

The Journal of Effective Teaching an online journal devoted to teaching excellence

Enhancing Student Collaboration in Global Virtual Teams

Gary F. Kohut¹ *University of North Carolina at Charlotte, Charlotte, NC*, 28223

Abstract

With the growth in the global economy and the rapid development of communication and information technologies, global virtual teams are quickly becoming the norm in the workplace. Research indicates, however, that many students have little or no experience working in such teams. Students who learn through these experiences benefit from higher task achievement, richer personal reflections, better social skills, increased cultural sensitivity, and greater psychological health. This paper discusses the challenges of integrating and managing global virtual teams (GVT) in the virtual classroom and strategies to help realize the unique opportunities they present in helping teach students the skills necessary for success in contemporary organizations.

Keywords: Global virtual team, student collaboration, virtual collaboration, virtual teams.

The growing capability of and access to communication and information technology along with the increasing movement toward globalization have created new teaching and learning opportunities in higher education. Further, institutions of higher education are being challenged to address the connectivity demands of prospective students and meet growing expectations for higher quality learning experiences and outcomes (Garrison & Kanuka, 2004). As classroom learning environments transform to meet the demands of a global and technologically challenging world, students need to experience virtual collaboration and teamwork that prepares them to communicate across cultural and organizational boundaries (Savin-Badin, et al., 2010; Williams, 2002). The Association to Advance Collegiate Schools of Business, the premier accrediting body for business schools, notes that a primary objective of higher education in business is to prepare students for challenges of the global work world (AACSB International, 2010). In spite of this recommendation, however, there is a surprising dearth of attention related to the development of global student collaboration opportunities. This may be due to the rather daunting perception some instructors may have in designing and delivering such an experience.

Employing global virtual teams (GVT's) to teach course content can yield benefits for students, instructors, and institutions of higher learning. For students, learning through collaboration, as compared to individual learning, usually results in higher task achievement, better social competence, and greater psychological health (Ruhleder & Michael, 2000). Collaboration enhances learning by encouraging students to exercise and improve

_

¹ Corresponding author's email: gfkohut@uncc.edu

their mental models through discussion and information sharing while working on tasks (Alavi, 1994). For instructors, global virtual collaboration helps bring together heterogeneous participants and exposes them to a diversity of cultures, opinions, and communication styles while encouraging the development of higher order thinking skills through such experiences (Schultz, 2003). For educational institutions, GVT's offer new ways of producing, distributing, and receiving university education (Orton-Johnson, 2009), and complement traditional teaching and learning methods. Additionally, adopting pedagogies that allow for the development of transferable collaborative skills to meet the expectations of prospective employers and which facilitate lifelong learning helps build reputations that are contemporary and attractive (Colbeck, Campbell, & Bjorklund, 2000; Correia, 2008).

Thanks in part to the power of communication and information technologies, organizations have become more geographically distributed and have employed GVTs to solve problems and create opportunities. Several multinational corporations such as Cisco Systems, IBM, Intel, Shell Oil Company, Toshiba, Siemens, Microsoft Corporation, Accenture, and Alcoa utilize integrated global teams that interact through virtual interfaces to service dispersed customers and pursue international business opportunities. Microsoft maintains global sales teams consisting of members drawn from its 8000 geographically dispersed sales representatives, 1000 call center employees, and 1000 sales partners. These teams share and access customer data, record sales opportunities and transactions, and manage global accounts to improve global sales activities and customer support (Badrinarayanan, Madhavaram, & Granot, 2011).

Many universities promote study abroad programs as a way to expose students to cultural differences and help prepare them for careers in a global work world. According to the Institute of International Education, 270,604 U.S. students studied abroad during the 2009-2010 academic year (Institute of International Education, 2011). However, when compared to the over 21 million individuals enrolled in degree-granting higher-educational institutions (National Center for Education Statistics, 2012), only a small fraction of enrolled students (1.3 percent) participate in study-abroad opportunities. GVTs can be viewed as a way to extend cultural lessons learned by studying abroad to those who could not or did not participate. However, the coordination involved in such a collaboration can present some real challenges.

Advantages of GVTs

Kristof, Brown, Sims, & Smith (1995) defined global virtual teams as those that are temporary (no common history), electronically mediated, culturally diverse, and geographically distributed. Advantages of using such teams for teaching and learning include students' exposure to a variety of ideas, perspectives, and approaches to problem solving; generation of cognitive disequilibrium that is conducive to learning, creativity, and cognitive and social development; and a gain of sophistication in building arguments, sensemaking, position-taking, and consensus reaching (Johnson & Johnson, 2003).

