International Journal for Educational Media and Technology
2022, Vol.16, No. 2, pp.55-66

Online Student Team Assignments: The Why and How

Tamara Fudge
Purdue University Global
tfudge@purdueglobal.edu

Many online students dislike team assignments, and for some fairly good reasons: unresponsive classmates, grades relying on others, misunderstandings about instructions causing arguments, time constraints, and other problems can cause anxiety and apathy that lead to poor performance. Despite instructors' insistence that the workplace often requires teamwork, the connection of student group projects to usefulness is getting lost. The online classroom can still successfully support group assignments, however, with good planning, management, and use of appropriate tools. Careful curriculum design, techniques in setting up teams, identifying motivation and encouraging diversity, mitigating problems as they occur, and using ethical grading methods are critical, along with careful evaluation and selection of collaborative tools.

Keywords: Assignment Construction, Grading Fairness, Roles, Student Motivation, Team Performance.

Introduction

Gunning et al. (2022) indicate teamwork is among the top three most-wanted skills globally. Subskills include accountability, assisting others for a common goal, and co-creation, which results in shared ownership in a final project outcome, whether the undertaking is big or small. Despite these benefits, curriculum developers sometimes leave out team assignments in the online classroom due to complexity and/or student complaints about work load and time. The existing literature as well as practical experience in the online classroom point to several specific questions regarding online team assignments: why are team assignments important to college program outcomes, why do students dislike these projects, what needs to be considered during the creation of such assignments, and what management techniques help to successfully deploy them?

Purpose and Research Design

The overall purpose here is to provide practical guidance for consideration by curriculum designers and instructors in the development and deployment of online group assignments. First, currently available literature is explored to find the reasons for why teamwork is a valid component of online coursework and why students resist such work. The sources embrace journal articles, university websites, and web-based opinion/experience pieces in an effort to create applied solutions rather than simply pedantic ones. Lastly, a combination of said source material, observations, and curriculum design from the author's own experiences provide the basis for the curriculum development and management sections.

Brief Literature Review

Teamwork Assignment Value

Surely the Covid-19 pandemic has taught educational institutions and students alike that online coursework is no longer unusual. Rezaeinia et al. (2022) note the "increasing mobility trends" (p. 1717), which extends to the workplace and today's need to think globally (Johnson et al., 2022). Gunning et al. (2020) include that even before the pandemic, the 2015 World Economic Forum (WEF) identified collaboration as an essential workplace skill.

Collaborative activities in the online classroom thus emulate real-world workplace activities, including problem-solving, critical thinking, inferring from experience, and the cultivation of interpersonal relationships (Cairns & Castelli, 2017). These activities encourage the development of time management skills and the understanding of how to professionally express opinions; the social interaction during these activities is also good for the learning community as a whole (Higley 2018).

Adam et al. (2021) add that group work is an opportunity for leadership – for the student to "take responsibility for their own learning, and thus become critical thinkers" (p. 174). Indeed, these assignments can improve self-esteem and boost creativity (Hogan & Young, 2021) as well as build trust and enhance relationships with coworkers ("Teamwork in the workplace," 2021). Schiffer (2017) points out leadership courses are offered to business students but the idea of leadership should be included in the training for any field, and both experience and practice in school are thus valuable. Partnered projects make use of emotional intelligence, striving for goals, understanding conflict management, and an appreciation for the contribution of others (Schiffer, 2017).

The National Survey of Student Engagement (NSSE) also endorses the use of cooperative work, and lists both "Transferable Skills" and "Career and Workforce Preparation" among its updated 2023 modules. Along with other questions, the Transferable Skills part of the survey will ask if students have:

c. Worked in a group with people who differed from you in terms of background, political orientation, points of view, etc.;
f. Discussed complex problems with others to develop a better solution.
("Development of Transferable Skills," 2023).

The Career and Workforce Preparation part of the NSSE survey asks the student about interactions with others, if they are taking advantage of field experience and internship opportunities, and if they are confident in networking with other professionals. It also seeks their confidence in workplace skills, such as if they are able to:

3.b. Demonstrate effective work habits (punctuality, working productively with others, time and workload management, etc.)
("Career and Workforce Preparation," 2023).

