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Brief report

Changing medical students' perception of the evaluation culture: Is it possible?

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Abstract

Student feedback is a critical component of the teacher-learner cycle. However, there is not a gold standard course or clerkship evaluation form and limited research on the impact of changing the evaluation process. Results from a focus group and pre-implementation feedback survey coupled with best practices in survey design were used to improve all course/clerkship evaluation for academic year 2013-2014. In spring 2014 we asked all subjected students in University of Utah School of Medicine, United States of America to complete the same feedback survey (post-implementation survey). We assessed the evaluation climate with 3 measures on the feedback survey: overall satisfaction with the evaluation process; time students gave effort to the process; and time students used shortcuts. Scores from these measures were compared between 2013 and 2014 with Mann-Whitney U-tests. Response rates were 79% (254) for 2013 and 52% (179) for 2014. Students' overall satisfaction score were significantly higher (more positive) post-implementation compared to pre-implementation ($P < 0.001$). There was no change in the amount of time students gave effort to completing evaluations ($P = 0.981$) and no change for the amount of time they used shortcuts to complete evaluations ($P = 0.956$). We were able to change overall satisfaction with the medical school evaluation culture, but there was no change in the amount of time students gave effort to completing evaluations and times they used shortcuts to complete evaluations. To ensure accurate evaluation results we will need to focus our efforts on time needed to complete course evaluations across all four years.

Keywords: Feedback; Focus groups; Personal satisfaction; Medical schools; United States

Student feedback is a critical component of the teacher-learner cycle. Most medical schools rely on course/clerkship feedback as one component to measure effectiveness of their programs in terms of student satisfaction [1]. However, there are no gold standard course or clerkship evaluation forms and limited research on the impact of changing the evaluation process. In Spring 2013 the University of Utah School of Medicine conducted a focus group with student representatives from each class to gather qualitative feedback on the course/clerkship evaluation process. The following questions from a prior evaluation study were used in the focus group [2]:

"In your opinion, what is the purpose of evaluation in medical education?"

"How would you define good teaching?"

"What do you think about the evaluation tools currently used at our institution?"

"How do you arrive at an overall course rating?"

"What kind of consequences would you like to see to be drawn from course evaluations?"

After the focus group we gauged all students' perception of the evaluation culture with an anonymous online feedback sur-

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vey. The feedback survey included seven Likert scale questions about elements of the evaluation process with a strongly agree, agree, disagree, or strongly disagree scale, two items about effort and use of shortcuts in completing evaluations with a 0%-25% of the time, 26%-50% of the time, 51%-75% of the time, or 76%-100% of the time scale, and one open ended question asking for specific recommendation for improving the course/clerkship evaluation process. Results from the focus group and feedback survey coupled with best practices in survey design were used to improve all course/clerkship evaluations. Drafts of the new course and clerkship evaluations were emailed to student representatives who participated in the earlier focus group and course/clerkship directors asking for suggestions to further improve the evaluations. See Appendices 1 and 2 for the final course and clerkship evaluations, respectively.

At the University of Utah School of Medicine the MD program is four years with 80-100 students admitted in the first year. In academic year (AY) 2014 (July 2013 to June 2014) we implemented the new evaluation process. Similar to prior years all evaluations were completed online with a link emailed to students from internal survey software. All responses were anonymous. In AY 2014 we introduced an optional midpoint formative survey with four items so that course directors could review feedback and make changes before the end of a course. The midpoint survey was added because many students mentioned the end of a course was too late to address major concerns. For both pre-clinical courses and clerkships students completed an end of course/clerkship evaluation (see Appendices 1 and 2). These surveys consisted of 13 questions for pre-clinical courses and 11-18 questions for clerkships dealing with major domains deemed important by the Liaison Committee on Medical Education. Previously, the end of pre-clinical course evaluation consisted of 30 questions and the end of clerkship evaluation consisted of 51 questions. We replaced all 5-point strongly agree to strongly disagree Likert scale items with 3 point scales using 'agree, unsure, or disagree' options as this provided us with sufficient data and help shorten the cognition load for students in completing the surveys. In AY 2013 students completed 8 end-of-course evaluations in years 1-2 and 7 end-of-clerkship evaluations in year 3. In AY 2014 two new courses were added and thus students completed more end-of-course evaluations in years 1-2.

Significant changes were also made to the process of evaluating teaching faculty in years 1 and 2. We decreased the number of instructors each student had to evaluate by a third and also decreased the number of evaluation items. Previously, all students evaluated each lecturer at the end of the course and courses lasted 2-11 weeks. Surveys were comprised of five questions with an option for additional comments. Additionally, five students per week were selected to complete a daily survey for each lecturer in each course. In AY 2014 we omitted the daily survey, as it was redundant of our proposed survey to evaluate teaching faculty. Specifically, in an effort to provide more meaningful feedback, students were divided into three evaluation groups per course. Each group of 30-40 students was responsible for evaluating a group of instructors who were responsible for teaching during a specific time frame. Notifications were sent to students at the beginning of each course to inform them of their assigned evaluation group and their assigned lecturers. This new process provided students with one question with an option of additional comments for each assigned lecturer. The process afforded students the opportunity to know which lecturers they were to evaluate and to provide feedback in a timeframe more favorable to the actual lecture(s).

