



CHAPTER 18

DEVELOPING TEAM SKILLS AND ACCOMPLISHING TEAM PROJECTS ONLINE

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INTRODUCTION

Virtual teaming with members dispersed over geography, time zone, and functional roles has become commonplace as result of proliferating communication technologies (Tran & Latapie, 2007; Hawkrigg, 2007). Communication technologies in synchronous and asynchronous form are not only used within business teams but also increasingly to facilitate online learning in management education (Lee, Bonk, Magjuka, Su, & Liu, 2006; Kalliath & Laiken, 2006; Brewer & Klein, 2006; Clark & Gibb, 2006; Williams & Duray, 2006). Though many discuss virtual teaming, there does not appear to be a lot of empirical evidence discussing the effectiveness of this type of team or the processes used (Mihhailova, 2007).

Early critiques of online and distance learning at the MBA or professional education level suggest weakness in the teaching of team and other soft-skill and process areas of the curriculum. Some academics

question the suitability of topics such as team dynamics, communications, or leadership as candidates for online learning, believing that such “soft” aspects of the curriculum cannot be adequately taught through distance means. Challenges associated with leadership of teams, recognizing member talent, creating and transferring knowledge, building and promoting trust, engaging members, and dealing with isolation all contribute to ongoing scepticism (Hawkrigg, 2007; Lawley, 2006; Brewer & Klein, 2006; Tran & Latapie, 2007). The argument behind such scepticism is that what occurs in typical team training programs often involves experiential forms of human interaction and skill building for conflict resolution, goal setting, trust building, and collaborating – all difficult to imagine happening without face-to-face interaction. While questions remain surrounding the ability to develop such soft skills online, and whether online methods allow for sufficient social interactive experience among learners, some evidence suggests that computer-mediated teaming interaction may in fact be deeper, long-term, and thus exceed those in face-to-face environments (Brewer & Klein, 2006; Kalliath & Laiken, 2006).

In this chapter, we present our experience with teaching about and developing soft team skills by exercising teaming skills within an online environment. Three examples illustrate online team training and building/practicing skills in action. These cases exemplify what is possible with respect to developing knowledge of team dynamics and communications, and accomplishing team project work. The chapter begins by describing the first case, a professional designation learning program known as the professional logistician (P. Log), delivered by the Canadian Professional Logistics Institute (CPLI), where team concepts and practice are delivered online and at a distance with mid-career professionals. In describing aspects of one of the courses within this program, the team dynamics and communication module (TDC), we highlight the unique value and capability of an online learning environment.

The second part of the paper elaborates further on ideas about online learning and working, through two more case studies. Case 2 examines the operation and characteristics of a highly successful online project team. Case 3 presents some collected experiences of MBA-level online learning teams. This section synthesizes lessons learned from all three cases. We highlight key benefits gained through structured interaction which incorporates solid project management and team development practices, specifically gaining agreement on how members will work together, assign accountability, manage flexibility, monitor progress, and incorporate social interaction. These areas, we believe, are the key

ingredients for the successful use of online teaming in learning – or any other – environments. Two key topics arise from our experiences with developing and working with online teams, and are emphasized in a discussion of technology and trust. We make some summary comments on the impact and role of these two concepts as cross-cutting themes, and conclude with some practical recommendations about managing online learning teams.

Ultimately, we are interested in challenging the perceived barriers surrounding the ability of online learning to contribute to soft-skill and competency development. It is our view that this method of team development learning is not only effective in the development of soft skills and social interaction competency, but that online learning may in fact be the superior method. We hope that our experiences of what is possible in online learning environments provide some specific and practical guidance on what it takes to accomplish team development and training online.

DEVELOPING TEAM SKILLS ONLINE

In this section of the chapter, we discuss the online team dynamics and communication (TDC) module, part of the Canadian Professional Logistics Institute's (LI) professional logistician (P. Log) designation program. Our purpose in emphasizing this module is to provide concrete evidence of how one institution is providing effective soft-skill training online, through the creative use of technology and other distance tools.

The module described herein is part of an overall package that the LI created in response to the increasing development needs of emerging professionals within the logistics field.¹ In their early version of this program, the LI combined face-to-face with online learning methods within their program. Modules delivered online included team dynamics, integrated logistics networks, and logistics process diagnosis. Modules delivered in a face-to-face format included those on leading and managing change, supply-chain strategies, ethics, and leadership. In this hybrid-learning program, methods have blended in a unique way to develop “soft” and “hard” practical skills, and understanding with a heavier emphasis on soft skills than is typically provided in this field. Courses also seek to develop tacit understanding, insight, trust, and confidence in an online collaborative process for learning and working. Given the success of the hybrid-learning program, and building interest

in moving to a global program and providing additional flexibility for learners, the LI took a further step. In 2006, in collaboration with Athabasca University's Centre for Innovative Management (AU-CIM), the LI developed a fully online pathway in their program for earning the P. Log. New online courses include ethics and decision making, strategic supply-chain management, and leading through change, running parallel with face-to-face courses of similar content. As a result of adding the fully online pathway, students have increased access to courses regardless of their global location, greatly increasing the diversity of the student body and of learner flexibility.

We focus on the TDC module delivered as part of this program online. The module content is similar to that delivered in face-to-face team-learning sessions, drawing in part on ideas from practitioner approaches to teaming such as Aranda et al. (1990). Learners are asked to build on insights and ideas taken from Katzenbach and Smith (1999), among others, to develop key success indicators of teams. The online delivery method is different, however, in that people connect only through collaborative technologies and do not meet face-to-face during the module. In the hybrid program, learners meet face-to-face in other modules, usually after they have completed the team dynamics module. With the introduction of the fully online pathway, however, learners typically only meet virtually. The online learning environment allows students and their employers to access courses and get beyond the significant challenges of cost, time, place, and risk imposed by more traditional forms of corporate training and university teaching. Using communication technologies to provide team training mirrors work completed in organizations, by developing the communication, coaching, teaming, and collaborative skills needed in highly complex and distributed corporate work environments (Clark & Gibb, 2006). Students develop soft skills online, such as the process skills highlighted, and gain grounded experiential learning that contributes to developing managerial-process-skill competence. The LI online program values and supports adult learners by providing them with a program that aligns with their daily business realities (Waight & Stewart, 2005).

