AC 2007-2712: DISTANCE-LEARNING IN SUPPORT OF AN INTER-INSTITUTIONAL BME DEPARTMENT

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Distance Learning in Support of an Inter-Institutional BME Department: Assessing Faculty and Student Needs

Abstract

The University of Texas at Austin recently established an inter-institutional Department of Biomedical Engineering encompassing three campuses: UT Austin, MD Anderson Cancer Center, and UT Health Science Center-Houston. Since the campuses of participating institutions are in two cities separated by about 170 miles, distance learning technologies are a key factor for the pedagogical component of the graduate program. Because this collaborative environment is quite different from typical distance learning paradigms, a new study opportunity was recognized. For example, the demographics of the student body are the same as for a single-site graduate program, whereas many distance learning programs are constructed for more diverse populations. Moreover, we recognize the importance that teaching should drive technology usage, not vice versa, even when technology is essential as is the case for a distance learning environment.

Thus, we conducted a series of surveys with our faculty and students to assess their needs, with an emphasis on recognized competencies for distance education. We present lessons learned about both the process of needs assessment for distance education as well as the identified challenges.

Introduction

During the last decade, the expanding range of educational technologies has created many choices for universities to deliver instruction. With these advances, distance education (DE) is becoming more prevalent in postsecondary institutions with 62 percent of public and private 2- and 4-year institutions offering DE courses in 2004-05.[1] "At its most basic level, distance education takes place when a teacher and student(s) are separated by physical distance, and technology (i.e., voice, video, data, and print), often in concert with face-to-face communication, is used to bridge the instructional gap."[2]

With the growth of distance learning programs, many question its appropriateness and effectiveness. Research indicates that it can be as effective as traditional face-to-face instruction when the principles of good instruction are applied. That is, DE courses are effective when technology and methods are aligned appropriately, when there is student-to-student interaction, and when students receive timely feedback.[3] It is, however, the unprecedented range of technologies that causes many institutions to select the technology first thus resulting in pedagogical and instructional design considerations fitting to particular technologies. Such practice does not promote the matching of technologies to specific, well-defined

instructional objectives and strategies which results in less than satisfactory teaching and learning.

In order to blend best practices and appropriate technology capabilities faculty and students need to be involved during the development of DE courses. The acknowledgment of faculty and learner perspectives promotes not only better acceptance of technology tools, but an enlightened view of how to best match technology with teacher and learner needs. Furthermore, a national study found that two-thirds of faculty find keeping abreast with technology stressful[4] and often resist participating in distance learning because of concerns for adequate institutional support, ways to handle changing interpersonal relations, and quality.[5]

Yet despite challenges, distance learning is gaining acceptance. While careful planning and a focus on course requirements and student needs will not eliminate all of the issues, it is certainly the best way to begin. In our case, we looked at faculty and student perceptions before the launching of a distance education offered graduate level program in biomedical engineering. We recognize that there can be problems with both students and teachers of distance courses are not prepared for DE formats. Furthermore, we are not asking the research question: Is distance education as good as, or better than, traditional education? For we are not making the assumption that traditional education is the ideal mode of delivery nor are we fully aware of how each of the faculty in our department teach. Instead we are looking at current practice (as described by the faculty and students) and then identifying needs and where assistance will be needed.

Background

The UT Austin Graduate Program in Biomedical Engineering was established in 1968. A Department of Biomedical Engineering was established at UT Austin in 2001 and the first undergraduate class graduated in 2006. An Inter-Institutional Department of Biomedical Engineering was created in the fall of 2006 that includes UT Austin, MD Anderson Cancer Center, and UT Health Science Center-Houston.. This unique department offers courses delivered using the Web and videoconferencing and required campus visits are not mandated. It may happen, however, that students may be asked to attend a limited number of campus meetings for events like orientation or peer interactions. Faculty are considering teaching occasionally at other campuses so that they can directly interact with the distance students.

Generally students who take DE courses do so for the convenience and flexibility. This program certainly provides both of these features, yet many of these students are enrolling in this program because it allows them to be at appropriate research facilities and to have access to faculty at three top-tier institutions. Therefore these students may not reflect typical DE students who select distance delivery because of work schedules and family obligations or because they do not have to

spend time traveling to campus. This is not say that these students will be atypical with expectations for interaction and timely instructional feedback, but rather these students should be highly motivated and should not find DE isolating and a hindrance because of their self-discipline.

