CRLT-ENGIN
UNIVERSITY OF MICHIGAN

Date: February 21, 2024

To Whom It May Concern:

This letter acknowledges that Nishant Kheterpal received the following consultation service from the Center for Research on Learning and Teaching in Engineering (CRLT-Engin) on the date specified.

Service: Classroom Observation with Midterm Student Feedback
Date of Service: February 21, 2024
Location: Dow Engineering Building 1005

Sincerely,

Timothy Keebler
Engineering Teaching Consultant
CRLT in Engineering

Instructor: Nishant Kheterpal
Course: EECS 280 – Programming and Introductory Data Structures
Date of service: February 21, 2024
Location: DOW 1005
Number of student attendees: 22

This report summarizes data collected during the lab section observation and MSF conducted for GSI Nishant Kheterpal. Observations were collected by Timothy Keebler, CRLT-Engin Teaching Consultant.

Strengths

Dynamic and engaging lecture

Your experience with teaching is immediately clear in your classroom conduct. The lecture material is engaging and clear, and you are able to deliver the material efficiently. As the lecture progressed, you came up with additional examples and explanations on the spot, and were able to respond to questions effectively. Your lecture style makes it easy to pay attention, and many of the students were fully-focused despite having digital devices readily available for distraction. Great work!

Rapport with students

It is immediately clear upon entering the classroom that you have cultivated an environment where students feel comfortable interacting with you. You put in extra effort to learn everybody's name, and are always attentive to students' problems. They are willing to ask questions about the course material, administrative issues, or even for scheduling or career advice. Some students also joked around with you, while still maintaining respect. There was no hesitation for any of them to talk to you, and they really appreciate how approachable you are. Building such a classroom culture is an active process, and your work is appreciated by the students.

Soliciting and responding to student questions

Throughout the lecture, you were sure to pause for questions frequently, asking the class if they had any or simply scanning the room. You always left a good amount of time for students to gather their thoughts, and made sure to emphasize the tricky parts particularly. During the lab portion, you were able to effectively cover the whole room, providing guidance without giving away the answer, and spending the perfect amount of time on each group without getting stuck for too long. Your answers were quick and effective, and you were able to make additional examples to aid understanding without preparing. The students noted this as well, mentioning that you provide good answers to their questions during both lecture and lab.

Suggestions

Incorporate more active learning techniques.

The format of this class already seems to work well, especially since the portion dedicated to slides is relatively short. However, you can try incorporating more active learning techniques into the first half of the lab. These include techniques such as 'think-pair-shares,' which have students answer a question, discuss with a single neighbor, then respond as a class, or 'intentional mistakes,' where students need to find the error in a statement or expression. Another fun option is asking students to write exam questions on a given topic - it helps them think in the mindset of the instructor, and consider the material holistically. Your engagement with this class was very good, with numerous different students asking and answering questions. But, there were definitely a few that did not participate, and they could be engaged using some of these techniques.

Student Feedback

During this lab section, the ETC took 15 minutes to talk in-person with the students. The ETC verified that the session was not being recorded, and informed the students of the scope and anonymous nature of the feedback session. Student engagement was good, providing detailed feedback. The ETC prompted a few general questions, having the class quickly show hands to approximate the fraction in agreement, and also allowed students to provide open-ended feedback. The students provided overwhelmingly positive feedback. Several students also requested an electronic feedback form; the ETC provided one, but only got limited feedback through this channel.

By show of hands:

- Are you knowledgeable regarding course content?
    - 80% of students say you are an expert in the course material
    - 100% of students say you are an expert in at least 80% of the course material
- Does the lecture move at a good pace?
    - ~5 students say the lecture moves too fast
    - a small number say the lecture moves too slowly
    - >80% of students say the lecture is at an appropriate pace
- >90% say good with digital worksheet help
- Only 3-5 students knew any peers in the class back in January, and fewer knew more than three peers at the start of class.
- When jokingly asked if they were excited for new lab groups, the class laughed and generally indicated displeasure with the current group assignments.
- ~20% want more examples during the lecture
- Do you answer questions effectively during the lecture?
    - >90% of students say you answer lecture questions effectively most of the time
    - many students say you answer lecture questions effectively more than 80% of the time

