STA 490H1S: Statistical Consultation, Communication, and Collaboration

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Almost always involves working with people in other fields.
In the best working relationships, you are collaborating with them.
Need to be interested in scientific discovery in general.
Qualities of an Effective Practicing Statistician

A 1980 American Statistical Association Committee on Training of Statisticians for Industry came up with the following qualities of an effective practicing statistician:

- Well-trained in theory and practice of statistics
- Good oral and written communication skills
- Can work within the constraints of the real world
- Knows how to use computers to solve problems
- Is familiar with the statistical literature
- Has a pleasing personality and is able to work with others
- Gets highly involved in the solution of company problems
- Is able to extend and develop statistical methodology
- Can adapt quickly to new problems and challenges
- Produces high-quality work in a timely fashion
Qualities of an Effective Practicing Statistician

How many of these qualities are also important for engaging in collaborative research?
Qualities of an Effective Practicing Statistician

Other qualities identified by clients (Derr):

- Made an effort to understand the problem and the client’s needs.
  - Learn about the problem and its context!
  - Learn what the client understands about the problem.
  - Fit the solution to the client AND the problem.
- Accommodating
- Professional
  - Finishes work on time
  - Provides a complete explanation
  - On time for meetings
  - Responsive to questions and e-mails
- Accessible
- Easy to understand
- Writes clearly and is able to express results in the language of application
- Enthusiastic
Roles played by Professional Statisticians
(Gibbs & Guimond)

1. Expert
   ▶ Have a broad base of knowledge about statistical methods.
   ▶ Remain current in statistical methodology.
   ▶ Be able to present choices among statistical approaches that may vary in time, cost, scope, or precision.

2. Communicator
   ▶ Avoid errors of the 3rd kind (answering a question that was not asked).
   ▶ Establish a relationship appropriate to the clients’ needs.
   ▶ Communicate clearly and fully plans and results.

3. Collaborator
   ▶ Be a part of the team.
   ▶ Consult with other statisticians as needed.

4. Manager
   ▶ Be aware and work within the constraints of the real world.
   ▶ Produce quality work in a timely fashion.
5. Advocate
   ▶ Contribute to proper use of statistics in issues of public concern.
   ▶ Take a leadership role with collaborators in use of appropriate statistical methods.

6. Scholar
   ▶ Have a continuing education strategy.
   ▶ Facilitate the learning of colleagues, clients, and collaborators.

7. Professional
   ▶ Exercise due care and diligence.
   ▶ Uphold professional standards.
   ▶ Fully disclose limitations and potential conflicts.
Your role in the process

- The project is YOURE and you are responsible for it. If your collaborator is unhappy, that is your responsibility. If the collaborator is happy, you can take the credit.
- The other student(s) assigned to the same project have the same responsibility. You are not responsible for each other, but you are both responsible for the work.
- Your T.A. advisor is available for help and guidance but ultimately the responsibility for success lies with you.
Course Mantra

It’s OK not to know.

Expressing ignorance is encouraged.

It’s not OK to not have a willingness to learn.
For next class (Monday, September 17)

Read the following: