

# What Are the Benefits of Lecture? Student and Faculty Opinion

Matthew Rysavy, B.S., Michael Haugsdal, B.S., Paul Christine, B.A., Serena Heinz, M.S.,  
Jeff Emrich, M.S., Susan Lench, M.A., Rick Axelson, PhD, Marc Pizzimenti, PhD

## Overview

Historically, lectures have been a mainstay of the first two years of medical education, but with each new development in technology and pedagogy, questions arise about their role and value. Within the College of Medicine (COM), recent developments in the use of technology and efforts at curriculum renewal led a group of students and faculty to ask what benefits attending lecture still provides.

This study provides direct data from COM stakeholders on what they value from lecture. The results of this study should be useful in evaluating the effective use of traditional lecture and provide additional questions for further study.

## Methods

### Survey Administration

In the spring of 2011, first-year and second-year medical students (M1s and M2s), first-year physician assistant students (PA1s), and all faculty who provide lectures to these students were asked by e-mail to participate in an online survey regarding the benefits of lecture.

### Survey Description

The survey consisted of three pages. After submitting responses to questions on a given page, a respondent advanced to questions on the subsequent page and could not return to the previous page.

**Page 1:** Free-response to the prompt "What benefits do students obtain when attending a live lecture?"

**Page 2:** Selectable list of possible lecture benefits determined from literature<sup>1,2</sup> with free response text boxes available in which respondents could provide examples of how each potential benefit was accomplished.

**Page 3:** demographic information of respondents—including for students, age, sex, and year in school, and for faculty, number of years teaching and number of lectures given each year.

### Data Analysis

Research group members individually conducted thematic analysis of responses to the open-ended question on the benefits of lecture. Group members later compared themes and summarized their findings.

Quantitative data on faculty and student selection of potential benefits of lecture were downloaded into Microsoft Excel (Microsoft Corp, Redmond, WA). Descriptive statistics were generated and chi-squared tests were performed using SPSS (SPSS Inc., Chicago, IL).

## Results

The overall response rate for the survey was 34% (n=110) for students and 28% (n=78) for faculty. Demographic data of the respondents are shown in Table 1.

Faculty and students tended to have similar opinions as to some benefits of lecture (Table 2). Benefits most often cited by both groups included interaction, acquisition of facts, and framework for organizing information.

Students (n=110)			Faculty (n=78)		
Characteristic	n	%	Characteristic	n	%
Age			Class Type		
< 24 years	45	59.1	ECM/ELP	43	39.1
25-29 years	37	33.6	Other	35	31.8
30+ years	8	7.3	Lectures / Year		
Class Status			< 5 lectures	36	32.7
M1	53	48.2	5-10 lectures	23	20.9
M2	44	40.0	11+ lectures	19	17.3
PA1	13	11.8	Years Teaching		
Sex			< 5 years	9	8.2
Male	51	46.4	6-10 years	19	17.3
Female	59	53.6	11+ years	50	45.5

**Table 1: Survey response summary and demographics.** 110 of 328 students and 78 of 277 faculty responded for response rates of 34% and 28% respectively.

Faculty	Students
Interaction between faculty and student (94.9%)	Acquisition of facts (76.4%)
Acquisition of facts (83.3%)	Provides a framework for organizing information (76.4%)
Provides a framework for organizing information (83.3%)	Interaction between faculty and student (69.1%)
Motivation to learn (83.3%)	Structure for students to keep up with coursework (68.2%)
Critical thinking skills and application (76.9%)	Motivation to learn (64.5%)
Appreciation for different perspectives and values (64.1%)	Social Support (60.0%)
Structure for students to keep up with coursework (60.3%)	Critical thinking skills and application (48.2%)
Respect for persons (42.3%)	Practical skills (48.2%)
Practical skills (34.6%)	Professional Accountability (37.3%)
Social Support (34.6%)	Respect for persons (36.4%)
Professional Accountability (30.8%)	Appreciation for different perspectives and values (36.4%)
Integrity/Honor (24.4%)	Integrity/Honor (23.6%)
Compassion/Altruism (24.4%)	Compassion/Altruism (15.5%)
Teamwork skills (10.3%)	Teamwork skills (9.1%)
Leadership skills (5.1%)	Leadership skills (7.3%)

**Table 2: Relative Ranking of Lecture Benefits by Faculty and Students.** Students and faculty most often selected the same three benefits as being provided by lectures. They also least often selected the same four benefits. Percentages represent the proportion of students or faculty that selected a particular benefit.

