

Short Communication



Perceiving the effectiveness of structured peer observation of teaching among postgraduate students – single institutional experience

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Abstract

Background: Peer observation is one method of honing teaching skills by evaluating the presentation skills of others with a two-way process of improvement based on critical reflection. Structuring the process of peer observation helps identify gaps where individual students may err while teaching. The main aim of this initiative is to evaluate the quality of teaching among postgraduate students in one department using the principles of peer, near-peer, and faculty observation.

Methods: Structured peer observation of postgraduate seminars was conducted where students' teaching skills were critically commented upon by peers, near-peers, and faculty. Measurements included perceived confidence of students in the feedback process, self-appraisal of competence in selected teaching behaviours and participants' attitude towards the process of observation using quantitative methodologies. The results were analysed using descriptive statistical methods and expressed as measures of central tendency.

Results: Overall outcomes were highly positive in terms of confidence and appraisal abilities of students in the feedback process. The attitudinal perceptions of students were also positive.

Conclusion: Using feedback from peer and near-peer evaluation, students can develop the teaching skills which will later manifest as beneficial teaching practices in long run. By repeatedly observing and then enacting teaching practices, the gap existing between the current state and the desired state of performance can be reduced.

Introduction

The activity of teaching can be honed through evaluation and critical reflection. This process helps both early career faculty and postgraduate students to enhance competence and professionalize their teaching practices.¹ The concept of peer observation of teaching has been gaining increasing attention in various educational domains. Scholarly activities designed based on peer observation of teaching can either be formal in the form of seminars, workshops, and portfolios based on longitudinal observation, or informal in the form of workplace learning and peer coaching.² Structured, formal activities are often evidence-based, reflective, and individualized in order to encourage learning.²

Peer observation results in the development of a learning attitude by giving and receiving feedback.³ The process of feedback provides an opportunity to identify areas where a teacher might be prone to error while teaching.³ Through this process, each teacher can develop their own

teaching skill set to achieve beneficial teaching practices. By repeatedly observing and performing teaching activity, one can reduce the gap existing between the current state and the desired state of performance.

Vygotsky's zone of proximal development discusses the distance between the present and expected state that can be identified by peers.⁴ The difference between postgraduate peers and faculty observation lies in a 'cognitive distance'. Rather than being observed by faculty, who occupy a relatively higher academic hierarchical position, postgraduate colleagues (peers) are in a position to explain the gaps in one's teaching because of their similar cognitive and social hierarchy.⁵ This type of social learning creates a positive learning environment, which includes characteristics such as mistake-forgiving, deliberate practice and feedback in simpler terms.^{6,7} However, it is essential to couple the advantages of both peer and faculty observation because feedback provided by different 'cognitive distances' would be of utmost help

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in improving the teaching activity.

At our institution, post-graduate students take seminars on a periodical basis. However, assessment of their teaching activities was subjective, unstructured, and optional. The presenters were unaware of the domains in which they would potentially be evaluated, and the observers were unaware of how to provide a structured method of feedback. In this context, a structured peer observation of teaching design was framed to serve the following purposes: (a) enhance the collaborative inputs from the peers, (b) improve the presenter's self-reflection abilities and (c) focus on rectifying the deficiencies and enhancing the capabilities of all the participants in this teaching activity.⁸ This endeavour was initiated after obtaining informed consent from 15 post-graduate residents during the period of 2018-2019. Three near-peer observers (with one to two years of experience) and three faculty members were also recruited for this study.

Materials and Methods

The observation form for both peer and faculty was adapted from a previous study by Mookherjee et al,⁹ which delineates each observable parameter for evaluation. The original observation form was designed for clinical teaching rounds. Since these seminars were purely academic, certain modifications were made to the observation form. The modified observation form was validated by three faculty members in order to ensure its academic rigor. The form included eight observable teaching behaviours, including (a) allowing the audience to participate in active discussion, (b) outlining the objectives of presentation before commencement of the seminar, (c) stating the relevance of the topic, (d) organizing the presentation congruent to the stated learning objectives, (e) using appropriate audio-visual aids [combination of blackboard and multimedia presentation], (f) responding to questions raised by the audience in a constructive manner, (g) covering the topic in the allotted time, and (h) promoting self-directed learning by posing questions at the end of each presentation.

