CHAPTER 5

GLOBAL REALITY
WITH VIRTUAL TEAMS

Lessons from the Globally Distant
Multicultural Teams Project[1]

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ABSTRACT

Globally Distant Multicultural Teams (GDMT) is an experiential pedagogy
that prepares students to work in virtual teams in global organizations. Euro-
pean and American professors created a virtual workplace in which their stu-
dents completed a team project assignment via the Internet. In this chapter,
we describe the creation, pedagogical foundation, and implementation of
the GDMT Project. Our evaluation of the project includes feedback from the
students, professors, and three external researchers who audited the project.
We discuss team effectiveness in terms of team processes, cultural differ-
ences, and use of technology, and we close with a summary of student and
faculty lessons and recommendations.

You have no choice but to operate in a world shaped by globalization and the information revolution. There are two options: Adapt or die. . . . You need to plan the way a fire department plans. It cannot anticipate fires, so it has to shape a flexible organization that is capable of responding to unpredictable events.

—Andy Grove, CEO of Intel, (*Fortune,* 1996)

I hear and I forget.
I see and I remember.
I do and I understand.

—Confucius

As educators we cannot know what the future holds for our students, but we can shape educational experiences to mirror this reality and develop in students the capability to respond to such unpredictability. This chapter reflects on our four-year journey of constructing an experience focusing on operating in a world shaped by globalization and the information revolution. Because the most effective learning comes from doing, the students work together across universities and countries to complete a project. We designed the experience carefully to help the students develop a global mindset and virtual team skills, and we have studied the project and revised it over the years to increase its learning impact. We begin here by describing the nature of globalization and the type of mindset and skills needed to live in an increasingly complex environment, followed by a brief discussion of our pedagogical foundation. We then outline the project itself. Next, we analyze our own observations to determine the predictors of team effectiveness in terms of team processes, intercultural effectiveness, and use of technology. We close with a summary of lessons learned by the students and by the faculty, including recommendations for others on the same journey. Our purpose here is to present a triangulation of the perceptions of the professors, students, and external observers regarding the efficacy and the implications of the Globally Distant Multicultural Teams (GDMT) Project.

GLOBALIZATION AND THE GLOBAL MINDSET

A foundation of understanding globalization is accepting that business borders and national borders in a global economy are not synonymous (Adler, 2002; Ohmae, 1990, 1995; Roberts, Kossek, & Ozeki, 1998; Salk & Brannen, 2000). *Global* does not simply mean *geographic reach* in terms of business operations. It also means *cultural reach* in terms of people and *intellectual reach* in terms of the development of a global mindset. Having a global mindset means having the ability to develop and interpret criteria for personal and business performance that are not dependent on the assump-

tions of a single country, culture, or context; and to implement those criteria appropriately in different countries, cultures, and contexts (Maznevski & Lane, 2003).[2] It requires a sufficient degree of cognitive complexity to make sense of globalization and an increasingly complex environment characterized by the following factors (Lane, Maznevski, Mendenhall, & McNett, 2004).

- *Multiplicity* across a range of dimensions
- *Interdependence* among a host of stakeholders and socio-cultural, political, economic, and environmental systems
- *Ambiguity* in terms of understanding causal relationships, interpreting cues and signals, identifying appropriate actions, and pursuing plausible goals
- *Flux* in terms of quickly-transitioning systems, shifting values, and emergent patterns of organizational structure and behavior.

Companies are increasingly coming to recognize that the way to address complexity is through attention to process management. In particular, managers find it necessary to focus on four processes (Lane, et al., 2004):

- *Collaborating:* Working with others in relationships characterized by community, flexibility, respect, trust, and mutual accountability.
- *Discovering:* Learning and creating transformational processes that lead to new ways of seeing and acting, which in turn lead to the creation of new knowledge, actions, and things.
- *Architecting:* The mindful design of processes that align, balance and synchronize organizational behavior.
- *Systems thinking:* Seeing and/or discovering the inter-relationship between components and levels in a complex system and anticipating consequences of changes in and to the system.

Students who develop these skills in the context of global complexity will be better suited to adapt to and succeed in our changing business world.

We chose to develop these skills in a virtual team project because of the growing importance of virtual teams in the business world and in education (Krämer, 2000; Seufert, 2000). Virtual teams are defined as remotely situated individuals affiliated with a common organization, purpose, or project who work interdependently across space, time and organizational boundaries and who communicate and coordinate via electronic communication.[3] Today many managers work closely with people whom they rarely meet face-to-face. The reality is that globalization cannot happen without people collaborating via technology. Embedding globalization skills and developing a global mindset in a virtual team project provides an added benefit—opportunities to practice virtual communication and team skills.

THE PEDAGOGICAL CHALLENGE

In the opinion of senior executives and MBA critics, one of the main fail-ings of business schools is that graduates enter the workforce conceptually well-grounded, but without possession of specific "soft" skills—such as writ-ten, oral, and interpersonal communication skills—and the ability to work well in a team environment, etc. (Jenkins & Reizenstein, 1984; Mintzberg & Gosling, 2002; Mintzberg, 2004; Porter & McKibbin, 1988). We agree that conceptual development is incomplete without skill development, and we architected this experience accordingly.

It is, of course, possible to introduce students to the skills needed to work successfully in a global virtual team through lectures, reading assign-ments, videos, cases, and class discussion. One can teach cross-cultural interaction skills with these formats. In fact, these are the usual ways skill categories are taught in business schools around the world. But skills, by definition, can only be developed through practice. All of the above teach-ing formats, though highly useful, are only truly effective when they can be tied to the actual experience of working in a virtual team with team mem-bers from varying cultures.

The GDMT Project was designed to be a vehicle that provides students with an opportunity to recognize the need for—and to practice—skills that relate to global virtual team productivity. For example, it is one thing to understand conceptually that global time differences can influence pro-ductivity. The impact of this reality on productivity, trust, and stress levels only hits home when students have to organize virtual team meetings that everyone can attend. When students must negotiate, disrupt regular life-styles and even sleeping habits, sacrifice personal preferences, and deal with stubborn colleagues, they develop skills and a deep-level understand-ing of working in a global virtual team far beyond a simple understanding of how academic scholars describe the phenomenon.

In this project, our faculty role was two-fold: first, to architect a challeng-ing global learning experience that would meet the outlined objectives, and second, to serve as consultants to the students on an as-needed basis. An underlying goal was to coach students to "learn how to learn" from this experience, since continual learning and reflection are crucial skills in the rapidly changing world of international business.

At a meta-level, we saw a further challenge. As international business professors, we know we need to adapt to globalization and learn many of the same things our students do. We have to develop new ways of working together ourselves. We used the opportunity of this project to focus on our own learning—as reflected in this chapter, for example—as well as that of the students. The initiators of the GDMT Project came to the realization that we needed to adopt the same process approach and use the same sorts

of strategies that global companies were using. If we were to educate our students to work in a global environment, then we needed to model that environment and the related processes. As faculty at different institutions, we could collaborate within our network to develop a rudimentary structure somewhat comparable to a small global company. We also needed to architect new types of experiences for our students. Doing this would require that we do some discovering ourselves; that is, that we learn to see and think in new ways. Finally, we needed to think in terms of both organizational/institutional and technological systems. Since our universities had different approaches to projects, coursework, and student learning, we needed to take into account those different systems as we designed our own system. We also came to appreciate that some of the same technologies available to global companies to help them accomplish their objectives were available to us and could be used to accomplish our goals. With our learning objectives and pedagogical foundation in hand, we set out to design an important learning experience.

THE GDMT PROJECT DESIGN

The GDMT Project experience is a joint effort of geographically distant universities to provide students with an innovative, international learning experience modeled on the virtual collaborations found in international organizations. The idea evolved in part from the national Web-based teamwork projects in German universities, such as the virtual HRM education that integrated students and company managers in the same learning environment (Scholz, Hoecker, & Scholz, 1998). The original GDMT Project was initiated in the fall of 1999 by three professors, each at a different university (Allan Bird at California Polytechnic State University, Mark Mendenhall at the University of Tennessee, Chattanooga, and Chris Scholz at the University of Saarland, Germany, assisted by Volker Stein.)

As in multinational corporations, teams composed of members from different cultures and countries completed a task that was primarily conducted and coordinated via the Internet. The first run of the project involved 77 students, with a mix of graduate and undergraduates. In fall 2000, the project was repeated (with Allan Bird now at the University of Missouri–St. Louis) and was expanded to include Chris Scholz's students at the University of Vienna, with the assistance of Doris Weyer. The total number of students involved grew to 90. To better understand the pedagogical and socio-cultural aspects of the project, three researchers (Jeanne McNett, Martha Maznevski, and Joyce Osland) were invited to function as "anthropologists" who observed and evaluated but did not participate in the year 2000 project. They monitored the communications of both stu-

dents and faculty and surveyed[4] the students. We incorporated their feed-back, along with other innovations, into the project design in 2001. In fall 2002, we added two other universities, one in Finland and the other in the Netherlands. In spring 2003, the length of the GDMT Project was short-ened, and the team assignments were adjusted due to academic calendar issues among the three original participating professors.

We approached the GDMT Project from a "scholarship of teaching" ori-entation (Boyer, 1990), so that we could study and assess our results and subsequently make improvements each year. These analyses, coupled with experience from four runs of the GDMT Project, provide the foundation for this chapter. Although we include information and observations from all years, this chapter focuses on the lessons learned from GDMT 2000 because that was the most intensively examined year. The conclusions and recommendations from that examination were incorporated into the pro-gram design for future years.

Project Description

The group project was completed over approximately three weeks by groups of six to eight students. During the project period, students worked together primarily using e-mail, chat rooms, and other electronic forms. On rare occasions, groups spoke together over the telephone. As described in each section below, we designed the assignment to highlight the impor-tant characteristics of globalization and virtual teams in the real world so that students would experience and learn from the dynamics.

The assignment was to prepare a report or develop a Web site compar-ing a product, service, or organizational feature across countries. For example, one group analyzed differing marketing approaches and con-sumer attitudes related to soft drinks in Germany and the United States. We assigned a comparative task so that distributed team composition was critical to the task rather than an artifact of the project. We gave students a list of examples of acceptable projects:

- Write an analysis of a potential product development idea, examin-ing whether a product that is successful in one culture would be suc-cessful in another culture.
- Create an idea for a managerial innovation for an existing company that operates both in the United State and in Germany.
- Analyze an actual case history of a product's success or failure across cultures.

To foster creativity, students were allowed to suggest other types of top-ics, as long as they were in keeping with the spirit of the assignment. Other

than imposing a standard form of citation, students received no other instructions, such as page limits, etc.[5]

The teams' final products were graded by all participating professors and constituted a significant portion of the students' final grade (between 25% and 33%, depending on the instructor). The grading criteria were

- The quality of analysis on the issue (structure, theoretical content, methodological strength, etc.)
- The quality of the presentation (sections, table of contents, page numbers, grammar, etc.)
- The quality of the recommendations and implications (for practitioners and further research)

The teams had to produce an acceptable product in a short time frame, mirroring real-life demands for performance under pressure.

Team Formation

In designing the project experience, we sought to make the project as comparable as possible to what students might experience in a global company setting. Rather than assigning students to teams, they had to take the initiative to be hired on by a team leader. Before the project began, students went online and completed an "employee profile." These profiles included demographic and background information, photographs, and information about preferences in terms of work responsibilities (analysis, editing, etc.) and work skills (Web design, layout, etc.). Finally, each student submitted a project proposal—his or her recommendation about what a team could tackle. In this way, all students had to grapple with the assignment and sell their ideas.

One week prior to the start of the project, the faculty selected team leaders based on two criteria: the attractiveness of their project proposals and the need for proportional representation among the participating schools (e.g., nine teams, with three team leaders from each of the three schools). These team leaders were then charged with the responsibility of sorting through the profiles and recruiting students onto their team and observing group composition requirements based on the number of students participating at each university. Their instructions were as follows.

When forming your teams apply the following group composition requirements: Three to four Missouri members, one to two Tennessee members, one to two German members, and two Austrian members. Your responsibility as team leader is to recruit members, but potential team members may approach you and seek to join the team. Form a complete team by October

31. Next, inform Volker Stein of your project topic and team members so he can list you on the Web site. Then, contact Mark Mendenhall and provide him with a list of your team members and their e-mail addresses. He will arrange for a team e-mail list for your use.

Simultaneously, the professors announced the names of the team leaders and their project choices to the remaining students, who were then free to petition for membership in a given team. In essence, students worked through a corporate-style job-posting system. Since all students were required to be on a team, it was incumbent on them to find work as much as it was the responsibility of team leaders to staff the project teams. This was a "first come, first served" process with bi-directional initiatives from team leaders and students. Fully-formed team rosters were immediately posted on the GDMT Web site, so all participants were able to see which teams were still available. Once formed, teams were given full autonomy regarding how they structured their work and developed their team norms.

THE GDMT WEB SITE AND COMMUNICATION

To facilitate the flow of both information and feedback, the exercise was designed as an Internet course in which all information was posted on one central Web site. The faculty served as consultants on the projects, offering advice or intervening only as called upon by students. Student questions to the faculty were posted and answered on the Web site, which meant all students had access to faculty feedback on team issues. Individual professors had their own coaching style, and no effort was made to standardize this aspect of the project. For example, one professor began class sessions by asking, "How's it going?" he encouraged students to share practices that were effective as well as suggestions on how to solve problems. Only when the class was at a loss would he intervene and ask questions that would lead the students to a solution for their team problems.

The teams were asked to keep a log file of any communication among the team that took place outside the Web site, so that the external observers could use these records for anthropological analysis. The GDMT faculty had no access to these records. The faculty agreed to restrict themselves to using the same range of technology as the students so their interaction would also be available for evaluation by the external researchers. In other words, the professors relied primarily upon e-mails except when time-sensitive matters had to be resolved via telephone.

STUDENT PREPARATION

We sought to give a realistic job preview with regard to the project as a whole, cautioning students that the workload would be heavy because of the compressed time given to complete the project. We also pointed out that, in addition to cultural differences, geographical distance would impact the flow of communication, leading to delays in coordination and difficulties in sequencing their work.

While information about the project was the same for students at all schools, there were differences among the faculty with respect to individual teaching styles, the content of the courses, and their approaches to learning. For example, Allan Bird and Chris Scholz each used the exercise as part of a course on international management, whereas Mark Mendenhall used it in conjunction with a course on innovation management. Although this provided some design challenges, it mirrored the differing conditions and expectations of employees in a global company. Because of these differences, we minimized the amount of instruction we gave in our respective classes regarding working in virtual teams. Prior to the GDMT Project, we gave students general, rudimentary advice regarding the need to establish group norms and identify group roles. Again, although perhaps not ideal, this is in line with the general depth and rigor of training virtual team members receive in the "real world." Also, we posted articles about virtual team skills in the Library Forum on the GDMT Web site so that students could review them during the project (e.g., Cohen & Gibson, 1999; Maznevski & Chudoba, 2000).

Faculty Evaluation Process

Each faculty member graded and rank ordered projects separately (see criteria above under "Project Assignment"), resulting in three grades for each project. The faculty members then compared the three grades and discussed discrepancies until a consensus grade emerged for each team.

Pedagogical Development

On a meta-level, the professors were engaged in an activity nearly identical to that of the students. In our case, the project that required completion was the organizing of the learning experience and the grading of the final projects. Our time pressures came from the need to have each stage ready for students and to meet varying grade submission dates on top of our other career demands. Like the students, we confronted cultural and

individual style issues that required adaptation or resolution. We too had to reconcile different member perspectives about how an effective team functioned. The same technology issues that students faced either helped or impeded our progress. And finally, we too had an opportunity to become aware of our own skills, strengths, and weaknesses for working in a multicultural virtual team. Thus, modeling virtual team behavior for students (although we make no claim to perfection) was part of the pedagogical rationale for our course design. We shared observations on our own virtual team experience with students in class, but we made no attempt to formally link our lessons to the student experience.

PREDICTING TEAM EFFECTIVENESS

When we reflect on both the students' and our own experience with the GDMT Project, we see that team process matters, culture matters, and technology matters in both the quality of project output and the quality of the learning experience. We will describe what happened in each area and explore its impact.

