Supporting Collaboration and Task Management in Student Project Teams

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Lorraine Higgins,
Professor of Teaching
Co-Director, Melbourne Project Centre
LDH@WPI.EDU

Managing the complexity of open-ended project work is difficult. In presenting students with such projects, most faculty recognize the value of collaboration. Teams comprised of students with diverse backgrounds have a greater wealth of ideas to draw from, and in practical terms, many hands can make for lighter work. However, unstructured collaboration in the context of open-ended problem solving can present challenges. Students may struggle with time management and the division of labor; they may experience difficulty tracking and negotiating conflict. And in the face of information overload and a "divide and conquer" research process, they may have difficulty articulating a coherent vision to guide their work. This workshop introduces specific literate practices and tools that can help students manage collaborative project work. We will review the use of tools such as shared websites and online task schedulers, as well as team writing and discussion activities that can help with goal setting, conflict analysis, and self-assessment, drawing on the work of Joanna Wolfe (2010) and others. In addition, we will discuss how faculty advising student project teams might assign team assessment reports and "Assertion-Evidence" presentations (Alley, 2013) as a way to help students communicate their progress and synthesize a coherent conceptual framework from their research. Workshop participants will consider ways to integrate relevant practices into their students' collaborative projects.

WEEKLY PROGRESS REPORTS AND MINUTES

Please bring a one-page progress report to our weekly meeting (provide a hard copy for the advisor record, but you can also pull up a copy from your team site so we all can look at it together). We recommend that you prepare your progress reports as a team. Each week, elect one team member to present the report to us and lead the discussion. Elect another person to take notes on the discussion ("minutes"). We will reserve a few minutes at the end of our meeting so the notetaker may review key recommendations or new tasks that emerged in the meeting. Post these minutes on your team site in the planning folder by the next day. As your team meets during the week and updates the task schedule, consult the minutes for important action items. Please use this format for weekly progress reports:

To: **Advisor name/s xx**
From: **Team name xx**
Subject: **Progress report for week x**
Date: **xx**
_____

Discussion Leader: _____ **Note taker:** _____

Accomplishments and Findings

Highlight major accomplishments by describing the important findings you extracted from the literature or other deliverables your team produced. Use bullet points for brevity, but be specific. Do not say

- RESEARCH: We researched relevant books and found one good one. *–too vague!* Instead, say,
- RESEARCH ON DAYLIGHTING: Sam found a book on daylighting called "xxx", and from it, we learned that the city has over 13 buried canals.

This helps us see not just *what you did* but *what you are learning and producing* from your research. If you do a good job at describing relevant findings, you can easily move some of them right into your slides or project report. If the deliverables you list include research instruments such as surveys you are drafting and want us to approve, attach a copy of those materials to the project report.

Questions and Challenges

Here, list any major problems you are encountering or any questions you have for us. Discussing problems and uncertainties is productive; do not be reluctant to ask for advice. We might delve deeper into these issues as you present your slides. If these problems require extensive discussion, we can always schedule another meeting specifically for that purpose.

Important Goals for Next Week

Here, list *major* tasks you plan to complete next week as of today. You will naturally provide more detail on your team's task schedule app, but we would like to get a sense of the main tasks. It is likely that other tasks will emerge as we discuss your work in this meeting. That is why it is important for someone to take minutes and to share them with the group after the meeting.

This *overview* of your progress should take roughly 10-15 minutes. This will be followed by a discussion of your slides, where we can go into more detail about the research raised in your report.