After the completion of each seminar, feedback was collected from peers, near peers, and faculty members. Peer feedback was non-structured, compared with near peer and faculty feedback, which were structured. Postgraduate peers were provided with an observation form. The peer feedback comments could either be positive, which the presenter can utilise for reinforcing good qualities or critical, which can be used to improve subsequent presentations. Similarly, three near-peer and three faculty observers would document their feedback in a prescribed format. The anonymous forms were then handed to the faculty coordinator, who compiled all feedback comments and passed these to the presenter. Each resident observed a minimum of six seminars before participating in the feedback process.

At the end of the seminars, participants were asked

to answer a questionnaire regarding the effectiveness of the peer observation program. The questionnaire consisted of three domains: 1: confidence in the feedback process and improvement in teaching the abilities after the program; 2: self-appraisal of competence in selected teaching behaviours after participating in the process, and 3: participants' attitude towards the process of peer and faculty observation. The response was recorded using a Likert scale with responses ranging from 1 = strongly disagree to 5 = strongly agree. The completed questionnaire was analysed and tabulated for measures of central tendency.

Results

All 15 students who were enrolled in this program had no prior experience in peer observation. The main objective was not to compare the performance of students' teaching activities; thus, there was no analysis of observations made by peers and faculty. Table 1 summarizes the perceived confidence in the ability of the students to participate in the process of structured peer observation and make use of it to improve their teaching skills. Table 2 depicts the self-appraisal of selected teaching competencies while presenting seminars, and Table 3 compiles the attitudinal components of the students while participating in the peer observation encounters.

Discussion

This study was conducted to assess the acceptability and feasibility of a structured peer observation as a method for enhancing the teaching skills among anatomy postgraduate students. The feedback obtained from the postgraduate students regarding the structured peer observation was overwhelmingly positive, and recipients perceived it to be positive regardless of who had provided the feedback (faculty, near-peer, or peer). Similar to the observation by Sullivan et al.¹⁰ the program offered additional collateral benefits for the peer observers. In particular, near-peer observers could identify deficiencies in teaching in a much better manner than peers, which may be attributed to cognitive congruence. As most of the participants were not observed during the teaching session, a lack of trust was perceived in the initial sessions. This resulted in highly formal text responses from peers, which did not benefit the presenters. Moreover, the self-assessment that was intended to identify gaps between desired and actual practices did not yield results. The responses provided by the presenters were inaccurate and did not acknowledge most of the obvious deficiencies. This could be due to the lack of previous experience and genuine acknowledgment of the pitfalls.

Bainbridge and Wood discuss that "learning from" others is subjective and serendipitous because it is largely dependent on the knowledge and skill set possessed by the person who gives the feedback.¹¹ The shortcomings faced in the self-reflection and peer observation processes were

Table 1. Confidence in ability to participate and use feedback effectively after the activity

Statements	Mean value (SD)
1. I can accurately assess my colleagues' teaching skills.	3.5 (0.8)
2. I can give accurate feedback to my colleagues regarding their teaching skills.	3.4 (0.9)
3. I can give feedback in a way that my colleague will not feel defensive about their teaching skills.	4.4 (0.4)
4. My feedback will improve my colleagues' teaching skills.	3.3 (0.9)
5. I can receive feedback from a colleague without being defensive about my teaching skills.	4.2 (0.5)
6. I can use feedback from a colleague to improve my teaching skills.	4.6 (0.4)
7. I am confident in my ability to present during seminars	4.1 (0.7)
8. I am confident in my knowledge of components of effective teaching	3.3 (1.1)