The TDC module uses technology to support learning in two ways. The module is four weeks in duration and encompasses two phases: a stand-alone CD-based computer simulation that each student interacts with and completes independently, and student interaction with fellow learners that is facilitated pedagogically by an engaged and available

academic facilitator, and the use of an asynchronous message board and synchronous chat tools. We describe both phases of the module in some detail, and explore the value of both the simulation and facilitated team work in providing important teachable moments from which both tacit and explicit learning derives.

THE TEAM DYNAMICS AND COMMUNICATIONS (TDC) MODULE – PHASE 1

The first part of the TDC module has learners engage in experiential individual learning through a simulation containing scenarios of typical team challenges. Research has shown that simulations and web-based games used in conveying specific aspects of course material can be a highly effective way to learn by doing (Chipman, 2007). In the TDC course, the learner is expected to interact with simulated team members (filmed scenarios and pre-recorded graphics) on a time-sensitive, critical mission, gathering information, and experiencing team and team-relevant issues as they progress through the various scenarios. Overall, the TDC simulation focuses on process skills needed for effective team dynamics and *online teaming*: team process discussions, role assignments, leadership, conflict resolution, decision making, and planning for goal success. Many of the scenarios crafted were taken from real experiences that highlighted the most salient issues of team development. Information on how different people store information and label organizational stories was used to construct the decision paths in each scene of the scenario. Cultural ideas around probable failures and interpretations of these failures were used to inform the scripting. The resulting scenarios were dramatic and interesting, and encouraged participation.

The setting for the simulation is a remote area where lightning has started a forest fire and damaged a telecommunications tower. The learner enters the online space and becomes part of an emergency response team that has been given the responsibility of repairing the tower. To ensure some team struggle at this stage of learning, participants are required to deal (online) with the challenges of travel by canoe, and must arrive within a set period of time. If the team functions poorly on the tasks and arrives late, the consequence presented is that telecommunications in the area will go down, and firefighters will not be able to prevent the forest fire from approaching a small nearby town. Every decision that learners make

has been designed to have immediate consequences in the simulated world. The result is that the risk of failure is clearly conveyed.

Teachable Moments

Although an individual learner's poor decision or mistake may cause the team to lose valuable time on the "trip," mistakes create important *teachable moments*.² Failure on any task is considered to be a learning opportunity, by determining what went wrong. To facilitate learning at these moments, an online coach pops up within the simulated environment to provide just-in-time positive and negative feedback, depending on the learner's decisions. Learners therefore immediately face their mistakes, and are able to learn from them in a private and safe environment.

It is Schank's (1997) view that real learning occurs only when people are thrown into scenarios in this manner. Participants make decisions, solve problems, make mistakes, and have access to an expert as required, to answer questions and to give them advice. Because simulations are private, Schank believes that learners may be more willing to risk failure and use that experience for learning. By contrast, failure in organizations is more often negatively perceived, a fact that stifles creativity. In a simulation, people can fail privately with dignity rather than feel humiliated when failure occurs in a public way. Failure, like having fun and telling stories, is a powerful way to induce emotion and a powerful learning tool.

Emotions coupled with technology can produce a further positive situation. Computers store the learning that has occurred, and can retrieve it if similar patterns are observed later on, thus making learning more specific to individual needs. It is our view that learning facilitated by emotional drive and technological tools is very powerful. Underlying this statement is a key assumption that through this unique approach, individuals are provided with an opportunity to learn to *do* something extremely relevant to them (rather than simply learning *about* something), making the knowledge gained through experience both explicit and tacit (Schank, 1997; Stewart, 2001).

Scenarios come to life and require that learners interact with conceptual information built into the scenarios. Different conceptual aspects of team structure, culture, accountability, and politics are woven into the module design. Information is presented sequentially. Scripts were built in a way similar to a child's multiple-path story; the development of the story depends on the choices made. Learning becomes

customized, allowing participants to spend greater amounts of time dealing with concepts and skills that are more unfamiliar or challenging. Storytelling is incorporated into the simulated environment as a means of relating content and experiences back to the workplace.

Getting beyond Technological Apprehension

In an earlier evaluation of this product, Hurst and Follows (2003) state that as participants entered the module for the first time, some learners experienced technical challenges and apprehension regarding the use of technology. The challenges were not only related to computer incompatibility, but also the degree to which participants were ready to engage in online learning environments. For many, there appeared to be an initial hesitancy and fear associated with learning in a technologically mediated environment. In the evaluation phase, many related their early experiences with the technology to their later impressions of the module. They found the module to be “fun, challenging...an overall good learning experience,” but noted that it had been “quite different and a little scary in the beginning.” For some, technical problems persisted.

It was interesting that, when probed, individuals remained worried that they would fail in a public way and as a result become embarrassed, because of their unfamiliarity with learning online. This finding highlights the need to do further work in making participants feel comfortable with, and trusting of, the online environment early in the process. Lawley (2006) describes trust and member-comfort level as foundational ingredients for effective teamwork and collaboration, regardless of how or where the team interactions take place. The strength of the apprehension surrounding the idea of failure prior to entry into the simulation and online discussion was very apparent, and provides clear evidence that Schank’s (1997) claim about a learner’s willingness to take risks and fail privately is of critical importance.

To deal with this learning barrier, further facilitation was introduced before learners used the simulation tool; the intent was to encourage a greater level of comfort and to minimize any emergent stress. Once the apprehension surrounding technical difficulties was dealt with in this manner, learners’ evaluations of their online learning experience became much more positive. One participant noted that, “I thought that the interactive CD [simulation tool] was very well put together and a neat way to learn. I know I now have a better understanding of team building, conflict resolution, and the importance of communication.”