The importance of teamwork in the workplace is supported by Gallup's CliftonStrengths survey in several ways, including engagement and retention: they found absenteeism is reduced by 41% and turnover rates are 24% lower when employees better understand their strengths in a team environment ("How to Improve Teamwork," n.d.). It is not only the manager's role to encourage collaboration, but the executive's job, too ("How to Improve Teamwork," n.d.), which is akin to the instructor taking an active, supportive role with team assignments.

Student Resistance and Lack of Motivation

Davidson and Katopodis (2020) were concerned too much interdependence with other students during pandemic times might not have appeared to new online students as "fair." However, online work still needs to emulate workplace skills, and since Covid-19 first started to spread, more workplaces are relying on the internet and employees who work from home; gaining online teamwork skills is expected to remain important.

Before the pandemic, too, it was noted that 60% of online students were in the full-time workforce, 70% were female, about 1/3 were older than 40 years of age, and 37% were first-generation college students (Anderson et al., 2020). Considering the previous statement that online work is more prevalent now, these demographics may have changed, but it is clear per Grewal et al. (2022) the average online student is a working adult whose background may be different from peers. Due to work in addition to school (and potentially, family-related activities and needs), an online student's time for school may be somewhat limited. Team assignments may not be well received – at least, at first.

Students may initially lack motivation for team assignments due to previous experiences that were less than satisfactory. As Grewal et al. (2022) note, such experiences can create a negative feeling towards the course with the poorly-designed or poorly-executed team assignment, and if the course is part of a student's major, these experiences can impact how the student feels about the field overall.

Perhaps one of the most common complaints in teamwork is when one team member does not complete their part. Miles (2020), however, said studies show "cyber loafing" is not as prevalent when tasks are clearly assigned and the entire team has knowledge of what each individual is expected to complete.

Chang and Brickman (2018) note "students who scored highly on tests were more likely to recognize the benefits of group work … while lower-scoring students perceived group work as time-consuming 'busy work' with little cognitive benefit" (p. 1). This does not alter the need for team work, but may assist the instructor in understanding which students may need more incentive to do well in these situations.

Job (2020) explains that students need to encourage each other as well as acknowledge teammates' skill sets and desires to use their knowledge when assigning tasks. That being said, the lack of face-to-face interaction means online students may feel they do not know their cohorts well enough to intervene or to communicate among each other (or to the instructor) about perceived problems (Lieberman, 2018). Instructors and schools simply cannot rely on students to provide motivation for each other.

Curriculum Design Concerns

The burden, then, begins with curriculum design. Rasooli and Brookhart (2021) suggest to determine purpose first, and that the very design of the required tasks and how they are to be graded need to be vetted carefully. Assignment instructions and details need to align with learning outcomes, and provide resources in the online classroom when possible, to greatly assists with student team success (Nilson & Goodson, 2021). Gunning et al. (2022) note that students who "free-ride" by not participating fully in teamwork assignments would alter the viability of course outcomes.

When designing a team assignment, the course developer must always consider institutional curriculum guidelines and regulations. An appropriate percentage of the total course grade needs to be assigned; if the team assignment is worth too few points, some students may not participate fully, knowing it will not significantly hurt their grade. Likewise, too many points in relation to individual work may create undue anxiety. According to Hilliard et al. (2020), anxiety with graded team projects is common, with some students practicing avoidance rather than using productive coping strategies.

Instructions must be written with clarity and sufficient detail, and appropriate resources should be provided or suggested. Far too often, problems with any assignment occur due to confusion with instructions or lack of knowing where to begin. Barile (n.d.) suggests to be specific, provide examples, and guide students so they know how the requirements can be "chunked" into manageable pieces. This in turn can help to ensure work is divided equitably, which is another student concern.

Discussion

There is obviously great value in online school team assignments, with benefits in developing soft skills and providing worthwhile practice for the professional workplace. These projects can also build a camaraderie among students that logging into a Learning Management System to complete individual work cannot possibly replicate.

This is not to say problems do not exist. While it might be tempting, curriculum designers cannot simply take an individual assignment and tell a team to complete it together, as it would miss the opportunity and responsibility true teamwork can offer. Badly designed activities and poor management techniques can make such assignments painful and disheartening for both students and instructors. Student negativity, resistance, and fear of poor grades due to classmate failures can also raise anxiety, affect a classmate's performance, or even cause a student to stop participating in the class entirely.

