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

Faculty/Instructor: Payman Arabshahi Date/Time of Observation: 10/18/2019

Observer: Ziqiao Xu

Course Number (Course Title): EE496

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

Number of Students Enrolled: 73 Number of Students Attending: 61

**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 professor uses power point and a short video as visual aids. He uses the power point as a guideline and the video to show the real footage of an engineering project.

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

All the difficult concepts are displayed in clear color-coded diagrams on the power point to always remind the students about the big picture of the content.

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

He compares a successful engineering project about DC-3 plane and a failed example of the rocket test in Project Mercury to break down elements of good requirements.

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

The instructor provides a solid lecture for this class session. He includes more interactive elements in this class comparing to his last lecture. With a video played by the middle of the class and a long class discussion that finishes the class, the professor successfully keeps the students’ attention for a relatively long class period. The professor finds a proper tempo in the class session and switches back and forth between lecturing about the concepts and theories and telling real-life examples applying the theories. One excellent teaching technique used in this lecture is comparing successful and failed real-life engineering project examples to help the students comprehend the content. By introducing the details of projects with visual aids like videos, the professor match abstract theories and concepts with real design elements in the projects to give students a better picture of the concepts, as well as providing a standard of what is good for all the concepts with the comparison. My rating for the Likert-Scale items above is primarily based on the rating system by the end of this form. The rating system is designed to be objective and easy to observe, but I try to mix quality and quantity in my rating and avoid making the rubric overly quantifiable. My rating on this form generally refers to the instructor’s performance with respect to other instructors in similar class sessions, and it is specially adjusted to reflect the different between this and previous class sessions of the same instructor teaching the same course.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 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 have limited interest to the course content as the concepts are hard to comprehend and

unrelated to their grade.

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

The students are calm and tired in the observed session that they are not very excited or energetic about the content being taught.

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

Most of the students in this class session clearly show behaviors of being bored and tired, such as yawning, facing down or straight forward without following the instructor’s move, or whispering with students next to them. The attendance for this lecture remains approximately the same as the last lecture, which is much worse than the first two lectures. Most of the students who expect themselves not to listen for the lecture decide to skip the session. The students clearly realize that the course content is complex and has little relationship with any of the other courses, and their grade will barely benefit from remaining close attention in the class session. This special case in this class have an advantage that students are not frustrated in this class because whenever the course content become hard to understand, they have the option not to learn. On the other hand, the students are generally more respectful and friendly than other classes because the instructor is more on the coach side instead of the adversary side in this class. Students in this class are extremely active in the last group discussion that most of the groups spend the entire time period talking, which is rare in other lectures. The Likert-Scale items are rated based on the rating system below. The rating system for the students are more quantitative than that for the instructor to reduce the workload as the rating for students is more statistical and less qualitative than that for the instructor.

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 many student names and engage the entire class by using student names

Satisfactory:   correctly use at least student names when asking questions

Somewhat:   attempt to use student name, like 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 questions periodically to lead students keep thinking during class session

Satisfactory:   ask at least one question that result in clear responses from students

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

Not at all:  never ask any questions to students

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

I rated the students as follows:

None: no one 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 10 percent of the students have behaviors of paying attention

Some: from 10 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: every student in the classroom fall in sleep for at least a moment

Few: less than 10 percent of the students don’t fall in sleep at all and respond to major events in the lecture

Some: from 10 percent to 50 percent of the students don’t fall in sleep from beginning to the end

Many: from 50 percent to 75 percent of the students never fall in sleep

Most: more than 75 percent of the students never 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 10 percent of the students use cell phone for unrelated activities at least once

Some: from 10 percent to 50 percent of the students use cell phone for unrelated activities

Many: from 50 percent to 75 percent of the students use cell phone for unrelated activities

Most: more than 75 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 enter the classroom after one minute into the class

Few: less than 10 percent of the students are more than one minute late

Some: from 10 percent to 50 percent of the students are more than one minute late

Many: from 50 percent to 75 percent of the students are more than one minute late

Most: more than 75 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 10 percent of the students pack up early

Some: from 10 percent to 50 percent of the students pack up early

Many: from 50 percent to 75 percent of the students pack up early

Most: more than 75 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 10 percent of the students do unrelated non-electronic activities

Some: from 10 percent to 50 percent of the students do unrelated non-electronic activities

Many: from 50 percent to 75 percent of the students do unrelated non-electronic activities

Most: more than 75 percent of the students do unrelated non-electronic activities