Virtual Online Teams: The Development of Cross-cutting Skills for Business Students

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Abstract: Extensive research of employers across sectors over the past decade indicates the importance of teamwork and other transversal skills such as communication, critical thinking, problem-solving, ethical reasoning, and the ability to work with diverse others. In spite of its value to employers, teamwork is decreasingly emphasized by schools of business in terms of the learning outcomes they measure for purposes of accreditation. This qualitative study explores the implementation of teamwork in an online business management course. It examines the student experience based on data derived from formative team reflections measuring team performance and effectiveness. The study sought to gain insights into the performance of virtual teams in a business education context and determine if and how the technology-mediated environment impacted effective teamwork as perceived by the students. Findings indicate that students primarily experienced issues characteristic of all developing teams rather than being specific to virtual teams and that they recognized the value of teamwork. Course design and content supported students in addressing issues. Further recommendations are provided for structuring effective teamwork in online courses.

1 INTRODUCTION

Over a decade of research has consistently identified the skills that employers seek in recent college graduates. These include written and oral communication, teamwork, ethical decision-making, critical thinking, and application of knowledge (Association of American Colleges & Universities [AAC&U], 2015; Hart Research Associates, 2015). In spite of this, recent college graduates fall short of expectations (Hart Research Associates, 2015). College graduates themselves, however, are confident in their mastery of these skills (Hart Research Associates, 2015).

Adding complexity to the development of cross-cutting skills are changes in higher education, specifically expanded access resulting in a more diverse student body, the need for lifelong learning, and for flexibility in scheduling and course delivery. Institutions are addressing this through online course delivery. In the United States, online enrolments have been increasing for the past 14 years with 30% of all university students enrolled in at least one online course (Seaman, Allen, & Seaman, 2018). In the UK, online learning comprised 8% of all higher education offerings in 2016-2017 with 83% of those enrolled being 25 years of age or older (Universities UK, 2018). Although the goal of distance learning is to increase access to knowledge (Kentnor, 2015), many online students are non-traditional (Radford, 2011; Wladis, Conway, & Hachey, 2015), have weak academic performance, are ethnic minorities, or are first-generation (Ashby, Sadera, & McNary 2011; Johnson & Palmer, 2015; Wladis et al., 2015).

Another issue facing higher education institutions is ensuring that learning outcomes, such as the development of cross-cutting skills along with mastery of disciplinary knowledge, can be effectively facilitated in an online learning environment. In spite of scepticism that learning outcomes in online courses are the equivalent of those in a traditional face-to-face setting (Allen & Seaman, 2015, 2016; Calderon & Jones, 2016), demand for online courses is high.

This study focused on the development of cross-cutting skills in an online business management course, specifically the development of teamwork skills. The goal of the study was to understand the experiences of students working in virtual teams by means of a formative team reflection in which teams examined their performance and set goals for improvement. It also sought to determine if the online...
environment and teamwork mediated by technology was a factor in team effectiveness.

2 LITERATURE REVIEW

Teamwork is a cross-cutting skill highly valued by employers in a variety of educational and professional contexts (CPA, 2012; Jackling & De Lange, 2009; Hart Research Associates, 2015; Kotey, 2007; Olson-Buchanan, Rechner, Sanchez, & Schmidtke 2007). However, research indicates a gap between employer demand for cross-cutting skills and the skills with which students graduate (Hart Research Associates, 2015; CPA, 2012; Crebert, Bates, Bell, Patrick, & Cragnolini, 2004; Evans, Nancarrow, Tapp, & Stone, 2002). In spite of this, the number of business schools assessing teamwork is decreasing. In 2007, for example, 42% of business schools measured it (Martell, 2007), but by 2010, this had declined to 26.5% (Kelley, Tong, & Choi, 2010), and by 2015, teamwork was no longer identified by business school deans as an outcome actively being assessed (Wheeling, Miller, & Slocombe, 2015).

Some may assume that requiring students to work in online teams could lead to frustration and poor performance. Indeed, virtual teams may have different challenges than face-to-face teams. These may include communication issues due to lack of facial clues or body language if communication occurs only through text (Saghafian & O’Neill, 2017); however, virtual communication tools allow face-to-face interaction and document sharing. Indeed, developing technological and virtual communication skills is increasingly relevant for today’s workplace.

In a comparison study, online MBA teams indicated focusing on the task at hand due to decreased informal chatting whereas face-to-face teams were focused on creating harmony (Saghafian & O’Neill, 2017). The online teams demonstrated effective leadership skills, task commitment, and the ability to distribute tasks equally and share ownership (Saghafian & O’Neill, 2017).