Students offered the following feedback individually:

- You are “really good at writing on the whiteboard.” You “excel at drawing diagrams to explain situations,” and can make up illustrative example problems on the spot to demonstrate a concept.
- You are “very approachable both in-person and virtually,” and students are “not nervous at all to ask questions.”
- Students appreciate how engaged you are outside of the classroom, noting you are very willing to be flexible and schedule meetings outside of office hours. You are very attentive to email as well.
- When students seek help, you “always follow up when a student is confused to make sure they truly understand,” even reaching out to another member of the teaching staff if necessary. Students note that you will help them understand material and assignments that you have no direct responsibility for, and correct confusion from other parts of the course. You help students navigate the general course structure, and can mediate with the administrative team.
- Your response to feedback such as the initial survey is a highlight for students. They are impressed that you put in extra effort to learn their names, and grateful that you care about individual interests and career aspirations. You also make sure to follow up on questions during the lab, leaving nothing unanswered even if it takes some time.
- Students observe that you are “very passionate about teaching and here to make sure the students learn, not just collect a paycheck.”
- They say that you are “very observant and aware of the class” and “can tell when they don’t understand or need more help.”
- “He’s just phenomenal, one of the best STEM instructors I’ve had in college.”

Students gave the following suggestions:

- A few students think that your writing on the whiteboard is too small. The ETC had no difficulty reading the materials during the observation.
- Students note that, in the beginning of the class, there were more practice problems than now in the middle of the class. They would like a few more examples to reach that level again.

You specifically requested the ETC to look for any factors that keep students from participating in class, or hesitating to ask or answer questions. Both in-person and electronically, students overwhelmingly noted that they feel extremely comfortable in class and experience no barriers to participation.

Summary of discussion session observation

Overall, you are doing an excellent job! Thank you for inviting me into your lab section to observe and provide feedback. My suggestions are just that – suggestions to consider that may bring the instruction to the next level. But on the whole, keep up the good work!

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Classroom observation minutes

- 4:25 - previous class leaves room
- 4:27 - NK arrives, sets up computer
- classroom reasonably full, very talkative, most students seem to have friends
- ~20 students so far, mostly sitting in the back
- 4:30 - gets started, asks about Project 3, students mostly quiet down, today's topic is polymorphism
- introduces me, does a nice job - most GSIs don't introduce me
- going over due dates
- loud enough and clear, easy to hear and see
- room is roughly the right size, lots of power available, slight terrace doesn't make it easier to see, font maybe a bit small on slides but I can read it just fine
- the purple wall matches the purple carpet - amazing
- S1 asks a question about mechanics of turning in assignment
- NK asks for other questions, waits 5 seconds, none, moves on
- 4:34 - Inheritance, gives brief intro, moving into derived classes
- some students have Lab 6 slides up, looking at the Derived Classes slide, some students working in IDEs or in a text document, most are paying attention and looking at the screen, students in the back more likely to be distracted, students are being pretty respectful though
- gives brief pause between every slide, doesn't ask for questions but does scan the room - students seem to understand that they can ask questions at those points
- 4:37 - overloading example
- 4:38 - another student walks in, waves to friend
- NK pointing at the screen with hand, walking around a bit, dynamics are not distracting
- class recording system appears to be off as expected
- asks for any questions, gives a full 8 seconds, looks around the room
- 4:39 - moving on to polymorphism
- pause between slides is consistent - very good!
- strength - looking for student questions
- strength - dynamic lecture, personable, easy to hear and follow
- maybe moving a bit fast - make sure to ask students
- leaves another full 10 seconds for questions - excellent
- 4:43 - examples
- currently 21 students
- lots of references to the project, has to do with Euchre, everything seems topical
- 4:47 - Slide 13, overriding example
- no questions yet

