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Keywords

Medical Students, Undergraduate Education, Educational Measurement, Teaching, Feedback

Comments

Medical student Meghan E. Shea participated in this study as part of the Senior Scholars research program.

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Piloting Standardized Immediate Student Evaluation of Lectures in Pre-Clinical Years

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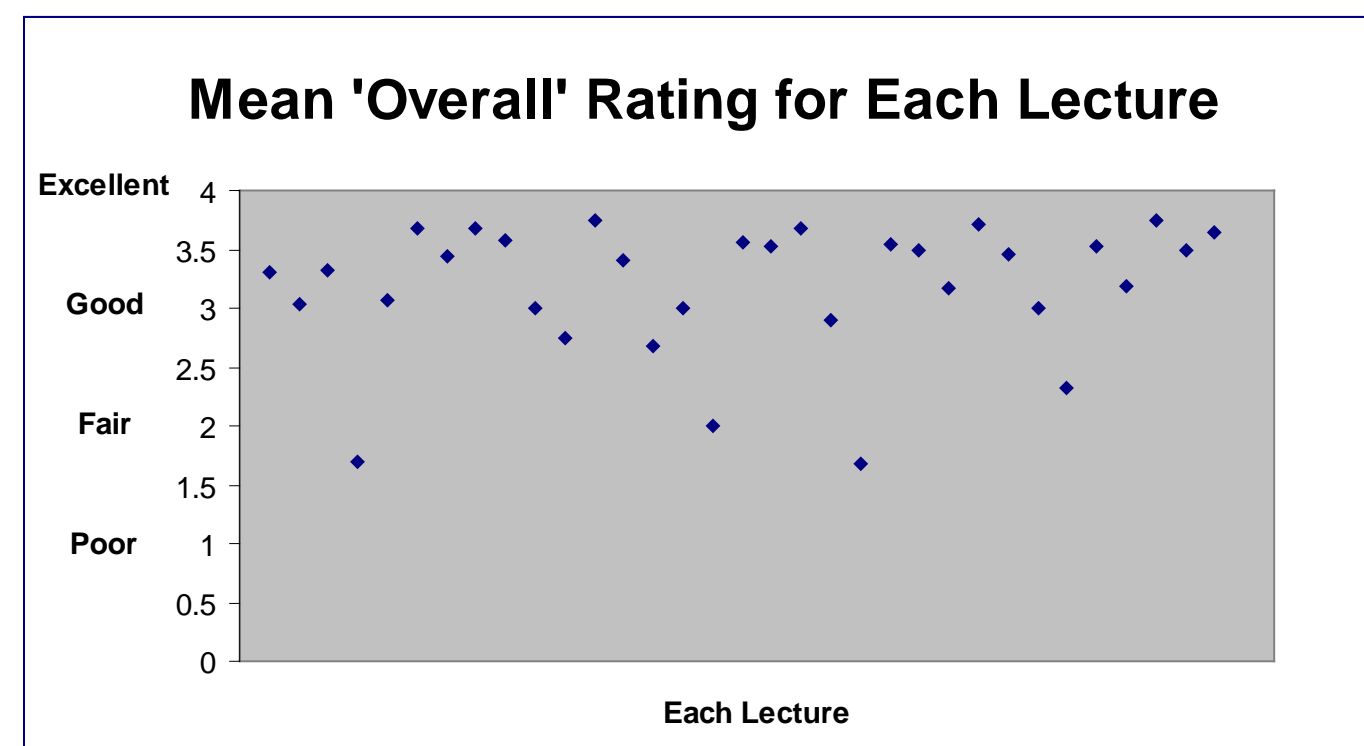
BACKGROUND

- At UMMS, pre-clinical students evaluate lectures weeks to months after delivery which may impact recall and evaluation
- Delays in faculty receiving feedback may impact their ability to institute change
- Sampling can reduce evaluation demands on students yet preserve reliability and validity¹
- Literature shows students are motivated for intrinsic reasons when: courses are well planned, materials' relevance clear and their teachers are enthusiastic and engaged²