TEAM MATTERS

In recent years increasing numbers of scholars have focused on competencies and effectiveness in the relatively new organizational form of virtual teams (e.g., Armstrong & Cole, 1995; Byrne, Brandt, & Port, 1993; Coyle & Schnarr, 1995; Davidow & Malone, 1992; Druskat & Wheeler, 2003; Duarte & Snyder, 2001; Furst, Blackburn, & Rosen, 1999, Gibson & Cohen, 2003; Hedberg, Dahlgren, Hanssen, & Olve, 1997; Kirkman, Rosen, Gibson, Tesluk, & McPherson, 2002; Montoya-Weiss, Massey, & Song, 2001; Rennecker, 1999; Scholz, 1998; Scholz & Stein, 2003; Townsend, DeMarie, & Hendrickson, 1998). Scholz (2000) has noted that in many ways, the prerequisites for team success do not differ substantially between virtual teams and traditional teams. However, the contextual variable of geographic distance increases the degree of difficulty in achieving the prerequisite conditions for team productivity in virtual teams. Additionally, in the case of global virtual teams, the variable of cross-cultural differences between team members combines with that of geographic distance to further constrain the potential for team success. According to research, the list of competencies needed for virtual teams are as follows:

- the mutual understanding of an almost symbiotic coexistence and reaching a feeling of co-destiny (e.g., Davidow & Malone, 1992; Scholz, 2000)
- Shared vision and shared goals (e.g., Coyle & Schnarr, 1995: Scholz, 2000)
- Fairness and trust (e.g., Cohen & Gibson, 1999; Fuehrer & Ashkanasy, 1999; Handy, 1995; Scholz, 2000; Welles, 1993)
- Ability to develop a culture of virtuality with shared values such as strict customer orientation, focus on technology, and a feeling for polychronicity (Hall & Hall, 1990; Scholz, 2000)

The experiential nature of the GDMT Project gave students a deeper understanding of the challenges of virtual teams and a chance to focus on some of the skills that are a prerequisite to successful virtual teams that are listed above. In particular, we noticed situations dealing with individual and team relationship development, project management, participation, leadership, and trust.

Relationships

As people who went through adolescence and early adulthood without the Internet, we (the professors) found the students' social construction of distance-relationships fascinating. Though they hadn't met any of their team members other than the one or two at their own university, the students fleshed out fairly sophisticated impressions of those teammates. They began with the "employee profiles," then added to and revised their impressions based on e-mail and chat room exchanges. By the end of the project they described teammates in some detail, especially in terms of reliability, work ethic, depth of analytical ability, and social role within a team. When face-to-face relationships were impossible, the students learned to substitute many virtual indicators to construct detailed pictures of their working relationships.

Individuals' relationships with the teams also developed over time. People enter new teams as individuals and, depending on various contingencies, generally come to see themselves as team members in a gradual way. Regardless of country of origin, we observed the same behavior in our students. It often took students a week or so to change their perspective on the project. Many students initially approached the project as they would any class assignment or group project, focusing on what needed to be done to earn a good grade. While that focus did not fade, it was frequently overshadowed by an appreciation of the complexity of the process they were being asked to manage. The group took on overtones of an "enterprise." In

the same way that members of a global company project become immersed in the task, students began to immerse themselves in the project and the activities of their team. For example, in the beginning, individual students—especially leaders—would often try to keep track of the whole project and become involved in every activity. This is typical behavior of high-achieving students who focus on earning a good evaluation. When the complex reality hit, however, they could focus only on their own part, with the leaders managing the integration—behaviors more typical of real world virtual teams. This was satisfactory only in the teams that had developed good working relationships.

We found that most project teams behaved in similar ways in the early phases of the project—by beginning to build relationships. Initial team formation was usually followed immediately by socializing. A member in one team offered this advice to future participants: "Plan for a long warm-up phase." Teams that sought to avoid socializing, preferring instead to get right down to the task, invariably ran into morale and cooperation difficulties later in the project. Those team members were unable to develop the kind of relationships that brought them together as a team rather than a group of individual students.

Project Management

In parallel with lessons on relationships, the project also highlighted issues of project management. We found that students managed the project in problem-oriented ways throughout most of its duration. That is, completion of the final report was viewed as the central problem that had to be solved. Information gathering, analysis, writing, editing and so forth were subsidiary problems that had to be addressed in order to solve the central problem. Teams that produced high quality projects coordinated these elements well and managed the processes explicitly and carefully, with all members contributing information and meeting deadlines. Teams often downplayed or ignored distance, time and culture at first, but then addressed them as critical constraints that members had to address if the team was to be successful.

To facilitate project management, we advised the teams to establish group norms or agree on common rules that everyone would follow. For instance, one team set a rule of replying to any e-mail within 24 hours. This meant that every member had to check e-mails at least once a day. Other examples of rules were firm task lists and set time schedules and deadlines. In instances where students did not comply with agreed upon norms—for example, missing an important meeting—penalties varied across groups. In one or two teams, for example, members who missed their first deadline

for a task were "put on probation" with an understanding that missing any subsequent deadline might lead to dismissal from the team.

Students learned how to incorporate communications technology into the project management process in sophisticated ways. The teams' initial concern was that everybody should know how to work with the different software applications used by the group. Tech-savvy students tended to assume that others were equally proficient. When this assumption proved inaccurate, they frequently became frustrated. It was not unusual to see some groups set up an event such as a full-group chat, only to discover at the appointed hour that not everyone knew how to use a chat room. Over time, though, students began to think and behave in complex, net-centric ways. They developed strategies for coordinating work at a distance, such as setting up shared workspace on the Web, and passing work from one time zone to the other to make progress overnight.

As part of the debriefing process and the survey, students were asked what advice they would give to future participants regarding project management processes. For example, one student advised: "If you don't schedule the pieces in advance, you won't produce anything worthwhile. The coordination issues are so difficult, you need to make sure that at least everyone is playing from the same playbook to start with." Another said, "Keep talking about how the group will work. The decisions you set up at the beginning may not be realistic. If you do not keep talking about them, you will have chaos. Better to replace them with something that works."

