**EE400D (Teaching Engineering): Classroom Observation**

Faculty/Instructor: Jennifer Taggart Date/Time of Observation: 11/22/2019 1:30 – 2:20

Observer: Ziqiao Xu

Course Number (Course Title): Math 126

Format Observed (Lecture, Lab, Quiz Section): lecture

Number of Students Enrolled: 151 Number of Students Attending: 150

**Instructions**

*This observation worksheet contains both close-ended (Likert Scale) questions and open-ended (descriptive) questions regarding what the instructor is doing during the observed time period (session) and what the students are doing. Not all behaviors or activities are covered in the close-ended questions; those activities that are not included in the close-ended questions can be integrated into the open-ended questions. Please highlight your answers in a different, but legible color, minimize white space, and provide clean and consistent formatted in the completed observation.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| During the Observed Session: | Not at All | Somewhat | Satisfactory | Outstanding |
| The instructor provides objectives for the class session (written, verbal, or both). | X |  |  |  |
| The instructor relates the session content to learning outcomes for the course. | X |  |  |  |
| The instructor uses visual aids that are clear, organized, and relevant. |  |  | X |  |
| The instructor uses practical, “real-world” examples to support teaching. | X |  |  |  |
| The instructor refers to the relevant portions of the textbook, reading, or other supplement. |  |  | X |  |
| The instructor uses humor effectively to promote student engagement and rapport. |  | X |  |  |
| The instructor answers questions well and demonstrates knowledge of the subject. |  |  |  | X |
| The instructor shows clear interest or enthusiasm in teaching. |  |  |  | X |
| The instructor uses student names. | X |  |  |  |
| The instructor asks specific questions. |  |  | X |  |
| The instructor pauses after asking a question. |  |  | X |  |
| The instructor asks questions of students that result in responses from students. |  | X |  |  |
| The instructor changes gears periodically from one style of teaching to another. | X |  |  |  |
| The instructor engages students periodically through think/pair/share, problem solving, or other active learning exercises. |  | X |  |  |
| The instructor uses guided notes. |  |  | X |  |
| The instructor involves students periodically in what is to be covered during the session. |  | X |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| During the Observed Session: | Not at All | Somewhat | Satisfactory | Outstanding |
| The instructor uses more than one way to explain problems or concepts. | X |  |  |  |
| The opening of the class session gets students’ attention. |  | X |  |  |
| The instructor provides a summary of what has been covered and accomplished at the end of the observed session. | X |  |  |  |
| The instructor provides a preview of the next session or ideas of what to consider for the next class at the end of the observed session. | X |  |  |  |
| The instructor could be easily heard. |  |  |  | X |
| The instructor moves around in the classroom and refrains from standing/sitting in one place. |  |  | X |  |
| The instructor uses analogies or metaphors to relate the concepts to students’ experience. | X |  |  |  |
| The instructor emphasizes key points throughout the observed session. |  |  | X |  |
| The instructor makes eye contact with students. |  |  | X |  |
| The instructor uses open (not closed) body language during the observed session. |  |  | X |  |
| The instructor engages in behaviors that develop rapport and trust with the students. |  |  | X |  |
| The instructor relates the material/concepts to personal or societal concerns. | X |  |  |  |
| The instructor is available before class. |  |  | X |  |
| The instructor is available after class. |  |  | X |  |

What types of visual aids (dry-erase board, chalkboard, powerpoint, etc) does the instructor use during the observed session? How are these visual aids used?

The instructor uses pen and paper as visual aids. She uses pen to write notes on paper and project them on the screen.

In your opinion, what was the best/most effective teaching moment observed in this session?

While solving a problem, the instructor asks easy questions with short answers of only one or two words to let the students shout out the answer and get the students involved.

In your opinion, what was the most unique teaching moment observed in this session?

When writing on paper, the instructor almost always speaks out what she is writing. She also pauses frequently and heads up to give students time to take notes and ask questions

In an organized paragraph with complete sentences, describe what the instructor did throughout the session (150-250 words).

