

Faculty perspectives on student attendance in undergraduate medical education

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Background: Lecture capture technology is widely available in undergraduate medical education and seems to impact class attendance. Further, there is limited understanding about faculty perceptions related to lecture capture and student attendance and how faculty advise students on issues of attendance in an environment where lecture capture is available and attendance is not required.

Objective: The purpose of the current study was to characterize faculty perceptions and preferences about student attendance, investigate faculty advising practices about attendance, and evaluate the potential impacts of low student attendance on faculty job satisfaction and teaching.

Method: A 15-min electronic survey was created and emailed to all on-campus teaching faculty at a medical school. The survey included demographic, close-ended (with Likert and Likert-like scales), and open-ended questions.

Results: All 35 faculty members were invited to participate in the survey, and 26 (77%) responded. Faculty advising practices on student attendance varied, but most faculty indicated they advised students to attend class if the student expressed loneliness. A majority (15/26, 58%) disagreed or strongly disagreed that student attendance indicated level of professionalism, and many (12/26, 46%) believed that lecture capture was an effective alternative to attending class. Most faculty (19/26, 73%) agreed or strongly agreed they felt more job satisfaction with higher student attendance. A majority (15/26, 58%) also agreed or strongly agreed they would prefer to incorporate active learning in large-group sessions when student attendance was mandatory.

Conclusion: Faculty member willingness to incorporate active-learning sessions and job satisfaction were influenced by student classroom attendance in the current study. Given the varied options for content delivery, these factors should be taken into account when institutions create attendance policies. These policies should balance the satisfaction of the faculty with the need to encourage autonomy and flexibility for the adult student learners.

Keywords: faculty perspectives, student attendance, student advising

Introduction

Lecture capture technology is widely available in classrooms at higher learning institutions, including medical schools. As such, the availability of recorded classroom activities has resulted in significant decreases in student attendance since students have the choice of viewing or reviewing recorded content after live delivery.¹

The institution of the current study is a medical school that uses lecture capture technology in the systems-based courses of the first year. Live lectures and other classroom activities, including active-learning sessions, are recorded and made available to the students. During the second year, students receive didactic content

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at community health centers primarily through video podcast. In the first-year courses, attendance has been observed to decline throughout the year. By the spring semester, some classes have a quarter of students on average attending live lectures and classroom activities. In a previous study,² the relationship between student attendance and academic performance was investigated, and no significant correlation between attendance and academic performance was found. Additionally, students were surveyed to better understand what issues factored into attendance decisions; the majority reported that they perceived lecture capture as more efficient, more effective, and more convenient than class attendance.²

At our institution, we anecdotally observed that faculty had mixed opinions on the issue of student attendance. Although faculty serve as advisors to students, it was unknown how faculty advised students on the issue of class attendance. Therefore, we wanted to better understand faculty perceptions and advising practices related to the issue of student attendance. The purpose of the current study was to characterize faculty perceptions and preferences about student attendance, investigate faculty advising practices about attendance, and evaluate the potential impacts of low student attendance on faculty job satisfaction and teaching methods.

Methods

Participants

All on-campus teaching faculty from a medical school were asked to participate in the current survey-based study on a voluntary basis. They were sent an email invitation that described the purpose of the study. They were also informed that their responses to the electronic survey would be anonymous and that they had 12 weeks to complete the survey. An additional reminder email was sent to the faculty 3 weeks after the initial invitation. A link to the study survey was included in the emails, and faculty were informed that completion of the survey would indicate informed consent to participate in the study. The current study was submitted to the local institutional review board and was considered exempt from full institutional review board review.

Survey instrument design

The electronic survey was created in SurveyMonkey specifically for the study and included demographic, close-ended, and open-ended questions (see [Figure S1](#)).

