

A Colorful Situation in Class: A Case Example**

** Footnotes in this document provide a glimpse into problems that only get worse as the story unfolds.

In an upper-division CS course in which a team project was to be a main activity for the course, a group of three friends (all male students) agreed beforehand to form a team. This group had all gone through many of their CS courses together and gradually developed a relationship where they compared notes from class, shared their code examples and experiences doing assignments. They started planning to enroll together in courses, and when necessary, to give each other full points on any peer ratings of each others' contributions to course projects so they always got better grades, no matter how much each member contributed to the project.¹ This was their third course together as a group. They even hung out together outside of class, gradually developing an unstated but mutually-agreed upon way of interacting with each other both in and out of class.²

This group had developed a reputation for sometimes loud and sometimes bawdy interactions with each other. Members of this group were known to be competent coders but sometimes, instructors wondered if they contributed equally or even sometimes held themselves back rather than overshadow other members of the team – as if being part of this group was more important to them than individual development, and sometimes it seemed that one or more members of the group would harshly tease or critique another member when that member started to develop skills that 'stood out' ahead of other members – instructors started to wonder if these three students were so comfortable in their group that they actually held each other back.³

Early in the semester, the instructor for the course announced that teams had to include four members. Other teams formed quickly, leaving one class member (a female transfer student named Jamie Gray who had only been in the CS program for two semesters, and who the three friends did not really know). Knowing that the CS department had several NSF funded projects to increase the participation of under-represented groups in the major, they agreed to bring Jamie into their team, with confident comments that they could help her out and be 'part of the solution' by 'welcoming' a woman into computer science.⁴ On their way out of the class that day, one of the three friends remarked to another "...we'll have it easy – [the instructor] likes us and we probably won't have to worry about her getting in our way, since girls can't really handle this stuff"⁵ Jamie heard the comment, but being new and unsure of how she fit in, didn't say anything.⁶

1 This is a form of academic dishonesty – they're effectively lying about how well each member has contributed to the project. It's also known as 'free riding' or 'social loafing' because some members get credit for their team contributions even if they haven't contributed anything.

2 It may be risky to fall into habits like this. Each course will introduce new ideas that may interrupt old habits. If the team doesn't incorporate these new ideas, they'll always be struggling to develop important skills.

3 Here is a realization of the risk identified in footnote #2. The students aren't trying very hard to increase their skills through collaborative work. (This is something that programmers are expected to do throughout their careers.)

4 It seems here that this team is accepting the new member for a very biased reason – they think they'll get some form of credit in the course just because they have a woman on their team.

5 More evidence that the team has a biased idea about Jamie – the new female team member. This statement strongly suggests an idea that Jamie is not expected to do anything but 'be a female who is also nominally s member on the team'. It almost suggests that they won't even have to consider her a real member of the team.

6 Jamie might be experiencing what is called 'stereotype threat'. 'Stereotype threat' happens when someone who is otherwise competent might experience self doubt and start to believe the stereotype being imposed on them.

As the project got started, Jamie asked if the team could schedule regular design and coding sessions in the lab or other places. She volunteered to set up a Git repository for the code, so they could easily collaborate in the technical aspects of the work.⁷ She told her teammates that before she transferred into the BSU CS department, she was in a course where they read research reports that indicated how small teams of programmers became more productive and each developed new skills when they worked together at the same time and in the same place, asking questions about design issues and describing their puzzles to each other as they worked – the active collaboration allowed each member to learn from each other and produce a more coherent design because the design was more easily modified and refined to meet emerging needs of the project.⁸

Andy Green – the oldest of the group because he had switched his major to computer science from Maths when he was a junior – replied quickly, “...we’ve never worked that way. While we do set up a Git repository for our projects we have always just worked independently and compared notes in class or when we bump into each other otherwise.”⁹ We work best that way.” Getting the hint very clearly, and starting to think she doesn’t belong here, Jamie didn’t press the issue any farther.¹⁰

Roy Blue – the youngest of the group and a guy who was always working on some projects outside of class and constantly trying to tell the others what he was learning – waited behind when class ended and walked out with Jamie, saying that he’d heard instructors talk about ‘pair programming’ and ‘agile programming’ and “... even if the others aren’t interested, I’d like to try what you’re suggesting.” Andy had already created a Git repository and Roy and Jamie set up a time to meet in the lab the next afternoon, when neither of them had a class.¹¹