Participation

The most frequent process recommendations were about participation—simply "make sure everyone communicates frequently." Teams experimented with a variety of tactics for eliciting participation from others. For example, some teams required participation through explicitly agreed-upon norms and sanctions. Others assigned a role to someone on the team to manage the participation, and that person would track participation and contact people directly to encourage contributions. We saw no correlation between a specific mechanism and actual participation; rather, the patterns for each group seemed to be emergent and dependent on the team members' commitment (which could of course be influenced by leadership or other factors).

Contrary to our observations, students stressed that the cultural differences in participation that arose and required attention from the team were rarely seen as an obstacle. For example, one student wrote: "Culture is not a big issue; neither should it be forgotten or ignored." At that time, we concluded that, in our roles as international management scholars, we (the

professors) are hypersensitive to the influence of culture and that our position of comparing across all teams rather than being immersed in one gives us a different perspective on cultural influence from that of the students. We will explore culture further in the next section

Leadership

One particularly striking feature was the strong consensus across teams and over the years that team leaders were extremely crucial to a quality end product. The leader style they employed could vary, but leadership had to be visibly present and come across as confident or self-assured. As a member of one team warned, "If the team leader shows little capability at decision-making, elect another immediately." In virtual teams, the leader plays a critical role in ensuring that relationships are well developed, managing the project process, and encouraging and setting the tone for participation. It seems that in virtual teams there are fewer substitutes for leadership than in face-to-face teams.

Trust

Relationships, project management, participation, and leadership are aspects of team membership that are influenced by trust. The central challenges of trust for the GDMT students involved sorting out how to develop trust at a distance and between cultures as well as to what extent to accept dependency, (i.e., vulnerability to others whom one has never met and knows only through electronic exchanges). Vulnerability was not a minor consideration given that their project grade, and ultimately their course grade, was partially in the hands of others. Some groups tended to rely on mechanisms and techniques acceptable for developing trust within their own culture in face-to-face encounters. For example, members would share information about their project-related capabilities in research, editing and so forth, with the expectation that team members would not take advantage of this information, but reciprocate with honest disclosure about their own capabilities. In a related vein, some team leaders would allocate tasks within the group, imposing few if any monitoring mechanisms and relying on the good will and commitment of team members. This approach appeared to work until there was friction within the group. At that point, tempers would flare; then the group would either settle for a grudging coexistence or take the time to consciously work on developing or reestablishing trust. When teams experienced problems, they usually concerned (a) disagreement over topic choices, (b) how to structure the

work, (c) lack of responsiveness from team members who came to be seen as "missing in action," (d) failure to meet deadlines, and (e) failure to produce work of acceptable quality.

Culture Matters

Not surprisingly, cultural issues took longer to emerge and struck at underlying core understandings of the process and project. For example, late in the project, it was not unusual to find teams that were grappling with the following fundamental questions, determined in large part by cultural expectations: What is research? What is quality? What is participation? What is teamwork? What is academic honesty? What is an appropriate format? On occasion, some teams explored these issues at length. More frequently, however, the questions surfaced at a point in the project when time was scarce and the demands of completing the report pushed these unanswered questions to the side.

Content analysis of the e-mails and survey answers indicate that major cultural differences among the students centered on four issues:[6]

- Work attitudes and approach. While the German students expressed a concern for defining the joint work structure and schedules, the United States students sought clarification about the task and the process. Both the German and Austrian students demonstrated a greater emphasis on empirical data as the source of truth and expressed the concern "Can we get the data?" Compared to the Europeans, some of the Americans tended to do their work at the last minute.
- Differing views of plagiarism. While plagiarism was clearly not sanctioned by people in any country, slightly different definitions about what was inside and outside the acceptable boundary created conflict in some teams
- A preference for different styles of team leadership. The general preference across cultures was for participative leadership. For some United States students, however, time pressure legitimized autocratic leader behavior, which may relate to expediency ("It's due—you decide").
- A preference for differing levels of inclusion (e-mail communication to the entire team versus a subgroup). Sociograms of team communications indicated an unequal degree of communication among members in the form of subgroups from the same universities. The United States students were more active e-mailers and included more "small talk" than the Europeans.

Some of these observations could also reflect (a) differences in age, (b) undergraduate versus graduate student rank, and (c) full-time versus part-time student status. For the students, communication presented a greater difficulty than cultural differences. Communicating frequently with all team members was advice often recommended to other teams.

The cultural differences manifested in the professor's e-mails related to

- Power distance and status-oriented communication. The Europeans' behavior indicated higher power distance than that of the Americans. For example, the Europeans addressed the German senior professor more formally by his title and with more deference.
- Disclosure of weakness. The American professors (as well as the students) were more likely to acknowledge areas of weakness ("This is not my forte") with regard to team tasks.

Such differences did not affect the professors' working relationships. Only when they discussed fundamental questions, such as definitions of team effectiveness and evaluation standards in grading projects, did cultural expectations play a significant role. For example, a central concern of United States students was social loafing by some group members who fail to carry their share of the work. One of the United States professors addressed this issue by using peer evaluation forms that students shared with their fellow teammates before submitting their report; these evaluations were factored into the students' project grades so that individual effort was fairly rewarded. The United States professor assumed that the introduction of a peer evaluation form would be uncontroversial, though he imagined there might be some discussion about what the specific form and process should be. In Germany, however, the notion of peer evaluation that might actually affect one's grade in the course was viewed as odd, if not downright questionable, from an ethical standpoint.

All cross-cultural endeavors have the potential to teach greater cultural understanding or, if the experience is negative, to contribute to negative stereotypes or misattributions. We saw some evidence of both results, which prompted the professors to pay more attention to possible negative stereotypes. One strategy they adopted was to ask the class how the projects were going; this brief in-class check allowed students to express and test their impressions. For instance, if a student reported a negative experience with an individual from a different nationality or university, other students were likely to chime in and say something like, "Really? We haven't observed that. In fact, we saw just the opposite behavior." Exploring the reasons behind such discrepancies was a "teachable moment."

