

## Moving from chance and “chemistry” to skills: Improving online student learning outcomes in small group collaboration

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While instructors know the importance of successful small group collaboration, and the value of the skills required to execute them, students continue to prefer to work independently. The promise and development of recent online tools, however, and streams of recent research on small group collaboration, continue to produce less-than-satisfying or sufficiently generalizable pedagogical interventions. This study examines a more systematic attempt to direct students through specific tasks designed to improve their experience and produce higher quality student learning outcomes. Two groups of graduate students across four required online classes were surveyed about their attitudes and the steps they take when engaging assigned small group projects. The first group was offered a pre-recorded lecture as a resource while the second group was offered the same lecture plus additional specific ground rules to help avoid common negative experiences. Both groups were asked to complete surveys about their experiences. While many students continue to exhibit less-than-productive behaviors and practices, even after engaging the guidelines, some improvements did emerge. The study points out that more attention to pedagogical intervention is indicated if instructors hope to improve learning outcomes in valuable small group collaborations.

Keywords: Small group work, teams, collaborative work techniques, small group pedagogy, peer collaboration, collaborative learning, online pedagogy

### 1. Introduction

As more and more classroom instruction migrates to online environments, employs “flipped” classroom techniques, and attempts to institute increasingly sophisticated pedagogical techniques, one approach – small group or team instruction – somehow never appears to “move the needle” in advancing or demonstrating higher levels of student learning outcomes. Indeed, as Isaac points out in “I hate group work! Social loafers, indignant peers, and the drama of the classroom” [6], students and faculty both continue to be befuddled by the challenges of working collaboratively. Yet, successful professional life continues to demand working closely with others in a wide variety of collegial, peer, team, and group configurations. On the one hand, we know these skills are important; on the other, improving our pedagogy in teaching them remains largely elusive.

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## 2. Literature review

Much of the recent research literature on small group pedagogy, gathered broadly from interdisciplinary sources, asks narrowly about small group effectiveness within the context of specific classrooms and aimed at particular content. Consequently, in the current focus on trying to better identify generalizable techniques for working in small groups, the rather sparse amount of recent published research requires including work both in face-to-face environments and the growing degree of online experience, as well as a broad range between students in high school through graduate programs. What the literature fails to thus far uncover in any substantial depth, however, are specific and generalizable procedural steps that faculty can take both to enhance student experience within the context of small group collaboration but also to improve student learning outcomes as well.

The current study attempts to introduce and measure such procedural steps in required graduate level online courses of students pursuing a master's degree in library and information science (MLIS). While even after offering resources supportive of higher-level small group collaboration experiences, many students continue to experience negative associations with these tasks and continue to prefer working independently. On the other hand, when offered clear, direct, and basic guidelines through pedagogical intervention, students can be persuaded that higher degrees of success are possible and that quality collaborative experiences need not rely on random chance or “group chemistry.”

### 2.1. *Instructional interventions for small group collaboration*

As working in small groups and teams has gained popularity among this past generation of classroom instructors, especially in university classrooms, it is equally evident that students, perhaps even in the same measure, continually express and demonstrate their displeasure and frustration with this approach. Students commonly complain that they are put into a position of dependency upon peers who have other or different objectives which then cause conflict and anxiety. Other students express dissatisfaction that different levels of commitment and performance are not fairly rewarded or punished [6]. Some resolution may be provided by assignments that are well-designed, facilitate quality group experience, as well as provide accountability and accurate assessment [6]. Yet while efforts have been made to isolate particular aspects of small group teaching activities that concentrate on trying to improve learning performance, or, what is frequently referred to as “effectiveness” from the instructor's point of view [11,16], the road to achieving these laudable goals remains obscure, narrow, or too abstract for broad application. Specific instances showing group activities of short duration may, for example, result in higher levels of participation under one set of circumstances [16], or single-session team-based pedagogy may help meet instructor-developed learning objectives on one assignment [11]. Generally, single discrete assignments or factors have been examined in an effort

to contribute to the design of an improved pedagogy relative to student success in small group experiences. Careful analysis, however, will note the rather consistent lack of sufficiently granular, procedural, or instructional interventions to better help students thrive *generally* within this pedagogical approach, an approach they already enter from the beginning with both skepticism and foreboding.

