Teaching Statement

Amin Vahedian Khezerlou

As a Ph.D. student at the University of Iowa, I had the chance to experience teaching as an exciting aspect of academic life. In addition to classroom teaching experience, I have taken several mentorship roles during this time. Both experiences have been instrumental in shaping my teaching and mentorship philosophy.

1   In the Classroom

In my opinion, advantages of classroom teaching are not limited to its practicality. In my experience, classroom, as a communal learning space, enhances the learning performance of the students in two ways: collaboration and inspiration. By collaboration I mean any type of interaction in the classroom that benefits a group of students, rather than one. For instance, when one student asks a question, it helps the whole class in their learning. By inspiration I mean any form of motivation a student feels in response to another student's success or hard work.

I have sought to emphasize classroom collaboration by directing students to form groups and by giving group assignments in addition to individual ones. In my Information Systems lab sessions, I have students form groups of two and sit with their partner as I give them assignments. I provide time to the groups to get started with their assignment in the same session and require them to complete it to a certain level before the end of the class. During this potion of the class I monitor all the groups while taking questions from individual groups. I follow this strategy to ensure students benefit from a constructive classroom collaboration in their learning.

To emphasize the inspiration aspect of the classroom, I use less explicit strategies. One method I have found to be very effective is asking questions during the class. Asking questions not only reminds students of my expectations, it also encourages engagement. Depending on the level of engagement by the students, I either name a student to answer the question or address the class. When I decide to name a student, I am careful with which student I choose, because the goal of this interaction is not to test a particular student, it is to encourage engagement. That is why it is important that the student can answer the question so that the interaction motivates the class in their learning.

Other than my own experiences, I seek to take advantage of best practices. Research shows that frequent and quality feedback tremendously improves learning performance of students [1]. I believe in incremental and distributed evaluation through assignments, quizzes and course projects in addition to examinations.

In addition to classroom dynamics, teaching a course involves managing important logistical matters that can influence the learning experience of the students. I gained a remarkable experience of managing logistics of a course when I became the head TA of a course with 500+ students. My responsibilities involved assigning TAs to lab sections, developing course schedule, communicating assignments and grading guidelines to the TAs, handling plagiarism cases, accommodations for students with disabilities and coordinating the challenging mid-term and final exam sessions, in addition to my classroom responsibilities.

2 Mentoring

One activity that I have consistently been involved in is mentoring of other students. Through a summer program at the University of Iowa I have mentored two brilliant high school students. I introduced them to the basics of scientific inquiry and systematic search of knowledge and showed them how they can leverage their curiosity to build motivation for learning and innovation. The first mentorship led to participation in a computational contest held at the ACM SIGSPAtIAL'17. My student went on to be admitted to a top college to study computer science. The second mentorship, led to a paper [2] in the 2nd INFORMS Workshop on Data Science 2019, in Phoenix, Arizona. He views this paper as an exceptional achievement and has kept his contact and continues to develop the work with the goal of publishing it in a major.

3 Teaching Interests and Future Plans

I am interested in teaching a balanced range of introductory and advanced courses in both undergraduate and graduate levels. In addition, I am passionate to teach a graduate-level course with material developed from my own research and its related areas. Here is a list of specific courses I am interested in teaching.

- Data Mining Techniques.

- Introduction to Computing and Programming Languages.

- Advanced Programming.

- Information Systems.

- Database Management Systems.

- Data Structures and Algorithms.

- Graduate level course on my research topics.

References

[1] BLACK, P., AND WILIAM, D. Assessment and classroom learning. *Assessment in Education: principles, policy & practice 5*, 1 (1998), 7–74.

[2] CHIU, J., VAHEDIAN, A., AND ZHOU, X. Understanding business location choice pattern: A co-location analysis on urban poi data. In *2nd INFORMS Workshop on Data Science* (2018), INFORMS.