Technology Matters

Although technology is crucial for the success and performance of virtual teams in multinational firms, and in fact enables these teams in the first place (e.g., Axel, 1996; Geber, 1995; Hartzler & Henry, 1998), using technology wisely to support relationship building, project management, participation, and leadership is more important than focusing on the latest or most complex technology (Maznevski & Chudoba, 2000). Technological support is clearly important in educational efforts like the GDMT Project. From the outset, we sought to provide adequate technical support, but we believed that technology complexity should not become a central feature of the project. Although some teams relied on chat rooms and one or two teams carried out conference calls, for the most part, the teams relied upon e-mails and e-mail lists to communicate with one another and complete the assignment. This was the easiest way to cope with time zone differences between United States and Europe. In some teams, e-mail usage was complemented by live Internet chats at least once a week to elicit immediate responses and jointly make decisions in a time-efficient way. The open discussion boards on the project Web site were seldom used. According to students, these boards did not facilitate effective group discussions. They did, however, serve as a platform for distress calls during the team building stage when team members seemed to be "missing in action." In urgent cases, Web messaging and phone calls were used to ensure that mails were read in time.

Students reported different levels of technological knowledge and expertise coming into the course. The Austrian students who were enrolled in a Web-based distance learning program had already developed the skills required for the GDMT Project, while virtual skill levels varied more in the United States and German universities. Teams that had one or more members with greater technological sophistication were often inclined to use more complex technology, which sometimes resulted in an increase in the technical skills of other team members. However, the more sophisticated technologies did not appear to give those teams an advantage in terms of completing the project in advance of deadlines or in achieving a higher level of quality in the final product.

Neither the frequency of use nor the type of technology (telephone, conference calls, e-mail, chat rooms, fax) that students chose to use predicted the quality of team output. However, teams that used technology appropriately to facilitate team processes (relationship building, project management, participation, leadership) did produce better projects and higher satisfaction. For example, online chats were helpful when teams were forming relationships and making important, initial decisions, since all members could express opinions and react in real time to new sugges-

tions. E-mail was more suitable for simple information gathering. To the extent that a team matched the appropriate technology to the tasks or processes it faced at different times, the use of technology improved the quality of their output.

We expected, based on cross-cultural research on attitudes in general and on information technology research in particular (Boudreau, Lock, Robey & Straud, 1998; Smith & Strand, 2003), that attitudes toward technology would be culturally influenced. However, we did not observe any cultural differences in this area. We suggest two explanations. First, the project parameters were very clearly defined and the amount of time devoted to the project was quite short. Culture is more likely to influence attitudes and behavior in an evident way over longer periods of time and in situations without clear expectations (Maznevski, Gibson & Kirkman, in press). Second, all of these students have been exposed to global information and communications technology systems for many years and have participated in the development of the Internet age. North America and Western Europe have developed similar platforms and approaches to Web use. Norms about the use of technology developed in this context may have overridden cultural differences. When we conduct end-of-project debriefings, we caution students against making generalizations from the GDMT experience and against assuming that culture does not make a difference; it may matter in future projects with different parameters, with people from other parts of the world, or with older generations.

Basically, technology seemed to serve two functions in the GDMT Project. On one hand, it was an enabler that helped the teams accomplish their tasks. On the other hand, it was a driver, urging some team members to learn new skills so they could keep up with fellow team members and compete with other teams. Technology can allow equal access to information and resources, which can increase transparency in teams (Jassawalla & Sashittal, 1999), but this only holds true if all members have the skill to use the technology. In these virtual teams, the technologically skilled students were at an advantage and saw themselves as superior to students with less skill. In educational projects like this, the students' commitment to using a broad range of technology is very important. The function of the teaching faculty—as well as executives—is to design and implement technological supports for knowledge transfer and encourage its use.

STUDENT LESSONS

Over the course of the project, students had many experiences that provided fertile ground for learning—about the nature of virtual teams, about how others work, and about how they themselves work. Though some

insights were acquired along the way, much of the higher-order learning took place during the post-project debriefings that each instructor conducted. The debriefing process was based on the professors' own pedagogical style, strengths, and course objectives without an attempt to standardize their efforts. In one of the International Management courses, the debriefing was centered on the challenges of working in multicultural virtual teams—communication aspects, task/structure/accountability aspects, and technological aspects. The general debriefing focused on what students thought they did well, where they thought they could improve, what they would do differently in the future, and what advice they would have for future students undertaking this project. The motive behind the last question was to help them focus on what they'd learned; their responses were not formally transmitted to future students, except by way of professor comments in the classroom.

The students varied widely in terms of international exposure and managerial experience. For example, the Missouri undergraduates had the least international and managerial experience due to their age and geographical location. The Tennessee MBAs and the Austrian students had more work and managerial experience. As a group, the Austrian students had the most GDMT Project-related technological expertise, perhaps because they were enrolled in a distance-learning program. This diversity resulted in different learning challenges for different individuals, but we saw no evidence indicating that some groups learned more or enjoyed the experience more than others.

The purpose of the GDMT Project was to give students real experiences that would lead to the development of skills that could be used in global companies in the future. The skills students acquired varied as a consequence of the abilities of the individual student and his or her particular project team experience. However, the survey responses to a question concerning what they had learned can be categorized into three types of increased skill development.

- *Interpersonal Skills.* Many students expressed a belief that the project helped them to identify weaknesses in their interpersonal skills with regard to communicating clearly and effectively, motivating others; coping with, or exercising, power and influence within a group; and finally, skillfully and maturely resolving conflict. In each of these areas, students indicated improvement in ability.
- *Technical Skills.* A second category of skill development involved technology. At the end of the project, students reported higher levels of technical skill with regard to comprehensive, effective Internet searches, Web page development, use of groupware and electronic communication in general. For some students, the GDMT Project

was their first serious effort at using electronic media to carry out group work.