Some Tips for Assertion Evidence* Slides

Background slide from a project analyzing the needs of visitors to the Melbourne Museum.
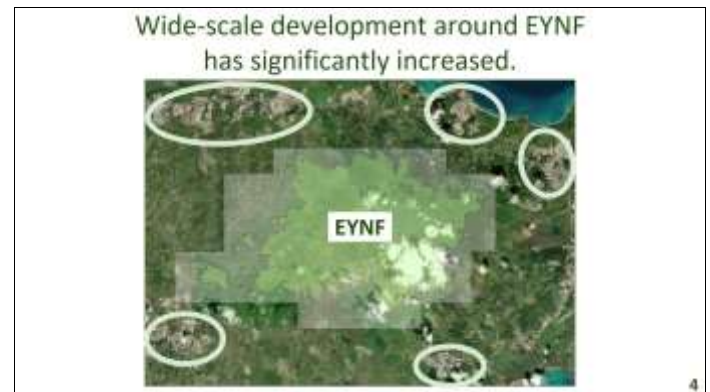
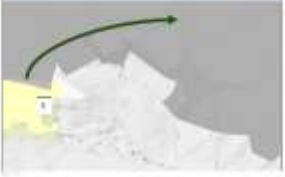*Problem slide illustrating threats to El Yunque National Forest.*

Assertion (statement at top of slide)

- <10 words.
- Often contains a verb—makes a claim or states a point.
- Takes up no more than 20% of screen
- Simple font, readable from back of large room.
- Style/font/color scheme consistent with other major, minor assertions in the presentation.
- Not ALL slides need assertions, but most will

Evidence

- Use evidence to support or illustrate your assertions on each slide or in each section of the presentation.
- Evidence should occupy the majority of space on the screen (~70-90% of the slide).
- Evidence should pass the STARR test (is it <u>sufficient</u> to support the assertion? Is it <u>typical</u> (if example)? Is it <u>accurate</u>? Is it <u>relevant</u> to the assertion and <u>reliable</u> (from a trusted source)?
- When possible, visualize: Use graphs, maps, tables, photos, diagrams, videos, animations, etc. Use words sparingly within your visual, usually as labels.
- Choose appropriate layout and type of visual given your purpose (e.g., comparisons lend themselves to side by side images or to tables; change over time can be graphed; explaining a process lends itself to a flow chart, etc.).
- Consider using smart art to portray logical relations (diagrams, arrows, hierarchies, etc.).
- Online pictures in the public domain can be useful; avoid immature-looking cartoon art, however.
- Complex tables and graphs from print often must be simplified for presentations; omit irrelevant "chartjunk" and direct viewer attention to particular information with highlighting, arrows, animation, etc.
- If you adopt or redesign a visual from another source, give credit as you present it (Say, "This info was adapted from…"). You can include a credits slide with a more formal citation at the end.
- Keep the design, labels, and color scheme simple in any visuals you create. Less is more.

Slides for meetings	Rhetorical Moves	Example Slide
Problem Slides	- State general > specific problem and why important. Provide visual evidence of problem to show scope, negative consequences.	Wide-scale development around EYNF has significantly increased.
Background Slides	- Provide info relevant to understanding the problem: Who are the stakeholders? What are the current conditions, interests, constraints, and resources? What action has been taken /what has been discovered, and to what effect? What relevant concepts or practices emerge in the literature or in interviews with relevant "experts"? - Where are the remaining gaps in knowledge or action?	The USFS's historical approach to conservation created tensions with the local community.
Objective Slide	- List overall project objectives using to+verb statements (to improve… to reduce … to evaluate). - Explain how these objectives are relevant to the gaps noted above; describe/justify the scope of your work. - Possibly, create research questions related to each objective: What will you need to know to achieve the objective? -	Our Project Objectives
Methods Slides	- Map your methods onto your objectives and research questions, explaining how they are relevant and why you chose them. - For each method, explain procedures, materials, and resources. - Characterize research instruments you have designed or adapted for your project (e.g., surveys or interview questions, experimental tasks, testing processes).	We determined community land use and value through stakeholder interviews and participatory mapping.
Results Slides	- Organize results by objective and relevant research questions. - Describe your findings in a series of assertions. - Support each assertion with visual evidence from your data. E.g., *Graph representing rating scores for condition of belfries and bells.*	Community stakeholders support acquisition close to existing borders.
Outcomes Slides	- Describe and show a brief visual representing any designs, apps, and products, you created as a result of your research. - Explain how these products might help to address the problem. - Explain how they will/should be implemented and possibly tested further.	We created a process for future decision making
Conclusions & Recs Slides	- Sum up the major achievements and findings of the project, relating back to the initial problem and gap you intended to address. - Note anomalies, surprises, limitations in your work. - Use your experience to comment on previous recommendations or approaches in the literature (how does your work build on or differ from that of others?). - Sum up next steps and recommendations: What might others do to extend this work? What steps or future improvements might you suggest to the sponsor, community, and other project teams?	We recommend starting acquisition in the left half of land area 1 then moving across the region.

