Case Studies in Inclusive Teaching: Marie Louise Moreau[1]

Marie Louise Moreau wondered whether she was the only student in her chemistry group who had read the assignment before coming to class. She had expected more when she came from Haiti to study in the United States. This modern chemistry lab was fancy enough, but the students expected everything to be spoon-fed to them. It was ridiculous.

Joe Tickham, the unspoken leader of her lab group, was concerned. He was not sure how they would be able to carry out the titration successfully. “I don’t know how we’re going to do this,” he said. Joe didn’t like to admit that he didn’t have the answer – but, this time, he was stumped.

Marie looked around the room and saw that they were lagging behind the other groups, who were already mixing their solutions. She spoke up. “When I was doing the reading,” she said, “there was a note that said that when you’re doing a titration, you should add titrant slowly near the endpoint. That way, when the solution changes color, it is easier to tell how much titrant was added.”

Joe looked at her with doubt. Could she be right? He didn’t want to rely on Marie’s word alone. She had many ideas, but they weren’t always good ones. “Adam!” he called to their TA. Adam walked towards Joe and his group. “Do you have a question?”

“Well,” said Joe, “We read in the book that we should add titrant slowly near the endpoint, so that when the solution changes color, we can accurately determine how much titrant was added. Is that true?”

“Good memory, Joe,” said Adam, clapping Joe on the shoulder. “That’s right. You’re an asset to your group.” He turned towards the other members of the group. “It’s important to pay attention when you’re reading. Now, you need to get started with the titration in order to finish before the end of class. Let me know if you have any other questions.”

The two other students in the group, Anna Lee and Brandon Peck, looked at each other uncomfortably as the TA left. Joe had just stolen credit for Marie’s answer. It wasn’t the first time he had done this. Marie was furious. This was just another example of the old boys’ network she thought. She stood up and began to gather their titration equipment together. “So,” she said, turning towards the rest of the group, “let’s get started. We’ll do the titration slowly, like I said.” She looked pointedly at Joe.

“Yeah, let’s get started,” Joe said brusquely, ignoring her gaze. He didn’t know what she was glaring at him for. If he didn’t take charge, nothing would get done. Anna was too passive, Brandon wasn’t interested in school work, and Marie just didn’t know enough about chemistry to make good decisions on her own.

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[1] Modified from *Case Studies in Inclusive Teaching in Science, Technology, Engineering, and Mathematics*, 2006

Case Studies in Inclusive Teaching: Mike Bertal

As a teaching fellow for an introductory genetics course Mike Bertal led a section of 16 students. In addition to labs and discussion section, students were required to work in small groups throughout the semester researching a genetic disorder. One of the main goals of this exercise was to provide students with an opportunity to collaborate on a shared project and develop their group work skills.

As such Mike thought it best to randomly organize the groups, as opposed to letting students work with their friends. After grouping the students Mike introduced the project, explaining that they would need to work outside of class as a group to research their disorder. Each group would then present their findings during the last section. To emphasize the importance of this exercise 5% of the student's grade was based on the project.

Halfway through the semester the students were given some time in section to discuss their project. Mike noticed that one of the groups was very quiet. This group was comprised of three young women, all from the States, and a young man from Tunisia. The three girls were athletes and very active on campus. Bilel, the Tunisian student, never spoke unless he was called upon by name. However, he clearly understood the material well and was on track to receive an A grade.

When the time came for the students to give their presentations it was clear that Bilel's group had not worked together to produce their presentation. The girls' sections flowed well and had a consistent style. However, Bilel covered a lot of the same material and his slides were in a completely different format. At the end of section the three girls stayed behind to speak with Mike. They explained that they'd tried to work as a group but Bilel was uncooperative and refused to meet with them. They were very concerned, as they didn't want their grade to be negatively affected by the situation.

The next day at office hours Mike asked Bilel how he thought the presentation had gone. Bilel was aware that they had performed badly on the group exercise. He said that the girls had suggested meeting late at night in one of their dorm rooms to discuss the project. He explained that he felt this was inappropriate and that the female dorm after dark was not somewhere he was comfortable working. He had suggested meeting at lunchtime in the library. However, the girls were always busy with practice and so rather than neglect the presentation he decided to make his own.