An anonymous 'On-The-Fly' survey was also designed and implemented in AY 2014. The 'On-The-Fly' system gives students an opportunity to anonymously report concerns, and to evaluate an instructor, learning activity or clinical experience in a confidential and anonymous manner in real time. 'On-The-Fly' surveys are available to students on a secure website and all responses go to the senior director of professionalism, learning, and evaluation who forwards on to the appropriate teaching faculty and/or dean. Refer to Appendix 3 for the 'On-The-Fly' survey template.

In Spring 2014 all students were asked to complete the same feedback survey that was used in Spring 2013. Responses on the pre- and post-implementation surveys were compared to determine if students' perception of the evaluation process had changed. Specifically, we calculated the percentage of students who agreed or strongly agreed with each survey element statement and compared the pre and post-implementation results with logistic regression. We also computed an overall course evaluation satisfaction score by summing values across the 7 survey items where strongly disagree = 1, disagree = 2, agree = 3, and strongly agree = 4 (possible range, 7 to 28) and compared those score pre- and post-implementation with the Mann Whitney U-test. Mann-Whitney U-tests were also used to compare effort and shortcut ratings pre- and post-implementation.

Response rates were 79% (254) for AY 2013 and 52% (179) for AY 2014. Tables 1 and 2 provide a summary of feedback survey responses for AY 2013 (pre-implementation) and AY 2014 (post-implementation). Students had significantly more positive (strongly agree, agree) ratings post-implementation for all elements of the evaluation process except for lecturers adjusting their lectures as a result of weaknesses identified by student feedback. Students' overall satisfaction score were significantly higher (more positive) post-implementation (mean

Table 1. Frequency and percentage of student who strongly agreed/agreed to survey items about elements of the University of Utah School of Medicine course evaluation process in academic year 2013 (pre-implementation, N = 254) and 2014 (post-implementation of new process, N = 175)

Element of the evaluation process	Strongly agree/ agree pre-implementation	Strongly agree/ agree post-implementation	P-value	Odds ratio
I feel the directors adjust courses as a result of weaknesses identified by student feedback	165 (65.0)	137 (78.3)	0.005	1.88
I feel that lecturers adjust their lectures as a result of weaknesses identified by student feedback	135 (53.1)	109 (62.3)	0.066	Not applicable
I feel that persons other than course directors and lecturers pay attention to student feedback	137 (53.9)	117 (66.9)	0.010	1.70
I feel that the evaluation process is transparent	124 (48.8)	114 (65.1)	0.002	1.93
I feel that the end of course evaluation provides an effective way to evaluate courses	147 (57.9)	138 (78.9)	≤ 0.001	2.77
I feel that the instructor evaluation form provides important feedback	165 (65.0)	145 (82.9)	≤ 0.001	2.76
I feel that the current evaluation process protects my identity and thus allows me to be honest	142 (55.9)	135 (77.1)	≤ 0.001	2.71

Values are presented as number (%).

Table 2. Frequency and percentages for student effort and use of shortcuts to the University of Utah School of Medicine course evaluation process in AY 2013 (pre-implementation, N = 254) and AY 2014 (post-implementation of new process, N = 175)

Survey item	0%-25% of the time	26%-50% of the time	51%-75% of the time	76%-100% of the time	P-value
How often are you able to give adequate thought and effort to the evaluation process?					0.981
Pre-implementation (AY 2013)	41 (16.1)	84 (33.1)	93 (36.3)	36 (14.2)	
Post-implementation (AY 2014)	23 (13.1)	63 (36.0)	69 (39.4)	20 (11.4)	
How often do you use shortcuts to complete evaluations?					0.956
Pre-implementation (AY 2013)	104 (40.9)	62 (24.4)	50 (19.7)	38 (15.0)	
Post-implementation (AY 2014)	62 (35.4)	63 (36.0)	30 (17.1)	20 (11.4)	

Values are presented as number (%).
AY, academic year.

± SD, 20.04 ± 3.83) compared to pre-implementation (mean ± SD, 17.69 ± 3.78; P < 0.001). There was no change in the amount of time students said they gave effort to completing evaluations (P = 0.981) and no change for the amount of time they used shortcuts to complete evaluations (P = 0.956).

We were able to change the medical school evaluation culture in terms of students overall satisfaction and satisfaction with all elements of the process except lecturers using feedback to improve lectures. Additionally, there was no change in the amount of time students gave effort to completing evaluation and times they used shortcuts to complete evaluations. However, we did substantially decrease the number of items and times students completed evaluations pre- and post-implementation. A limitation of these results is that they were for an evaluation process at one institution. Additionally, the post-implementation response rate was low. We actually took the low response rate as an indication that students were not negatively fired up about the new course evaluation process. At our institution a response rate above 70% to a non-required survey is almost always an indication that students are greatly dissatisfied/frustrated with the component being surveyed. To ensure educators get accurate feedback from students we will need to focus our efforts on time needed to complete course evaluations across all years of medical school. Future research will need to determine the usefulness of course evaluation feedback to course/clerkship directors.