Capturing and Building on the Learning

Learners are asked from time to time to make notes of what they are thinking and feeling about their experiences, so that they can use their insights later in online discussions. Self-evaluation tools concerned with communication preferences, leadership style, and conflict handling are built into the module to give learners an opportunity to focus on specific issues, and to develop and reflect on new skills and competencies. Self-reflective tools are intended to supplement the experience of the simulation through private assessment of personalized feedback. The feedback and record keeping both provide learners with input prior to entering the second portion of the module, where they engage in a more traditional teamwork situation with live team members, albeit facilitated online and at a distance.

TDC MODULE – PHASE 2

In the second phase of the TDC module, learners engage with a synchronous chat environment to attend weekly team meetings. They are assigned tasks during each meeting and expected to figure out how to work together over the course. Students use various technical tools such as chat, email, voice over Internet protocol (VoIP), and message boards to divide tasks, discuss ideas, and prepare summary documents. Participants are provided with an asynchronous message board for posting their documents and questions for review. During the initial chat meeting, teams are formed, and members are encouraged to introduce themselves to one another, discuss their impressions of the simulation experience, and practice brainstorming and consensus decision-making processes, by beginning with a minor task to come up with a team name. The new team is then asked to review their experiences of the first phase of the module, and state which aspects they find to be most important to their learning, and most helpful in early stages with forming the new team. Members are encouraged to discuss aspects of team structure, roles, processes, measures of success, accountability, and so forth. The new team is also asked to review a chat protocol, provided below, encouraging them to discuss conduct expectations and to provide additional information, based on their perception of the new team's needs.

Chat Protocol

- Allow each learner to complete his/her thought before responding – this means do not interrupt or intrude with your thought while another is speaking.
- Be patient – not everyone has advanced keyboard skills.
- Avoid having side conversations; it's rude not to pay attention.
- Signal when you've finished a statement [some use a happy face to signal they have completed their input J].
- Signal when you don't understand something; use a question mark to get the facilitator's attention.
- Signal your "reactions" by using an exclamation mark (!) for surprise, a sad face for disagreement L, or some combination of symbols.
- Do not shout [CAPITALS MEAN THAT YOU ARE SHOUTING].
- Do not leave your computer during a scheduled session; it is impossible to get your attention if you leave the room.
- Officially sign on and off so that everyone knows when you are present.
- Keep statements brief and to the point; the chat box has a limit of 256 characters per statement; you can keep talking, but in spurts.
- Prepare notes and key ideas ahead of time so that you can engage in the discussion without trying to figure out how to word your statements. (CPLI, 2000, p. 45)

Once the new virtual team establishes ground rules, it is assigned the task of creating a reverse logistics plan as a follow-up to their personal work with the simulation in Phase 1. This task provides continuity as well as additional time for social interaction, allowing participants to get to know one another and become comfortable with the facilitated online chat environment. During this initial stage, it is important for participants to establish and re-establish how their conversations will take place, who will speak, and in what order, to ensure full participation in the experience.

To launch the team task, members are presented with a scenario update, and advised that the fire is almost under control, and that the crew will be finished repairing the tower in approximately six hours. The team task is to work together to create a plan to get team members and the used and remaindered supplies back to the point of origin. They are given three possible options to discuss, as well as many contingencies

to consider while coming up with a detailed reverse logistics plan. The facilitator emphasizes the importance of consensus decision making for the task, and reminds team members of lessons learned during the first part of the module.

The facilitator also works to introduce new constraints in an effort to surprise the team, and as a way of introducing potentially conflicting ideas, to get the team working through the developmental phases experientially as well as intellectually. Additional constraints imposed include transport route changes, modes of transportation, environmental conditions, presence of wildlife, handling and disposing of hazardous goods, and other options to challenge the team and to bring out different and creative points of view. The goal in this part of the module is to force differences among team members to the surface, with the hope of inciting conflict, so that participants have the opportunity to experience and work through new ideas, skills, and competencies in working with others in teams.

The second task assigned to the online team is the creation of a team-charter template, a tool for governing the team's work and social interaction. This is the core activity for the module. The completed team-charter template resembles a checklist, and represents the collective wisdom of what the team members believe to be the important issues to be addressed in creating and deploying an effective team as quickly as possible. The document contains ideas on how teams should be formed and structured; how their purpose should be defined; how team culture should be developed, and how the team should collaborate, ensure accountability, measure success, and achieve high performance. Learners are instructed first to respond individually to the questions posed, and then to work in their teams to synthesize the information and create one common document. Individuals attend weekly meetings in the chat room to discuss the work that is needed over the course of the week, as well as what should and should not be included in the document. Members volunteer for the roles of leader, scribe, and timekeeper – roles that are rotated among participants, to allow for skill development. By the time learners are given this assignment, they are typically comfortable with the online environment and appear to forget the lack of face-to face cues. The module steps are similar to the principles outlined by Clark and Gibb (2006) regarding the design of grounded experiential learning for virtual teams. The LI module provides for individuals to

- meet electronically and build rapport through exchange of personal information

- establish team name/identify
- set out rules for engagement, plan for work
- develop communication planning and coordination processes.

ENCOURAGING EXPLICIT AND TACIT LEARNING

In each offering of the module thus far, learners completing the task have spent most of their time discussing team structure and process issues. Interestingly, a parallel of explicit and tacit learning occurs; that is, as team members discuss pertinent team-development issues, participants also appear to experience the same issues. During a more recent offering of the module, a discussion took place around conflict resolution. There was mild disagreement among team members over how conflicts at an impasse should be resolved. While some argued that “troublemakers had the option to leave the team,” others stressed that this was not an appropriate option. Their view was that “consensus must occur.”

The discussion heated and circled for some time, until the similarities between the topic under discussion and the discussion itself were pointed out. This created a powerful learning moment, combining intellectual and experiential elements. Since participants had already discussed effective listening at length, they were able to recognize the value of the discussion, and moved forward with developing a process they could all live with. The learning opportunity or teachable moment was noted as one in which concepts were both discussed and experienced. The template task provided the opportunity for learners to crystallize their learning in the creation of the document itself, to take stock of what they had learned individually and collectively, and to consider where such learning could be recreated in future teams beyond the module.

Increasing Trust in Technology, the Process and Each Other

At the end of the module, participants seemed quite comfortable with the technologically mediated environment, with one another, and with the facilitator. The participant comfort level increased after the first chat meeting experience. One learner noted that, “I initially found it difficult to converse electronically with ten other people, although I see my children doing it all the time. Once I got the hang of it, it became enjoyable.” People commented increasingly on the content of the module as they became more comfortable with the technology, and the use of it became

tacit during Phase 2. Team members took control of the work, held additional meetings, assigned tasks to sub-group members, posted longer documents, and so on. They often used email and the message board for in-depth communications, and the chat tool for work planning or coming to final decisions. This type of technology use is consistent with other findings (Gareis, 2006). Phase 2 activities grounded the learner's new skills and knowledge in additional collaborative experiences. Individuals also had an opportunity to discuss their ideas with others in a facilitated environment.

Participants also suggested improvements; for example, they thought that the short introductions at the beginning of Phase 2 to break the ice should be extended, and should perhaps include personal autobiographies, to allow for further confidence building, and comfort with the communications medium and with each other in social interaction. However, while many learners thought that the initial introductions were too brief and should be extended, it is interesting to note that when asked to provide those same introductions at the beginning of each module, they seemed guarded and reluctant to share personal information. It was only as team members became comfortable with one another, trusting other team members and the overall process, that sharing of personal information and humour surfaced.

Learners also provided feedback for how to improve team communications during each session. One idea was to develop a speaker's order, so that all would have a chance to contribute fully to the conversation. When used, this approach appeared to generally improve the team's performance and interactions during the discussions, decision making, and collaborating in subsequent tasks.

Team adjournment activities asked learners to comment on what they found to be the most positive characteristics of the team experience of each team member. Interestingly, during the first pilot offering of the module, team members decided that they did not want to comment on each individual in the way requested, because they did not want to single out individuals – they were a team. They met offline to discuss this issue, and the team as a unit presented their revised version of the exercise to the facilitator, clearly demonstrating their commitment to the team and their internalization of the learning.

We can now take lessons from the online development module and apply them more broadly to further online teaming experiences. Important aspects of team development experience highlighted include an emphasis on member roles and competencies, such as autonomy,

coordination, and collaboration. Here we must note, in particular, organizational factors, the use of technology, personal management, and interpersonal skills. Organizational factors include networking, knowing the organizational landscape, and maintaining guidelines. The use of technology in online teaming requires knowledge of when to communicate, coordinate, and collaborate, as well as how to communicate effectively and conform to expected communication etiquette. The personal management category includes the ability to prioritize work, set limits, create opportunities for learning and growth, collect and provide feedback, discuss strengths and weaknesses, manage boundaries, and understand cultural perspectives and how these differences can affect perception.

ACCOMPLISHING TEAM PROJECTS ONLINE: TWO FURTHER CASES

Building from our previous discussion of online team development, we use this section of the chapter to explore and compare the operation of a highly successful online project team and the operation of online learning teams used in an MBA program. In the MBA program, online teams are groups of task-driven individuals who behave as a temporary team, but who may be separated by geographic or temporal space, and who use network-based communication tools to bridge these spaces. By reviewing the experience of these teams, we hope to provide insights into the practices that facilitate collaboration and learning in an online world. Recommendations from these experiences may help others working in the online world or endeavouring to use online learning teams, and so may further develop online team learning programs in a distance education environment.

We explore experience with two different types of online teams: the first is an online research team that conducted a major, practitioner-sponsored research study in three phases over a three year term; the other is one of the online learning teams used in Athabasca University's (AU) MBA program.

Online Research Team – Case 1

The first case study of a real-life online project team provides a way to explore common assumptions and theories. The online team in question

participated in a meaningful project under serious resource constraints and within a tight schedule. The project was completed slightly behind schedule and over budget, but to great critical acclaim.

At any one time, the project team was composed of between four to eight members. The core team was made up of four members over the course of the first phase. During the second and third phases, only three members participated throughout. All of the core team members were academics and researchers (students). Each team member took the lead on different project tasks; however, one member acted as the formal team lead on contract documents and in the majority of correspondence. The fourth core team member, who joined the team after the project had been initiated and only worked on the first phase of the project, tended to play a lesser role overall. While three of the four core team members actually lived in the same city, the team rarely met in person because of travel and work schedules.

At the end of Phase 1 of the project, the four core team members participated in a series of Jungian-based personality and team assessments. The tests were chosen for their simplicity, availability, and potential to provide interesting insights into the operation of the team; however, they are not represented as the best or most suitable tests. An earlier paper (Delisle, Thomas, Jugdev, & Buckle, 2001) presents the results of the State (behavioural – trust orientation, and team process) and Trait (personality) assessments, highlighting the traits and behaviours that contributed to the operation of this creative and successful online project team. Insights gained as a result of several assessments showed that the team as a whole was relatively balanced, with a slight proclivity towards introverted, sensing, thinking, and judging approaches to the world. All of the members tended to take a thinking stance, leading to a potential weakness on the feeling factors. In addition, all four team members had a relatively trusting orientation in general. Finally, team process assessments provided evidence of a highly effective team, approaching synergistic operation. Further discussion of the impacts of these differences and the usefulness of these tools can be found in Delisle et al (2001).

The team explicitly recognized its activities as a project and engaged in good project management practices. The team did not purposely set out to ‘build an effective team’ or pay attention to what the teaming literature would suggest to build effective teams.

MBA Online Learning Teams – Case 2

The MBA learning teams were made up from a student population with an average age of 40 years, and who typically worked full-time in middle management roles in a variety of industries and organizations of many different sizes. The students were randomly placed in learning teams at the beginning of each course. Most courses required that the team complete two or three major assignments (usually based on a Harvard-Business-School-type case assessment) over the eight-week-long semester. These cases were done in three stages. Two weeks were spent on preparing and analysing the case situation and providing recommendations in a report format. One week was devoted to critiquing another group's case report, and then responding to the critique of one's own case report. In addition, the students engaged in asynchronous text-based discussion of course materials.