Assigning Assertion-Evidence Slides Relevant to the Problem-Solving Process

Week	Meeting Agenda	Assignments for next week	Goals
1	Introductions. Project Summaries. PQP Schedule. "Assertion-Evidence"	Chs. 1-3; Ex. 2, 3 w/ team (Video 1). Team alias, website/drive, charter. Slides: Title, problem, objectives.	Establish project goals; learn about collaboration styles and tools for organizing, sharing work; learn to summarize findings through A-E slides.
2	Review Progress Report. Sum up insights from video. Show team site, charter. Discuss findings, using slides.	Ch. 4; Choose team roles and employ task schedule tool. Update slides; new background slides.	Establish members' strengths & responsibilities; clarify research questions & learn to extract points from literature.
3	Review Progress Report. Report on team roles. Show task schedule. Discuss findings, using slides.	Ch. 5; Ex. 3, 4 w/ team (Video 4). Email team evaluation by Thurs. As a team, discuss process Improvements. Update slides; new methods slides.	Learn about conflict and tools for addressing it productively. Assess team's progress and process to date, making adjustments. Improve slide design and transitions.
4	Review Progress Report. Sum up insights from video, book. Debrief advisors on team discussion. Discuss findings, using slides.	Ch. 6; Determine team drafting, editing process/schedule. Update slides; new methods slides. Use commentary on slides to reorganize and foreground key points in your proposal.	Develop good writing habits; develop better organization and argument strategies for writing.
5	Review progress report. Explain team's writing process. Give formal PPT presentation (15 minutes). "I statements"	Chs. 7, 8.; Complete forms, pp. 84-86 & discuss with teammate. As a team, do Ex.1, p. 101 & Ex. 2, p. 122. Email 2nd evaluation by Thurs., followed by team discussion. Use "I statements". Update and add to slides.	Become aware of communication differences and team diversity issues; identify how to troubleshoot problems on your team. Learn strategies for oral presentation/delivery.
6	Review progress report. Debrief advisors on process changes emerging from discussion. Discuss findings, using slides.	Revise and edit complete slide Presentation; practice with writing tutor.	Refine presentation skills. Identify remaining gaps in your project.
7	Give presentation /get final feedback. Discuss next steps for on-site work. Arrival logistics.	By Friday, email 1-2 pp. reflection. Tidy up folders in team website.	Articulate what you have learned and think about lessons for future project work and collaboration as you travel to the project site.

Sample of 7-week schedule for student project team meetings with faculty advisors.
All reading assignments are from Joanna Wolfe, *Team Writing: A guide to Working in Groups*, Bedford/St. Martins, 2010.

IQP GROUP EVALUATION PROCESS

PART 1 – EVALUATION FORM AND TEAM DISCUSSION

You will complete this form twice each term; it will help you assess the individual and group efforts of your team. It is important that you fill out this form honestly. Submit the form via email to your advisors, as stipulated on the schedule.

AFTER all team members have filled out the form privately each time, you will schedule a team meeting. At this meeting, each person should have five or so minutes to speak about the team process. You do not have to share your forms with the team (although they forms may help you to think about what you want to say). Note that this is not a complaint and blame session about the past; it is a venue for offering your most significant constructive ideas for future work together.

- Start by acknowledging a specific, positive contribution that has been made by each member of the team.
- Follow with suggestions for improving the team process. Specifically state one thing that YOU will do in the future to improve on your efforts and contribution. Then suggest ONE specific thing that EACH PERSON on the team might do to improve the team process and outcomes. Explain why and how this might have a positive effect. E.g., "Andy, it would help if you bring your research notes to the table when we meet so that I can see how your research is related to my section of the report." Or… "Alice, in the future, if you get stuck, don't hesitate to tell us at the meeting; we can either switch tasks with you or give you some tips on how to get started." Be open to suggestions; let each member speak without interruption before moving to the next. When everyone is done, discuss any major changes the team can agree on, moving forward.