Note: Items adapted from Mookherjee et al.⁹

Table 2. Self-appraisal of competence in selected teaching behaviours while presenting seminars

Statements ["While I am teaching/presenting, I generally...."]	Mean value (SD)
1. Listen to learners	4.0 (0.7)
2. Encourage learners to participate actively in discussion	3.8 (0.6)
3. Call attention to time	3.7 (0.5)
4. State objectives clearly and concisely	4.0 (0.8)
5. State relevance of the topics & objectives to audience	4.2 (0.6)
6. Present well-organized material	3.9 (0.8)
7. Use blackboard or other visual aids effectively	3.7 (0.9)
8. Motivate learners to learn on their own by posing questions at the end	3.6 (0.8)

Table 3. Attitudes toward peer observation and feedback pre- and post-intervention

Statement	Mean value (SD)
1. Being observed and receiving feedback can improve my teaching skills.	4.5 (0.4)
2. My teaching skills cannot improve without observation with feedback.	3.4 (1.2)
3. Observation with feedback is most effective when done by faculty who are expert educators	4.2 (0.6)
4. Observation with feedback is most effective when done by peers (colleagues) and near-peers (SRs)	4.1 (0.7)
5. The thought of observing and giving feedback to my colleagues makes me uncomfortable.	2.7 (1.5)
6. The thought of being observed by a colleague and receiving feedback makes me uncomfortable.	2.0 (1.7)

Note: Items adapted from Mookherjee et al.⁹

enhanced by the comments given by near peers and faculty, who pointed out deficiencies in a constructive manner. In subsequent sessions, the entire feedback process was increasingly bidirectional. Nevertheless, residents who presented after 3-4 sessions of observation were able to identify the specific observable teaching behaviours they had critiqued in others. The number of negative constructive comments, which were considerable in the initial sessions, decreased subsequently. Thus, the process of peer observation was beneficial in terms of increasing the confidence of participants, enhancing the meta-cognitive awareness of the teaching experience, affirming good teaching practices by constructive comments and rectifying deficiencies by reinforcing comments.^{12,13} On the other hand, this snapshot of teaching may make students, meta-cognitively, focus too much on their performance.¹⁴

At the end of the debriefing sessions, many of the students had reported increasing their motivation to improve their teaching practice. However, this process should be considered as an iterative one and the benefits solely depend on the long-term continuous practice of the desired changes. This can be considered concomitantly along with other peer observation programs, which have documented an increase in deeper critical reflection and concrete teaching practices.¹⁵

Limitations

The limitations of this study include the fact that we were unable to objectively document gains in knowledge and skills as a result of the feedback program. Furthermore, the topics chosen for each session were unique, which required different structures of the presentations. This

heterogeneity may have compromised objectivity and the peer assessment to a certain extent. Lack of control over peer feedback and a small sample size are other limitations, which makes the results of this study applicable only for our institution and not generalizable. The structured peer observation of teaching can be considered as an add-on opportunity for providing quality feedback from multiple perspectives. Even though faculty and near-peer observation may be of comparatively greater value, peer observation also needs to be encouraged because of its long-term bidirectional benefits.

Conclusion

Peer and near-peer critical observation, when it is structured and comes from multiple sources, is a valuable tool for helping postgraduate students in improving their teaching competencies.

Ethical approval

The endeavour is a part of a comprehensive project, "Competence to complex capability – analysing the dimensions of teaching among anatomy post-graduate residents," which is approved by the Institute Ethics Committee, Jawaharlal Institute of Postgraduate Medical Education and Research, Puducherry, India (Ethical committee number: JIP/IEC/2018/512).

Competing interests

On behalf of all the authors, the corresponding author declare that there are no competing interests to be declared.

Authors' Contributions

The concept and framework were designed by DK; the sessions was scored and analysed by DK, RV and RSSN. The perception was collected and analysed by DK. The manuscript was prepared by DK and edited by RSSN and RV.

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