It was clear to Mike that all four students had good intentions regarding the project. However, the fact remained that they had not worked as a group and thus he was going to have to give them a low score for the project.

Case Studies in Inclusive Teaching: GINA Gilbertson

As she taught her discussion section of Engineering Dynamics, Gina Gilbertson wrote out an expression for momentum on the blackboard. Outside the window were the metal struts of the engineering building. Inside were twenty-five college students in various stages of alertness. Half of them were paying attention, and the rest seemed to be otherwise occupied.

In the third row sat a group of five students from China. They often talked with one another, but did not socialize with the rest of the class.

After she was done writing out her equations, Gina turned to the class, looking for someone to call on. Her eyes fell on a young Chinese man whom she had not yet called on this semester. Gina took a deep breath. "Jay," she said, gesturing towards him, "what is an everyday life situation where momentum is important? We've talked about the equations - let's think about how to apply them."

Jay said something that she could not understand. The other four Chinese students- three men and one woman- laughed. The rest of the class remained silent.

There was an awkward pause. Gina was not sure how to handle the situation. "Could you repeat that?" she said. "I didn't hear you."

Susan, another Chinese student, spoke up. "He is just making a joke," she said, attempting to spare Gina further embarrassment.

Gina shrugged and turned to a white student who was looking out the window. "Mike, what situations can you think of in which momentum would play a role?"

Mike grinned at Gina. "What about those little silver colliding balls executives put on their desks, where you pull out one ball and the other bounces back?"

"That's a great example," said Gina, relieved to have found a cooperative student whom she could understand. She turned back to the class. "What about some other examples from everyday life?"

As the discussion continued, Jay leaned back in his chair and went to sleep. Gina noticed this and thought about calling on him again. She decided not to do so. She tried to think back to her teaching assistants' orientation the previous summer. What was she supposed to do?

Case Studies in Inclusive Teaching: Barbara Ross[2]

Barbara was a prolific postdoctoral researcher at a large public university. Her research on aging in *C. elegans* well regarded, and her record in attracting grant funding was excellent, but she knew that she needed to have good teaching evaluations as a teaching fellow to get a tenure-track position at a top liberal arts college.

Barbara had recently attended a presentation about the high dropout rate of minority students in science. She became uncomfortably aware of the small numbers of minority students in the upper-level life sciences course she was teaching, and resolved to try and mentor her students more.

Last week, she had received an email from Dr. Jones, the professor leading her course, that one of her students, a young African-American named Jim Burton, was averaging a "C" in the course and had failed the first midterm. Dr. Jones suggested to all TFs during staff meeting that they reach out to struggling students in their sections. As she was thinking about the situation, Barbara heard a knock at the door.

When she called, "Come in," Jim entered the room. He stood awkwardly near the doorway as he greeted her. "I'm here for the meeting we arranged to talk about my first midterm," he said. "Have a seat," said Barbara, feigning warmth. Inwardly, she was bracing herself for a difficult meeting.

"Jim," Barbara said, "What would you like to do after you're done with college?" "I don't know," said Jim, looking down. "Be a scientist, I guess." "So, then, you'd like to go to graduate school?" said Barbara briskly. "Sure, if I can get a scholarship," Jim replied. "There are a lot of fellowships and grants for graduate students," said Barbara. "But in order to get one, you'll probably need at least a "B+" in this class. My question is – how can I help you get that grade? Do you have any questions about the lectures or the textbook? I'm available every week during office hours."

"Oh, I'm doing all right," said Jim. "I got a "C" in high school chemistry, and I got a scholarship for college anyway. Plus, I want to major in computer science... I'm just taking this class as an elective."

Barbara was not sure how to respond. "I would hate to see this course compromise your ability to get into graduate school," she said. "It's not too late to get extra help to turn your grade around or to decide to withdraw." Jim stood up. He looked offended. "No... that's okay," he said. "There's nothing wrong with a "C". I'm staying in the class. And I don't need extra help. I can do this on my own." He left the office quietly.

Barbara put her head in her hands. What had she done wrong this time? She had offered Jim options. She had tried to be sympathetic and diplomatic. But somehow, things had not gone as she had planned.

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[2] Modified from *Case Studies in Inclusive Teaching in Science, Technology, Engineering, and Mathematics*, 2006