Purpose of the Study

In order to identify the functional skills that faculty need to possess in order to effectively teach at a distance, we wanted to begin by surveying professors on their current teaching approaches as well as on their intended approaches with the upcoming distance education graduate classes. Furthermore, we gathered student input so that their instructional needs and concerns are addressed as the DE classes are developed and technology is selected. A large portion of DE research compares distance and traditional methods of education and this study instead focuses on developing an understanding of the dynamics and influences of distance teaching and learning on a select group of professors and graduate students.

Methodology and Data Collection

Two surveys were administered during the fall semester of 2006 via a web interface. One survey was conducted with department faculty who engage in graduate level teaching and the other with current graduate students in the department. Both surveys included scaled and open-ended responses. Note that since the inter-institutional aspect of the department is new, the students who responded to the survey are all based at only one of the institutions. All student responses were anonymous, but faculty included their names in the event further follow-up was needed. Copies of the survey questions are included in Appendix A.

Findings and Analysis: Results of the Graduate Student Survey

A total of 33 graduate students responded to the survey on perceptions of distance learning. Approximately two-thirds of the respondents were male and one-third were female. The majority (55%) of the students were 25-30 years of age, with 30% aged 21-24 and the remainder aged 31-40 (N=4) and one is 41-50 years of age. Only 15% (N = 5) of the respondents had taken a distance learning course and none of them felt that their prior experience with distance learning was positive.

The students perceived the primary strengths of the distance learning format to be flexible delivery and the opportunity to take courses that would otherwise be unavailable to them. The students perceived the primary weakness of the distance learning format to be difficulty in achieving normal interaction and communication between students and instructors.

The vast majority (88%) students agreed or strongly agreed that most of their courses at this institution provide some online course materials. Likewise, almost all students agreed or strongly agreed that online course materials are useful. Almost all of the students reported that their courses provided class notes online and the majority (73%) also indicated that gradebook functions were provided online. Few students (N = 4) had taken courses that distributed recorded lectures, but most students anticipate that if lecture materials were online that it would facilitate their study outside of class time. The fact that students report that non-distance learning courses at this institutional typically do not employ online tools for supporting communication, such as discussion boards, presumably contributes to their concerns about how communication can practically be maintained in distance learning courses.

Students reported that personal interactions were critical to their learning. The vast majority (85%) of students agreed or strongly agreed with the statement, ”Interaction with an instructor in a classroom is very important to my learning.” The majority (70%) also felt that interactions with other students outside of classtime are necessary for their learning. In comparison, only about half of the respondents felt that interacting with other students during classtime is necessary for their learning.

Most (88%) of the students reported that when outside of class time they preferred to interact with their professors in person. Almost as many (70%) liked to use email to contact their professors. Few of the respondents indicated a preference for using the telephone, instant messaging, or a chat room. Students reported several reasons for interacting with their professors outside of class, such as to ask questions or to get assistance.

Students were asked to identify any concerns they might have if they were to take a course from a professor located at another campus. Of the nine options they could select, each one appears to have at least some concern from a student viewpoint (refer to list in Appendix). Topping their concerns are availability of the instructor outside of class time (79%) and how to communicate with instructor (76%). Not far behind were concerns about how to communicate with peers (64%) and how to handle technical problems (64%). When asked if they would rather sit in class and participate real-time or review a recorded lecture, many of the students (61%) selected the “it depends on the class – some don’t have much interaction so I would prefer a recording.” Just as many (61%) said they would participate both ways (real time and recorded). It seems that these students felt that the ability to view a recording (because it can be repeated) and in-class participation (so they can ask questions) were equally important.

A question was asked if they were learning at a distance, how they would prefer to ask questions during a real-time class session. They were provided these options: video conference, audio (e.g., phone), text (e.g., Instant Message) or don’t care. Many of the students (N=14) think text messaging will work while

they also think that video conferencing (N=13) with the ability to see and hear at both facilities is useful. Perhaps because they've been asked to imagine what they want rather than to base this response on experience, 23% of the responses indicated they don't care.

The students' opinions were very mixed on how the participation of students at second site might impact the learning of students at a local site with the instructor. Some felt they would not care or that there would be little impact whereas others were very concerned that the classroom climate would be worse off due to technical difficulties and new distractions for the professor.

Since we are interested in the possibility of offering some face-to-face interactions of the students at the different component institutions, we asked how many times per semester students would be willing to travel to one of the other sites. They were told to assume that the trips would not require an overnight stay and would be paid for by the department. The majority (64%) were willing to travel 1-3 times per semester and some (24%) were willing to consider even more frequent trips. However, a few were also resistant to any travel at all (12%). Thus, a small number of "field trips" enabling day visits between the different institutional components of the department may be a viable option for enhancing student interactions within the new geographically-distributed structure.

