Abu Asaduzzaman | Statement of Teaching Philosophy

I would like to describe my teaching style as Traditional. However, it is important to note that my teaching philosophy is a balanced blend of various popular teaching styles including Traditional approaches, Classical approaches, Unit Study approaches, Principle approaches, Unschooling approaches, and Technology approaches.

I use lecture notes and book/online materials; I give tests (quizzes and exams), assignments (homework and/or programming), and projects in a very traditional way. Even though Traditional approaches (such as 10:2 and 3-2-1 methods) are most popular, most practiced, and most effective, it is acknowledged that these approaches do not consider individual learning styles, strengths, and/or weaknesses. For that reason, I use various tools and techniques, as appropriate, that make my teaching style a Classical one. I divide course materials into smaller subjects and integrate some subjects into one study around a common theme, which is a Unit Study approach. Every time I teach a course/class, I use Principle approaches – I make sure that I have enough knowledge to deliver materials, my students understand the materials, and they are capable of practicing what they have learned. I believe that students are to study at home to make sure they grasp the materials covered in class and prepare themselves for the next class. As needed, I use Unschooling approaches – assign students homework and/or take-home exams so that they spent time to understand theoretical concepts and practice the theoretical knowledge while solving problems at home in a relaxed environment. Another approach I apply in my classes, I call it Technology approaches – acknowledging the blessings of modern technologies including Laptop/Tablet, Wireless, and Internet, I let my students make the best use of technology.

When I prepare a lecture, I spend most of my time making sure materials will be presented clearly. I do believe that the best way to make a topic interesting is to explain it well. I use the popular "example sandwich" method – first I present a simple example and solve it; then I cover the course materials; and finally, I present a more difficult example and give students a chance to solve, before I solve it. I find this method very effective.

I have earned my elementary, high school, and undergraduate level education in a highly competitive environment. Competition works! I feel that it is important to engage classroom in a challenging way to keep students interested. I always carry enrollment-sheets in my classes; while lecturing, suddenly I pick up a name randomly and ask a related question. This technique offers several advantages – the classroom becomes a good show (that helps students to take the pressure off), everyone gets involved, and I can gauge the students' understanding. In order to engage students and ensure that they are grasping the covered materials, I have introduced a "learner-centered team-practice" session, where students form groups and try to solve a problem first, before I solve it. Sometimes, I speak in a syncopated manner in class to keep my lecture from becoming too monotone. I take a humble and friendly approach to lecturing, which makes students feel comfortable asking me questions.

For learning and teaching, I experience that repetition is an effective tool. The first couple of times when I taught courses as a graduate teaching assistant, I started classes without reviewing previously covered materials. My students requested me to slow down to review what I had covered, but I felt an obligation to teach all of the materials that the course would normally cover in a regular semester. Then I noticed that at the beginning of each class, all popular teachers reviewed the materials they had covered in the previous class. I applied the staggering trick of repetition; students liked the fact that I was reviewing old materials and I was happy because we were keeping the same rigorous pace as before. I find this technique elegant, because it allows teachers a chance to spend two days lecturing about each topic (and gives students a chance to come up with questions for the second day) while still only spending one day's worth of time on each topic.

Teaching is an art. Teaching is a quality that should be developed by watching other instructors' teaching, adopting the effective techniques, and practicing the selected techniques over and over. I notice that the same good technique does not work for all. I believe that the most effective way of communicating information is having students' confidence in a teacher, something that mostly depends on the teacher's knowledge, attitude, and teaching style.

In order to provide real-world experience to my students, I bring industry experts into my classes as guest speakers and take my students to industries for field-trip. I find this practice very rewarding.

I have a number of popular teaching styles in my collection that I have observed in my favorite teachers' teaching and I have found these effective when I teach classes. I always try to improve my teaching by learning from other instructors and incorporating what I find to be effective into my own teaching.

Teaching History

I have over 20 years of experience in professional teaching in Computer Engineering, Computer Science, Information Technology, and General Science (mathematics, physics, and chemistry) at various levels.

As Assistant and Associate Professor at Wichita State University (fall 2010 – present), I typically teach two courses in each (fall and spring) semester – one undergraduate (UG) and one graduate (GR). I have developed and taught the following courses: Modeling, Simulation, and Analysis (UG), Hardware-Based Cybersecurity (UG/GR), High Performance Computer Systems (UG/GR), Parallel Computing (GR/UG), Machine Learning Essentials and Applications (GR/UG), and Computer Systems in Data Analytics (GR). I have significantly improved and taught the following courses: Introduction to Computer Architecture (UG, classroom, online, and hybrid), Algorithm Design Methodologies (UG), Microprocessor Based System Design (UG/GR), and Embedded Systems Programming (GR/UG).

In the U.S., I got my first teaching job at Florida Atlantic University (FAU) in 1996, where I was a MS student in the Department of Computer Science and Engineering. As a paid Teaching Assistant, I taught Introduction to Microprocessors Lab as my first assignment. I taught two sections, each section had about 35 students. I met with each section twice every week, each class was one hour and 20 minutes long. In every two weeks, students were asked by their course instructor to complete and submit one lab assignment. At the beginning of each class, I gave students a 30-minute lecture explaining the assignment (including what are expected to be done and how the assignment should be graded), shared the course instructors' special notes, and helped them by answering their questions. In the following semester, I taught Programming in C (Lecture and Lab) as a full Instructor. Later (as a PhD student), I taught Introduction to Microprocessor Systems (Lecture and Lab), Introduction to Logic Design (Lecture and Lab), and Foundation of Computer Science (Lecture and Lab) as a full Instructor. I offered a new course on Programming Microcontrollers in C (Lecture and Lab) in my department. In this course, I taught how HC11/12 Microcontrollers can be programmed effectively using C (instead of Assembly) language. It was a total success – my students and department were very pleased with my efforts. In addition, I helped professors with several UG courses including Introduction to Digital Design, Structured Computer Architecture, Data Structures and Algorithm Analysis, and Introduction to Database Structures. I also worked as a volunteer tutor for the minority students at FAU Office of Multicultural Affairs, where I tutored various programming related courses.

In addition to in-person classroom courses, I offer online (no classroom sessions) and hybrid (online and classroom sessions) courses to help students who work during the normal business hours. In order to assist students to "think outside the box," I have been working with professors from other departments to develop interdisciplinary science, technology, engineering, and mathematics (STEM) courses.