- *Management Skills.* Students reported that they had developed their skills in project management, team building and leadership. In many instances, students felt they had little or no prior experience in doing these things. All of the students had taken at least a basic course in organizational behavior and management. These courses, however, had not provided opportunities to put into practice what they learned. Students felt that the GDMT Project gave them the opportunity and forced them to accept the responsibility of actually managing, as opposed to talking about it.

A critical aspect of management skills challenges had to do with administrative issues. The administrative issues that students reported were described as surface-level issues that often appeared to be easily solved. Differing time zones, for example, presented a challenge to real time exchanges among team members. However, an acceptable meeting time—late in the day for Europeans, early in the day for North Americans—usually could be established. Some surface-level administrative issues such as the meaning and usage of words appeared to be culture-driven. Though all electronic communication was in English, from time to time European and North American students discovered that their words had varying connotations. For instance, one group studying television commercials found it necessary to clarify the difference between "commercial" and "advertisement."

FACULTY LESSONS

Perhaps the greatest lesson we have learned as faculty from the GDMT experience is that the project, for a time during the semester, allows the faculty member to educate students from a managerial role rather than from the traditional faculty role. In the real world, managers cannot step into virtual teams and make unilateral decisions effectively; the external manager must coach the virtual team leader and offer encouragement without offering pat answers to the team's questions. The external manager must also evaluate the team's productivity and assist the team members as best as he/she can. In the end, however, it is all in the team's hands. Once the students realized that this assignment was qualitatively different from sitting in a classroom/lecture setting, and that the faculty members expected them to solve their own problems and would not step in and kick a student out of the group or give detailed answers as to how to go about solving a thorny problem, the teams became autonomous and self-reliant. It was refreshing to sit back and watch students learn for themselves, within

their own team contexts, and to provide support and encouragement for that learning.

Another learning "take-away" for the faculty members was the necessity for communicating to students that the GDMT project is an opportunity to learn and grow, that it would not be easy, and that it would be frustrating at times. Sugarcoating the assignment would only set the students up for failure. It was important to point to previous learning experiences of past students as examples of reasons why the project was worthwhile. It also helped to emphasize that this assignment was not a simulation or role-play; the students would be working in real virtual teams and could leverage that experience in job interviews. Indeed, several students referred to their GDMT experiences in job interviews and credited the sharing of their GDMT experience in getting job offers. For example, one past student wrote to her professor the following e-mail after the 2000 GDMT Project:

> I just wanted to let you know that I got an excellent job at Motorola as a project administrator. The biggest factor that helped me get this job was the GDMT experience. I guess it wasn't that bad after all, although sometimes I really wanted to kill you for making me the team leader (especially after several all-nighters). The job is in Warsaw, Poland. We're implementing a new telecommunications system for the Warsaw police. The reason why the GDMT experience was so important is that I have to work with people from Arizona and Germany in virtual teams. Although they do visit Warsaw sometimes, most of the time we have to depend on e-mail to get things done.

Comments such as this one have provided a strong sense of face validity to the students involved in subsequent GDMT Projects and have justified the rationale for the project's existence in the eyes of the students.

Most of the professors require students to write a self-analysis of their experience in working with their global virtual team; thus, they must turn in a team product and then analyze how their behavior in the team contributed to success of the team's process and product. Students analyze how well they applied principles of virtual team effectiveness themselves in an actual virtual team situation, discuss what they could have done better and what they did well, and describe how they would approach things differently the next time. This assignment induces self-insight and self-awareness around specific competencies, something that multiple-choice and essay-type exams cannot accomplish. To use Kolb's (1984) learning mode terminology, the follow-on assignment takes students through the entire learning cycle. The first stage, the concrete experience, is succeeded by the other stages in Kolb's learning cycle—reflective observation (What did you observe during the experience?); abstract conceptualization (How does your experience relate to the literature on virtual teams? What generalizations can you make about virtual teams?); and, finally, active experimenta-

tion (What did you learn and what would you do differently next time?).
Students have predispositions toward different learning styles that may
cause them to prefer or emphasize some stages in this learning cycle more
than others. Kolb maintains that all stages are essential for optimal learn-
ing (1984), an argument for including individual student analyses after the
team finishes its work.[7] A post-project survey included as a course require-
ment, similar to the one created by the project anthropologists, can also be
used to help students reflect on and assess their learning.

The presence of the project anthropologists opened up new avenues of
learning for the instructors and had two interesting effects. First, having
colleagues looking over our shoulders freed us to concentrate on the exer-
cise itself rather than evaluation. Second, after the exercise was concluded,
we had an opportunity to experience a debriefing very similar to the stu-
dents' debriefing. The project anthropologists' observations as indepen-
dent evaluators helped us discover insights and lessons that would have
been difficult to uncover by ourselves. For instance, we were unaware of
how much some of us contextualized information in our e-mails to one
another. In contrast to our students, who tended to propose or even
impose a decision, with or without a supporting rationale, we were more
likely to begin by acknowledging the different perspectives of instructors
with different concerns, propose alternative actions to their pros and cons,
and seek input on decisions. We did not realize that we were doing this
until the project anthropologists brought it to our attention and helped us
recognize our tacit knowledge about communicating in multicultural vir-
tual teams. As a result, we were better equipped to teach our students when
they needed to provide more context and lay the groundwork for decision
making in their e-mails. Due to their training and their access to student
communications, the project anthropologists helped us to better under-
stand the team process issues that occurred during the project and, as a
result, we became better coaches to the students.

