

## “Engineering Education In the Wild” Classroom Observation

Class: First-Year Engineering, W, B098, 9:15AM – 11:10 AM

Professor giving the class: Brent Jesiek

Student: Marisol\_m

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I arrived 10 minutes before the class. The professor was at the front of the room looking at his laptop. He seemed to be preparing himself for the class. An older student came to him and talked for a moment. I did not know who was this student (later I knew that he was a TA). There were three “old” men sitting at the back part of the room talking about presentations and works. I *assumed* they were professors, because they were wearing “professional” shirts and they were looking *serious*. Several students were configuring a computer at both sides of the room. I recall that the professor told me that some students were going to give a presentation today; therefore, at that moment I thought that they must be the students. I saw a student that seemed to be sleepy. The only girl in the classroom (at that moment) was sitting in an independent table, outside of the main rows.

Sharply, at 9:30 AM, the students began to flock to the classroom. They all sat on the two front rows. They sat down in “packets” of 4-6 teams. There were some students that seemed to be releasing tension by using the chair as a hammock and spinning on it. One of them was swinging the chair so abruptly, that I thought that he was going to break it!

There was a “serious” group sitting on the second row, at the right side, and a “goofy” group sitting at the left side. Throughout the class, this goofy group was most of the time joking and sometimes murmuring louder than what was permitted. At one moment the professor requested them to shut up (in a polite manner). I felt as if I were looking at a “wolf pack”: the “alpha male” seemed to be the “rocker” student with very long hair, because he was the one that was always joking, having a bold attitude, catching the attention of the others with his commentaries.

When the professor started the class, it reminded me of an elementary school class when the teacher starts saying: “*Good morning children!*” Of course, he did not tell them “children”, but he wanted to receive a cheerful response from them... but both responses were given with a disenchanted voice tone. At a moment the professor reminded them that there were readings due on Friday. One of the goofy students said in a higher voice tone: “*Oooh man...%#.%@\*.*”

Most of the class dynamic was problem-solving within teams. The professor presented a problem, for example, about the need of counting the vehicles and people passing through a highly known avenue in West Lafayette. The professor reminded them where this avenue was, for those who did not know. The students responded sharing how they might solve the problem, with the different technologies they knew. The professor responded back with advantages or disadvantages of using that technology and asking them of what other disadvantages they were seeing. One of the students at the front of the room said that a problem with a certain technology (I did not hear well which was) would be that it will not count the short people. There was a male student who responded two times (two independent questions).

Another exercise was about computer programming: for-loops structure. The professor displayed a slide with several numerical columns. After that, the groups began to solve the professor’s questions about what was one way to solve the problem using Python programming language. There was a funny commentary — again, coming from the goofy group— at the instant when the professor could not solve one of the problems by himself, a student yelled: “*GOOGLE IT!*” Then I heard another student of that same group saying that he found the solution on Google.

At the end of the class different groups were presenting the progress report of their teamwork. They seemed to have the freedom to design a robot and the purpose of it. At that point, the whole classroom was divided in 4 sections. Each section was focusing in a corner of the room, where several groups among the section were going to present their reports sequentially. I saw that this way of dividing the classroom in 4 chunks facilitates the attention of students. The

professor was in one of the corners and the other 3 corners had TAs on each one. Each group talked about these main themes: (a) challenges encountered, (b) pending things that needed to be worked out, (c) things they learned during the teamwork, (d) preliminary ideas to address other problems that have emerged, (e) demonstration of robot prototypes, and (f) how did they divide the work, among other themes. One group presented a robot project resembling Optimus Prime, a robot of the Transformers movie. The professor advised the students to bind their work to the real world. It was fine with the creative-imaginary part, but they needed to shift the robot goals to practical functions addressing problems of the real world.

Throughout the class, there were six things that impressed me: (a) students were all “packed” in groups, (b) they were solving the professor’s questions in group, (c) I did not see anyone working alone, (d) they all sat on the two front rows, (e) they *seemed* comfortable working in their teams, and (f) there were only 5-6 girls in a class having about 50 students!