Students offered several practical suggestions for combating feelings of isolation in a distance learning environment. The most prevalent ideas emphasized fostering regular communication between the participants at different sites as well as developing a community of students within each component institution.

We asked students if they were apprehensive about relying on technology. There was a lot of variability in the responses, but some interesting themes emerged. Most of the students seemed confident that adequate technology did exist and many, but not all, problems could be avoided in principle. However, most were also concerned that the department would not identify the appropriate technology or that the faculty would be ill equipped to use it (e.g., there would be insufficient technical support).

Findings and Analysis: Results of the Faculty Survey

A survey was distributed online to faculty who currently teach graduate courses (N = 12) in the department and 8 responded. One faculty member refused to respond on the basis of perceived fundamental incompatibility with distance learning and three others failed to respond for unknown reasons.

One aspect of the faculty survey was to determine what strategies the faculty use to identify student needs and concerns. Currently, most of the faculty rely on discussions during office hours rather than either paper-based or electronic-survey methods. Most of the faculty anticipated that some form of technology would be

needed for this task in a distance learning environment, but there was not consensus as to what that should be. Overall the faculty were neutral to negative on the issue was to whether they currently had the resources to assess student needs in a distance learning environment. Thus, it will be important to help the faculty identify alternative approaches to the traditional office hour format in order to support their needs of assessments of their distance learning students and to ensure that they have adequate resources (e.g., IT and TA support) to use technologies for this purpose.

A series of questions were posed to determine how the faculty assess student learning in their graduate teaching. Most of the faculty currently rely on paper-and-pencil homeworks rather than homeworks submitted electronically. Likewise, the faculty regularly use paper-and-pencil exams during class time but only one person uses electronically-submitted exams administered during class time. Generally, our faculty do not currently use take-home exams, either paper-and-pencil or with electronic submission. The faculty are split on the extent to which they use laboratory activities and associated reports to assess student learning in graduate courses. On the other hand, projects, which are completed outside of classtime and may involve group work, are often used in our graduate curriculum. Similarly, graduate student learning is frequently evaluated on the basis of discussions in class. Several of the faculty expressed concern about how these approaches would generalize to a distance learning classroom and none were confident that they currently had the resources necessary to tackle this issue. Thus, it will be important to support our faculty in learning about online alternatives to paper-and-pencil homeworks and exams, to identify strategies for supporting project-based learning, and to create classroom environments that will continue to facilitate substantial opportunities for discussion. Perhaps most importantly, the faculty identified the need for additional TA support, especially at the remote site, to address this important issue.

Feedback is integral to student learning and a series of questions on current approaches to feedback were included. All of the faculty respond to student questions during class and they also indicated they provide feedback during office hours (5 of the 8 said they often give students feedback in person). These professors also use technology to answer student questions. All but one of them correspondents with students via email and in fact, half of them used it frequently. While email is a familiar tool, only two of the eight faculty use instant messaging with their students. They rely on either face-to-face office hours or email for student feedback and do not use the telephone or desktop videoconferencing tools. Not all of the feedback is oral, for they still provide handwritten comments and one of them provides electronic text remarks. When asked if they think they have the requisite resources to provide feedback in DE, none of them think that they do. Given that the faculty are currently more comfortable with traditional approaches to feedback (such as in-class or during office hours); it makes sense that they are not fully aware of technology solutions for student feedback.

Instructional approaches the graduate classes constituted the next group of questions. All but one of the faculty believes their function is to provide students with a good set of notes by focusing on presentation of content with written objectives guiding instruction. When lecturing, they include visuals with five of them relying on the use of PowerPoint. They do augment PowerPoint with a white board and they prefer to actively move around while lecturing. All but one of the respondents recognize that they need technology to teach and that they are not willing to go back to the days of blackboards.

However, they are using the course management system Blackboard. Each of them distributes course material via Blackboard and all but one uses it for announcements. Surprisingly five of them are unaware of the discussion board feature and only one uses it consistently. They reported frequent use of Blackboard's email function, but only one is using the message feature. Only half of them are utilizing the assessment or survey capabilities within Blackboard yet all but one of them uses the gradebook. Their use of Blackboard reflects that they are using it to augment traditionally taught classes and features like the Calendar are rarely used. Half of them, however, are using the Groups capability to facilitate students working together.

Conclusion and Recommendations

With the launching of an inter-institutional Department of Biomedical Engineering encompassing three campuses, we recognized an opportunity to assess faculty and student needs, with an emphasis on recognized competencies for distance education. By surveying both of these stakeholders, we found that while technology plays a supporting role, strong pedagogy is fundamental to its success. Both faculty and students recognize that instructional approaches need to be active, visual and interactive. While technology does exist to support collaborations and interactions, our faculty and students, for the most part, are familiar with more rudimentary uses of instructional technologies. This is not to say that they are not willing to explore new capabilities, but rather that they will venture into the use of new tools as the need becomes apparent.