Global virtual teams are being used across a spectrum of college disciplines. For example, in nursing GVTs are viewed as innovative alternatives to overseas clinical placements as they help nurses develop global citizenship behaviors through authentic international learning experiences (Strickland, Adamson, Blight, & McInally, 2011; Williamson & Harrison, 2010). Further, GVTs address engineering skill gaps in areas such as working globally in a multicultural environment; working in interdisciplinary teams; sharing tasks on a global, around-the-clock basis; and working with digital communication tools in virtual environments (Brodie & Porter, 2008; Oladiran, Uziak, Eisenberg, & Scheffer, 2011). GVTs have also been employed in sociology to understand interaction behaviors (Dekker, Rutte, & Van den Berg, 2008), in legal education to help in the global expansion of law practices (Cherry, 2010), in management education to facilitate virtual teamwork (Shea, Sherer, Quilling, & Blewett, 2011), and in project management and software development to address localized skill shortages (Guzman, Ramos, Seco, & Esteban, 2010; Tuffley, 2012)

Critical success factors for GVTs are similar to those for a traditional team. Teams in both forms need a clear purpose, measurable goals (Huszczo, 1996), appropriate team size of 3-5 people (Lipnack & Stamps, 1997), team norms or operating guidelines (Scholtes, 1998), and effective communication and decision making skills and processes (Aranda, Aranda, & Conlon, 1998). In addition, strong leadership is also needed for the success of a virtual team although it is recognized as being more difficult to establish in virtual situations. Research (Lipnack & Stamps, 1999) indicates that a shared or distributed leadership among team members rather than centralized leadership is more likely to achieve team success. This means that team members need to have self-directing freedom to manage their team project in a collaborative fashion.

Hudson (2000) observed that a virtual team, unlike a face-to-face team, needs to address simultaneously at least three types of issues: pedagogical, technological, and cultural. These three types of challenges pose unprecedented challenges for people with diversified backgrounds to work effectively together (Lurey & Raisinghani, 2001). In addition, factors such as team roles, power, trust, time and distance, and organizational relationship building begin to emerge.

The literature has presented guidelines for managing virtual teams but relatively little advice on how GVT's can be managed and integrated into course projects and how to best guide students toward successful outcomes. The purpose of this paper is to present strategies for educators who would like to successfully integrate GVTs into their courses and enhance the collaborative skills of students in such teams.

Guidelines for Managing GVT Learning

Getting started in creating a GVT learning experience for students is not as imposing as it once was. Many schools have offices of international and/or exchange programs that can offer potential contacts for collaboration. In addition, teaching and research networks, particularly through professional meetings, are another way to cultivate global contacts.

Finally, some universities offer teaching abroad opportunities for faculty and this is an excellent avenue to create the necessary links to develop GVT opportunities.

However, simply assigning students to GVTs and asking them to work collaboratively will not guarantee that they will collaborate. (Kreijns, Kirschner, & Jochems, 2003; Johnson & Johnson, 2004). Johnson and Johnson (2004) identified five elements needed for effective collaboration: (1) positive interdependence, (2) promotive interaction, (3) individual accountability, (4) appropriate use of social skills, and (5) group processing. Positive interdependence occurs when each team member perceives that he or she cannot succeed unless the team does. The second element, promotive interaction, exists when team members act as trustworthy members by acknowledging and challenging each other's ideas and facilitating each other's efforts. The third element, individual accountability, can be achieved when each team member's performance is objectively assessed. The fourth element, appropriate use of social skills, involves the development of trust, clear communication, and constructive conflict resolution. The fifth element, group processing, includes monitoring all members' work to ensure quality of the contributions while facilitating social interaction and ensuring reciprocal interaction so that team members can collaborate effectively. Following are suggestions for applying the preceding five elements to GVT's.

Composition of the GVT

In virtual environments, larger groups are less productive and have more difficulty arriving at decisions, so consider 3-5 members per team as a target. An odd number is recommended for greater success in working through conflicts. If possible, teams can be organized on talent and experience so that an "expert" in the team is able to provide modeling of skills as well as opportunities for other team members to learn. Tasks should be designed around a single competency area or a small number of skills and they should be communicated through clearly stated objectives.

The greatest value of GVT learning may also be its greatest challenge. That is, a team is made up of people with a diversity of talents, strengths, and experiences. This brings with it the foundation for stimulating discussion, creativity, and effective problem solving. However, it also means that each member of the team arrives with established work habits, learning styles, and preferred team roles. GVTs work best when team members balance task roles (accomplishing goals) and maintenance roles (satisfaction with process and efficiency). Task roles and maintenance roles take on a new character in virtual environments. Task roles dominate and are performed both online and offline. Maintenance roles, although critical to team connectivity, may not be performed until conflict arises and inefficiency is perceived (Harasim, 1993).