## 2.2. Current patterns in student experience of small group collaboration in online and face-to-face environments

A second group of scholarly work attempts to isolate specific patterns of how students enact small groups. For example, in the online environment, the pattern of group decision making (GDM) that students enact during collaborative exercises has been examined, and identified that students used “spontaneous” decision-making [9], and prefer “un-facilitated” or semi-structured group decision-making, such as relying upon various notions of “consensus” when working collaboratively [10]. Affective factors have also been considered in the online environment, and students working individually and at a distance can isolate emotional responses [17]. Engaging and designing the physical environment has been argued as a way to better promote successful and engaging social or small group interaction [7].

Communication problems, logistical inconsistencies, and personal feelings, can all contribute to and deepen negative predispositions toward working in small groups settings in both face-to-face and online environments, though these challenges may appear more frequently in online settings [14]. The resulting negative experiences students identify here ought to be familiar to any instructor employing small group pedagogy.

In partial response to the consequences of rather *ad hoc* student-initiated procedures and their reportedly negative consequences, Sorumen et al, compared face-to-face and online student group behaviors, and observed that a more successful collaborative experience was achieved in face-to-face scenarios through employing strategies that include the articulation of student beliefs and goals, discussion of alternative approaches to arriving at decisions, clarified meanings, negotiated perspectives, and engaged a formal way to share their learning in final products [15]. Since all of these more positive steps and behaviors would also be accessible to online students it is unclear why one group employed them and one did not. Thus, while these behaviors will also likely appear familiar to instructors experienced in using small group collaborations, more persuasive evidence is still required to draw meaningful comparative conclusions between the relative effectiveness (or lack thereof) of face-to-face and online experience. Conversely, in what is perhaps the most detailed and specific comparative examination of student-initiated small group procedures to date, Oliveira, Tinoca, & Pereira found more similarities than differences between face-to-face and online collaboration [12]. In focusing less on the mode of interaction and concentrating explicitly on determining “success” factors in small group

experience, “success” was found to be equally possible in both online and face-to-face modes if students enacted particular and distinctive procedures. These observed procedures included, from among others, clarification of focus, establishing the final presentation format, assurance concerning the assessment requirements, and revision steps. Groups in both environments were deemed less successful when they struggled with decision-making, differing perceptions of expertise and experience, and the consequent anxieties attending these behaviors [12].

Thus, the majority of recent research focusing on observing discrete student-initiated reactions and behaviors deem some procedures more productive than others. This literature, however, provides few specific details on more programmatic and overarching skill development to inform generalizable pedagogical interventions or offer how instructors might intervene to facilitate more success in consistently achieving student learning outcomes.

### *2.3. Technological innovations in promoting small group collaborations*

More recently, and perhaps predictably, studies have been devoted to assessing the implications of newer technology on small group collaboration. Although important factors remain to be more closely defined, and the overall assessment of technological tools remains a bit premature, it is clear that new technological tools hold potential for enhancing quality small group collaborations.

The effect of using specific tools such as social technology’s blog platform [1], Google Docs, Media Wiki [3,4], Twiki [3], and wiki platforms generally [2] have been examined through student self-reporting on their perceptions of effectiveness in facilitating small group collaboration. While some tools are preferred, the overall impact on student experience and outcomes is mixed, even though they may initially encourage collaboration. Among the most sophisticated and useful of the recent research on incorporating technology in facilitating small group collaboration is Kwon, Hong, and Laffey’s 2013 study employing quite specific criteria in a web-based metacognitive tool (Metacognitive Teamwork Management Tool – MTMT) [8], representing an attempt to introduce scaffolded criteria explicitly to assist students monitor their collaborative experience. Most of the criteria upon which this assessment was founded, however, reflects a return to affective qualities of student self-reported experience. “Positive interdependence” (the more desired outcomes sought by instructors) included rather nebulous student self-reports of sharing materials, being “open” to other’s opinions, confidence in raising contrary views, among others. Groups were also assessed for “accountability,” though defined through student opinions of other group members as having “worked hard,” being “motivated,” and participating equally on collaborative projects.

The literature probing how technological tools assist students in performing better in groups generally finds strong potential in these resources, though how faculty assess “success” remains ill-defined, specific pedagogical interventions remain vague

at best, and the overall “rosy” picture emerging from these studies of newer technological tools do not comport with continuing complaints from students, and faculty, about the challenges students face when working collaboratively, either in face-to-face or online environments.

#### *2.4. Toward more specificity*

Taken together, recent research on small group collaborative learning remains rather unfocused and uneven relative to demonstrable, generalizable, and specific improvements in student learning outcomes. It also ranges perhaps too widely from examining the experiences of secondary education through graduate level students. And, in perhaps investing too much on the potential in online technology, it continues to leave unresolved what quality pedagogical intervention requires in specific collaborative technique, process, and skills. Most of the technique of working in small groups continues to rely on student initiative to invent, apply, and even assess.

Further, it might be viewed as somewhat ironic, too, that few of the findings reported in recent literature on small group collaborations reflects on the assessment of content-specific learning outcomes instructors endeavor to teach. This appears ironic, since one of the ostensible benefits of working collaboratively, certainly one of the main objectives in helping to prepare students for future professional work, is to derive higher quality thinking and products than can commonly be achieved through individual work alone. Additionally, while the literature is rather prodigious on student experience (mostly only self-reported), it produces a rather anemic advance on explicit and generalizable pedagogical interventions themselves.

The present study attempts to bridge some of this pedagogical gap through introducing more formalized steps, built-in and “front-loaded” into course assignments, so that students address small group ground rule procedures prior to more fully-engaging content-related tasks. In practicing these more formalized steps it is hoped that students will also gain confidence they can transport these techniques into other and broader applications in other classes and in the field as practitioners.

### **3. Study design**

Students enrolled in San Jose State University’s fully online graduate School of Information (SJSU SOI) are required to work in groups of up of five or six at different junctures throughout their program of study toward a master’s degree in Library and Information Science. Indeed, group work projects are introduced in two of the required four “core” prerequisites students take for the rest of the program (Information Retrieval System Design [202] and Information Professions [204]).

In this study, data was taken from two required courses in two successive semesters. A total of 120 graduate students were enrolled in the courses under study, and 75 completed a short survey about their small group experiences. Participation

in the survey was voluntary and anonymous. The survey was administered using Qualtrics software [13]. A descriptive statistical analysis was performed on the data, comparing the results from the questionnaires administered in both Spring and Summer 2014. Ethical clearance to administer the questionnaire and publish the results was received and cleared by the San Jose State University’s Institutional Review Board. The questions pursued in this survey exceed in detail and granularity the degree to which the literature reports addressing small group work in conventional instructional environments – either online or in face-to-face circumstances.

In the first semester, Spring 2014, students enrolled in 202 and 204, were asked only to view a pre-recorded lecture on fundamentals of working successfully in small groups prior to beginning the course [6]. No additional attention was paid to the degree of adoption of the fundamentals advanced in the recorded lecture: students were rather left on their own to adopt these practices, adopt them variously, or ignore them. At the conclusion of the course, students were asked to complete the survey reflecting on the degree of their confidence, skills, experience, and satisfaction in working with small groups in their online environment (Appendix A). Forty-three of the 60 enrolled students answered the survey, and 37 responses were usable (62% response rate from the total population).

In the second and subsequent term, Summer 2014, new students in the same courses (202 and 204) were not only required to view the pre-recorded lecture but were also given a set of more explicit guidelines to enhance group project work (Appendix B) in addition to content instruction delivered in these courses. These distributed guidelines encouraged students to explicitly define roles and establish mutually agreed-upon ground rules to both guide the work in producing a deliverable as well as a means to assist in anticipating and resolving issues commonly associated with small group work conflicts. Students were asked to identify a “team leader,” for example, who would be responsible for particular tasks. Among other ground rules the guidelines also asked the group to define “common performance goals” and address the notion of “accountability” steps should group expectations not be met.