The surveys encouraged faculty to reflect on their teaching and to recognize that instructional strategies may involve the use of a range of technologies. Furthermore, it is one thing to think about current practice in a traditional classroom, but it is another thing to envision what is needed for teaching students that are not physically present. A survey like this can be used to open a dialogue with faculty to discuss what is technically feasible and instructionally beneficial in distance teaching and learning.

It is often a challenge to get an adequate number of responses on surveys. While we do not have any new insights as to how to garner responses, we did keep the survey relatively short and we posted it electronically. We were able to directly request responses from the faculty and broadcast emails were sent to the graduate

students. Our message to the students was that their input was needed to help shape these new program and we believe that their awareness that their opinions matter will help build a program that is adapted to our students.

Preparing faculty to teach online is an ongoing effort. While we are still relatively new to this DE transformation, we are aware that networking and sharing are fundamental to successful professional development activities. Not only is there a need for sharing among the faculty, but students' voices need to be heard. DE should not be an isolating experience. Furthermore, a balance between theory and practice is needed so that pedagogy can drive instructional strategies. Without questioning the "why" behind teaching and learning, it is tempting to select technological tools based on their capabilities rather than their alignment with instructional outcomes.

Often faculty do receive technical training, but it may be insufficient and with inadequate technologies. Additional training on instructional strategies for promoting interactivity and ways to provide timely feedback is needed and should not be delivered as "just in time" training. Faculty need time to practice and reflect as they implement new distance learning approaches so there needs to be opportunities for experiential, contextual practice. Providing a mentor, such as teaching assistant, to participate in the training is very beneficial. A training program can provide initial preparation and ongoing support as faculty become familiar with the technology, adjust to new pedagogies, and their new roles as DE instructors. It is important that the faculty development program fosters a community approach that shares people and resources. Our efforts began with finding out what professors and students want when it comes to distance learning teaching and technologies. Based on these findings, we are working individually with faculty to locate appropriate technologies and to help align course outcomes with instructional strategies. Before our professors teach DE courses, they will have articulated their teaching perspectives and current practice so that the introduction of instructional technology matches not only learning outcomes, but their personal preferences.

A key issue is assessment and our professional development efforts involve helping faculty to plan for integrated assessment. Timing and incentives are powerful reinforces and we have to keep in mind that students will undertake activities when they are linked to grading. Assessment affords students opportunities to learn at critical points and online assessment cannot just be relegated to traditional approaches. Online learners have to be competent in negotiating the environment and they have to overcome information overload in order to benefit from ongoing assessment. Iterative assignments can provide feedback before grades are ever considered. Having students participate in peer assessment helps them with ongoing feedback and learning how to articulate their own understanding. We work the faculty to thoughtfully consider not only how to assess online students, but when to do so.

Although the surveys provided insights as to how our courses are taught, student expectations, and faculty competencies with technology, more feedback will be needed as this program is underway. These surveys are helpful as courses are designed and technologies selected, but once students and professors have more experience with DE, their views will evolve. Future plans include additional surveys followed by focus groups.

Appendix A

BME Graduate Student Distance Learning Survey Fall 2006

The purpose of this survey is to collect data to better understand how students perceive distance learning classes. Last spring, Dr. Markey gave her biostats students a preliminary survey on this topic and some of the questions below are following up on those responses. Results from this survey will be used for two purposes: 1) to help the BME department better plan for distance learning instruction, 2) to include the findings in a conference proceedings for the upcoming ASEE Conference in June of 2007. Basic background information about you will be collected for analysis purposes and at no time will your personal identification be recorded or disclosed. You may choose to not answer any questions. The data gathered in this study will be reviewed by Dr. Schmidt. You will never be identified. Should you have concerns please contact the Office of Research Support and Compliance at 471-8871. While answering the questions below, keep in mind this definition - "Instructional technology includes cameras, computers, CD players, presentation software, PDA's, audio (microphone and loudspeakers), and videoconferencing."

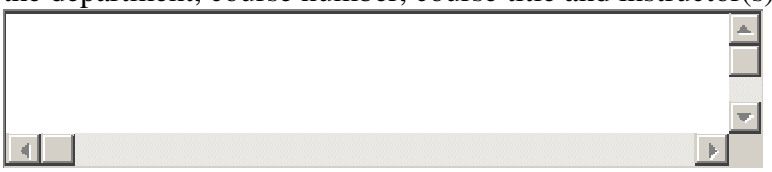
What is your gender?