Demographic questions asked for information about age, gender, degree, academic rank, faculty status (full time, part time), years teaching at an undergraduate medical institution, and years serving as an academic adviser. Close-ended questions assessed faculty perceptions of factors that influenced them to advise students to attend class or use lecture capture recordings instead of attending class. The survey also asked about faculty perspectives of student attendance in relation to student professionalism, active learning, and faculty job satisfaction. There were 7 questions about student attendance in class and 11 questions about the use of lecture recordings; both groups of questions had write-in other response options. Responses for all attendance questions were rated on a 4-point Likert-like scale from no influence to extreme influence. There were ten questions about the impact of low student attendance on faculty job satisfaction and teaching. Responses were rated on a 5-point Likert scale from strongly disagree to strongly agree. There was one open-ended question that asked if faculty thought students should attend large-group sessions. The survey took about 15 mins to complete. Face and content validity of the survey were established using a panel of faculty from our institution. Each faculty member on the panel reviewed all drafts of the survey, and consensus was achieved during group meetings.

Data analysis

Frequency and percentage were used to summarize all demographic and close-ended survey responses. Correlation analyses were performed using JASP 0.9 to determine whether demographic variables were associated with variations in survey responses. Kendall's tau-b test was used and significance level was set at $p < 0.05$. Open-ended responses were summarized and reviewed by the research team.

Results

Participants

Of the 35 faculty members invited to participate in the study, 26 completed the survey (77% response rate). Demographic characteristics are summarized in [Table 1](#). The majority of respondents were male, aged 41–60 years, with a PhD and the rank of associate professor. The majority were employed full time and had 2–5 years of teaching and advising experience. No significant relationships were found between any of the demographic variables and survey responses (all $p > 0.06$).

Table 1 Demographic characteristics medical school faculty (N=26)

Demographic characteristics	No. (%)
Age, years	
20–40	5 (19)
41–60	14 (54)
61 and over	7 (27)
Gender	
Male	19 (73)
Female	7 (23)
Degree	
DO	8 (31)
MD	5 (19)
PhD	11 (42)
PharmD	1 (4)
MD/PhD	1 (4)
Academic rank	
Assistant professor	11 (42)
Associate professor	12 (46)
Professor	3 (12)
Status	
Full time	25 (96)
Part time	1 (4)
Years teaching undergraduate medical education	
Less than 2 years	5 (19)
2–5 years	11 (42)
6–10 years	7 (27)
More than 10 years	3 (12)
Years serving as an academic advisor	
Less than 2 years	3 (12)
2–5 years	13 (50)
6–10 years	8 (31)
More than 10 years	2 (8)

Factors for advising students to attend class

Survey responses to factors that influenced faculty to advise students to attend class or use lecture capture instead of attending class are reported in Table 2. Factors with the most extreme influence for advising students to attend class were the student expressed loneliness, was struggling with material, and had poor performance on exams/assignments.

Factors for advising students to use lecture recordings instead of attending class

The top 2 factors with extreme influence for advising students to use lecture capture instead of attending class

were the student indicated they had been ill or expressed they were distracted in class (Table 2). The top 2 factors with no influence on the faculty for advising students to use lecture capture instead of attending class were the student expressed stress/anxiety about the course or was struggling with the material.

Faculty perspectives about professionalism, job satisfaction, and active learning

Survey responses about faculty perspectives are reported in Table 3. A majority of faculty disagreed or strongly disagreed that student attendance at non-mandatory lectures indicated the level of professionalism. A majority agreed or strongly agreed they felt more job satisfaction with higher attendance at large-group sessions and that they preferred to incorporate active learning in large-group sessions when attendance was mandatory. Ten disagreed that students who regularly attended large-group sessions had better academic performance. Nearly half agreed or strongly agreed that lecture capture was an effective alternative to large-group attendance. Less than half agreed or strongly agreed that lecture capture should not be used as a substitute for attending large-group sessions and that lectures were more effective with higher attendance. The majority agreed or strongly agreed that active-learning sessions were more effective with higher attendance and disagreed or strongly disagreed that they preferred all large-group sessions have mandatory attendance. Half agreed or strongly agreed that they preferred all large-group sessions with an active-learning component have mandatory attendance.