The guidelines offered that groups employing these procedural steps first, before engaging content-based assignment requirements, would perform better if roles and ground rules are established early. Like the first group (Spring 2014) this second group was asked to complete the survey at the end of the course. Of the 60 enrolled students, 32 participated in the survey and 28 responses were usable (a 47% response rate from the total population).

## 4. Findings

### 4.1. Persistent negative patterns

The findings of these preliminary investigations starkly divide into two kinds of assessment. One assessment yields that a larger percentage of students enrolled in

these two required core courses report what we might refer to as “positive” or affirmative responses to addressing small group work. They used productive practices generally viewed as fundamental for attaining successful learning outcomes and delivering higher quality work than might otherwise have been achieved working individually. The second group, however, and still a quite large percentage, report what we might refer to as continuing “negative” practices. In other words, a large percentage of students continue to avoid adopting more “positive” practices, despite the intervention represented by the ground rules chart introduced by an instructor. These students continue to report unsatisfying small group collaboration experiences.

While these data reveal both positive and negative patterns, however, it is important to note the first impressions students reported in survey responses comport with long-standing and well-known student antipathy toward small group work and their inability to identify its value (both in the educational environments they presently inhabit nor, we might assume, the field in which they hope to serve as professionals). Nearly 50% in the first group (Spring 2014), and nearly 40% in the second (Summer 2014) – even after a mild intervention of guidelines – could not express being even “somewhat confident” in their overall *capacities to work in small groups*.

Further, and although there was measurable improvement between the first and second group, there nevertheless remained approximately 20–30% of these graduate students, still early-on in their program, who reported not benefitting from the fundamental importance of reviewing respective *member roles*, and between 10–25% who did not establish such roles prior to engaging their group assignments. In terms of reporting on degrees of satisfaction with their *overall small group experience*, or with their groups’ capacities to *overcome group work-related obstacles*, the picture continues to look bleak: between 30–45% could not report being satisfied with their group work experience, and roughly a quarter (between 22–27%) continued to lack confidence that they could resolve group-related problems. Thus, in addition to long-heard complaints and anecdotes, it is clear that this is an arena into which instruction and pedagogy should tread with more thoughtful interventions.

Both groups reported low responses when asked about the degree to which they *defined common performance goals* prior to starting their assignments (approximately 45% did not). They reported low propensity to set and agree upon *ground rules* (governance, group etiquette, etc.) before starting work (between 32–43% did not). Significantly, between approximately 50–60% reported not defining clear *expectations* before commencing their work. From these figures it is easy to understand that students require better targeted instruction and practice before they can expect more satisfactory experience and before faculty can reasonably anticipate higher quality assignment products and learning outcomes.

More sobering still were the concluding opinions students expressed upon completing their small group collaboration. Approximately 30% from both groups reported not feeling as though they had *adopted a practice* of establishing agreed-upon procedures or strategies to help them overcome long-standing negative experiences.

And about 45% reported not being persuaded that their small group collaborations helped produce *higher quality work* than engaging assignments independently.

Thus, the reluctance and skepticism of students to learn, practice, and adopt new small group skills, even those thought to represent basic or fundamentally sound practices, to say nothing of what we might consider more advanced practices, remains very high. Together, these findings represent a significant challenge for instructors hoping to improve the quality of collective student work and learning outcomes widely-touted as valuable skills in the professional work place.

#### 4.2. Reasons for hope

While one assessment perspective yields continuing negative student-reported outcomes on adopting fundamentally sound small group collaboration practices, this study did produce some “positive” and encouraging responses to addressing small group work in using productive practices generally viewed as fundamental for attaining successful learning outcomes. In the two Summer classes addressed in the study, both having received the ground rules guidelines *prior to* engaging their respective assignments, students reported a 9% increase in their *confidence about working in small online groups*. And while this still left 40% of the students who completed the survey unable to report such confidence, a 9% improvement with this limited intervention should auger some optimism that a stronger pedagogical response can produce more positive learning outcomes.

While a bit more modest, 6% more of the Summer students reported reviewing discrete *group member roles* prior to starting their content work when compared with Spring students who did not receive the guidelines. It is also relevant to recall that the pre-recorded lecture reviewed many of these pre-content guidelines in detail, suggesting that merely assigning students to view a lecture insufficiently prepares them to execute better practices.