In the first class of the MBA program, students were given an orientation to the online technology and appropriate ways of working in the online environment, along with a quick introduction to best practices in team development. Typically, they were assigned to learning groups with others they had never met before. As the program progressed, there were increasing chances that the teams could include a few members who had worked together before. This situation was a relatively accurate simulation of the work environment that individuals face in modern organizations. More often than not, a team must rapidly come together with individuals who may or may not know one another, and must quickly begin to perform assigned tasks.

Unlike the research project team, students in learning teams were encouraged to review and adopt good teaming practices early in each and every course. As in the TDC module discussed earlier, online learning groups were assigned at the outset, and given the task of developing of an operating team charter, intended to shape the way they would work together. This activity, however, was not graded, and was done with varying degrees of competence and intensity by each learning team.

Another key difference that the MBA learning team had from the research project team was the formal application of project management practices to the operations of each learning team. The research team consistently viewed their work as *project work*, and although the duration of various memberships within the actual team varied, all worked toward a common completion goal. On the other hand, the MBA teams tended to view their work as *process work*, toward an individual

end result in a course or MBA program, rather than work on a specific project – an attitude that might have been due to lack of exposure to project management principles, and/or to the nature of the learning environment itself.

The contexts experienced by a team working on an assigned project for the sake of the project and a team of students working on a project for grades are quite different. In each case, however, we noticed important knowledge being transferred through explicit and tacit learning while the team members worked towards their goals. Several practices seemed to facilitate these learning processes. We turn now to a discussion of the practices that we believe support both learning and teaming in an online environment.

KEY PRACTICES IN SUCCESSFUL ONLINE TEAMING

Looking across the research project and MBA learning team experiences and drawing from our earlier discussion on teachable moments and tacit and explicit learning from the TDC module, we see a number of key attributes associated with the successful use of online teams emerging. It is our view that these key practices include agreement on how teams will work together, how accountability is assigned, how progress is monitored, and how social interaction is incorporated. We discuss each of these practices with examples from the three cases.

Agreement on How Teams Will Work Together

In the case of the highly successful online research project team, there was very little initial discussion of how the team would work together. The three initiating team members were driven over-achievers who were highly motivated by the task. All were known to each other. Two had worked on a small project together earlier, and so had already established a certain amount of trust and goodwill. This relationship and common understanding of the importance of meeting goals played a significant part in helping them to form and start working quickly. These team members understood the need to define deadlines and complete deliverables on time. The common focus on agreed-upon goals and timelines enabled team members to monitor their own personal goals to ensure alignment with the overall project goals.

The project began with almost impossible deadlines from the beginning. Whereas this reality could be a recipe for failure on any team,

in this case, the common threat allowed the team to coalesce quickly and was the catalyst for many spin-off projects. As the project careened towards its first “drop-dead deadline” about two weeks after the project started, tempers were frayed and workloads heavy. Once the first deadline was met, there was a one-month period in which the team waited to see if the proposal would be accepted. During this time, the group exchanged numerous emails, sharing their situations and discussing their goals, objectives, and personal commitments for the period ahead.

By the time the proposal was accepted, the team had a much clearer idea of each member’s individual commitments, and how difficult it would be to get this project successfully completed. One team member was working 80 hours a week on a high-pressure professional job. Another had a two-month-old baby, two other children, a full-time job, and a thesis to finish, in addition to this project. The third was halfway through a Ph.D. project and had a faltering marriage. They discussed how they would meet the upcoming deadlines and who would take the lead on various tasks. Sharing issues, life experiences, and challenges allowed the team to feel a greater sense of cohesion and cooperation, and ultimately to jump in and help each other out when necessary.

Slowly, and in an emergent rather than conscious fashion, an agreement on how the team would work solidified. It was never written down or formally agreed upon, but it seemed to involve the principles noted below.

- The deadlines must be met. This project was important to all.
- Whoever was best able to lead on a particular task would do so.
- Each member would contribute 150% to this project, and endeavour not to let the other team members down.
- Team members would raise a flag (let others know about tasks not likely to get done on time).
- Team members would pitch in to complete work as needed.

It seemed clear that this team would never have been able to make the progress they did if they had not had this one-month “breathing space” to figure out how they would work together. They learned these lessons experientially, by being thrown into the process, and the result was fortunately positive. If this team had clearly applied team-building approaches to their own work prior to commencement, rather than after the first deadline, they might have been able to tackle this task explicitly and incorporate some best practices earlier, and avoided some angst later on. Whatever the case, what is highlighted here is once again the unique marriage of explicit and tacit learning about team process. This

team learned the importance of dealing with social interaction issues and established rules for working together as they stormed through their first real process issues, realizing the teachable moment.

Experience with MBA learning teams suggests, however, that explicit teaming might not have helped. Students in every offering of the project management course are encouraged to develop a formal team charter before starting to work on the learning exercise. Some individuals and some teams take this task very seriously and tease out the details of how they will work together before beginning their work; nonetheless, most do not appear to think this task important until after problems begin. This difference may be due to individual orientations toward working in teams in MBA courses (Williams & Duray, 2006). Tight timelines and task-driven individuals do push the teams into action, however, as in the case of the research team above. When conflicts began to brew or issues around collaboration become important, charters were worked out-on-the-fly, during the course of the first team assignment. Some teams were compelled to revisit this exercise; others failed completely on the first task before they recognized the need for and value of this process element. In any case, students' perceptions regarding what was needed to get teams on track and implications for not doing so became real (Williams & Duray).

The importance of this part of team process appears to be learned explicitly, but as highlighted by the case examples, does not become "real" until conflicts occur within the process and teams acquire knowledge experientially. It seems that once the importance of the charter becomes clear and the gap between theory and practice obvious, the teachable moment occurs. In some teams, this moment may be lost; however, it appears that in the experience of each online team to date, it was not. Within the learning module, the facilitator was able to use the moment to pull out or convey some important information. Within both actual teams, the members were able to go back to information provided, recognize the source of difficulty, and move on to develop a charter.