It is clear developing team assignments for the online classroom is a complex process. To meet the objectives of teaching collaboration, appropriate communication, time and project management, and other skills that must be learned for the workplace, the curriculum must be carefully written, focused on goals, and then managed well, resulting in better student motivation, learning, and satisfaction. These facets are explored in depth below.

Results Part 1:
Curriculum Development Responsibilities

Determining Outcomes / Objectives

The modern university typically requires curriculum specialists to determine course outcomes (in some instances called objectives). As Indiana University states, outcomes need to be *measurable* and help the course developer as well as the student focus on specific learning goals ("Developing Learning Outcomes," n.d.).

Depending on institutional rules, outcomes may be written for specific activities rather than the course as a whole. For a team assignment, outcomes could address many facets; these can be topics related to the main purpose for the course plus practice and mastery of soft skills as mentioned above. Additionally, there could be outcomes designed to

introduce students to certain collaborative technologies. Drexel University offers that outcomes should cover not just what the student will *know* by the end of the activity or course, but what they are able to *do* ("Developing Course Level Objectives," n.d.).

Bloom's Taxonomy is quite often used to determine the level of competency desired in an outcome. The University of Utah encourages outcomes that fit towards learning at the top of the framework with analysis, evaluation, and creation ("Bloom's Taxonomy," n.d.), whereas other schools may prefer to work within all six levels. Vanderbilt University explains that the newest version of Bloom's not only has the six well-known levels, but also a taxonomy of knowledge: factual, conceptual, procedural, and metacognitive (Armstrong, 2010). Once clear, measurable goals are set for a team assignment and the wording of assignment-level outcomes meets institutional standards, development of the assignment can commence.

In the current Bloom's levels, the first two – Remembering and Understanding – may be too basic for team assignment value, especially once a student reaches the college junior level (Shabatura, 2022). Some examples of the other four levels as they might apply to this kind of task are in Table 1, presented here only as a start in understanding outcome development, the level of critical thinking and needed for various levels, and how this ideology may apply to student assignments. An online search for additional examples and lists of additional keywords may be useful.

Table 1
Application of Bloom's Taxonomy

Bloom's level	Select keywords	Sample outcomes for potential projects
3. Apply	Predict, solve, demonstrate, present, determine	• To present marketing information of a product via PowerPoint presentation • To determine homeless housing needs for a specific metropolitan area using available metrics
4. Analyze	Classify, categorize, criticize, illustrate, simplify	• To illustrate an improved network design using professional diagramming software • To categorize the dangers presented by various social media platforms
5. Evaluate	Defend, select, relate, compare and contrast, convince	• To compare and contrast pharmaceutical solutions for a specific medical issue • To defend the use of multifactor authentication for online purchasing systems
6. Create	Develop, modify, design, formulate, invent	• To design solutions for wind energy challenges involving wildlife • To develop a standard by which missing persons' information may be shared with the public

Keywords: (Shabatura, 2022)
Sample outcomes source: the author

Setting Up the Processes

As stated previously, team assignments could just be a final product that happens to be completed by a group instead of an individual. Such efforts, however, lose the opportunity for creative and more meaningful learning. A variety of team assignments over a student's time within a program would provide a better understanding of the diversity of activities which may be encountered in the workplace. Curriculum choices may depend significantly on the allotted time; some projects might be assigned to be completed within a week but others might be term-long commitments. Table 2 below provides some design options.