General satisfaction with small group collaborations among students treated with the guidelines registered modest gains in two ways. First, students benefitting from more specific guidelines prior to their content assignments reported a 5% increase in their groups’ capacity to *resolve group-related obstacles*. While this leaves at least 20% of students still unsatisfied in their collective capacities, a 5% increase does suggest that an informed pedagogical intervention holds potential for even more significant improvement. Second, students engaging the guidelines prior to addressing their content-based assignment reported a 6% increase in their *overall satisfaction in small group collaborations*, compared with students who did not work with pre-assignment guidelines.

But the largest and most positive gain reported by the Summer student surveys was registered in how more students *assigned roles to group members prior to commencing work* on their assignment’s content tasks. Clearly, this is where a group begins to establish and execute successful practice and thus offers hope for the introduction and execution of additional and more complex skills. Where only 76%



Table 1  
Questionnaire responses before and after receiving Group Work Guidelines document

	Spring 2014 ( <i>n</i> = 37)	Summer 2014 ( <i>n</i> = 32)
Participants were “highly confident” or “somewhat confident” about their ability work in a small group setting prior to beginning their studies at SOI.	52% ( <i>n</i> = 19)	61% ( <i>n</i> = 17)
Participants had taken the time to review the possible roles group members perform in a group setting while taking courses at SOI.	73% ( <i>n</i> = 27)	79% ( <i>n</i> = 22)
Participants assigned roles to group members prior to beginning work on their group project.	76% ( <i>n</i> = 28)	89% ( <i>n</i> = 25)
Participants defined common group performance goals before starting work.	65% ( <i>n</i> = 24)	64% ( <i>n</i> = 18)
Participants defined clear group expectations and consequences before starting work.	51% ( <i>n</i> = 19)	39% ( <i>n</i> = 11)
Participants set and agree upon ground rules (governance, group etiquette) before starting work.	68% ( <i>n</i> = 25)	57% ( <i>n</i> = 16)
Participants were either “highly satisfied” or “somewhat satisfied” with their small group work experiences.	65% ( <i>n</i> = 24)	71% ( <i>n</i> = 18)
Participants were either “highly satisfied” or “somewhat satisfied” with their groups’ abilities to overcome or solve group obstacles.	73% ( <i>n</i> = 27)	78% ( <i>n</i> = 22)
Participants felt they have established a practice of setting up and agreeing upon strategies before starting work.	73% ( <i>n</i> = 27)	71% ( <i>n</i> = 20)
Participants felt they were able to produce a higher quality product than working independently.	65% ( <i>n</i> = 24)	64% ( <i>n</i> = 18)

reported doing so prior to the Summer’s introduction of small group guidelines, during the course employing the guidelines, a full 89% (a 13% improvement) reported assigning discrete roles early-on in their work together. While it can be asserted that assigning roles may number among the easiest and most logical tasks to perform prior to starting work on a collaborative project, these findings suggest that many student groups failed to take even this step previously.

## 5. Discussion

Improving student responses and success in small group collaborations likely requires more strategic and pedagogical initiative from instructors than appears in the current pedagogical literature. One stream of the recent research on small group functioning optimistically attempts to document the implications, impacts, and opportunities of new technological tools on collaborative efforts both in face-to-face and online environments. Another stream of research closely examines discrete student experience in one-off self-reports but rather avoids identifying specific and positive

behavior or skills to improve small group success. Finally, a third stream of research examines student performance mapped to still vague and abstract notions of “effectiveness.”

Thus, instructors in both face-to-face and online environments lack tested and specific pedagogical interventions to systematically, demonstrably, and broadly improve small group functioning. More detailed and generalizable interventions appear necessary to persuade students still hardened by experience against engaging collaborative efforts. Further, no doubt, many instructors as well require convincing that adopting a more discrete and skill-based approach to better small group procedures promise better content-based learning outcomes.

Despite being aided by recorded lecture and specific guidelines on fundamental practices and skills many negative attitudes and practices persist among students required to work in small collaborative groups. This suggests that the mere provision of additional resources is insufficient. Such resources would likely yield better learning outcomes if they were more thoroughly integrated into content assignments themselves rather than considered peripheral. There is, nevertheless, reason for optimism that student outcomes, performance, and experience can improve when they are supported with structured and targeted interventions and practice using detailed guidelines.