The week after you fill out your evaluation and have this team discussion, we will ask you to debrief us on any major changes your team made to its process because of these assessment activities.

Evaluation form

Group:	You	Partner 1	Partner 2	Partner 3
Enter individual names here →				
1. Please rate each team member (including you) on a scale of 1 to 9 (where 1 = unacceptable, 3 = poor, 5 = acceptable, 7 = good, 9= almost perfect)				
Level of effort				
Quality of research				
Quality of writing				
Cooperation and teamwork				
2. Please estimate the hours per week that each member works on the project, on average				
3. What did you personally do well?				
4. Where could you personally have done better?				
5. What did your partners do well (discuss each partner)?				
8. What could your partners have done better (discuss each; note an example)?				
9. If you had to give your team a grade (see below) on its team process to date, what grade would you give?				

A: Consistently excellent process. We have adjusted our roles as necessary. Meetings are focused and productive; individuals are working hard and sharing their work with others. We communicate well; all contribute speak up and listen to one another. Team members ask for help when needed; the team openly discusses problems, and the group is able to address differences constructively and benefit from them. We have shown flexibility, adapting our plans as needed without excessive negativity and complaint when changes are necessary. We are making steady progress on our goals.

B: Good or very good process. The team meets most of the A criteria above but may be need to improve in one or two areas. We are aware of these areas of needed improvement and are continuing to work on them.

C: Fair. The team meets some of the A criteria above but may need to improve the process in several areas. The group acknowledges and discusses these needed areas of improvement in some cases, but more discussion and openness may be needed. When problems are discussed, we mostly, but not always, are able to respond constructively, but we are committed to keep working on these issues and will seek help from advisors if necessary.

NAC: Not acceptable; need to improve process if team is to produce good outcomes. The team is not functioning well in many of the areas noted under the A level criteria. Although some individuals may have attempted to discuss some of the problems openly, there is often resistance to doing so or no follow through. There is a great deal of stress and/or apathy evident in the group, and we should seek help from advisors.

PART 2: WRITTEN REFLECTION

In the sixth week of each term, you will also submit a written reflection to your advisors.

Prep term reflection (~ 2 pp.):

- What role have you assumed on the team, and how effective have you been? What skills and strategies have you learned in that role? What are the most challenging parts of this role?
- Would you suggest changing or reassigning any of the roles taken by you or others? If so, which roles would you change or reassign, how, and why?
- Describe your group drafting and revision process. Is the process working well? If so, how/why? If not, how/why not? What changes would you suggest for next term?
- Would you suggest changing your group's process for scheduling and running meetings in any way? If so, how/why?
- Has your group been impeded by any of the following? Circle any problems not yet resolved.

Unequal distribution of work	Trouble getting writing done on time
Trouble attending, showing up (on time) to meetings	Lack of Motivation about the project
Tendency of some to dominate or hide in meetings	Lack of clarity in team goals or tasks
Disrespect towards team members	Conflicting work, communication styles
Unresolved differences about ideas/approaches to implement	
Failure to share research findings/progress with the team	

- Please conclude with a paragraph or two, describing the problem/s you circled and making at least one concrete suggestion that might help. What commitments will YOU make to help make this change?

Final reflection for second term (~3-4 pp.):

~3-4 pp. What have you learned from the IQP experience—how have you grown or changed? What skills have you learned or what new attitudes have you developed about the issues involved, about working with others on a team, about yourself? As illustration, describe activities or experiences that influenced you most. Be as specific as possible—using examples will provide evidence to back up your assertions.   E.g., don't just say, "I learned about other cultures" (vague).   This would be more informative: "I learned that I had biases when it came to working with individuals from x. I used to assume x but now I realize that…". Please email this to your advisors by the due date noted on our schedule.