The observed course is a competitive non-major Math course. The content mostly focuses on theoretical math concepts and methods with little practical applications. Math class that involves many calculations and derivations are normally boring, but the instructor maintains high energy and controlled pace during the entire session to make it more engaging and easier to follow. For the entire session, the instructor uses only one style, which is to write the steps to solve math problems on paper and project it on screen, but she is an expert in doing that and has multiple techniques to bring the students’ attention. The instructor does some noticeable details that helps the students to comprehend, for example, when she writes down an important formula, she chooses to write on a new piece of paper and write in larger font while speaking slower at the same time to signal the difference between different sections of the class. The instructor has great reaction to unexpected incidents that there are continuous huge noises outside the classroom, and she notices that students’ attention is driven by it, so she responds to it in a humorous way and stops any further expansion of it. The instructor cares about interaction between the students a lot by asking the students questions frequently. She also pauses intentionally and waits for the students to answer the next step without stating the question, which is confusing for me, but the students seem to be used to this style and the technique saves time in some degree. The instructor is very sensitive to students’ responses, if the students have no idea of a question, she will keep providing hints, and finally give the answer if the hints don’t work, so that students get the point of each such question, and the time spent on each of these cases are not out of phase. The ratings for the Likert-Scale items are based on the rubric shown below. The rubric is now complete for this form.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| During the Observed Session: | None | Few | Some | Many | Most |
| Students maintain attention toward the instructor (for example – eye contact). |  |  |  |  | X |
| Students remain awake and alert during the observed session. |  |  |  |  | X |
| Students are using their cell phones or other electronic devices in activities unrelated to class. |  |  | X |  |  |
| Students are over one minute late to class. |  |  | X |  |  |
| Students pack up early at the end of class. |  | X |  |  |  |
| Students are reading the newspaper or doing other non-electronic activities unrelated to class. | X |  |  |  |  |
| Students interact with the instructor before class. | X |  |  |  |  |
| Students interact with the instructor after class. |  | X |  |  |  |
| Students initiate questions. |  |  | X |  |  |
| Students respond to questions posed by the instructor. |  |  | X |  |  |
| Students ask follow up questions. |  | X |  |  |  |
| Students participate in class when asked to do so by the instructor. |  |  | X |  |  |
| Students are taking notes. |  |  |  | X |  |

In your opinion, how would you best describe students’ interest in the observed session?

The students are strongly interested in the session and has strong passion in studying

In your opinion, how would you best describe students’ affect (emotion) in the observed session?

The students are curious about the knowledge and enthusiastic in general.

In an organized paragraph with complete sentences, describe what the students were doing during the observed session (150-250 words).

The number of students in the observed session is huge and it is common for non-major classes. The majority of the students are listening closely to the instructor for the entire session, but dialogues can be heard. These two activities are rare in higher level classes where students are paying less attention and chooses to use their electronic devices instead of chatting with each other. In this session, even when some of the students use their phones, most resume to note taking quickly and very few students use their phones for more than one minute. The students can be observed to stay closely to the course content, including all the calculation details. During the observed session, the instructor once makes a mistake, and multiple students notice that instantly and point that out. The students are generally more responsive than other courses that for many questions the teacher initiates, a lot of students speak out the correct answer together instead of one of them answers the question in a formal way. The relatively large number of students seem to be inconvenient for some of the students, for example, many students have trouble finding seats, especially for those who come in when the class is about to begin, and some have to stand at the back of the room to listen for the whole class. I also observe that some students in the back row have trouble reading the handwritten notes from their location and try different methods to solve that. Although the instructor ends the class later than its assigned time,

almost all the students stay for the last couple minutes and few packs up early. The Likert-Scale items are rated with respect to the rubric shown below.

Are there any items that you believe should be added to this classroom observations worksheet? If so, please describe.

Rating system:

“The instructor provides objectives for the class session (written, verbal, or both).”

I rated the instructor as follows:

Outstanding:  well-designed objectives for the specific class session, hopefully both written and verbal

Satisfactory:   clearly stated and identifiable objectives that most students can notice and understand

Somewhat:   a few ambiguous sentences about the objectives, mostly at the start of the class

Not at all:  never mention anything about objectives during the entire class session.

“The instructor relates the session content to learning outcomes for the course. “

I rated the instructor as follows:

Outstanding:  explains the connection between the session content and some specific learning outcomes

Satisfactory:   mentions learning outcomes during the class session

Somewhat:   the course content reflects the learning outcomes in implicit ways

Not at all:  a typical student can not find relationship between the overall learning outcomes and the observed class session

“The instructor uses visual aids that are clear, organized, and relevant. “

I rated the instructor as follows:

Outstanding:  visual aids have delicate details that enhance the overall quality of the lecture

Satisfactory:   the visual aids are well prepared and blend in well with the lecture content

Somewhat:   have visual aids prepared with major flaws (too few, unrelated, unorganized, visually distracting, etc.)

Not at all:  all the information is conveyed by verbal

“The instructor uses practical, “real-world” examples to support teaching. “

I rated the instructor as follows:

Outstanding:  multiple examples that support each other or one complex well-designed example that relates to real application in the related industry

Satisfactory:   at least one complete “real-world” example with clear application of the course content

Somewhat:   a few sentences about the possible application of the theories are presented

Not at all:  all the content is theoretical

“The instructor refers to the relevant portions of the textbook, reading, or other supplement.”