Faculty opinions about student attendance at large-group sessions

The open-ended question asked faculty whether they thought students should attend large-group sessions. Some faculty said yes, and written explanations for attendance included preparation by the faculty member and benefits of large-group attendance, especially for receiving didactic information. One faculty member wrote, “the lecturer has prepared material he or she thinks is important. Students don’t know what they don’t know!!” Another wrote:

There are benefits to attending class outside of learning new material. For example, developing professional relationships, collegiality, a sense of belonging, and other elements of social

Table 2 Factors that influenced faculty to advise students to attend or not attend class (N=26)

Survey question	Influence, No. (%)			
	None	Mild	Moderate	Extreme
Factors for students to attend class				
Student is struggling with material	4 (15)	9 (35)	9 (35)	7 (27)
Student is struggling with time management	5 (19)	7 (27)	10 (38)	4 (15)
Student has expressed stress/anxiety about the course	3 (12)	7 (27)	12 (46)	4 (15)
Student has expressed dissatisfaction with course	8 (31)	7 (27)	9 (35)	2 (7)
Student has poor performance on exams/assignments	4 (15)	6 (23)	9 (35)	7 (27)
Student has expressed loneliness	3 (12)	7 (27)	5 (19)	11 (41)
Factors for students to use lecture capture instead of attending class				
Student is struggling with material	11 (42)	12 (46)	2 (8)	1 (4)
Student has expressed stress/anxiety about the course	14 (54)	10 (38)	1 (4)	1 (4)
Student is struggling with time management	10 (38)	9 (35)	6 (23)	1 (4)
Student has expressed dissatisfaction with course	13 (50)	9 (35)	2 (8)	1 (4)
Student has poor performance on exams/assignments	9 (35)	10 (38)	6 (23)	1 (4)
Student has expressed they are distracted in class	4 (15)	4 (15)	13 (50)	5 (19)
Student has indicated they have been ill	7 (27)	3 (12)	8 (30)	8 (30)
Student perceives low quality of the lecturer	8 (31)	6 (23)	8 (31)	4 (15)
Student perceives low value of lecture content	10 (38)	6 (23)	6 (23)	4 (15)
Student needs preparations for second-year podcast curriculum	10 (38)	10 (38)	5 (19)	1 (4)

behavior and development. These elements are important for the development of young physicians, and important for faculty and staff to observe in order to identify students who may be struggling in these areas.

Some faculty did not think that students should be required to attend class because it limited their autonomy as adults and the flexibility of personal learning preferences. One faculty member wrote:

They are adults and can choose the method that best suits their needs. If you go to McDonald's a buy a Big Mac does McDonald's FORCE you to EAT IT on the premises? No. We are the same: We make a product, the customer (student) buys the product (no refunds, no returns) and chooses when to eat it. (learn it ... at home, by echo [Echo360], by reading, etc.)

Another wrote:

They should remain optional to allow students flexibility to learn in the manner that best fits them. I do believe it may be ok to make specific large group presentations mandatory if there is clear purpose and benefit to be gained from live attendance over echo. [Echo360]

Many faculty thought student attendance for large-group sessions depended on the student or the class topic. One faculty member wrote:

I think it varies depending on the student. It is very difficult to generalize. I strongly believe that students can succeed via echo [Echo360] and in some cases it works better than attending class. Of course, the opposite is true as well. It is very contextual. One size does not fit all.

Another wrote, "I think that students should do what is most effective and efficient for them, which may vary [vary] from student to student, teacher to teacher and topic to topic".

Discussion

To our knowledge, scant literature exists about how faculty advise students regarding class attendance or non-attendance. In the current study, the leading factor that influenced faculty to advise students to attend class was the student expressing feelings of loneliness. This finding suggested that some faculty thought attending class was important for student socialization and peer interaction, which is consistent with previous studies.^{1,3-6} The leading factor that influenced faculty to advise students to use lecture capture instead of attending class was student illness. This result likely reflected the initial intent of implementing a lecture capture system in the classroom: students who missed class because of illness or other life events could view what they missed. However, at our institution, we observed that many students chose to not

Table 3 Faculty perspectives about student attendance, active learning, and job satisfaction (N=26)