In our view, it is what occurs in the gap between failure and the recognized need for additional information or work to deal with the failure that builds capability. This moment is where we believe online development products are most powerful. What is also clear about this "gap experience" is that trust in technology, trust in process, and trust and cooperation between individuals are critical factors (Williams & Duray, 2006). Such aspects are built and supported through effective leadership and tools, such as the team charter. Team charters and chat

protocols, as noted in first case with LI students, are some of the tangible tools that force teams to explore these issues in advance. Incorporating these products into any online teaming experience is likely to improve the ability of the team members to work together.

Assignment of Accountability and Building in Flexibility

Team charters also outline forms of accountability and flexibility for team-identified roles and responsibilities that are fundamental for high performance. In traditional team literature, the need for clearly defined roles is fairly well recognized. It is believed that it is absolutely essential that everyone clearly know who is doing what, particularly in online teams, where you may not be able to observe what others are working on. At the same time, online teams require a certain amount of flexibility to get the most out of their members. If one member of an online team has a time differential that is advantageous, it only makes sense for that person to take responsibility for certain tasks even though someone else may be accountable for them. Sometimes, given the asynchronous nature of much online teaming, this necessity can cause problems.

Lipnack and Stamps (1997) found that in online teams, team roles defy definition, because online teams focus on achieving tasks in a fluid and flexible manner. Shifts in leadership can also drive changes in team members' roles (Miller, Pons, & Naude, 1996). In online teams, leadership fluidly moves from one group member to another, from one geographic or temporal site to another, or both. In many cases, more than one team member possessed information vital to the overall team's functioning and well-being, and as a result accepted leadership status assigned by the team based on that expertise. Team members seemed willing to step into and out of the leadership role, careful not to step on one another's toes.

At times, roles and leadership may not be as clearly defined in the online environment. The literature suggests that the need for boundary spanning and communication may intensify as roles and objectives become more ambiguous (Eccles & Crane, 1987; Weick, 1982). Further, the amount of boundary spanning may vary over time, influencing communication patterns and the ability to shift roles easily (Burt, 1993; Weick, 1982; White, Boorman, & Breiger, 1976). Such ambiguity can prove uncomfortable for those used to working within traditional, rule-based organizations. Research suggests that teams who have met, or have first established face-to-face relationships, form bonds more easily and tend to be more comfortable when faced with shifting roles (Walther,

1996). This finding points to the need for some form of “kick-off event” for online teams. Indeed, face-to-face may be superior, but voice and online also work, as evidenced by the research team.

Sometimes the trick is simply to assign an initial responsibility and then trade it off as necessary. This was certainly the case in the online research team. Tasks were initially accepted or assigned to an individual, based on their availability or their inclination to take responsibility for the task. If there was some reason that deadlines could not be met, the task was reassigned or shared. Careful record keeping helped to know who was doing what and when. Such “tracking” facilitated the development of more ambiguous roles among team members by helping them to juggle responsibilities and maintain accountability for deliverables.

In the MBA teams, we have witnessed good use of role assignment in the beginning of most courses. Everyone signs up for a particular task. It sometimes falls down when individuals are assigned tasks for which they are not well suited, or when circumstances make it difficult for individuals to fulfill their assigned roles. Many do not adapt well to the fluid nature of work that is characteristic of asynchronous online teams. Because work is not done at the same time, it is important that people speak up and volunteer when they see that someone needs help. For people used to doing their own jobs and letting someone else worry about the big picture, this can be a difficult skill to master.

Teams who quickly come together and share details of their personal schedules, why they are only available at certain times, and when they may not be available, tend to work better. In the online research team, due to work commitments, one member could only work on the project early or very late in the day. Another “night owl” was productive between 10 p.m. and 4 a.m. The third and fourth members used flexible daytime schedules. Each member picked up and organized their work after another member stopped, to enable them to finish elements quickly and without delays.

The balance between accountability and flexibility introduces an ambiguity into the working relationship that many find difficult to deal with. Can I count on you or not? Do I need to monitor you or not? How do I know when to help? To make the process work, individuals must engage in self-monitoring, team process monitoring, and proactive commitment to the work of learning. Individuals whose goal is completion of the course or project task are the least likely to engage in this type of behaviour, and the most likely to exhibit free-loader tendencies. It is the commitment to the project, the learning, or to the individuals that fosters

team members' ability to deal with the ambiguity of shifting roles and responsibilities. Without the necessary commitment and trust, a team will not be able to balance accountability with the flexibility needed to achieve true synergy.

Monitoring Progress

The research team used minutes, email, conference calls, and deadlines to monitor task progress. Weekly conference calls were boisterous, friendly events that each member looked forward to. While this team rarely met face-to-face, each individual's personal urgency and commitment to deliver on the commitments they made, and to check another item off their weekly list of deliverables, kept the team moving forward. When commitments could not be met, team members openly admitted the reason behind their tardiness and took steps to complete the task or accepted another's offer of help.

The research project team teleconferenced weekly for one hour. The first five minutes of each conference call was devoted to catching up on "social history." Approximately 45 minutes was reserved for detailed discussion of upcoming project deliverables and the status of outstanding tasks. Team members took turns chairing these meetings. The final 10 minutes of each meeting was used to report on team members' external commitments (i.e., thesis progress, work promotions, baby's first steps) and relevant personal issues.

The team members considered themselves to be quite introverted, so they marvelled at the extroverted nature of their interactions, both in email and conversations. One member stated that, "although we have three introverts, you'd never know it from our interactions. Feeling comfortable, trusting, and sharing with each other brings out the E in us" (Delisle et al., 2001). Conference calls allowed the team to stay on top of three critical elements of progress – social activities, project activities, and external activities – each of which added an important component to the interaction. Shared goals and open communication around objectives and limitations combined with trust to ensure future reciprocity and accountability.

In addition, the research project team submitted monthly status reports to the funding sponsor on their project activities and accomplishments. This formal requirement forced the research team to take stock on a regular basis of accomplishments and outstanding tasks. This "taking-stock" activity encouraged accountability and the meeting of deadlines. It also provided a formal arena for tackling outstanding issues

and raising concerns that needed to be dealt with by all major stakeholders in the project.