METHODS

- 34 second year students (goal of 25-30) self-identified to participate after email solicitation to 140 (24.2%)
- Questionnaire developed based on educational literature³ and reviewed by student focus group and faculty curriculum committee
- Focus group assessed time to complete questionnaire, clarity of questions, & new topics
- Questionnaire consisted of 20 items using 4-point likert scale plus 3 open-ended response questions
- Questions based on 5 elements of an effective lecture -- clarity, interaction, task orientation, enthusiasm, and organization
- Students completed questionnaire after each lecture in 2 weeks (21 unique faculty, 33 lectures)
- 397 total questionnaires submitted, range 2-23 per lecture, mean 12 questionnaires per lecture
- Completed questionnaires sent to faculty daily
- 25 of 34 (73.5%) students and 15 of 21 (71.4%) faculty completed brief online survey regarding their experience (5 point likert and open-ended questions)
- Qualitative analysis by one author for major and minor themes of lecture open-ended questions

¹ Kreiter, C.D., Lakshman, V. *Investigating the use of sampling for maximising efficiency of student-generated faculty teaching evaluations.* Medical Education 39: 171-175. (2005)
² Markert, R.J. *What Makes a Good Teacher? Lessons from Teaching Medical Students.* Academic Medicine 76(8): 809-810. (2001)
³ Adapted from Pamela Cooper's adaptation of the form by Harry Murray. "Classroom teaching behavior related to college teaching effectiveness." In J. Donald and A. Sullivan (eds.) *Using Research to Improve Teaching.* San Francisco: Jossey-Bass, 1985. P. 25.



Conclusion: Majority of lectures rated highly with mean of 3.15 and only a few outliers.

Lecture Evaluation: Open-Ended Responses

- **5 Major Themes:** Clarity, Interaction, Task Orientation, Organization, Overall
 - 3-4 minor themes per major theme
- **Response Rate for open-ended questions:**
 - 60% for specific questions regarding organization and engagement
 - 11% for Overall question
- **Range of examples:**
- **Clarity: Craving for Clinical Correlations**
 - "Comments about your clinical practice would improve our attention and interest"
 - "She questioned the class on a clinical problem, which forced me to think through the material."
 - "Good use of clinical vignettes"
- **Interaction: Engaged & Enthusiastic**
 - "Excellent infectious enthusiasm"
 - "Great enthusiasm! Makes me want to continue attending this class."
 - "Seemed excited to see us and lecture to us. Seemed like he wanted to be here"
- **Interaction: Delivery suggestions for improvement**
 - "Lecture was extremely dry – like listening to a textbook."
 - "Please don't talk to the screen"
 - "Lecturer seemed disinterested in being here himself"
- **Sample of Faculty comments**
 - "It was very helpful and will certainly impact my lecture next year"
 - "From experience I know it is hard to please all learners, so the more input we have across time, the better we can judge how to present our lectures. Also this is VERY helpful for establishing a teaching portfolio"
- **Sample of Student comments**
 - "... the post-exam feedback is too distant to be very useful and couldn't be used to improve the course in real time"
 - "Some professors really responded to the comments, which made me feel that they really did care about our learning."
- **Conclusion:** Students need to see value in evaluating each lecturer; in other words, they need to see changes implemented due to feedback

RESULTS & CONCLUSIONS

Lecture Evaluation: Likert Data

- No statistical difference between Overall mean (3.15) & Calculated mean (3.19), P=0.121
- Lecturers given "overall" poor or fair (N=67) received range of scores on individual questions (poor - excellent)
 - Students able to pinpoint ways to improve, but also report strengths
- Most questions calculated/overall mean > 3 (range 2.79-3.34)
 - "Used a variety of teaching methods" mean 2.79; Possible confusion of definition – students interpreted as variety of media.
- Per question responses left blank ranged 1-28 (mean 9)
 - Demonstrates students could complete survey
 - 28 blanks for "Responded appropriately" likely due to students needing N/A column
 - 18 & 21 blanks for questions about "objectives" possibly due to student confusion of definition or ambiguity in faculty's presentation of objectives