- ☐ Female
- ☐ Male

What is your age?

- ☐ 21-24
- ☐ 25-30
- ☐ 31-40
- ☐ 41-50
- ☐ Over 50

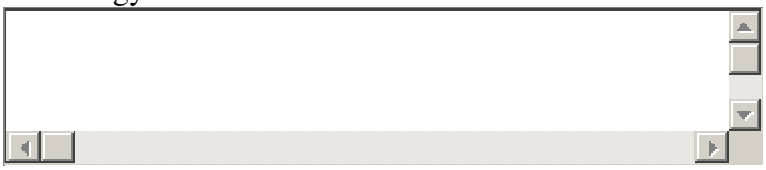
Indicate any distance learning classes you have taken. For each try to remember the department, course number, course title and instructor(s).



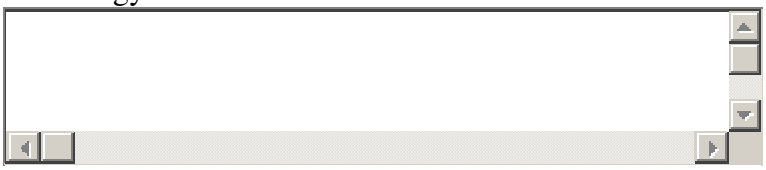
My prior experience with distance learning was positive.

- Strongly Agree
- Agree
- I don't know
- Disagree
- Strongly Disagree

What are the strengths of offering a course at a distance via instructional technology?



What are the weaknesses of offering a course at a distance via instructional technology?



Most of my classes at UT provide online course materials.

- Strongly Agree
- Agree
- I don't know
- Disagree
- Strongly Disagree

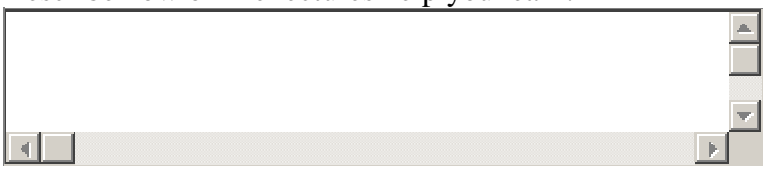
My classes at UT provide the following online class materials (check all that apply).

- [ ] Class notes
- [ ] Recorded lectures
- [ ] Posted discussions
- [ ] Grade book
- [ ] Other

I find that online course materials are useful.

- ○ Strongly Agree
- ○ Agree
- ○ I don't know
- ○ Disagree
- ○ Strongly Disagree

Describe how online lectures help you learn.



Interaction with an instructor in a classroom is very important to my learning.

- ○ Strongly Agree
- ○ Agree
- ○ I don't know
- ○ Disagree
- ○ Strongly Disagree

Interaction with other students during classtime is necessary for me to learn.

- ○ Strongly Agree
- ○ Agree
- ○ I don't know
- ○ Disagree
- ○ Strongly Disagree

Interaction with other students outside of classtime is necessary for me to learn.

- [ ] Strongly Agree
- [ ] Agree
- [ ] I don't know
- [ ] Disagree
- [ ] Strongly Disagree

I prefer to meet with my professor outside class (check all that apply).

- [ ] In person
- [ ] On the telephone
- [ ] Via email
- [ ] Via Instant Messages
- [ ] Via chat room

I prefer to meet with my professor outside class (check all that apply).

- [ ] To ask questions
- [ ] To get assistance on homework
- [ ] To discuss research
- [ ] To get guidance on my studies
- [ ] Other

Students last spring were imagined they were a new xx BME student who has chosen a xxx-based faculty member for their advisor. Students identified concerns that are listed below. Identify which concerns you share (check all that apply).

- [ ] How to ask questions during class
- [ ] Availability of instructor outside of class time
- [ ] Availability of TA outside of class time
- [ ] How to communicate with instructor (in class, via emails, etc)
- [ ] How to communicate and interact with peers
- [ ] How to do in-class group work
- [ ] How to manage my time so that I don't fall behind
- [ ] How to be more than a "number"
- [ ] How to handle technical problems/issues
- [ ] Other

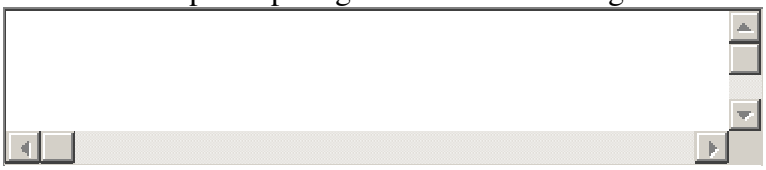
Students last spring were asked to imagine they were a Houston-based student and asked if they would rather participate in class in real-time or review a video recording. Select which of their perspectives you agree with (check all that apply).