I rated the instructor as follows:

Outstanding:  all the related supplements are clearly stated; the course content and supplement reading are closely related and comprehending one will benefit the understanding of the other

Satisfactory:   the course content and the provided supplements fall into an acceptable area of knowledge

Somewhat:   the corresponding reading material is mentioned but unrelated

Not at all:  no relationship between course content and textbook is mentioned

“The instructor uses humor effectively to promote student engagement and rapport.”

I rated the instructor as follows:

Outstanding:  more than 4 jokes or the humor used is well-organized and helps students remember course content

Satisfactory:   3 ~ 4 jokes that catch students’ attention or 1 ~ 2 high quality ones

Somewhat: 1 ~ 2 jokes that not necessarily have good effects

Not at all:  never use any humor during the entire class session

“The instructor answers questions well and demonstrates knowledge of the subject. “

I rated the instructor as follows:

Outstanding:  answers question with knowledge relate to the big picture or use humor, analogies, or examples to help student understand

Satisfactory:   completely and clearly answer most of the questions

Somewhat:   answer question briefly but don’t provide the best answer

Not at all: refuse to answer questions or don’t know anything about basic questions

“The instructor shows clear interest or enthusiasm in teaching. “

I rated the instructor as follows:

Outstanding:  be energetic and helpful during the entire class session, express strong passion that involve the majority of the students in learning

Satisfactory:  lecture with positive energy, catch students’ attention when they feel bored, and be willing to help students

Somewhat: complete the task of teaching without expressing positive or negative emotions

Not at all:  show obvious boredom or other negative emotions in teaching

“The instructor uses student names. “

I rated the instructor as follows:

Outstanding:  have knowledge of more than 5 student names and engage the entire class by using student names

Satisfactory:   correctly use at least 2 student names when asking questions

Somewhat:   attempt to use 1-2 student name, including ask for student names, or use wrong names

Not at all:  never mention any student name

“The instructor asks specific questions. ”

I rated the instructor as follows:

Outstanding:  ask over 5 questions periodically to lead students keep thinking during class session

Satisfactory:   ask 2-5 question that result in clear responses from students

Somewhat:   ask 1-2 ambiguous questions that are difficult for students to respond

Not at all:  never ask any questions to students

“The instructor pauses after asking a question. “

I rated the instructor as follows:

Outstanding:  pauses at the perfect timing for over 30 seconds that is not too long or too short

Satisfactory:  pauses long enough for less than 30 seconds for students to think and respond

Somewhat: briefly pauses for less than 10 seconds but not monitoring the students’ pace

Not at all:  never pauses after asking a question or never ask questions

“The instructor asks questions of students that result in responses from students. “

I rated the instructor as follows:

Outstanding:  ask multiple meaningful questions of students that most of the students respond

Satisfactory:   ask at least one question of students that many students respond

Somewhat:   attempt to ask questions of students but don’t receive response

Not at all:  never ask questions of students

“The instructor changes gears periodically from one style of teaching to another.”

I rated the instructor as follows:

Outstanding:  changes gears frequently to accommodate the 6-minute attention span

Satisfactory:   changes gears more than three times during the class session

Somewhat:   changes gears for one or two times during the class session

Not at all:  use only one style from beginning to the end

“The instructor engages students periodically through think/pair share, problem solving, or other active learning exercises. “

I rated the instructor as follows:

Outstanding:  have more than one type of active learning exercises, or active learning exercises that involve most of the students in and help long-term memory storage

Satisfactory:   do at least one active learning exercise that many students participate

Somewhat:   attempt to do active learning exercises but receive few responses

Not at all:  never initiate any active learning exercises

“The instructor uses guided notes.”

I rated the instructor as follows:

Outstanding:  clear organized guided notes that most students know how to fill

Satisfactory:   visual aids in class show the format of visual aids

Somewhat:   has information to be note down other than provided notes

Not at all:  never use any guided notes

“The instructor involves students periodically in what is to be covered during the session. “

I rated the instructor as follows:

Outstanding:  mention more than 5 times about what is to be covered during the session

Satisfactory:  mention 2-5 times about what is to be covered during the session

Somewhat: mention 1-2 times about what is to be covered during the session

Not at all:  never hints what is to be covered during the session

“The instructor uses more than one way to explain problems or concepts. “

I rated the instructor as follows:

Outstanding:  use more than two ways and changes periodically to explain problems or concepts

Satisfactory:   fluently switches between 2 ways to explain problems or concepts

Somewhat:   change to another way momentarily while sticking to one way

Not at all:  always use the same way to explain problems or concepts

“The opening of the class session gets students’ attention.”