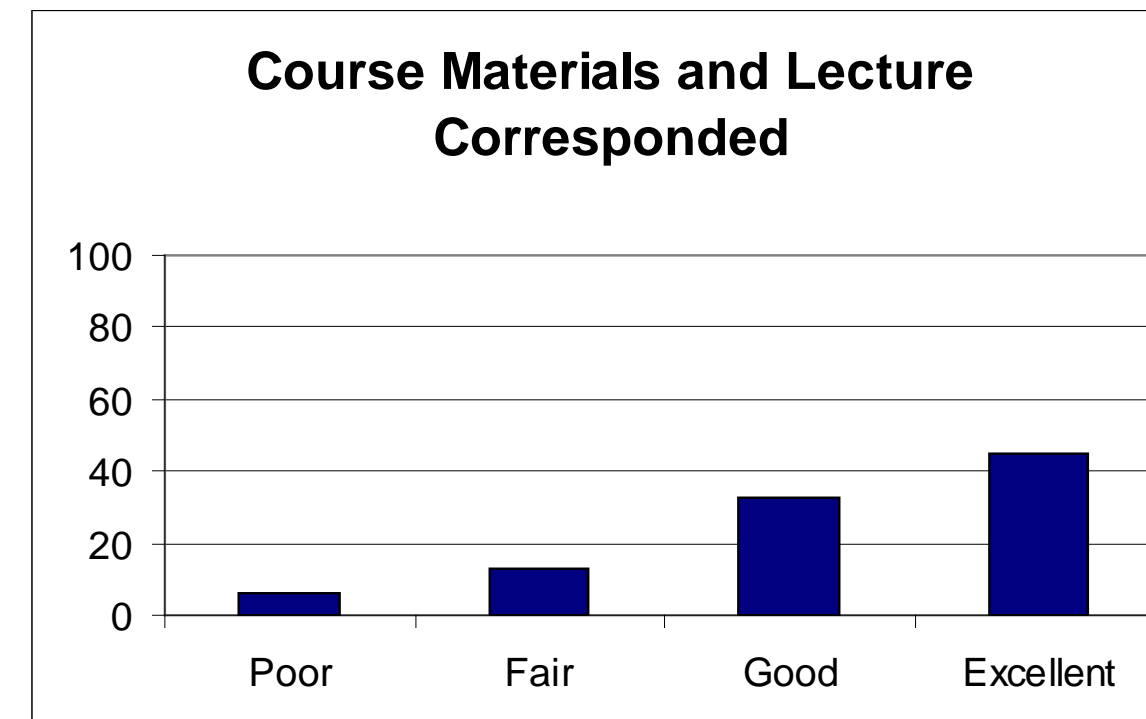
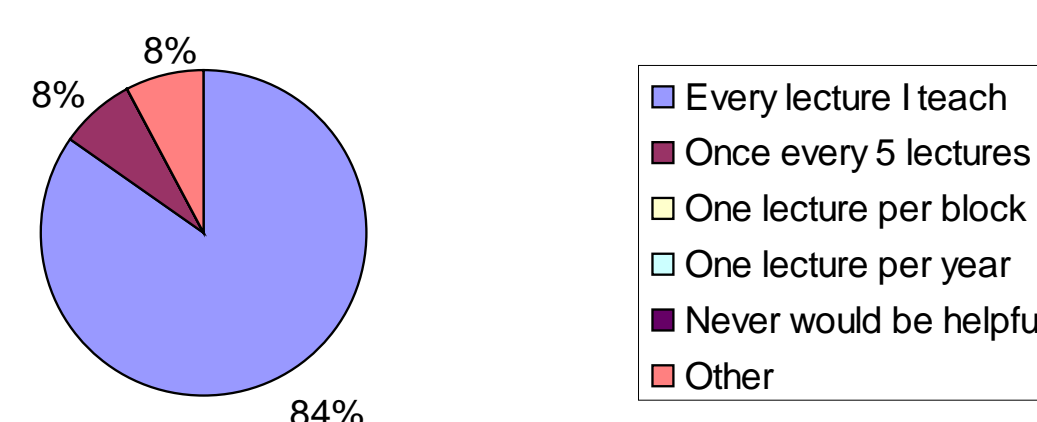
Faculty Perception of Evaluation Method

Question	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The questions were relevant to my lecture	14.29	7.14	7.14	71.43	0.00
The feedback I received was clear	13.33	0.00	6.67	80.00	0.00
Receiving student feedback soon after teaching was helpful	13.33	6.67	6.67	53.33	20.00
I would be/was able to make changes to my teaching based on this feedback	13.33	6.67	26.67	40.00	13.33
Short answer responses were helpful	13.33	0.00	13.33	46.67	26.67
Feedback I received was respectful & appropriate	13.33	0.00	20.00	53.33	13.33

*All of the values in above table are percentages.