- [ ] I'd view a recording because it can be repeated.
- [ ] I'd participate in real time so that I can ask questions.
- [ ] I'd rather participate in real time because course content (such as equations) are better learned in real time.
- [ ] I'd view a recording because it can save time.
- [ ] I'd participate both ways - sometimes real time and sometimes recorded.
- [ ] I'd participate real time so that I can feel a part of the class.
- [ ] It depends on the class - some don't have much interaction so I would prefer a recording.
- [ ] I'd view a recording because it is not possible to come to Austin just for a class.
- [ ] Other

If you were a Houston-based student, how would you prefer to ask questions during a real-time class session (check all that apply)?

- [ ] video conference
- [ ] audio (e.g., phone)
- [ ] text (e.g., IM)
- [ ] don't care

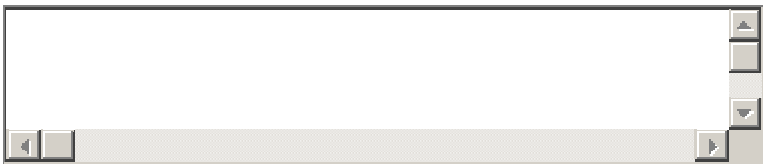
If you were an Austin-based student, would you care what format the Houston-based students participated? How you think your learning would be impacted by other students participating via distance learning?



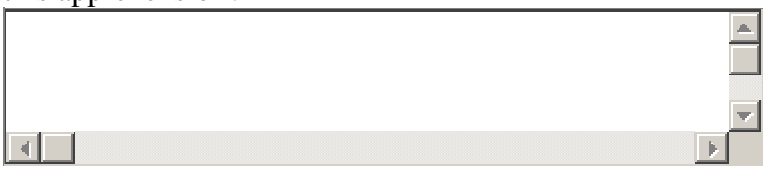
How many times per semester would you be willing to travel for class activities? (Assume DAY TRIPS that would be paid for by the department).

- [ ] None
- [ ] 1-3
- [ ] 4-6
- [ ] More than 6

Students in a distance learning class may be concerned about isolation (from professor and other students). What suggestions/ideas do you have to alleviate such concerns?



Students in a distance learning class can be apprehensive about relying on technology. Is this a concern for you and what suggestions do you have to reduce this apprehension?



Any other comments, questions, ideas are welcome.

BME Faculty Distance Learning Survey Fall 2006

The purpose of this survey is to learn more about teaching approaches of UT Austin's BME faculty so that our graduate courses may be offered via distance learning. Completion of the survey should not require more than twenty minutes. Thank-you for your feedback!

We would like to share what we learn about developing a distance learning component to our curriculum with our colleagues through a forum such as the ASEE annual meeting. In lieu of answering numerous questions on relevant demographic data (e.g., number of years teaching), we ask that you provide your name. Neither your name nor any identifiable demographic data will be shared with any individual outside the BME department. Your name:

The next few questions pertain to approaches that you may use to assess the needs/concerns of GRADUATE students in your courses.

I assess student needs/concerns by collecting responses (anonymous or identifiable) on "paper and pencil" in-class surveys.

- 1 - Never
- 2 -
- 3 -
- 4 -
- 5 - Often

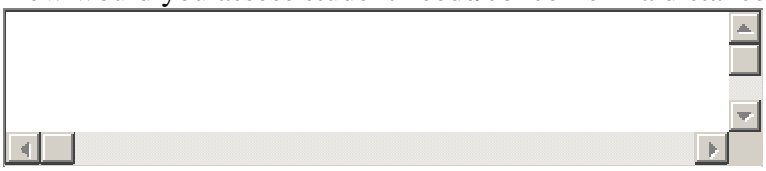
I assess student needs/concerns by collecting responses (anonymous or identifiable) on surveys conducted electronically (Survey-on-the-spot, BlackBoard, etc).

- 1 - Never
- 2 -
- 3 -
- 4 -
- 5 - Often

I assess student needs/concerns by discussing their concerns informally during office hours.

- 1 - Never
- 2 -
- 3 -
- 4 -
- 5 - Often

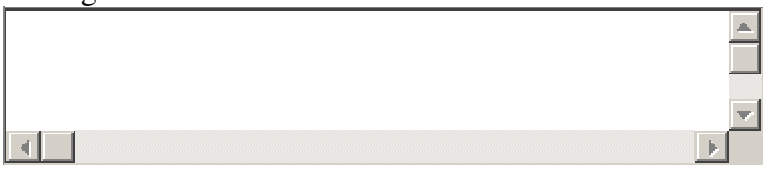
How would you assess student needs/concerns in a distance learning course?