In addition to recommendations for improving the project, the project
anthropologists' report, based on their analysis of all the available arti-
facts—projects, communication records, and survey data—gave us the
assurance that students were in fact learning what we wanted them to
learn. At that time, we were moving in the direction of making the project
even more complex and realistic, but the external evaluation indicated
that the current level of complexity was sufficient to achieve our learning
objectives.

There are a couple of "fit" issues that need to be carefully managed in
order for the GDMT to be successful. First, there must be a conceptual fit
between GDMT and the content of the course it is part of, and between the
content of the other courses as well. While this may seem an obvious
requirement, in reality it is subtler than it appears. For example, two of the

courses involved in GDMT 2000 were international management courses. One was an innovation in business course, and the Austrian students were assigned this project as part of their general coursework in a totally virtual business degree program. The course project then had to be carefully crafted to conceptually fit into the content of each course, yet work together conceptually across all the courses as well.

The second fit regards the nature of the project and the personalities of the course instructors. This is, in our opinion, a critical variable to the success of the project. Simply running a project like this because it is a good learning experience for students is probably a mistake. The instructors must all believe deeply that subjecting students to a real experience, with all of its unforeseen obstacles, is not only a good thing to do, but is also a fun, important, and wise thing to do as well. The instructors must be committed to the extra time and effort involved in setting up the project and working through their own dynamics as a team, possibly changing their teaching styles for the duration of the project. In short, if the faculty members do not believe in the efficacy of the project, do not have a vision of what it can produce in students, and do not commit their own efforts, the students will not engage emotionally and will not enter the project with an implicit understanding that "this looks scary, but it will be a good learning experience." In effect, each instructor has to be willing to say, truthfully: "This project will be hard; you will hate me. After it is over, you will thank me." There is a Rubicon regarding this project that must be crossed by faculty members. We question whether an instructor can reap the full benefit of the exercise without a deep sense that this is the right thing to do.

The instructors and participants in the project must also feel comfortable with the long term and more personal effects of the GDMT experience. As in company virtual teams, boundaries between personal and work life may become blurred for everyone involved. It has not been uncommon for team members to stay in contact with one another for several months and years to come after the project ends. In one case, a German student traveled to Tennessee to visit a student the summer after the program. In another instance a California student hosted several German and California team members for a weekend reunion. On the other hand, one United States student developed a very negative stereotype about Germans based on an experience with one teammate. The instructor had to engage in extensive personal coaching to help the student learn to see his own role in creating the destructive dynamic and to learn not generalize from one incident to a culture. Without this extra coaching, the student would have learned lessons that countered the project's objectives, rather than met them.

In short, because the GDMT Project is not a simulation but real life, an instructor must recognize and accept that there will be outcomes and

impacts that extend well beyond the walls of the classroom and the borders of the curriculum.

CONCLUSION

We live in age of increasing globalization—an age of heightened complexity. In order to function effectively in this new world, students need to acquire the knowledge and skills necessary to manage complexity. Our experience with the GDMT Project over the past four years has led us to conclude that it is a powerful mechanism for doing so. While we can lecture students about what is required, to borrow the words of Sophocles, "One must learn by doing the thing; for though you think you know it, you have no certainty until you try." The GDMT Project represents a real world virtual experience that gives students the opportunity to try.

NOTES

1. This chapter is based on a symposium, "Globally Distant Multicultural Teams: Intercultural Teaching in Times of Virtuality" (winner of the Best Symposium Award, Management Education Division, 2001), presented at the Academy of Management meeting in Washington, DC, 2001.

2. The global mindset construct is built upon two components (Boyacigiller, Beechler, Taylor, & Levy, 2004). The first is *cosmopolitanism*, which is defined as the intellectual and esthetic openness toward divergent cultural experiences, the search for contrasts rather than uniformity, and cultural competence. It is an orientation toward the outside world, rather than a parochial view. The second component is *cognitive complexity*, the ability to generate several competing interpretations of events and their interactive effects. People who are more cognitively complex use and perceive more constructs or dimensions when they describe a domain and see a greater number of links among these different constructs.

3. This definition is based on various sources: www.asq.org/info/glossary/v.html accessed January 20, 2004; Lipnack & Stamps, 2000; and Duarte & Snyder, 2001.

4. The survey consisted of four sections: culture, teaching, technology, and a team climate survey. The culture section examined cultural stereotypes and learning and the benefits and challenges of working on a multicultural team. Students described a critical incident in which culture played a role and a created a sociogram showing whom they felt closest to and interacted with most frequently on their team. The teaching portion of the survey measured self-reported learning in interpersonal, managerial and technological skills. The technology portion asked participants what type of technology they used to accomplish six basic team tasks, such as scheduling meetings, assigning tasks, gathering information, reporting problems, solving problems, and achieving social goals. The team climate survey examined how well their teams set objectives and worked together to achieve

them. Of a total population of 90 students, we received 43 responses, mostly from Austria and Missouri. Therefore, the responses were representative of all the different teams but not sufficiently representative of each university; they were, however, a valuable contribution to the other data points in this descriptive case study.

5. In subsequent years, we provided more structure, including suggested page length, an executive summary, and assigned topics and team composition.

6. The e-mail communications were examined for patterns of intercultural communication styles (Gudykunst & Ting-Toomey, 1988; Ting-Toomey, 1999) and cultural value dimensions (Kluckhohn & Strodtbeck, 1961; Hofstede, 1980; Hampden-Turner & Trompenaars, 1993; Schwartz, 1992). However, few differences were evident in the e-mails.

7. For a European view on learning styles, see Barmeyer, C. I. (2000). *Interkulturelles Management und Lernstile.* Frankfurt–New York: Campus.

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