Survey question	No. (%)				
	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Student attendance at non-mandatory large group session indicates their level of professionalism	10 (38)	5 (19)	5 (19)	5 (19)	1 (4)
I feel more job satisfaction with higher attendance at large group sessions	2 (8)	2 (8)	3 (12)	12 (46)	7 (27)
I prefer to incorporate active learning in my large group sessions when attendance is mandatory	1 (4)	1 (4)	9 (35)	12 (46)	3 (12)
Students who attend large group sessions regularly have better academic performance	0 (0)	10 (38)	8 (31)	2 (8)	6 (23)
Lecture capture is an effective alternative to large group attendance	3 (12)	3 (12)	8 (31)	7 (27)	5 (19)
Lecture capture should not be used as a substitute for attending large group sessions	6 (23)	6 (23)	8 (31)	2 (8)	4 (15)
Lectures are more effective with higher attendance	5 (19)	4 (15)	6 (23)	8 (31)	3 (12)
Active-learning sessions are more effective with higher attendance	1 (4)	1 (4)	9 (35)	12 (46)	3 (12)
I prefer that all large group sessions have mandatory attendance	11 (42)	4 (15)	8 (31)	1 (4)	2 (8)
I prefer that all large group sessions with an active-learning component have mandatory attendance	5 (19)	3 (12)	5 (19)	8 (31)	5 (19)

attend class for other reasons, such as the perception that viewing recordings was more efficient, convenient, and effective than class attendance.² The range of faculty opinions about the use of lecture capture seemed to reflect the various faculty attitudes with regard to student usage. As found in a previous study, students not only use lecture capture for illness or other unforeseen absences but also because they perceive it as more efficient, convenient, and effective.² Findings of the current study suggested that some faculty had negative perceptions about the use of lecture capture by students for reasons other than its original intent. A minority of faculty felt that there might be a positive relationship between attendance and academic performance. Some faculty reported that they advised students to come to class if they were struggling with the material or had poor performance on exams/assignments. These findings suggested that some faculty believed advising students to attend class could improve academic outcomes.

Results of the current study suggested a majority of faculty disagreed or strongly disagreed that student attendance was an indication of their level of professionalism. This finding is inconsistent with previous studies that reported faculty perceived student attendance as a reflection of professionalism.^{1,4,5} This difference may be explained by differing curricula; medical students at our institution receive most of their didactic content in the second year by video podcast. Therefore, many of our faculty are accustomed to delivering course content outside of the classroom and may not perceive student attendance as an accurate measure of professionalism.

There was no consensus in faculty opinion in the current study about the relationship between attendance and academic performance. Previous studies have reported a faculty perception of higher student attendance being associated with better academic outcomes.^{4,5} An explanation for the mixed perceptions at our institution may be because most first-year students pass their spring courses without attending non-mandatory activities in the classroom. A recent study at our institution found no significant relationship between student classroom attendance and academic outcomes.² However, this information was not known when faculty completed the survey of the current study.

In contrast to findings from a previous study at another medical school,¹ our faculty did not agree with making attendance mandatory. Again, this result may arise from our second-year curriculum, where students are based at community health centers and primarily use video podcasts

for course content. As such, faculty perspectives about student attendance may be influenced by a curricular model that uses online delivery of didactic content. There are other examples in the literature where unique aspects of the faculty member's environment shape how they perceive different aspects of the curriculum or policy,^{1,5-7} which may explain the differences in our findings compared with other publications.

In the current study, faculty indicated a higher sense of job satisfaction and reported that active-learning sessions were more effective with higher student attendance. Other authors have made similar observations and suggested that lecture quality may be higher when the presenter has an engaged audience, and conversely lecture quality may be lower when the presenter is demoralized by low attendance.¹

For many faculty at our institution, teaching is a primary responsibility, and some faculty may associate effectiveness as a teacher with level of student attendance. Faculty morale is an important consideration because low satisfaction may impact faculty engagement and performance. If faculty morale is influenced by low attendance, faculty may be less motivated to develop and facilitate interactive learning opportunities.

The open-ended faculty responses in favor of students attending class focused on students not realizing what they need to know to succeed. Comments also addressed professional development and socialization aspects of attending class. These opinions were consistent with faculty comments in previous studies.^{1,5} Conversely, our faculty who believed students should not be required to attend class listed student autonomy and flexibility of learning preferences as reasons for this opinion. This perspective has also been reported previously,^{5,8} and some believe that mandating student attendance is paternalistic. In the modern health care setting, patient-centered medicine involves greater individual autonomy and mutual collaboration as decisions are made about a patient's health. Similarly, in the educational setting, student-centered learning involves greater autonomy and collaboration in the educational environment. Therefore, this perspective presents an opportunity to model professional behavior in the classroom.