I rated the instructor as follows:

Outstanding:  informative and engaging opening for more than 1 minute

Satisfactory:   complete opening for more than 30 seconds

Somewhat:   brief opening for less than 30 seconds

Not at all:  no formatted opening and jumps to content

“The instructor provides a summary of what has been covered and accomplished at the end of the observed session.”

I rated the instructor as follows:

Outstanding:  informative and organized summary for more than 1 minute

Satisfactory:   complete summary for more than 30 seconds

Somewhat:   brief summary for less than 30 seconds

Not at all:  no formatted summary and class terminates suddenly

“The instructor provides a preview of the next session or ideas of what to consider for the next class at the end of the observed session.”

I rated the instructor as follows:

Outstanding:  provides the keywords of the content of the next class as well as related material to study before it for more than 1 minute

Satisfactory:   mentions the content of next session and its relationship to this session for more than 30 seconds

Somewhat:   mention next session without details for less than 30 seconds

Not at all:  never mention anything about next class session

“The instructor could be easily heard.*”*

I rated the instructor as follows:

Outstanding:  the instructor’s voice is clear and loud enough, and the pronunciation is articulated

Satisfactory:  the instructor meets 2 of the above

Somewhat: the instructor meets 1 of the above

Not at all:  the instructor meets 0 of the above

“The instructor moves around in the classroom and refrains from standing/sitting in one place.

“

I rated the instructor as follows:

Outstanding:  moves all around the room to monitor students’ behaviors

Satisfactory:   moves along the front of the classroom

Somewhat:   moves in a small range

Not at all:  stands or sits still for the entire time

“The instructor uses analogies or metaphors to relate the concepts to students’ experience.”

I rated the instructor as follows:

Outstanding:  more than 2 excellent analogies or metaphors

Satisfactory:   1 ~ 2 analogies or metaphors that help knowledge storage

Somewhat:   1 analogy or metaphor that doesn’t help understanding

Not at all:  no analogies or metaphors

“The instructor emphasizes key points throughout the observed session.”

I rated the instructor as follows:

Outstanding:  emphasizes the main idea and key points for each small part

Satisfactory:   emphasizes 2 or more key points

Somewhat:   emphasizes 1 key points

Not at all:  never emphasizes key points

“The instructor makes eye contact with students.”

I rated the instructor as follows:

Outstanding:  makes eye contact for almost the entire session, switches target often without making students feel stressed

Satisfactory:   makes eye contact for over half of the session, but mainly toward a single direction

Somewhat:   periodically makes some eye contact

Not at all:  never makes any eye contact

“The instructor uses open (not closed) body language during the observed session.”

I rated the instructor as follows:

Outstanding:  uses open body language that helps student understand the course

Satisfactory:   uses open body language frequently but not effectively

Somewhat:   uses open body language periodically

Not at all:  uses no body language

“The instructor engages in behaviors that develop rapport and trust with the students. ”

I rated the instructor as follows:

Outstanding:  expresses care, concern, or understanding of the students, be responsible to problems of students, and stay honest for the entire session like never answering uncertain questions

Satisfactory:   engages in 2 of the 3 behaviors above

Somewhat:   engages in 1 of the 3 behaviors above

Not at all:  never engages in behaviors that develop rapport and trust with the students

“The instructor relates the material/concepts to personal or societal concerns.”

I rated the instructor as follows:

Outstanding:  relates the material/concepts to personal or societal concerns more than two times and resonates with the students

Satisfactory:   relates to personal or societal concerns more than two times

Somewhat:   relates to personal or societal concerns once

Not at all:  never relates the material/concepts to personal or societal concerns

“The instructor is available before class.”

I rated the instructor as follows:

Outstanding:  be in the classroom more than 5 minutes before class or whenever the last instructor leaves the classroom

Satisfactory:   be in the classroom more than 2 minutes before class

Somewhat:   be in the classroom less than 2 minutes before class

Not at all:  be late for class

“The instructor is available after class.”

I rated the instructor as follows:

Outstanding:  leaves the classroom more than 5 minutes after class or whenever all the students with questions leave

Satisfactory: leaves the classroom more than 2 minutes after class

Somewhat:   leaves the classroom within 2 minutes after class

Not at all:  leaves the classroom immediately after class

“Students maintain attention toward the instructor (for example – eye contact).”