Table 2
A Variety of Assignment Types

Type	Description	Benefits and Drawbacks
True Team	Full collaboration, with shared leadership and responsibilities	Active, full participation provides a strong correlation to workplace teamwork responsibilities. Student schedules may make this difficult, as meetings are typically necessary; there may also be a team member who does not participate fully, thereby getting the entire project behind.
Separate but Equal	Participants independently complete parts of the whole	Once work is divided and a deadline established, each student can complete their portion when it works best for their personal schedule. There may be inconsistencies in quality of the project as a whole, however, and misunderstandings about which team member is responsible for each item may cause problems. This kind of structure is sometimes labelled "parallel play."
Assignment by Relay	Each student adds to the project in turn	This is similar to workplace activities needing cooperation from different departments or where individual expertise is incrementally added to a project. A relay assignment can also make use of participants' strongest skills. Problems obviously would occur if one part of the relay is not completed on time or did not follow instructions before handing the work to the next person or group.
Two-Person Swap	Each student begins a separate project and swaps with a teammate for completion	The parallel work can save time, as all participants are working at simultaneously, and then swap to complete further instructions. Where there are an uneven number of students, specific instructions for a team of three would need to be carefully expressed. If instructions include what to do if the teammate does not respond on time, this kind of project can be fail-safe for students who do the work, as there is far less reliance on the teammate's contributions.
Role Play	Participants take a specific role within a given scenario	Real-life scenarios such as taking courtroom roles or a student acting as the teacher can be unique experiences. A debate in which students must take the side with which they do not personally agree can also teach empathy and insight. The scenario needs adequate detail at the onset, and roles must be clearly defined.
Game Creation	Participants work together to create a game based on a given topic	This promotes many facets of goal-setting as well as creativity. Clear guidelines need to be given, such as whether or not the game is verbal, "on paper," or electronically delivered, plus content requirements, length or detail, and whatever other parameters are needed for grading.
Editing Task	Collectively, a team edits, reorganizes, and re-aligns an existing project to meet scenario goals	A project must already exist (as it might in the workplace) wherein changes and updates must be applied. This could include editing for language as well as augmenting for completeness. Team members would need to use critical thinking, thoroughly discuss, and agree as to what needs to be changed and why.
Collection Project	All team members contribute content to a central repository on a specified topic	The topic and specific parameters must be set right away, and a suitable repository designated, such as a wiki or Google Drive folder that can be shared with the class upon completion of the project. Parameters must be set for suitable sources for the

	information, and copyright rules reviewed to ensure anything posted online is done legitimately. This kind of project could create a source of information for future classes or be focused on workplace needs.

Source: the author

Final results of a project could take one of a wide variety of forms, such as academic papers, workplace reports, policy documents, brochures to "sell" ideas or items, newsletters for a specified audience, PowerPoint presentations with audio, or live presentations in Zoom or a similar online video platform. Additionally, the developer could consider:

- Game playing, rather than game creation (Spielhagen & Speranzo, 2020).
- Interview analysis, global issue investigations, bibliographically-based activities, and creative design or invention endeavors – which might include diagramming or coding (Seif, 2014).
- Development of a new (hypothetical) product which is then "pitched" to the class (Paech, 2022).
- Debates, conducting interviews, and creating video newscasts or news articles (Wong, n.d.).

Morgan and Stewart (2017) promote an iterative process when writing these assignments: Plan, Do, Check, Act, and then of course, this process repeats until the instructions are ready for publishing in the classroom. The amount of instructor involvement while students work on the project must also be considered (Morgan & Stewart, 2017).

Establishing Fair Grading Parameters

While a curriculum developer may be tempted to make team efforts ungraded for easier implementation, it is well known that ungraded activities are often ignored by students. Adam et al. (2021) indicate three levels of grading for team assignment: group, individual, and self.

- **Instructor evaluation:** A group grade might include an assessment of only the final product, checked against given instructions.
- **Peer evaluations:** Individual grades might include participation in team meetings, other communication, fulfilling the assigned role(s), and whether or not their portions of the project were completed in keeping with the team's agreed-upon timeline. In some schools, all team members evaluate each other and submit their evaluations confidentially so any issues encountered may be expressed to the instructor alone.
- **Self-evaluation:** This may be included in the same peer-evaluation document but could also ask the student to write about what they felt their own strengths and weaknesses were in regard to the project. (Adam et al., 2021)

Team projects may seem to reduce instructor grading time when classes are large, but of course the overall perception of fairness is of concern (Vander Schee & Birrittella, 2021). To ensure fairness, rubrics must be developed and shared well before the team work actually commences. Rubrics should include both quantitative (numeric) and qualitative (commentary) elements.

A team charter may be helpful in setting goals and participation parameters, although Johnson et al. (2022) note that such a "contract" may take up too much valuable time, and Morgan and Stewart (2017) claim a charter sets *minimal* expectations. Schiffer (2017) advocates use of self-assessment documentation at the beginning and at the end of the project. Hogan and Young (2021) suggest student journaling to document successes for post-project sharing with the instructor. Any of these documents could provide valuable details to include in peer review forms.