- **85% would like to receive this feedback** trended over time
- 46% would like feedback right after lecture, 15% before lecture in next year & 39% right after & before

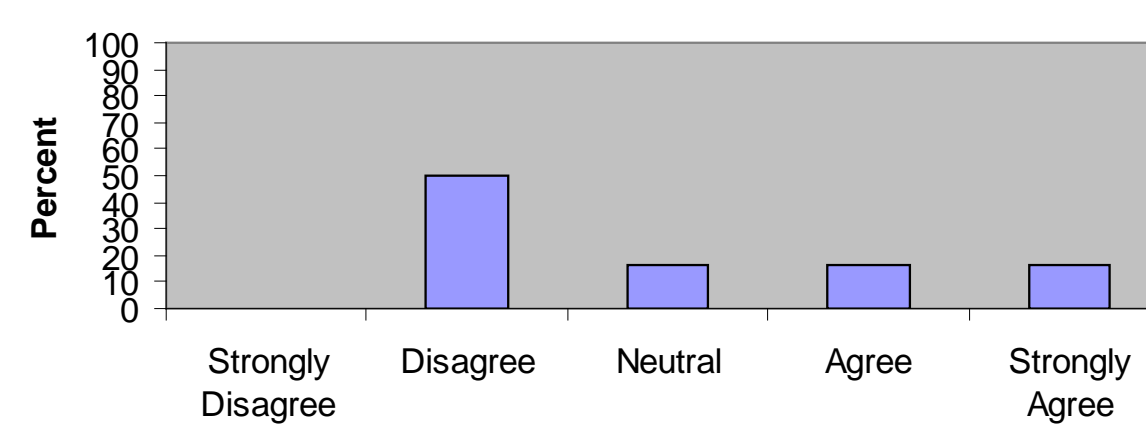
How often would this feedback be helpful?



Conclusion: Majority of students rated this question highly, though frequently responses to the open-ended questions noted need for improvement. Thus, correspondence of materials is important for many students, and if there's dissonance between lecture and course material, students are likely to inform faculty.

Student Perception of Evaluation Method

An abbreviated version of this survey would be better



Conclusion: Contrary to our hypothesis, 50% of students did not want an abbreviated version. More specific feedback may be seen as more likely to initiate change.

Question	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
The questions were clear	0	0	0	68	32
The questions were relevant to the lecture	0	0	16	52	32
I was able to provide constructive feedback	0	0	12	44	44
An online version would be better	2	24	32	12	24
Feedback that I provide will lead to change	0	12	16	64	8
An abbreviated version of this survey would be better	0	50	16.7	16.7	16.7

*All of the values in above table are percentages.

- **Completion time:** 40% < 2 minutes, 48% 2-4 minutes, 8% 5-7 minutes
- **Barriers to completing survey:** 52% personal fatigue; 48% lecture went over time; 28% needed more time to think; 4% concerned about being identified

LIMITATIONS

- Recruited 34 students though lecture attendance and thus response rate varied, some lectures had as few as 2 or 3 responses
- Students who volunteered may have more interest in giving feedback
- N/A was not included as an option for the likert scale portion of the questionnaire
- Faculty received data in raw format, no summary statistics
- Few faculty had repeat lectures thus unable to track how faculty use the information and students' reactions to implementing change
- Few faculty repeated lectures thus unable to accurately gauge the usefulness of giving feedback after every lecture taught

NEXT STEPS

- Revising questionnaire, specifically adding N/A option and removing overall questions
- Adapting questionnaire to be online
- Planning implementation of questionnaire in pre-clinical years, determining:
 - Number of students needed
 - How to divide students into groups
 - Frequency in which students complete questionnaire
 - Frequency & format in which faculty & chairs receive feedback
- Considering a system where faculty could provide a personal response to an anonymous evaluator
- Evaluating possibility of providing faculty ability to tailor questions for their lecture
- Investigating piloting this method of feedback for clinical years' lectures

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