- most students working in an IDE, three with blank screens, one doing work for another class, the majority are looking up from time to time, at least 8 are fully-focused on the lecture
- suggestion - active learning techniques could force people to pay attention more, although engagement seems fine
- 4:49 - student has a question regarding proper subtypes, seems like a vague question, NK thinks for a moment, asks for clarification, some confusion with the student, are they looking for the word ‘child class’?, NK gives his best shot to answer, glad that the student can have a conversation, student seems satisfied with answer but I don’t know for sure
- asks for more questions, but nobody has any
- two students texting, otherwise the same distribution of distraction
- pointing at the board a lot, and explanations seem pretty good
- some students on a type of Google Slides that looks much fancier and autumn-themed - are there two slide decks? Why not follow along on the same one?
- 4:53 - in the pure virtual example, NK starts writing on the whiteboard, marker is not great but visible, somewhat hard to read but I’m okay
- another student comes in, total of 22
- 4:54 - “last example” in the pure virtual example
- talking at the board a bit, but that’s not too bad - I can still hear with no issue, lectern is really far from the screen so can’t look at slides on the laptop
- mentions a common compiler error, which is good
- suggestion - might be helpful to reduce number of pronouns and use nouns more often
- 4:56 - end of inheritance, going through a debugging walkthrough example
- scavenger hunt in a buggy version of code from last week to learn the debugger
- worksheet should walk students through, NK emphasizes cloning the buggy version
- 4:57 - start collecting student feedback, NK leaves the room and sits across the hall out of earshot
- 5:14 - starting on the worksheet
- students had a lot to say! Very good engagement.
- putting on a 2010s spotify playlist
- students quiet, slowly moving/starting to work, some students beginning to chat, one student mentions having never used the debugger, neighbor helps him
- some students moving seats, asking about group assignments, NK explaining how he’s responsible for attendance only but not for grading or group assignments
- student walks up with administrative questions, having good conversations, seems like a special situation with deadline extensions
- student leaving early, heading home, seems like another student has already left
- NK walking around, some banter with students, one group has question about how much help NK can give, NK says he doesn’t have much access to the private cases but can make suggestions, did a practice run of the exam and so can’t give as much help because he knows the details

- 5:23 - NK looking stuff up on laptop, groups working, mostly collaborating, students seem grouped in similar skill levels but hard to tell, light chatter
- NK walking around again, scanning the room, comes towards me but student has hand with question on other side
- now 20 students, some walking in and out
- overhearing some students complaining about group members not showing up, NK maybe merged groups? I wonder if each group gets one grade, or if the purpose of groups is just for collaboration and each person is graded separately.
- now spent 4 minutes with this student, but doesn't seem like there are other questions
- 5:28 - walking around some more, make it to the middle of the room, seems awkward to help those students due to the tight seating
- some students playing on their phones - why are they here if they already filled out the attendance form? most groups are working though
- NK giving good examples, seems to be off the cuff, good work
- walking around the room a lot, most students working with their groups, medium volume, ebbs and flows a bit
- student calls out, NK mentions he should definitely take some action with his code, suggests a lot of local testing with the makefile, notes that the approach of the student is less efficient than it could be, I can barely hear but it seems like a very fruitful conversation, giving good example of sneaky errors and how to handle and avoid them
- music is a vibe, what a throwback, quiet enough to just be background
- 5:35 - has helped 4 groups out of 6, each group seems to have an unofficial representative to ask questions
- many groups working well together, some are not really, the effect of missing people is really felt
- lots of stuff going on with this class regarding group work, but seems like NK is doing as well as possible
- dwell time with groups is about 2-5 minutes, but doesn't get stuck
- roving around, doesn't seem to visit the group at the front of the room too much, always walking behind them
- 5:37 - non-debugger student mentions he's never run it before, NK calls him by name, starts showing his process, NK takes the laptop and looks through reference, suggests starting with VSCode debugger, student says it doesn't work great, cpp extension is the problem, other students in the group have not considered using the debugger, NK sits down to help work through the stuff, clear disparity amongst group members, NK talking about file management and directory structure, starts helping to configure VSCode properly, whole group is listening, now part of the group is not paying attention anymore, shopping online, NK is working hard to configure VSCode, not explaining what he's doing, must be pretty messed up, going into the terminal, NK doesn't understand the issue, most other groups doing okay, all working on code except the guy shopping online

- 5:43 - still working on getting the debugger to work, asks the others in the group if they're following along, they can't see, but probably don't care, gets the debugger to work (excellent!)
- 5:43 - end of observation