Course design features and pedagogical practices can enhance teamwork in online courses. These entail helping students understand the purpose for teamwork, identifying the value of resulting skills, considering size and diversity, explicitly teaching teamwork skills, using teambuilding activities, ensuring a reasonable workload, assigning roles, giving feedback, monitoring problems, and using peer evaluations (Hansen, 2006; Schultz, Wilson, & Hess, 2010; Pfaff & Huddleston, 2003).

Another effective practice in business and management education is peer and self-evaluations of teamwork. These help students reflect on their individual contributions as well as team processes, and counteract issues such as preferences for working alone, communication problems, conflict, social loafing; and variations in academic abilities, (Gueldenzoph & May, 2002; Mayo, Kakarika, Pastor, & Brutus, 2012; Loughry, Ohland, & Moore; 2001; Ohland, Loughry, Woehr, Bullard, Felder, Finelli, Layton, Pomeranz, & Schucker, 2012). For such evaluations to be effective, students may need training (Inderrieden, Allen, & Keaveny, 2004; Jassawalla, Sashittal, & Malshe, 2009; Walker, 2001)

Different approaches to team evaluation have been used such as allocating a certain number of points to be divided among team members (Erez. LePine, & Elms, 2002; Michelsen, Knight, & Fink, 2004), student-created criteria (Thomas, Martin, & Pleasants, 2011), and standardized rating systems such as the CATME (Loughry et al., 2007; Ohland et al., 2012).

Peer evaluation encourages individual accountability, particularly when included as part of the course grade (Fellenz, 2006; Fink, n. d.; Hansen, 2006; Schultz et al., 2010). Instructors can create a form that identifies the characteristics of effective teams and invite student input on the criteria. Possible items include being prepared for meetings, participating in discussions and decision-making, sharing the workload, helping teammates, and demonstrating flexibility (Fink, n. d.). Self and peer evaluations may also involve reflections or summative and formative evaluation forms (Fellenz, 2006). For peer evaluation to be effective, teams may need coaching to avoid the tendency to simply give everyone full points. Ways to avoid this include having a limited number of points to distribute among members and ensuring anonymity.

3 METHODS

This study involved 148 students enrolled in an introduction to organizational behaviour course required for students majoring in business. The course is offered online and entails several team assignments. These assignments require students to work in instructor-created teams of 5-6. The students apply concepts and theories by critically analysing real-life scenarios and making evidence-based recommendations to resolve issues. These might include motivation, leadership, personality, conflict,
job design, and so forth. The students collaborate to plan, draft, design, and polish an ePortfolio artifact outlining their approaches. They use video conferencing tools as well as various means of messaging to communicate, assign, and fulfill the responsibilities associated with the task.

To assist students with the required teamwork, they are provided with considerable structure in the course design.

1. Students review and discuss material related to the characteristics of effective teams and the stages of team formation.
2. They create a team charter outlining their vision and goals, communication methods, expectations, rules, and problem-solving approaches.
3. They are introduced to the ePortfolio platform and its features. Their first task is to create their team charters on the home page using available design tools.
4. At midterm, students reflect on their team performance by answering the following questions – what is working well, what needs to be improved, and how can you make these improvements?
5. Students are provided with reflection guidelines. These include a teamwork rubric with five categories: (1) contributing to team meetings, (2) facilitating the contributions of team members, (3) individual contributions outside of team meetings (4) fostering a constructive team climate, and (5) responding to conflict (Rhodes, 2009). Explanations of the categories and ranking descriptors, which are on a 1-4 scale, are in the rubric. Students are not required to submit their rankings but can use them to guide their discussion. They can evaluate each other, self-evaluate, or evaluate themselves as a team.
6. Students then create an artifact in their ePortfolios with their reflections. They also adjust their team charters to reflect any changes they need to make.

The team reflections were collected and analysed with the aim of understanding the experiences of students working in virtual teams in an online learning context. The data was coded to identify key ideas and create categories (Glesne, 1999; Lincoln & Guba, 1985; Tesch, 1990). Using the constant comparative method, recurring ideas and patterns that were representative across teams were identified as well as deviations from those patterns. This process led to the creation of themes and subthemes to inform the study question. The purpose of qualitative research is to explore rather than to test existing theory (Baker & Edwards, 2012); thus, although findings cannot be generalized, they provide insights that increase understanding of similar phenomena in other contexts (Trochim, 2006).

4 RESULTS

In this section, we present the themes identified in the analysis. These are organized by the key questions that students responded to - What is working well? What needs improvement? How can you make these improvements? The themes are illustrated with representative quotes.