I rated the students as follows:

None: less than 10 percent of the students has any behaviors of paying attention to the instructor , including making eye contact, heading up and facing forward, responding to humor, etc.

Few: less than 30 percent of the students have behaviors of paying attention

Some: from 30 percent to 50 percent of the students show such behaviors

Many: from 50 percent to 75 percent of the students show such behaviors

Most: more than 75 percent of the students show such behaviors

“Students remain awake and alert during the observed session.”

I rated the students as follows:

None: more than 50 percent of student in the classroom fall in sleep for at least a moment and don’t respond to major events in the lecture

Few: more than 40 percent of the students fall in sleep

Some: more than 20 percent of the students fall in sleep

Many: more than 10 percent of the students fall in sleep

Most: less than 10 percent of the students fall in sleep

“Students are using their cell phones or other electronic devices in activities unrelated to class. “

I rated the students as follows:

None: no student in the classroom look at the cell phone screen or do any operations when not asked to do or the course content don’t need information on cell phone to understand

Few: less than 5 percent of the students use cell phone for unrelated activities at least once

Some: from 5 percent to 10 percent of the students use cell phone for unrelated activities

Many: from 10 percent to 20 percent of the students use cell phone for unrelated activities

Most: more than 20 percent of the students use cell phone for unrelated activities

“Students are over one minute late to class. ”

I rated the students as follows:

None: no student enters the classroom after one minute into the class

Few: less than 5 percent of the students are more than one minute late

Some: from 5 percent to 10 percent of the students are more than one minute late

Many: from 10 percent to 20 percent of the students are more than one minute late

Most: more than 20 percent of the students are more than one minute late

“Students pack up early at the end of class. ”

I rated the students as follows:

None: no student pack up their belongings before the class ends

Few: less than 5 percent of the students pack up early

Some: from 5 percent to 10 percent of the students pack up early

Many: from 10 percent to 20 percent of the students pack up early

Most: more than 20 percent of the students pack up early

“Students are reading the newspaper or doing other non-electronic activities unrelated to class. “

I rated the students as follows:

None: no student in the classroom read newspaper or do other non-electronic activities unrelated to class other than sleeping

Few: less than 2 percent of the students do unrelated non-electronic activities

Some: from 2 percent to 5 percent of the students do unrelated non-electronic activities

Many: from 5 percent to 10 percent of the students do unrelated non-electronic activities

Most: more than 10 percent of the students do unrelated non-electronic activities

“Students interact with the instructor before class. ”

I rated the students as follows:

None: no student interact with the instructor before class

Few: less than 2 percent of the students interact before class

Some: from 2 percent to 5 percent of the students interact before class

Many: from 5 percent to 10 percent of the students interact before class

Most: more than 10 percent of the students interact before class

“Students interact with the instructor after class. ”

I rated the students as follows:

None: no student interact with the instructor after class

Few: less than 2 percent of the students interact after class

Some: from 2 percent to 5 percent of the students interact after class

Many: from 5 percent to 10 percent of the students interact after class

Most: more than 10 percent of the students interact after class

“Students initiate questions. “

I rated the students as follows:

None: no student initiate questions

Few: less than 2 percent of the students initiate questions

Some: from 2 percent to 5 percent of the students initiate questions

Many: from 5 percent to 10 percent of the students initiate questions

Most: more than 10 percent of the students initiate questions

“Students respond to questions posed by the instructor.”

I rated the students as follows:

None: no student respond to questions

Few: less than 5 percent of the students respond to questions

Some: from 5 percent to 10 percent of the students respond to questions

Many: from 10 percent to 20 percent of the students respond to questions

Most: more than 20 percent of the students respond to questions

“Students ask follow up questions. ”

I rated the students as follows:

None: no student asks follow up questions

Few: less than 2 percent of the students ask follow up questions

Some: from 2 percent to 5 percent of the students ask follow up questions

Many: from 5 percent to 10 percent of the students ask follow up questions

Most: more than 10 percent of the students ask follow up questions

“Students participate in class when asked to do so by the instructor. “

I rated the students as follows:

None: less than 5 percent of the students participate in class when asked to do so by the instructor

Few: less than 15 percent of the students participate in class

Some: from 15 percent to 30 percent of the students participate in class

Many: from 30 percent to 50 percent of the students participate in class

Most: more than 50 percent of the students participate in class

“Students are taking notes.”

I rated the students as follows:

None: less than 5 percent of the students are taking notes

Few: less than 15 percent of the students are taking notes

Some: from 15 percent to 30 percent of the students are taking notes

Many: from 30 percent to 50 percent of the students are taking notes

Most: more than 50 percent of the students are taking notes