Some of our faculty indicated that student attendance depended on multiple factors, such as content type or the individual student. These varied and complex perspectives about student attendance highlight the challenges of developing broad attendance policies that satisfy all faculty. A previous study at our institution also found that students

ranked preference for recorded content (vodcasts or recorded lectures) over classroom attendance.² Policies should likely consider the preferences of faculty with students desire for flexibility and autonomy.

The current study had several limitations. Our findings are specific to the institution of the current study, and our faculty perspectives may be unique because of the delivery of our second-year curriculum. Future studies should survey faculty at other institutions to generate more generalizable data. Overall, our response rate was good, but there are a limited number of faculty that teach at our medical school. Further, it is possible that there were relationships between the demographic variables and survey responses, but our sample size was too small to detect them. Although we distributed the survey at a single point in the academic year, it is possible that faculty perspectives shifted during the year as student attendance decreased.

Conclusion

A majority of faculty in the current study disagreed that student attendance was an indicator of professionalism. However, a minority agreed that lecture capture was a suitable alternative to attending class. A majority of faculty perceived a higher job satisfaction with higher student attendance and more effective active-learning sessions. Our results suggested that faculty have disparate views about whether students should or should not attend class. The perception among some faculty of the social benefits of attending class was a leading factor that influenced them to advise students to attend class. The findings of the current study are important because they may help institutions create better student attendance policies that balance the satisfaction of the faculty with the need to encourage autonomy and flexibility of adult student learners.

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Author contributions

All authors provided substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data; all drafted the article or revised it critically for important intellectual content; all gave final approval of the version of the article to be published; and all agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Disclosure

The authors report no conflicts of interest in this work.

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Supplementary materials

Demographic Variables:

Age:

20-40 _____

41-60 _____

61 and over _____

Gender:

Male _____

Female _____

Degree (Select all that apply):

DO _____

MD _____

PhD _____

Other _____ please specify _____

Academic Rank:

Instructor _____

Assistant Professor _____

Associate Professor _____

Professor _____

Faculty Status:

Full time _____

Part time _____

How many years have you taught in an undergraduate medical institution?

Less than 2 _____

2 - 5 years _____

6 - 10 years _____

More than 10 _____

How many years have you served as an academic advisor?

Less than 2 _____

2 - 5 years _____

6 - 10 years _____

More than 10 _____

Figure S1 (continued)

Rate the following factors which would influence you to advise a student to attend class:

1 - no influence 2 - mild influence 3 - moderate influence 4 - extreme influence

- Student is struggling with material _____
- Student is struggling with time management _____
- Student has expressed stress/anxiety about the course _____
- Student has expressed dissatisfaction with course _____
- Student has poor performance on exams/assignments _____
- Student has expressed loneliness _____
- Other (please specify): _____

Rate the following factors which would influence you to advise a student to use lecture recordings instead of attending class:

1 - no influence 2 - mild influence 3 - moderate influence 4 - extreme influence

- Student is struggling with material _____
- Student has expressed stress/anxiety about the course _____
- Student is struggling with time management _____
- Student has expressed dissatisfaction with course _____
- Student has poor performance on exams/assignments _____
- Student has expressed they are distracted in class _____
- Student has indicated they have been ill _____

- Student perceives low quality of the lecturer _____
- Student perceives low value of lecture content _____
- Student needs preparation for second year podcast curriculum _____
- Other (please specify): _____

Please indicate your level of agreement with the following statements:

1 - strongly disagree 2 - disagree 3-Neutral 4 - agree 5 - strongly agree

- Student attendance at non-mandatory large group sessions indicates their level of professionalism _____
- I feel more job satisfaction with higher attendance at large group sessions _____
- I prefer to incorporate active-learning in my large group sessions when attendance is mandatory _____

- Students who attend large group sessions regularly have better academic performance _____
- Lecture capture is an effective alternative to large group attendance _____
- Lecture capture should not be used as a substitute for attending large group sessions _____

- Lectures are more effective with higher attendance _____
- Active learning sessions are more effective with higher attendance _____

- I prefer that all large group sessions have mandatory attendance _____
- I prefer that all large group session with an active-learning component have mandatory attendance _____

Open response:

Do you think students should attend large group sessions?_Why or Why not?

Thank you for completing the survey!

Figure S1 Lecture capture technology, student attendance, and academic performance faculty survey.

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