4.1 Working Well

The teams agreed about the aspects of teamwork that were effective. These included completion of assigned tasks, on-time submissions, offers to help, good communication, taking initiative, trust, equal task distribution, support for each other’s ideas, and openness to suggestions. The following quotations illustrate:

Everyone always does their part and usually there is good communication if they are going to be late getting their part done. Different people have taken initiative at different times and everyone is supportive of team members’ suggestions. Even when I made a mistake the first time by not publishing the artifact before submitting it, the team trusted me to submit it again as if I had never make the mistake to begin with. Overall, I have really enjoyed this team.

We have been working great as a team so far. I think we are good at communicating throughout the week and dividing projects up. We have done a great job making sure the work gets done. We understand each other and want to help out when needed. I think we have really done a great job of doing assignments on time and turning in quality content. I have enjoyed working with this team.

For the most part, students’ comments focused on practicalities for getting the job done; in other words, planning and organizing as well as encouraging accountability and establishing performance standards. The comments also suggest that personal connections, support, and shared commitment resulted in enjoying the experience of working together.
4.2 Needs Improvement

Areas needing improvement were almost the opposite of those that were working well. These included communication problems, and specifically silence, particularly when deadlines were near. They were also characterized by lack of initiative or motivation and minimal effort. Procrastination was frequently mentioned – waiting until the last minute to complete work. The following comments illustrate:

I think the biggest thing for me was that we would usually wait until the day the assignment was due to get it done.

Getting the work done earlier. More people taking the initiative to get the assignment started and completed.

Related to this, others indicated the need to improve the quality of work by preparing an initial draft.

The only thing I think we really need to improve on is rough drafts. I’m at fault at this, too. Sometimes on assignments we don’t really take our time preparing for the final draft by creating a rough draft first.

Similarly, team members observed the need to organize themselves by dividing up tasks and assigning them earlier in the week.

I think we could do the assignments a bit earlier. I feel like a lot of the time we wait until the night before to split the assignment up. If we were able to divide the assignment up early in the week, we could get it done earlier and have more time to proofread and edit our posts.

Others experienced issues with some team members doing more than others.

Work needs to be even; some people end up doing more than others.

Related to improvements, students did have perceptions that working together without face-to-face interaction presented problems.

It’s hard to work on the same assignment when we don’t have regular face to face interaction but it’s a good skill to learn because in any environment where you work in a team, there will be conflicts with schedules and other obstacles that you have to communicate about and work out.

This is the first online class I have been in that has required teamwork. It has been an adjustment to figure out how things work and the best ways to do things. I have learned, though, that it is better to over communicate. That way it is very clear what you mean and gives everyone multiple changes to ask questions or provide input.

These comments illustrate that although students perceived challenges in virtual teamwork, they also recognized what they were learning and the skills they were gaining through the experience.

Teamwork is hard but necessary in the workplace. There are many factors involved in teamwork that need to be accomplished before the work can get done.

4.3 Bringing about Improvements

Suggestions for bringing about improvements were specifically related to the issues students identified. These focused on overcoming procrastination, generally by assigning tasks early in the week and setting deadlines. The following quote illustrates:

I think we could improve a lot by setting our own deadlines such as having everything finished the day before the deadline instead of the night of the due date. Another thing that would help is speaking up earlier in the week about how to divide the parts of the tasks. I know we are all really busy, and though we always submit on time, it’s hard to get it done with such late notice.

Along with these suggestions, student responses also reflected the application of course concepts such as communication, job attitudes, job design, personality differences, and the stages of group formation. Although these would not be applicable in all online learning situations, they demonstrate that students were applying course concepts to real life.

Additionally, students indicated making changes to their team charters to address issues. Many of these comments were related to team roles as well as clarity of expectations.

We could set clearer team roles for each person and expectations for each team member.
I think it would help if we would align our purpose with the expectations we set.

We haven’t reviewed team roles since we assigned them, so we need to speak with team members to see if they feel like any roles need to be changed.

Now that we know what we are all good at or like to do, I think it would be good to update our team roles.

Goal setting was another approach that students identified to address issues. Generally, these focused around “getting things done prior to the due date.”

5 DISCUSSION AND IMPLICATIONS

This purpose of this study was to examine the development of teamwork skills in an online business management course, and specifically, to understand students’ experiences working in virtual teams. It also focused on identifying any elements in the online environment or factors associated with technology that impacted team effectiveness.

Interestingly, the comments did not indicate problems unique to virtual teams even though students perceived that the lack of face-to-face contact was difficult. In each of the three categories, the issues were related to effective team characteristics generally regardless of the physical separation of the team members. In many work contexts, communication increasingly occurs through technology; this aspect of working virtually was not much different for an online team compared to teams who met in class but might still need to communicate outside of class through technology (email, texting, social media). Comments indicated that students recognized the value of teamwork and virtual communication. In no cases did technology come up as an issue.