The MBA learning teams worked on much shorter timelines, measured in weeks versus years. Their use of status reporting seemed to be much lower. Some teams did status checks during the course of the project, but most tended to set a plan and then try to work to that plan. As in any project, this is where many of the problems become apparent, as the team fails to manage the ambiguous and changing nature of the work environment.

With the Logistics Institute's TDC module, regularly scheduled weekly "chats" served a similar structuring function to the monthly status reports and weekly conference calls used by the research team. The requirement to engage with all members of the team at one time and be ready to make good use of the time served to facilitate regular progress monitoring and progress checking.

Competing demands and disparities in commitment and desired outcomes (pass vs. "A" students) created traps for many learning teams. Competing demands, however, are no different in the working world. Resolution rests with team members' open communication of goals and expectations, and working around each individual's peculiar demands and interests. Status reporting and regular discussions of process and feedback were catalysts for this type of sharing, and for ensuring that important issues were addressed on a timely basis.

Incorporation of Social Interaction

In general, the research team's social interaction occurred by email and in person, but most often by conference calls. They tended to be boisterous, laughter-filled, productive, valued time. Conference calls can act as a welcome counterbalance to release pressure, meet stakeholder expectations, help team members deliver results on time and on budget, and work through the many obstacles that typically emerge. They create a supportive camaraderie that helps members manage their own substantial professional workloads above and beyond the online project activities (Delisle et al., 2001).

Hartman (2000) suggests that fun on projects is a substantial motivator, and contributes to a culture where work is accomplished without the same level of burnout as in other environments. In general, the research team did three things to explicitly to ensure that the project was fun for all involved:

- *Celebrate success:* The beginning of each conference call always included *kudos* to anyone having completed a task or reached some other milestone. E-cards were used judiciously to celebrate any success or other event. Status reports started with accomplishments for the period, even when the more critical part, remaining concerns or issues, had yet to be addressed.
- *Plan for interaction:* Some of the project's limited funds were set aside to support celebratory dinners or events when all the parties could be found in the same locale. One research conference a year was funded so the entire team could meet face-to-face. This face-time provided continuing benefits in keeping the team motivated and onside for the more tedious and grinding work.
- *Communicate about other than project activities:* The research team regularly made an effort to catch up on the social aspects of the various team members' lives. Knowing how every team member's life was going provided insight into what one could be expected to do, and where others might be able to help out. Socializing also allowed trust to grow on a number of levels. It is one thing to trust someone's competence; it is quite another to care about an individual and to trust that they will care about you.

Admittedly, the second of the above goals is difficult to accomplish or imagine in an online learning environment. It is surprising, however, how innovative students can be when given the opportunity. Since its inception, the Athabasca University MBA program has provided a non-graded workspace for students to use as they wish. This workspace is akin to the online water cooler or coffee house. It provides MBA students with "room" to get to know each other away from the pressure cooker of the team project workspace. Although the space is used to varying degrees, it works most effectively as a way of enhancing the learning environment. One student has very successfully run "Joe's Bar" in the roundtable workspace of every course, much to the delight of fellow students and of academics. Sharing jokes, humour, frustration, births, deaths, and other life occurrences in these informal settings allows students to get to know each other in ways that they would normally do over a cup of coffee or mug of beer outside of class time.

A variation of this phenomenon also began to occur in each offering of the TDC module. Participants appeared to regret the completion of the module, insofar as it meant losing access to the rich social interaction they'd experienced with their new team. We found that

adjournment ceremonies and behaviours online and in the synchronous and asynchronous environments were quite similar to those experienced in the adjournment phase of a face-to-face team. MBA students often exhibited withdrawal at the end of the program in a similar fashion. The research team experienced similar “mourning” at the end of their project, as the unique circumstances of the project drove a fiercely supportive and productive working relationship that has been difficult to replicate since completion.

Further research on the effectiveness or contribution of these technologically enhanced social realms to the learning activity is needed. Lee and colleagues (2006) suggest that task, social, and technological dimensions need consideration as well. They also state that critical to the success of virtual teams is a “pedagogical transformation of teaching and learning skills ... [and] ... shifting mindsets from residential programs to online environments” (Lee et al., p. 507). It would be interesting to see if the number of team entries, such as jokes and other forms of socializing in the various learning programs, actually correlates with grades; effort or entries in the course or case work; student satisfaction; or other measures defined as team success. Some evidence also suggests that students use a variety of communication technologies for different social and intellectual tasks (Rourke, Anderson, Garrison & Archer, 2001).

CROSS-CUTTING THEMES

Across all the team experiences highlighted in this chapter, we note three important common themes with respect to using teams and teaching about teams in an online context. The first theme deals with the use of technology to enable online teaming. The second suggests that trust in the technology, the process, and the people is a prerequisite to both the learning and the functioning of the teams. Finally, developing and leading supportive cultures through instilling beliefs, values, and processes that facilitate open communication, support, and trust is important in realizing learning and teaming in this environment.

Technology as Enabler

Technology played two important roles in the online learning or teaming experience. First, apprehension and preconceived notions about technology-mediated discussion caused problems in getting teams started, as evidenced in the team module and reaffirmed in every run

of the MBA courses. Second, technology failure in online teams could be a convenient excuse: “I didn’t get that note.” “I couldn’t participate in the teamwork because my computer hard drive crashed.” Or technology failure in teams could produce significant levels of frustration. In an eight-week course, having your hard drive go can take you down for a significant portion of the course, and make it very difficult to carry your end of the team commitment.

The Role of Trust

With respect to trust, we distinguish further between online and traditional teams in their situational awareness. Online teams function on an *intentional awareness*, because only specific characteristics of suitable resources or providers may be known (Chen, 1997). *Situational awareness* for online teams is contrasted to the *extensional awareness* more likely in face-to-face teams, where the specific resources or providers are known. This different kind of awareness plays a big role in how the team becomes an entity, as well as how it weaves together its skills sets, and how it builds trust.

