

How to Successfully Collaborate

In this part, we created some suggestions that we hope will make collaborating with your peers, your professors, and your clients successful.

Collaborating with Peers

Collaborating with peers requires patience and understanding, but also comes with a lot of responsibility. As a student, you all know the many activities that divide your life. Your peers are likely to have as many or possibly more of these activities in their lives as well. Things to keep in mind are that you and or your peers may

1. Be taking several classes.
2. Have jobs outside of school.
3. Have personal/home obligations.
4. Have other struggles going on this semester.

Because all these things divide your lives, it is very important to communicate early. Every team should determine a meeting schedule that will work well for the whole team and stick to it. If something in life happens and you are not able to make a meeting, communicate this with your team as early as you can. Suggest alternative meeting times. This may allow your team to adjust the schedule to work for you. Do not be the person that needs the group to change the schedule often. Also, be forgiving when a teammate has an event arise, but don't become a push-over.

Be upfront and honest about how you best communicate (texts, google chat, google hangouts (video), email, etc.). Be open to communicating in ways you've never tried and/or with which you are less comfortable. Be sure to communicate often, responding to your teammates and checking in with each as well.

The take-aways for this section are that, to be a good team member, you need to

1. Communicate often and early,
2. Be open to adjusting to better match your team's communication style,
3. Be forgiving when events arise in the lives of your teammates,
4. Be upfront when a team member is not pulling their weight on the problem.
5. When all else fails, contact both professors if assistance is needed to creating a better collaboration plan.

In the past, we have seen scenarios similar to the following.

Scenario #1 A team of two students were working on a project. The students attended different schools. Let's call these students Bill and Jill. Bill and Jill had a first meeting in which several tasks were divided. Both began working on their tasks, but Jill found that her tasks were needing a lot of time devoted to them. After Bill completed a task, he sent an email to Jill to meet. Jill was deep into her tasks and did not take time to check her email. Bill felt he needed results from Jill before he could move forward and began complaining to his classmates about how he had to do all the work. Bill then began making up results that Jill didn't provide to him. After several weeks of complaining, Bill spoke to his professor and asked whether or not he should just do the project by himself. A meeting was scheduled by both professors to get an update on the team's status. Jill came to the meeting very prepared with lots of work done and a summary of some hurdles she faced. Bill came ready to argue that he had done all the work. Unfortunately, this relationship never healed and when the final project was put together, Bill "did his part and Jill did hers." When the grade came through, Bill continued to bad mouth Jill's work citing this as the reason their grade suffered.

Suggestions for Scenario #1 This scenario could have been remedied early on. Begin your team collaboration by sharing an "emergency" contact option. If one person is missing or stressed, this option can be implemented. For example, some students share cell numbers because a text message is the best way to say, "Hey, I'm stressed because I haven't heard from you." or "Can we meet soon, I need stuff for our project." In the scenario above, Bill never used the forgiveness rule, causing his attitude to remain negative through the rest of the project. Jill never communicated early that her tasks were very involved and would need some undivided time to make some progress. Establishing check-in times and sticking to them, even short check-ins, will alleviate stress on your teammates.

Scenario #2 Brad, Tad, and Chad were working as a team. Brad was very passionate about the problem, but struggled with some of the core concepts. Tad was kinda tiring of the course and considering a drop. Chad was a procrastinator. This scenario went... well..., as expected. Brad struggled to get the others to meet, becoming increasingly frustrated. Chad missed most meetings. And, Tad felt bad so he kept going for the sake of Brad. As a group, they often communicated with only one of the professors. While Brad remained passionate, he found himself spending too much time trying to keep the group moving forward with little success and voicing his frustrations with one of the professors. In the end, the project did not reach any significant results and the students did not have a very rich applied math experience.

Suggestions for Scenario #2 As individuals, the team members had the collective ability to succeed, but a number of circumstances contributed to a poor team effort. This scenario could have been improved if all team members had made a

serious commitment to the team and its success. It was easy for Tad and Chad to think of the project as “just a class.” While this assessment is true, team success takes a concerted effort – just as it will in a future employment situation. If one team member (employee) is considering dropping the course (quitting their job), then they should be honest with the team and professors (employer/boss) and help to decide a course of action that is most beneficial to everyone. Also, Brad should have been less detailed about his specific frustrations with the team. Instead he could have had a frank discussion with the team and then, if needed, a group meeting with the professors.