The key issues identified in the findings could be addressed by helping students apply the POLC framework. POLC stands for planning, organizing, planning, and controlling. It describes what managers do. Students in this class are learning management skills through their teamwork; the structure provided by the POLC framework can guide them to greater effectiveness. For example, questions such as the following could be posed for students to consider.

Planning – How successful were you on previous tasks and related planning? What do you need to do differently based on the feedback you received on previous tasks? What goals do you want to set?

Organizing – What structure needs to be in place to be successful? By what day should team members have completed the readings? How will you share ideas about the content for the artifact? What are individual team members’ responsibilities? What are the due dates for each person’s contributions? Does each team member understand what to do and by when? Who will synthesize ideas, edit, and make sure the content is integrated?

Leading – How can you benefit from the different personalities represented on your team? Does anyone need to be motivated or encouraged? Do you all have the same vision of what to accomplish and why? Are there any conflicts that need to be discussed (rather than avoided)?

Controlling – How will the leader (or person designated) make sure everything is on track for a quality artifact that is submitted on time? How will you as a team, review individual and team performance? What corrective actions might be needed?

Although this framework is specific to management, it provides helpful guidelines for student teams in any disciplinary context. In particular, the functions represented in the four parts of the framework help students develop cross-cutting skills such as communication, problem-solving, and working with diverse others, which are valued by employers across work sectors.

Students may also benefit from practical tips and reminders about the reasons for teamwork and how this is preparing them for the world of work. Accompanying this rationale might be tips for effective teamwork. The following type of information could be communicated to through an announcement in the learning management system, a video posted in a discussion board, or in a weekly overview part way through the course.

The point of teamwork in this class is to give you experience applying the principles and theories you are learning. In nearly every type of job, you will need to know how to work with people effectively. Teamwork can help you better understand people, how they think and behave and why, and develop skills to be good managers. Being a manager or leader is about working effectively with others. Here are a few ideas:

1. Review the characteristics of effective teams (e.g., having a common purpose, common performance goals, a common working
approach, mutual accountability, complementary skills, time management, problem-solving ability, clear roles, open communication, connections with each other. Discuss these with your teammates. You might have different perspectives now than you did at the beginning of the course. Evaluate yourselves to determine the extent to which your team exhibits these characteristics.

2. Think about how to dialogue with each other in order to reach a shared understanding. Practice communication techniques such as the STATE method identified in Crucial Conversations (Patterson, Grenny, McMillan, & Switzler, 2012).

3. Think about some of the key principles or concepts you have been studying in the course. How can you apply them to your teams?

4. Review your team charters - are they working, do you need to change anything, do they need to be more specific, what is working and what isn’t?

You may be doing this virtually, but that is not unrealistic. Many companies use virtual teams. It might be helpful to have a video conference in addition to communicating through e-mail, texts, or shared document platforms. Tools for this are provided in the course. I personally like to use [name of a video conferencing platform] and use it regularly.

Please consider this information. It's my goal to help you not only be successful in this class but develop skills that will truly be valuable to you in the future.

Through this type of facilitation, online instructors can help students understand the rationale for virtual team requirements, see the bigger picture in terms of course goals to prepare them with needed skills for their future professions, have practical strategies for addressing issues or problems, and proactively avoiding problems by establishing clear team structures and processes. The example provided also shares with students the instructor’s own engagement with virtual teams and technology.

The findings of this study indicate that students recognize issues that detract from effective teamwork. Providing them with evidence-based principles and strategies to manage these, even in a technologically-mediated learning context, will not only support success in the course but also future success in their work environments.

In addition to the value of cross-cutting skills for future employment that can be developed through virtual teamwork in online courses, teams are also a way to help students make connections and create communities of learning. These practices can impact course retention and success, often identified as a problem in distance learning (Allen & Seaman, 2015).

6 CONCLUSIONS

Higher education can be considered a “partnership between [the provider] and students with the goal of providing accessible yet manageable learning opportunities for a wide range of people” (Higher Education Academy, 2015, p. 4). Online learning extends the opportunity for learning and credentialing to greater numbers of individuals, and when characterized by responsive course design, structure, guidance, and facilitation, can help students graduate with the professional, cross-cutting skills needed by employers.

This study provides actionable findings to assist those designing and teaching online courses. It suggests ways to focus on the development of cross-cutting skills, and specifically, teamwork skills, and shows that virtual teams can be successful. It demonstrates how the learning of cross-cutting skills can be facilitated by technology in an online teaching and learning environment. These practices are effective in business courses as well as applicable to other contexts.

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