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Conflict of interest

No potential conflict of interest relevant to this article was reported.

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Supplementary material

Audio recording of the abstract.

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Appendix 1. Course evaluation tool used in University of Utah School of Medicine, United States of America in academic year 2013

1. Objectives, assessment & content: indicate your agreement with the following areas of the clerkship

	Agree	Unsure	Disagree
I received clear learning objectives for this clerkship	O	O	O
My performance was assessed against those learning objectives	O	O	O
Sequencing of material in this unit was logical such that later content built upon prior content when applicable	O	O	O

2. If you selected 'disagree' for sequencing of material what suggestions do you have for how topics should be organized?

3. Were any topics covered with excessive detail/redundancy in this course? If so, indicate which below:

4. Were any topics covered that should have been covered in this course or need to be covered more extensively? If so, indicate which below:

5. Educational events/resources: indicate if each event type enhanced your learning of material

	Yes enhanced my learning	No did not enhance my learning	Disagree
Large group lecture	O	O	O
Lab	O	O	O
Patient presentations	O	O	O
Cased based learning small group	O	O	O

6. Were there any educational event sessions/resources that stood out as being particularly effective? If so, please comment on those sessions below:

7. Directors and coordinator

	Agree	Unsure	Disagree	Not applicable
The course directors made themselves available/responsive to my questions	O	O	O	O
The course directors were responsive to feedback	O	O	O	O
The coordinator was responsive to my needs	O	O	O	O

8. Overall impression

	Excellent	Good	Fair	Poor
How would you rate the overall organization of this course?	O	O	O	O
How would you rate the overall quality of this course?	O	O	O	O

9. Please comment on the course strengths:

10. Please comment on how the course can be improved:

11. Mistreatment: I experience mistreatment in the clerkship
- ◯ Yes
- ◯ No

12. If yes to #11: I experience mistreatment from the following in this clerkship (check all that apply)
- ◯ Course directors
- ◯ Small group facilitator
- ◯ Other faculty involved in the course
- ◯ Residents or fellows involved in the course
- ◯ Students
- ◯ Staff
- ◯ Other (please specify)

13. If yes to #11: In what ways did you experience mistreatment during this clerkship?

Appendix 2. Clerkship evaluation tool used in University of Utah School of Medicine, United States of America in academic year 2013

1. Objectives, assessment & content: indicate your agreement with the following areas of the clerkship

	Agree	Unsure	Disagree
I received clear learning objectives for this clerkship	O	O	O
My performance was assessed against those learning objectives	O	O	O
My role on the ward/ambulatory setting was clear	O	O	O
My time on the wards/ambulatory setting was productive	O	O	O
I had the opportunity to follow a variety of patients during this clerkship	O	O	O

2. Please comment on the balance of time devoted to outpatient vs. inpatient or each type of service (e.g., obstetrics vs. gynaecology time) for the clerkship

3. Teaching & feedback: indicate your agreement with the following areas of the clerkship

	Agree	Unsure	Disagree
Attendings (faculty members) provided effective teaching during this clerkship	O	O	O
Residents and fellows provided effective teaching during this clerkship	O	O	O
I received helpful feedback on my performance during this clerkship	O	O	O

4. Clerkship director and coordinator

	Agree	Unsure	Disagree	Not applicable
The clerkship director was available/responsive to my questions	O	O	O	O
The coordinator was responsive to my needs	O	O	O	O

5. Overall impression

	Excellent	Good	Fair	Poor
How would you rate the overall organization of this clerkship?	O	O	O	O
How would you rate the overall quality of this clerkship?	O	O	O	O

6. Please comment on the clerkship strengths:

7. Please comment on how the clerkship can be improved:

8. Mistreatment: I experience mistreatment in the clerkship
   - ◯ Yes
   - ◯ No

9. If yes to #9: I experience mistreatment from the following in this clerkship (check all that apply)
   - ◯ Attendings
   - ◯ Residents
   - ◯ Interns
   - ◯ Nurses
   - ◯ Patients
   - ◯ Students
   - ◯ Staff
   - ◯ Other (please specify)

10. If yes to #9: In what ways did you experience mistreatment during this clerkship?

Clerkship directors may also add up to 7 questions specific to their own clerkship. However, before adding an item, make sure it provides information that will help you make decisions about your clerkship.

Appendix 3. 'On-The-Fly' evaluation tool used in University of Utah School of Medicine, United States of America in academic year 2013

1. I am submitting an evaluation of

○ MSI lecture	○ MSI lab	○ MSI small group	○ MSI other: _____
○ MSII lecture	○ MSII lab	○ MSII small group	○ MSII other: _____
○ MSIII clinical experience	○ MSIII didactic session		○ MSIII other: _____
○ MSIV clinical experience	○ MSIV course		○ MSIV other: _____

2. Description of event (lecture/lab title, event, clinical training, interaction, etc.):

3. Evaluation of (name(s) of instructor, clinical faculty, SOM staff etc.):

4. Date:

5. Feedback (please provide detailed information and/or examples):