Importantly, peer evaluation must be done via set criteria (Vander Schee & Birrittella, 2021) as opposed to only narrative commentary. A rubric mitigates personality clashes, disagreements, and other social issues that may cloud judgement. The structure of a peer feedback document should also assist students in evaluating their own contributions, thereby understanding how their work fit into the activity as a whole (Vander Schee & Birrittella, 2021). Figure 1 shows an example of a peer review form.

My name: Alice Smith

Teammate	Role	Came to meetings	Met deadlines
Bob	Team leader	X	X
Alice	Meeting scribe	X	
Mallory	Collator of final project	X	X
Susan	Researcher		X
Fred	Researcher		

My assigned part: I wrote the content for part 1 of the assignment instructions.

Other comments: Bob tended to waste time in meetings with jokes and stories. Susan missed our meeting but let us know ahead of time she had a family emergency. Fred did not respond to email, the discussion board prompt, or group chat we set up, so Mallory had to complete his assigned sections. Mallory did a great job filling in.

Source: the author

Figure 1. Sample Peer Review Form

A form such as the one above is easy to complete and yet can facilitate fairness in grading. From this example, it is known that:

(1) Part 1 was completed by Alice; if there was any plagiarism in that section, it would be clear who committed it (see the plagiarism section below).
(2) The comment about Bob, if compounded by similar comments from other team members, might be worth an email reminder to him about professionalism and being mindful of teammates' time.
(3) Susan missed the team meeting but had an extenuating circumstance.
(4) If the other team members concur about Fred's lack of participation, it is clear he should not be earning points for the project.

If it is feared that some team members might not write additional comments, leading questions could be included in the form anticipating any major issues. Point values instead of Xs could be employed and averaged, as befitting whatever policies are endorsed by the institution.

While some may worry peer evaluations could result in misdirection due to team conflicts, Adam et al. (2021) indicate that when students know they will review each other, activities tend to be more harmonious. Miles (2020) claims that when students know they must identify their assigned part of the whole, there is less tendency to "loaf" (be idle). There may be some reluctance to evaluate each other honestly if teammates are already friends (Chang & Brickman, 2018), but the anonymity of the peer evaluation should lessen the possibility.

One numeric or letter grade for the project could be assigned to all participants, with penalties for not meeting team expectations (Gunning et al., 2022). Alternatively, some points could be included in the rubric itself for participation. Because each institution may have different rules, this would be a question for the curriculum team as to what is acceptable.

Dealing with Plagiarism

Academic misconduct can occur in any assignment, including teamwork. The University of Rochester provides guidance on their website: the recommendation is to specify in the course what collaborating activities are allowed and which are violations of policy by providing a "Guideline Statement" ("Group project guidelines," n.d.). While the suggested wording there indicates students can be responsible for the project as a whole, a well-written assignment does not need to make a student suffer academic consequences for the misdeeds of peers. This situation can be mitigated by requiring teams to report exactly how the work was divided, completed, and edited when they submit their peer reviews. Any improprieties can then be appropriately attributed to the person who committed them instead of placing responsibility on the students for plagiarism checking and reporting on their peers.

Results Part 2:
Instructor's Management Techniques

Team Development

The development of a strong team may well begin on the first day of class with personal introductions (Cairns & Castelli, 2017). Then, once individuals are assigned to cohorts, Ekblaw (2016) states teams must "understand the difference between cooperation and collaboration" (p. 122) and remember that they are accountable to the team as a whole.

Assigning teams involves quite a few considerations; instructors can make sure teams are balanced in terms of work ethic and skills, so it is recommended the instructor assign groups rather than allowing students to do so (Ekblaw, 2016). As online students may reside anywhere in the world, time zones and regional differences may also need to be considered. Some instructors will try to ensure gender diversity where possible. Lieberman (2018) mentions mixing age groups. Ekblaw (2016) even suggests a "pretest" to define skill sets at this juncture. These kinds of steps may or may not be worth the time depending on the scope of the project itself and set deadlines – and while teamwork theories tend to declare diversity within a team's skills are thus often discussed, Miles (2020) reported a 1998 study that determined "using a random team assignment method resulted in higher task performance and higher fairness perceptions than did an ability assignment method" (p. 845).

