteaching along with students' feedback created a great impact on teaching practices, and helped in improving the average mean score of the faculty in the consecutive year. The results of our study are supported by Luke Mandouit (2018) who concluded that professional learning process provided with students' feedback created a positive impact on teaching practice.[13] Another study done by Sadiq Abdulwahed (2011) provided clear evidence that inclusion of microteaching in teacher training programmes enhanced the development of instructional strategies[18]. Microteaching activities incorporated in professional development programmes have the ability to enhance communication skills, critical thinking skills, reflective thinking, and problem solving as concluded in the study by Nicholas (2009)[19].

Different studies have reported gender biases related to students' feedback, as a study done by Narissra (2015) found that male students have given higher grades to female teachers whereas female students have given higher grades to male teachers[20]. Shilpa Rajesh (2018) found that most of the students preferred female teachers in grading[21]. A study conducted by Centra and Gaubatz (2000) showed that female students gave higher evaluation rating to female teachers, while male teachers were equally rated by the male and female students. They found that female teachers were good in communication, good in organizing the classroom and conducting exams, they are sympathetic listeners and they make sessions more interactive[22]. This finding is similar to the study done by Krieg (2005) who thought that students, who were taught by female teachers, performed better than the ones taught by male teachers[23]. In our study, we found that microteaching and students' feedback played a great role as both male and female teachers have improved their quality of teaching although female teachers have improved slightly more than the males. This is probably due to their hard work, sincerity, voice quality, politeness, dedication, planning, and designing.

Literature shows a vast range of opinions regarding the age of teachers. Some studies suggested that the teachers' enthusiasm declines as their age advances, which is probably due to the increased academic and administrative responsibilities. It could also be due to the repetition of the same content every year which reduces their interest in teaching[21]. Some studies have reported that students rated the seniors well and neglected the juniors as they believe that their marks are in the hands of senior faculty members. This hits at the confidence of junior teachers[24]. Thus, it is a responsibility of the universities to support their junior faculty by arranging professional development programmes.

In our study, we found that the young lecturers have improved more than the senior faculty, which is probably due to eagerness and the flexible nature of the younger junior teachers. Lecturers usually have more student oriented teaching especially in short group discussions where they directly interact with the students. They adopt different ways of attracting students in their teaching styles which help them in achieving higher grades[21].

A crucial fact about this study is that it is not a simple comparison of data of students' feedback, rather an integrated programme in which reflections of students' feedback and microteaching were incorporated to support teachers' professional growth. Even though positive results were obtained after students' feedback, microteaching multiple tools should be used to evaluate teachers with the aim of improving student learning and teacher development. More research is needed in this context, asg how the effect of feedback is perceived by students, the psychological perspectives of microteaching, and students' feedback about a teacher.

The limitations of this study include that it was conducted in only one university and thus only represents the situation at Jinnah Sindh Medical University. Taking a multidisciplinary approach would be a step forward if other institutes or other teaching specialties like Engineering, Commerce were also added. Different components like age, gender, religion, personal appearance that can create biases were not added in the research design[4]. The limitations of microteaching like no emphasis on content, skills dependency, and logistic problems were present. Similarly, peer evaluations, in-depth interviews with students would affect the results if they were added in the study.

CONCLUSION

Despite all these limitations, our study has supplemented the pool of research done on the effects created by microteaching and students' feedback, and has pointed out new areas of inquiry like longitudinal studies on teachers' perceptions regarding students' feedback and microteaching, and observing the prolonged effects created by it. Hence it is concluded that students' feedback added with professional learning has the potential to create a positive impact on teaching quality. The information provided by the students' feedback aided with microteaching, enlightens the path for a teacher's successful journey, by turning the direction of teacher towards a more interactive, students oriented classrooms, where trust is supreme and destination is enhanced learning and growth of the students.

Authors' contribution: GSQ, AP proposed the idea, concept and vision of this research work. They designed the research study. SZ and TK contributed in data acquisition. Analysis and interpretation of data was done by AI, AP and SZ. Drafting of manuscript was completed by AP and SZ. The final critical revision was done by GSQ, AI and SS.

Acknowledgment: The authors wish to acknowledge the Quality Enhancement Cell, the Institute of Medical Education-JSMU and the Research Department of Jinnah Sindh Medical University for their guidance and support in conducting this research and writing of this article.

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