Lecture Benefit:	Faculty	Student	X <sup>2</sup> (p value)
Acquisition of facts	83.3%	76.4%	1.37 (.241)
Provides a framework for organizing information	83.3%	76.4%	1.37 (.241)
Critical thinking skills and application	76.9%	48.2%	16.27 (< .001)
Motivation to learn	83.3%	64.5%	8.40 (.004)
Appreciation for different perspectives and values	64.1%	36.4%	14.24 (< .001)
Interaction between faculty and students	94.9%	69.1%	21.66 (< .001)
Structure for students to keep up with coursework	60.3%	60.3%	1.25 (.263)
Social support	34.6%	60.0%	11.91 (.001)
Practical skills	34.6%	48.2%	3.47 (.063)
Leadership skills	5.1%	7.3%	.36 (.549)
Teamwork skills	10.3%	9.1%	.07 (.790)
Professional accountability	30.8%	37.3%	.86 (.354)
Integrity/honor	24.4%	23.6%	.01 (.909)
Respect for persons	42.3%	36.4%	.68 (.411)
Compassion/altruism	24.4%	15.5%	2.31 (.129)

**Table 3: Differences in opinion of benefits of lecture between faculty and students.** Percentages represent the proportion of either students or faculty that selected a particular benefit. Each benefit showing a significant difference between the proportion of faculty and students who selected it is highlighted.

## Results (continued)

Likewise, both groups tended to agree on some benefits less likely to be gained from lecture (compassion/altruism, teamwork skills, and leadership skills). However, their views on other potential benefits differed significantly. Faculty were more likely than students to believe that lecture facilitates critical thinking skills, motivation to learn, an appreciation for different perspectives, and interaction between faculty and students. Students were more likely than faculty to believe that lecture facilitates social support (Table 3).

Subgroup analyses revealed that faculty with more years of experience teaching were more likely to indicate that lecture provides a framework for organizing information (<5 yrs, 66% [n=24]; 5-10 yrs, 95.7% [n=22], 11+ yrs, 100% [n=19]; p<0.001). M2s were less likely than M1s to select that lecture provides practical skills (M1s, 56% [n=30]; M2s, 29% [n=13]; p<0.003). No other significant differences were noted.

Thematic analysis of the open-ended question of the survey indicated that, without prompting, most students and faculty believed that the benefits of lecture were those most frequently chosen on page 2 (presented in Tables 2 and 3). Themes from the open-ended prompt not evaluated elsewhere in the survey included:

- There is benefit in listening to other classmates' questions in addition to asking one's own questions.
- Acquisition of facts during lecture can be described as two unique benefits:
  - Overview/introduction to major concepts
  - Clarification/explanation of difficult concepts
- In-person attendance may be more "memorable" and increase retention of the information presented.
- No item on the survey addressed the ability of live lecture to adapt to the particular needs of students in real-time.

## Discussion

Students and faculty have identified benefits to lecture that describe the learning environment as a forum to acquire new information within an organized framework. However, more than their students, faculty expect that lecture provides benefits of critical thinking, faculty-student interaction, motivation to learn, and an appreciation of various perspectives and values. Students, in contrast with their professors, find more benefit in the social support that lecture can provide. Additional analysis of how these benefits are conveyed may better elucidate strategies that enhance the learning experience.

Data from the current study is limited in scope and depth. This study assessed the opinions of faculty and students about the benefits of lectures; however, it did not attempt to assess any actual outcomes of lecture. Such an "opinion poll" is important to understand what we expect of lecture, but it cannot determine its actual benefits. Data are biased by what students and faculty know of lecture from previous experience. In this way, it may reflect what students think is possible from lecture at this institution, potentially limiting its external validity. Although limited, data provide a glimpse into the opinions of key stakeholders as we assess our institution's use of lecture during curriculum reform.

## References

1. Karnieli-Miller et al. *Which Experiences in the Hidden Curriculum Teach Students About Professionalism?* Academic Medicine, 86(3):369-377, 2011
2. Bligh, DA. *What's the use of lectures?* Jossey-Bass Publishers, San Francisco, 2000