Team size, on the other hand, needs to be balanced for the kind of work that must be done. If teams are too small, each member has a larger share of the work. Teams which are too large may suffer from a member who thinks that disappearing from meetings and participation will not be noticed. That being said, Darban (2021) reports team size may or may not have an impact on assignment bias.

Assigning fun team names is helpful in promoting positivity (Nilson & Goodson, 2021). A few ideas are below; note location names would depend on where the students live, and color names are carefully chosen to avoid any connotation of race or color of the student population.

Table 3
Team Name Ideas

Superlatives	Location-Based	Color Teams	Strong Animals	Gemstones
Optimal Team	Southeast Team	Blue Team	Tiger Team	Diamond Group
Gold Standard Team	Great Lakes League	Green Team	Wolf Pack	Ruby League
Blue Ribbon Team	Florida Faction	Purple Team	Gazelle Group	Emerald Troop
Platinum Group	Colorado Crew	Turquoise Team	Eagle Team	Sapphire Team
Star Squad	Team Tokyo	Rose Team	Grizzly Group	Garnet Group
Matchless Team	London League	Silver Team	Fox Faction	Amethyst Alliance

Source: the author

Choosing Roles

Once team membership is set, there are further steps for the team to complete before truly getting the project work itself done. Choosing a team leader is typically the first matter to resolve; it could be shared leadership if the team is small, or one person chosen by the group. Allowing the team to make this determination rather than the instructor dictating it may lead to better motivation and learning (Darban, 2021).

Roles for every team member could be identified through the use of one of the methods listed below. These could even be considered in the formation of teams, although would require that the instructor have a strong understanding of each student's characteristics prior to team selection. The methods listed below are summarized; those interested in working with them may wish to visit the links provided in the reference section to learn details and use the method's formal naming monikers.

- **The Nine Belbin Team Roles**: Belbin states that each person on a team has strengths and weaknesses, and both enhance the team process.
    - Roles: Resource Locator, Teamworker, Co-ordinator, Plant (a creative solution developer), Monitor Evaluator, Specialist, Shaper (to keep the team on track), Implementer, and Completer Finisher ("The Nine Belbin Team Roles," n.d.).

- **Edward De Bono's Six Thinking Hats**: In this method, each person on the team takes on each role in turn for best discovery.
    - Roles: White – fact-finding, Yellow – optimism, Black – exploring problems, Red – intuition and likes/dislikes, Green – creative alternatives, and Blue – management of the team ("Six Thinking Hats," n.d.).

- **Margerison and McCann's Team Management Profiles**: There are eight main activities in this theory that work alongside task preferences to help identify suitable team roles.
    - Roles: Explorer Promoter, Assessor Developer, Thruster Organizer, Concluder Producer, Controller Inspector, Upholder Maintainer, Reporter Adviser, and Creator Innovator ("The Team Management Profile," n.d.).

Assessments to meet the complexities of these theories may be deemed too complex and/or too time-intensive depending on the course calendar, so a more task-based tactic can be taken in assigning or choosing roles. This simpler approach could identify Facilitator, Leader, Scribe, and Liaison (Ekblaw, 2016), Content Developer in specified areas, Collator, and so forth. The Illinois State Board of Education suggests a Time Keeper ("Collaborative Learning Guide," n.d.), the University of Waterloo includes a Devil's Advocate who "remains on guard against 'groupthink' scenarios" ("Group Roles," n.d.), and the University of Queensland promotes a Mediator to ensure conflicts are well managed ("Forming a Group," n.d.). The requirements of the project and its final desired result may help dictate a set of roles that best matches the needs.

Whatever roles can work best for the assigned tasks may be either suggested or required in the assignment instructions by the curse developer or by the instructor to help guide students in making appropriate divisions of the work.

Setting Milestones and Deadlines

Team meetings at the onset of a project are important in setting these roles and dividing work. The team must decide if synchronous or asynchronous meetings would be most effective for the particular group (Darban, 2021).