To what extent do you have the resources you need to assess student needs in a distance learning class? (Resources can include knowledge of pedagogical strategies, experience with technology, your time, TA time, etc).

- 1 - I don't have any of the resources I will need
- 2 -
- 3 -
- 4 -
- 5 - I have all the resources I will need

Please indicate and comment (if possible) on resources that you think may be lacking in order to assess student needs in a distance learning course.



The next few questions pertain to approaches that you may currently use to evaluate GRADUATE student learning.

I evaluate student learning using "paper and pencil" homeworks.

- 1 - Never
- 2 -
- 3 -
- 4 -
- 5 - Often

I evaluate student learning using homeworks that are submitted electronically.

- 1 - Never
- 2 -
- 3 -
- 4 -
- 5 - Often

I evaluate student learning using "paper and pencil" exams given during class time.

- 1 - Never
- 2 -
- 3 -
- 4 -
- 5 - Often

I evaluate student learning using exams that are submitted electronically during class time.

- 1 - Never
- 2 -
- 3 -
- 4 -
- 5 - Often

I evaluate student learning using "paper and pencil" exams given as "take home" tests.

- 1 - Never
- 2 -
- 3 -
- 4 -
- 5 - Often

I evaluate student learning using exams that are submitted electronically outside of class time (i.e., electronically submitted take home test).

- 1 - Never
- 2 -
- 3 -
- 4 -
- 5 - Often

I evaluate student learning using laboratory exercises and associated reports. (Interpret a laboratory exercise to mean a student activity that is more in-depth and hands-on than typical active learning exercises, may involve group work, and is completed during class time, though an associated report or presentation may be prepared outside of class time.)

- 1 - Never
- 2 -
- 3 -
- 4 -
- 5 - Often

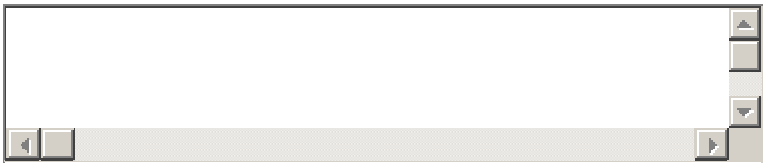
I evaluate student learning by their contributions to in-class discussion.

- 1 - Never
- 2 -
- 3 -
- 4 -
- 5 - Often

I evaluate student learning using projects and associated reports and/or presentations. (Interpret a "project" to mean an exercise that is more substantive than a typical homework, is completed oustide of class time, and may involve group work.)

- 1 - Never
- 2 -
- 3 -
- 4 -
- 5 - Often

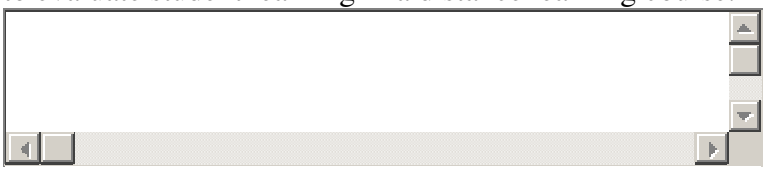
How do you anticipate you might evaluate student learning in a distance learning course?



To what extent do you think that you have the requisite resources to evaluate student learning in a distance learning class? (Resources can include knowledge of pedagogical strategies, experience with technology, your time, TA time, etc).

- 1 - I don't have any of the resources I will need
- 2 -
- 3 -
- 4 -
- 5 - I have all the resources I will need

Please indicate and comment (if possible) any resources that you think are lacking to evaluate student learning in a distance learning course.



The next few questions pertain to approaches that you may currently use to give GRADUATE students feedback in your courses.

I give students feedback by answering their questions in class.

- 1 - Never
- 2 -
- 3 -
- 4 -
- 5 - Often

I give students feedback by answering their questions in office hours (in person).

- 1 - Never
- 2 -
- 3 -
- 4 -
- 5 - Often

I give students feedback by answering their questions via email (or some other asynchronous, text-based technology).

- 1 - Never
- 2 -
- 3 -
- 4 -
- 5 - Often

I give students feedback by answering their questions via instant messaging (or some other synchronous, text-based technology).

- 1 - Never
- 2 -
- 3 -
- 4 -
- 5 - Often

I give students feedback by answering their questions via telephone (or some other synchronous audio technology, e.g., audio chat via internet).

- 1 - Never
- 2 -
- 3 -
- 4 -
- 5 - Often

I give students feedback by answering their questions via videoconferencing (including desktop programs like iChat, NetMeeting, Click2Meet).