It is our view that the level of trust among participants (perhaps from having members who had worked on other teams together, or from a shared level of trust in the experience through the culture of the program, or as a result of trust in the coach) determines how well people work together and how seriously the charter is taken. It was clear to the team members of the online research team that they would have had difficulty working together without a strong desire to do so, and without trust in the other team members’ abilities. Thus, trust in competence, contract, commitment (Reina & Reina, 1999), and character (Marshall, 2000) are all significant in the initial stages of online team development. Lawley (2006) supports this by suggesting that trust is fundamental to effective teaming, and that the lack of trust will seriously hinder the team’s work. Further, good leadership is essential for building and nurturing the cultural conditions that allow trusting relationships to flourish.

Weick (1996) states that people organize cooperatively on teams to learn and complete their work. There is a continuous mix of agency and communion that creates reciprocity between individuals, and that benefits both learning and team function. As highlighted in this chapter, trust is also required for meaningful cooperation, and is not clear in the early stages of relationship building.

The development of trust is not, nor can it be, a quick and easy task. There is a need to look behind learners’ apprehension and fear, to listen to and capture individuals’ hearts before trust can follow. Here

is an interesting paradox when considering trust. On the one hand, we see that a team must be productive quickly, and that individuals need to trust and to be trusted within the team. On the other hand, few people on teams or in any relationship will trust immediately. Team members thrown together are more likely to distrust the motives of others at the outset. This has implications for development, early sharing of personal information, and hence, charter development, as found in our three cases. The cases also highlight the distance that people will go when they do trust, and how reluctant they are to let go of a team member once a trusting relationship is in place. Social interaction and trust are key attributes in any team and learning process.

We need to know more about how to discern trust levels early, and what we can do to build them rapidly. A team member's decision to trust other team members will likely show the degree of leeway or freedom members have to act without controls in place, the level of benevolence felt, the evidence of openness, and the degree of risk taking realized. When a high level of trust exists, fewer rules or controls may be necessary. Trust is a tricky concept and a necessary consideration in online teaming. If we can invoke a culture and process that encourages rapid development of trust, then this can only facilitate our learning and teaming processes.

IMPORTANCE OF LEARNING AND TEAMING CULTURE

Another point highlighted by our discussion of trust, trust building and the implications for team performance, is how we might create or transform a culture to allow meaningful, trusting relationships to develop. Marshall (2000) states that "to create a truly customer-driven, team-based, and trust-centered organization... require(s) a fundamental change in the organization system...." (p. 66). Transforming a business culture to become more team- and relationship-based, where trust would flourish, is challenging and likely requires agreements between management and others to spell out trade-offs between risk, skill, labour, rewards, and how people should treat each other. Such an agreement would have to deal with underlying beliefs about human nature, drivers of the business, and how management and other actors in the workplace will work together.

The examples described in this chapter may provide tools for developing a culture of trust, accountability, and transparency conducive to rapid trust development. The importance of establishing a team

charter early on to focus the team is only one example of the importance of engineering the culture of teams. The establishment of the team charter and acknowledgement of culture was important in our three cases; in each case, team members ignored this fact until faced with situations of conflict. Support from Malhotra, Majchrzak, and Rosen (2007) indicates that educators and leaders must work to develop and nurture a culture that allows for trust between people to develop effective teaming. To this end, leaders should

- establish and maintain trust through use of communication technology.
- ensure diversity is understood and appreciated.
- manage work/life cycle.
- monitor team members' progress and enhance recognition of member contributions.
- enable members to benefit from the team. (p. 60)

CONCLUSIONS

This chapter sheds light on some of the challenges in teaching teams and using online teaming in distance education programs, by providing some insights into the operations of a team-building distance simulation, a successful online research project team, and the use of teams in a distance-based MBA program. Our experience in these and other online team teaching and working situations convince us that these skills are teachable and transferable to an online learning environment.

In multiple runs of the Logistics Institute's team-learning module, we found the CD simulation to be an effective way to introduce the concepts of, and process tools needed for, effective teamwork. Following up with online teamwork in an online facilitated setting, it appears that individuals are developing understanding and needed skills online.

Over the 14-year history of the distance MBA programs at Athabasca University, we have witnessed similar results. Our students develop not only an explicit understanding of online team dynamics, but also tacit skills to make it happen. Two of the primary skills developed in traditional MBA programs are networking and oral presentation of information. In our program, we work on these skills too, but the main skills our students develop as a result of the program are the ability to share information, insights, and criticism over the web, and to build and work very effectively in online teams.

The biggest problem for any team is the assumption that you can put people together to work on a task, and they will automatically become a team and know how to work together. This assumption is equally false in face-to-face and online team environments. In the online world, it may be even easier to ignore the human process side of teamwork, in the absence of physical clues revealing the psychological health (or lack of) in the team. The trick is to put the effort into the process side of teaming and teaching, even when it is less visible than in the face-to-face environment. We reiterate, however, that it can and must be done.

Project team learning in an online world has become a fact of life at work and in educational settings. The experience from the three cases described provides some suggestions for how to approach this activity in learning or work settings.

NOTES

1. Dr. Hurst worked with a team invited by the LI to develop learning modules for their millennium project. The invitation was based on her research interests and previous experience in the logistics field. The team dynamics and communications module was developed as a two-part learning program, the first part an individual experience of a simulation product intended to allow the participant to learn about concepts while interacting within a simulated team, and the second part an online learning environment allowing the participant to learn how to participate within a team or with real participants working at a distance. The real-team sessions are facilitated while students work through and apply concepts. Dr. Hurst has facilitated, evaluated, and revised the module on an ongoing basis. The experiences described here are drawn from her experiences in facilitating the module, with the permission of the students and the Logistics Institute.
2. *Teachable moment* is the precise point at which a learner makes a mistake and wants to correct it, or to learn alternative information with which to interpret questions or responses. It is a brief window where the learner is most receptive to new information that is focused, personalized, and in context. Schank (1997) adds that learners are emotionally aroused when making a mistake. If error occurs publicly, they close off from embarrassment; if failure is private, as in online learning, the moment of failure is when the learner is most

receptive to new information and learning. Teachable moments often begin with a question and an individual's personal curiosity (see Bennett, 2000).

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