Over the next few weeks, when Andy was working independently on the project, Jamie and Roy continued meeting in the lab. They liked sitting by the window and the sun that warmed that spot even though the air conditioning was always too harsh. Other students in the lab seemed to leave them alone and they made progress in ways that made it apparent that the others were not keeping up with their code. They decided that they had to talk with Andy and Vince Orange – the fourth member of the team – and tell them about their design ideas and to try to get them to come to the lab with them to work.¹²

When the four of them had arrived for class the next day, in the few minutes before the instructor arrived, Roy called them together and started to describe how much progress he thought Jamie and he were making on the design, and how they thought the team could do even better if Andy and Vince joined them for work sessions: “...it’s pretty neat,” Roy said, “we come up to a problem in the design where each of us have to make changes in our code to smooth out the problem. We can design and code more easily because we’re both there to bounce ideas off each other and make the

7 It seems that Jamie does know something about coding. ‘Git’ is a very commonly used tool for maintaining code for programming projects, and trying to organize team-coding and designing sessions means she has learned that the vast majority of coding projects are actually accomplished in highly collaborative team processes.

8 This effectively proves that Jamie knows a lot about productive programming processes. See also footnote #3.

9 Andy is starting to act in a way that proves the team is not interested in learning new skills. See also footnotes #2, and #3.

10 This is starting to look like Jamie is experiencing ‘stereotype threat’ – see footnote #6.

11 Roy appears to see an opportunity to learn some new things from Jamie. He’s going behind the backs of Roy and the other member of the team, since they don’t seem interested.

12 Terrific that Jamie and Roy are learning new things and making progress through their teamwork. It’s also the case that they appear to have gone far ahead of Andy and Vince and it may look like Jamie and Roy are trying to ‘outshine’ Andy and Vince when they thought the team had a stable practice – see the paragraph in which you can find footnote #10.

changes and test them out after committing the code.” He added, “And Jamie showed me some tricks to make it easier to use pointers in C – remember how the instructor told us how pointers were really useful but also really tricky? – Jamie has a way to explain it that is better than what the instructor told us!”¹³

Before Roy finished, Andy started talking, and talking fast, “...I’ve seen all the commits you two have been making in the repository. I thought we would just follow my lead like we’ve always done!”¹⁴ I don’t know what she’s telling you, but I’m starting to wonder if you two are doing more than coding!”¹⁵ I’m gonna give you both zero points for your contributions on this project!”¹⁶ Vince, as usual, kind of backed away from Andy, but didn’t say anything as he looked at his cellphone.¹⁷ After a few seconds, Andy blurted, “We’ve always made out okay. I take care of you guys and you support me.”¹⁸ We don’t need *mom* around” – shifting his elbow toward Jamie.¹⁹ Vince could see that others in the class were starting to notice and he sat down in his usual chair and tried to look busy reviewing the chapters they were supposed to have read for the day.²⁰

Just before the instructor came into the classroom, Andy said, with more than a little annoyance in his voice, “I’m gonna ask to split up this team. You can keep your code and Vince and I will keep going with what I’ve started.” When Andy saw the instructor he turned quickly and marched up to the front of the room and started talking to the instructor, even before she was able to put her books and notes down and log into the network.²¹

13 Jamie appears to be contributing a lot to the collaboration between her and Roy! Roy is vouching for her skills and contributions in a way that you’d think would be convincing to his other teammates.

14 It looks like Andy is upset that Roy and Jamie have worked outside of the informally-agreed-upon teamwork practice they had always relied on!

15 It is very clear that Andy is making a very inappropriate accusation here. This goes beyond a microaggression, for sure!

16 This statement exposes several things. First, it suggests the team is used to giving each other full points on team contribution scores – Andy may be trying to punish Roy and Jamie for going against what he thinks are the ‘normal team rules’. Second, if he actually does give them zero points for team contributions, Andy is committing another sort of academic dishonesty by falsely rating Jamie and Roy as contributing nothing to the team’s project.

17 Vince has been pretty quiet up to this point, but maybe by backing away he is signaling that he’s not really buying the stuff that Vince is selling. Maybe silent-guy-Vince is making a statement with his behavior if not his words.

18 This seems like another allusion to the free-riding practice that the team has done in the past.

19 Another clearly aggressive remark toward Jamie and another one that emphasizes her status as a woman, rather than her skills as a programmer and team-member.

20 Vince seems to want no part of Andy’s actions. He just wants to hide...

21 Andy assumes that Vince is still on his side. I’m not so sure. At the same time, if Andy was already aware of Jamie’s and Roy’s progress, maybe he should have talked to them earlier and asked about their code and process. But see also footnote #12. If they couldn’t work things out earlier, then it would probably be a good idea to appeal to the instructor for advice...