- 1 - Never
- 2 -
- 3 -
- 4 -
- 5 - Often

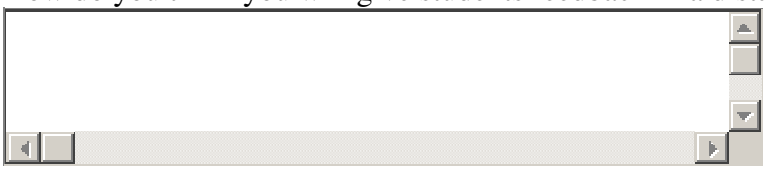
I give students feedback by giving them handwritten comments on "paper and pencil" assessments.

- 1 - Never
- 2 -
- 3 -
- 4 -
- 5 - Often

I give students feedback by giving them electronic text comments on their electronically submitted assessments.

- 1 - Never
- 2 -
- 3 -
- 4 -
- 5 - Often

How do you think you will give students feedback in a distance learning course?



To what extent do you think you have the requisite resources to give students feedback in a distance learning class? (Resources can include knowledge of pedagogical strategies, experience with technology, your time, TA time, etc).

- 1 - I don't have any of the resources I will need
- 2 -
- 3 -
- 4 -
- 5 - I have all the resources I will need

Please indicate and comment on (if possible) any resources you think are lacking to give students feedback in a distance learning course.

The next few questions relate more generally to how you GRADUATE classes.

I believe an important part of my teaching is to give students a good set of notes.

- Strongly Agree
- Agree
- I don't know
- Disagree
- Strongly Disagree

In my classes written objectives guide my instruction.

- Strongly Agree
- Agree
- I don't know
- Disagree
- Strongly Disagree

In my classes, I focus on presentation of information content to students.

- Strongly Agree
- Agree
- I don't know
- Disagree
- Strongly Disagree

I normally present oral lectures in my classes and rarely use any visual aids.

- Strongly Agree
- Agree
- I don't know
- Disagree
- Strongly Disagree

I mostly use PowerPoint to present my lectures.

- Yes
- No

I use PowerPoint and a white board to give my lectures.

- Yes
- No

I am very active and move around the room when I lecture.

- Yes
- No

I would prefer to teach with a blackboard and forgo the use of technology.

- Strongly Agree
- Agree
- I don't know
- Disagree
- Strongly Disagree

In a distance learning course, effective use of an online course management tool such as BlackBoard is essential. The next few questions are intended to gauge what features of BlackBoard you already use in your non-distance learning courses. Please respond with regard to your GRADUATE teaching.

I use the "Announcements" feature in BlackBoard.

- 1 - I don't know what this is
- 2 - I know what this is, but I never use it
- 3 - I use it rarely
- 4 - I use it sometimes
- 5 - I use it often

I distribute course documents using BlackBoard (e.g., notes, problem sets to be completed offline).

- 1 - I don't know what this is
- 2 - I know what this is, but I never use it
- 3 - I use it rarely
- 4 - I use it sometimes
- 5 - I use it often

I use the "Assessment" tools in BlackBoard (Test Manager and/or Survey Manager).

- 1 - I don't know what this is
- 2 - I know what this is, but I never use it
- 3 - I use it rarely
- 4 - I use it sometimes
- 5 - I use it often

I use the "Discussion Board" feature in BlackBoard.

- 1 - I don't know what this is
- 2 - I know what this is, but I never use it
- 3 - I use it rarely
- 4 - I use it sometimes
- 5 - I use it often

I use the "email" functions in BlackBoard to communicate messages to my students.

- 1 - I don't know what this is
- 2 - I know what this is, but I never use it
- 3 - I use it rarely
- 4 - I use it sometimes
- 5 - I use it often

I use the "Message" functions in BlackBoard to exchange messages with my students. (Note: this is not the same as email)

- 1 - I don't know what this is
- 2 - I know what this is, but I never use it
- 3 - I use it rarely
- 4 - I use it sometimes
- 5 - I use it often

I use the "Calendar" functions in BlackBoard.

- 1 - I don't know what this is
- 2 - I know what this is, but I never use it
- 3 - I use it rarely
- 4 - I use it sometimes
- 5 - I use it often

I use the "Groups" functions in BlackBoard.

- 1 - I don't know what this is
- 2 - I know what this is, but I never use it
- 3 - I use it rarely
- 4 - I use it sometimes
- 5 - I use it often

I use the "Gradebook" functions in BlackBoard.

- 1 - I don't know what this is
- 2 - I know what this is, but I never use it
- 3 - I use it rarely
- 4 - I use it sometimes
- 5 - I use it often

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