Further research is required, however, on several vexing issues. First, given the lack of specificity regarding the evidence-based skills necessary for better small group collaborations, pedagogy is still only guessing about the relative efficacy and value in introducing particular small group ground rule tasks. Is it more effective, for instance, to assign students to establish ground rules prior to an assignment’s content-based instruction, or can they be issued simultaneously? To what degree do the guidelines offered in this preliminary study (Appendix A) address the most important aspects and tasks in preparing students for success? Which tasks should be viewed as “essential” or “basic” for quality group functioning and which ought to be viewed as more “advanced?” What additional or alternative tasks deserve to be considered? Should executing small group tasks be assessed together or separately from content assignments? How much practice is indicated to better insure the longer-term adoption of better small group procedures?

A second set of concerns deserve research attention. Current research focuses on student experience, attitudes, and skills. Thus, research to date has rather ignored the instructor side of the equation. What are instructor experiences, attitudes, and skills in teaching small group collaboration? How do instructors assess collaborative student work? What additional interventions might they deploy to improve learning outcomes for this admittedly challenging yet important and valued professional skill set?

This current study attempts to apply a few specific criteria (guidelines) to better assist students in an online graduate program focus on some fundamental procedural tasks to address existing reluctance and resistance to collaborative course work. On the one hand, there is ample reason for skepticism that such an intervention will

not address all of the concerns students bring to such course work. On the other hand, however, there is also reason for optimism that offering more specific guidance through pedagogical initiative can begin to raise student awareness that successful small group collaboration relies less on chance or random “group chemistry” than on consistently executing specific procedures and skills. The more quickly we can persuade them of this argument the more quickly instructors can expect happier collaborations and higher quality interactions. Before this happens, however, instructors will need to provide evidence-based pedagogical intervention.

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## Appendix A. Qualtrics Survey about Group Work Experience

This questionnaire is being administered as part of a study exploring the effect of enhanced instruction in the group work process on student satisfaction. Participation is optional. If you choose to participate, you may benefit indirectly from knowing your answers have the potential to improve instructional strategies used in future course offerings. Indicate your willingness to participate by clicking ‘I agree’ below, or close your browser if you do not wish to participate.

☐ I agree

To what degree were you confident about your own small group work skills prior to taking LIBR 203?

- 1 – Highly confident
- 2 – Somewhat confident
- 3 – Adequate
- 4 – Not very confident
- 5 – Not confident at all

In SLIS courses you’ve taken to date, did you review group member roles before starting work on your group deliverable?

Yes/No

In SLIS courses you’ve taken to date, did you assign group member roles before starting work on your group deliverable?

Yes/No

In SLIS courses you’ve taken to date, did you define common group performance goals before starting work on your group deliverable?

Yes/No

In SLIS courses you’ve taken to date, did you define clear group expectations and consequences before starting work on your group deliverable?

Yes/No

In SLIS courses you’ve taken to date, did you set and agree upon ground rules (governance, group etiquette) before starting work on your group deliverable?

Yes/No

To what degree were you satisfied with your small group experience/s in classes?

- 1 – Highly satisfied
- 2 – Somewhat satisfied
- 3 – Adequate
- 4 – Not very satisfied
- 5 – Not satisfied at all

To what degree are you satisfied with your groups’ abilities to overcome or solve group obstacles?

- 1 – Highly satisfied
- 2 – Somewhat satisfied
- 3 – Adequate
- 4 – Not very satisfied
- 5 – Not satisfied at all

In your SLIS courses to date, do you feel you have established a practice of setting up and agreeing upon strategies (e.g., defined roles, ground rules, decision making, etc.) before starting work on your group deliverable?

Yes/No

To what degree do you believe your group work produced a higher quality product/yield than working independently?

- 1 – High
- 2 – Somewhat
- 3 – Adequate
- 4 – Not very much
- 5 – Not at all

Thank you for your participation!