A team's first meeting should establish individual and group milestones and set deadlines. As with any project, it may be best to set a deadline a few days earlier than required by the instructor, which then allows for some extenuating circumstances. Project goals and ultimate completion are more readily understood and visualized if the team uses timeline programs such as shared calendars or specialized project management software ("Teamwork in the workplace," 2021). Again, a team charter that includes member skill sets, agreed-upon meeting times and deadlines, contact information, a plan for mitigating conflicts, and any other ground rules that promote a healthy and productive team environment can more solidly set expectations for all parties involved (Venable, 2020).

Selecting Communication and Collaboration Tools

Saghafian and O'Neill (2017) claim that online students have concerns with team communication, struggling with the connection to peers more than those who are in traditional face-to-face learning environments. Providing guidance or even dictating specific tools for both communication and collaboration may mitigate student fears and promote better participation.

Synchronous meetings can be held in a chat program such as Google Chat or a video meeting system such as Google Meet or Zoom, with the knowledge that time zone differences must be considered and clearly communicated. Real-time communication outside of regular meetings could be held through chat programs as well, so there is a means to ask and answer questions quickly among team members. Note that while some may want to use phone conferencing, there is no transcript for team members to review later or proof of decisions made, and recording phone conversations may have legal implications.

For asynchronous meetings, sources often suggest discussion boards as a communication venue; Higley (2018) claims "discussion activities move learners from learner to expert" (para. 13) and it encourages peer feedback. These can

usually be set up in the course's Learning Management System. Email may work well for some projects but large groups and long-term projects may find reply-alls to be bothersome. Outside of the classroom, applications such as Slack or Facebook groups could be used, but it must be noted that anything outside the Learning Management System and school-offered tools cannot be monitored by the instructor when issues arise.

Just as critical as communication tool choice is the location where teamwork is to be uploaded, edited, shared, and stored. Such tools can include Google Drive, Dropbox, Zoho Connect, OneDrive, iCloud, wikis, or other repositories set to private access, and special locations set up in the Learning Management System where possible. Word documents' track changes may be suggested (Chang & Brickman, 2018) as an excellent method of showing who has worked on the project, but the work still needs to be safely stored somewhere. Collaborative tools might be identified by the curriculum developer or this might be left to the team to decide.

Resolving Conflicts and Other Problems

Personality conflicts are inevitable. Ekblaw (2016) explains the root cause must first be identified before an agreement about a resolution can be made; a final step should include documenting the situation. Cyberbullying is possible, and students must remember that involving the instructor in conversations about misbehavior is important for resolution (Venable, 2020). Venable (2020) adds that when students stop participating in a project, reaching out to ask them why may reveal problems completely outside of the academic realm.

A procedure for reporting misbehavior would be prudent; this may simply be a comment box in the peer evaluation form or an invitation for all students to maintain communication with the instructor if problems surface. Rasooli and Brookhart (2021) mention some students' reluctance to "snitch;" however, an open environment and established procedure should encourage adult students to speak out with the best interest of the group as a whole in mind.

Even with careful planning, teams may become dysfunctional for any number of reasons and have difficulties moving forward. Chang and Brickman (2018) cite this as a source of frustration and may necessitate "a great deal of supervision" to work through the problems (p. 3).

Some issues will need to be mitigated on an individual basis instead. A student may officially drop or be added to the course after teams were assigned, and not all course sections will be able to be divided into equal-bodied teams. As with any course, the instructor may need to make adjustments in requirements to maintain equitable workloads for all students. Other issues may stem from cultural differences (Darban, 2021), not possessing requisite skills or knowledge (Ekblaw, 2016), or having personal difficulties external to school.

Conclusion

Online student team assignments can be truly useful learning activities. A well-planned project sparks problem-solving skills, creativity, and critical thinking, and it is conducive to building community despite distance. Therein lies the onus: careful curriculum design followed by appropriate instructor management are crucial to teamwork assignment success. This includes defining a project purpose tied to course outcomes, understanding the availability of appropriate tools, providing detailed and specific requirements, setting timing and other expectations, and developing a fair grading system. In addition, positivity, communication, and guidance from the instructor supports the online student in having an enjoyable and memorable team assignment experience.

Note: The author would like to acknowledge Eric Holmes of Purdue University Global, who co-presented on this topic on April 12 during the TCC 2022 Conference.

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