Scenario #3 Mary and Cary teamed up to create a pretty great collaboration. These students were not attending the same school, but from the start, they began communicating about their collaboration needs. Early on, Cary told Mary of her need for a strict schedule, about how stressed she gets in the event that she cannot discuss things, and finally that she really needs a place to record their conversations in case she needs to revisit them. Mary shared her need for time to work, that she had several obligations related to extracurricular activities that may keep her busy during some weeks, and that she can access Facebook chat from her phone. This team set up a Facebook group that allowed them to chat regularly. Throughout the project, both team members met the collaboration needs of the team.

Suggestions Though it is possible that some teams will not be able to use Facebook (some people just don’t have Facebook accounts), every team should find ways to compromise so that everyone on the team has a way to communicate.

Scenario #4 Tom, Heather, and Marie are writing a Linear Algebra textbook. Our collaborations began long ago on an NSF grant. We all have very different collaboration needs. Tom needs alone time, time to work without interruption, Heather needs things to move on schedule and continue to move forward, with short meetings, and Marie needs regular and frequent meetings in order to bounce ideas off others. Our collaborations have spanned the last 7 years. We have found that during some meetings, Marie and Heather will have a conversation while Tom works on the side, only interrupted when we really need to get his feedback. Marie has compromised by being on board with working meetings, allowing Heather to accomplish tasks between conversations with Marie. Tom and Heather have compromised with Marie, allowing weekly (and sometimes more often) video meetings. We all agree to answer emails within a couple of days. Whenever a quick answer is needed, we all agree that a text message or phone call indicates someone needs a “now” conversation. We are also very honest about how stressed, frustrated, or happy we are with the projects so that there is no question about whether the work is straining our friendship. Finally, the two on our team who are in a personal relationship have been very careful to not allow the third to be left out on any progress or sided against on any vote.

Suggestions When working on a team where you might be friends with or just closer in proximity to one teammate, you should be very mindful of the rest of the team. All on team members should feel as if their needs and ideas are of value to the team. Giving and compromising can be creative, find ways that work for all members.

Collaborating with Professors

When collaborating with your professors, be open with your ideas, know that they are assisting in your problem by helping you understand your ideas. Tom and Heather will not be creating ideas for you solution method, but may have suggestions to help you find ideas. We are both the subject area experts, but will not be doing the mathematics for you. We can also be helpful when team collaborations are not working well. Questions should always begin with your ideas and a description of what you have tried. Emails should be formal in that they should not contain text speak nor a large number of typographical, grammatical, or spelling errors. The emails should also properly address each professor. To address Tom, properly, you may use Dr. Asaki, Professor Asaki, or Tom. To address Heather, you may use Dr. Moon, Professor Moon, or Heather. It is not proper to address Tom as Mr. Asaki nor is it proper to address Heather as Mrs. Moon, Ms. Moon, or Miss Moon. Remember, the scenario we are creating suggests treating both professors as company directors.

Collaborating with Clients

When considering how you will communicate with clients, recall that the scenario is that you are working in a consulting firm with the clients employing us. It is important to remember that clients are the experts in their field. They are your best resource for understanding the data, the problem, and the validity of your plan. Contact with the client should occur when clarity about the problem or validation about your understanding is needed. You should not send several short emails cluttering the client's inbox. Create a list of questions that cannot be answered elsewhere. Feel free to talk to the client about setting up a couple updating meetings in the semester. Know that the client has work to complete apart from the problem for which you are working. So it is likely they will not have time for more than two meetings in the semester. It is also important to recognize that, unlike your professors, they are very likely not going to answer an email before 9am or after about 4pm on a business day nor will they likely answer an email on the weekend.

All emails to clients should be written without technical/mathematical language, should be clear, professional, and free from typographical, grammatical, or spelling errors. In our scenario, your email is the face of the consulting company. To ensure emails to clients are appropriate, teams must submit emails to both professors, obtain approval, and then they can be sent to clients. It may occur that part way through the semester, we feel confident that all subsequent emails will be appropriate and we

may give a team the go ahead to email the client without first sending an email to us.