## Appendix B. A Guide to Working in Teams

*(Prepared by Drs. Anthony Bernier and Cheryl Stenström and based on Dr. Ken Haycock’s SLIS Colloquium, Spring 2007)*

*“The key to successful teams is ‘group goal, individual accountability’.”*

Teams help focus collaboration, benefit from diversity of background, experience, and viewpoints in decision-making. They maximize effort. Teams bring together people with different skills or strengths: technology, interpersonal, various other backgrounds. Success depends on identifying goals, producing a product, and effective self-management.

Teams often fail when they face one or more of five common pitfalls: lack of commitment to the common performance goals; lack of trust among members; failure to deal with conflict; avoidance of accountability; and an inattention to results. By taking time during your first team meeting to follow the six steps outlined below, your team will be on track for high performance.

*Six steps for creating effective teams from the very first meeting:*

1. **Prepare for your first meeting:** Know your strengths (e.g., organized/not, trouble with deadlines, etc.) and consider how your strengths or dealing with your weaknesses can help the team.
2. **Review team members' roles:** Review the basic roles of a team (or develop a process for choosing roles if applicable):
  - *Team leader* – effective teams start by determining team leader requirements: group expectations for the leader, the leader's role
  - *Scribe/Record keeper* – records, recounts at close of meetings, and distributes record
  - *Timer/Process observer* – takes five minutes at meeting conclusion to comment on ground rules adherence, balanced participation, respectful communication, time management
  - *Tech expert* – ensures team members understand required e-venues and functionality
  - *Editor* – assembles group's written producible and performs "last look:" style, grammar, formatting
3. **Define common performance goals:** *Before* setting project work, team agrees on common performance goals. Not everyone needs an "A" grade. Participants ask themselves, "What would we be satisfied with?" Unstated and/or different standards cause problems. Being fair requires that the group agrees on standards and expectations up-front with everyone; what needs doing, by whom, and when, so everyone can move forward based upon shared performance standards.
4. **Accountability:** Define clear expectations and consequences – The team leader should ask members to submit their expectations of all team members (e.g., what happens if a team member fails to make deadlines? Show up to meetings? Produces low quality work?). For consequences: consider that the leader will first take issue up with another team member offline or offsite, privately, before taking unresolved issue to instructor.
5. **Set agreed-upon ground rules:**
  - Governance:
    - articulate accountability and consequences
    - follow the agenda (begin and end as scheduled)
    - build-in checkpoints
    - set other ground rules as necessary
  - Group etiquette:
    - arrive on time
    - give timely responses/acknowledgement to group communications
    - be prepared for group sessions
    - give 24 hour notice
    - share information

- ask questions without attacking
  - keep notes
6. **Establish a process for decision making:** consensus or votes? (e.g., If someone can’t make a meeting, do our ground rules say that I live with the decision or does the group revisit the decision?)

*Major function of the team leader:*

The leader should prepare to move the team through the four phases of team development (orientation/forming, dissatisfaction/storming, resolution/norming, production/performing) by acknowledging the process, what’s involved, what behaviors are expected, helping the team to address those behaviors, and move forward.

Techniques for moving a group forward include both a combination of **pressure** and **support**: pressure refers to applying ground rules and consequences. Support refers to acknowledging snags and offering temporary trade-off or other options. “I know you’re going through a hard time for the next three weeks. We can pick up some of that work and you can contribute more later in the term.”

*Tips for the team leader*

Overbearing members – [**pressure**]: privately say, “I know that you’re not in favor of the approach that we’ve taken to this assignment, but we’ve discussed it at length, we couldn’t reach consensus, we ended up actually voting, we recorded the vote, it’s over, we’re moving on.”

Noncontributing members – [**pressure**]: “I don’t think we’ve heard from you, Sam, in two weeks. I’d be interested in your perspective on this...”

Feuding members – [**pressure**]: reminded people of the ground rules, and make sure that they’re reminded that they agreed to this process.

Conflict – [**support**]: When you’re always late for a meeting, it makes me feel like my time is disrespected, that it’s worth nothing. Would you consider making an effort to arrive on time, or should we consider changing the start time? What do you think? This suggests what the problem is, the effect it’s having, and a possible solution.