Assigning the members of the team is integral to the success of the team. Some instructors allow students to self-select their teams; however, this has some disadvantages. Self-selected teams often have members gravitate toward their friends. This can result in students self-segregating and spending more time socializing with each other rather than on the task. Other instructors prefer to randomly assign students to teams. While this has an

advantage of maximizing heterogeneity of the team and can be an effective way of assigning team members in large classes, disadvantages exist for GVT's. For one, instructors and students know little, if anything, about each other. Additionally, some of the more important cultural differences affecting team behavior relate to whether a person was from an individualistic or collectivistic culture. Individualists are more task centered and are more likely to engage in competitive behavior, while collectivists favor the emergence of charismatic leadership and adopt collaborative behaviors (Oetzel, 1998; Pillai & Meindl, 1998). An understanding of how national as well as organizational culture influences global virtual team dynamics is crucial to developing a successful knowledge-sharing and problem-solving base and culture for the virtual team. Thus, blending individuals with those with different backgrounds can help GVTs leverage the diversity of their members to maximize performance (Hamilton, Nickerson, & Owan, 2003; Uber-Grosse, 2002). Research suggests that teams which are assigned by the instructor and perhaps realize the advantages of diversity tend to perform better than self-selected teams (Felder & Brent, 2001; Oakley, Brent, Felder, & Elhajj, 2004).

GVT Member Responsibilities

Although it may appear appropriate for each team member to address a task in which he or she excels, it is important to remember that students must master a wide range of proficiencies in order to be competitive in the workplace. Although specialization can enhance strengths, it can also reinforce weaknesses and limit opportunities to enhance important qualities. Thus, in order to recognize as many benefits from virtual collaboration, team members should accept responsibility for tasks requiring skills already developed, but also for tasks requiring underdeveloped skills that can be acquired during the process to complete the assignment.

Managing GVT Processes

The numerous advantages of GVTs have been identified in the literature (Sarker, Ahuja, Sarker, Kirkeby, 2011; Maynard, Mathieu, Rapp, & Gilson, 2012). Using communication technology reduces the emotional components of communication, promotes rationality and task focus and reduces the influence of personal status and potential domination of the team by a few members (Mezgar, 2005). Such factors help make global virtual teams more efficient than face-to-face teams, however, they are more difficult to manage and require more time to achieve peak performance than face-to-face teams. Following are some recommendations to help educators make GVTs more effective learning experiences for students.

Cohesiveness within the GVT

Instructors can help build connections within the GVT by sending a detailed advance email at the beginning of the team activity. This email should include a friendly welcome, a concise description of the team goals and the desired outcome, and recommendations on being a successful team member in a virtual learning setting. Team members should be asked to contribute personal information about themselves as a first communi-

cation of the virtual team. They should include information about their backgrounds, contributions they will bring to the team, and familiarity with the task and/or technology being utilized. Sharing this information can help create connections among team members. It is also important to help establish ground rules for the frequency of checking communications where such communications set the stage for future work. Team-based discussion allows collaborative learning to occur and encourages the development of important teamwork skills for students.

Communication Media

Students need to possess or be trained (a brief FAQ would suffice) to have enough computer literacy so that the technology does not interfere with their communication. Many communication and integration challenges are attributable to the lack of "richness" in media, where richness refers to the amount and quality of available feedback from a medium. Lean media are those communication technologies that allow for limited socioemotional cues whereas rich media are those that allow for immediate feedback, nonverbal cues, and personalization.

While email is not a rich medium, it is frequently the communication medium of choice for global virtual teams. Email has the advantage of allowing team members more time to edit their messages, making it easier for non-native speakers to communicate (Warkentin, Sayeed, & Hightower, 1997). Further, the lack of nonverbal cues and the resulting social distance may be desirable when handling negative feedback from one member to another (Sivunen & Valo, 2006).

Baker (2002) found that the synchronous effects of collaborative technologies (such as video and audio from sources such as Skype and Google You+), rather than the use of a single form of media, resulted in better decision making by virtual teams. Hedlund, Ilgen, & Hollenbeck (1998) found that while face-to-face communication was more beneficial at an earlier stage of the decision-making process, media that filter social cues led to more accurate decisions at a later stage. For example, they found that in face-to-face meetings, leaders were often influenced by the confidence level of the individual offering the opinion; leaders were also likely to perceive team members who spoke most frequently as more knowledgeable. These social cues may present a significant disadvantage to individuals coming from collectivist cultures where it may be considered inappropriate to speak too much.

Trust in the GVT

Communication barriers, cultural differences, the absence of a well-defined system of social relationships and the lack of sufficient time to interact among team members hinders the development of trust in global virtual teams (Govindarajan & Gupta, 2001; Jarvenpaa, Knoll, & Leidner, 1998). Jarvenpaa, et al. (1998) stated that the level of trust in a global team depended on each member's perceptions of each other's ability, benevolence, and integrity. Traditional teams build trust over time by observing each other's work, behavior and performance. Several experiences of successful performance are

necessary for one team member to build trust with another, but a single event of poor performance can destroy that trust. When trust is damaged, informal communication and nonverbal cues play a critical role in identifying the problem. Instructors can help build trust in global teams by promoting the sharing of views and perspectives. One tool that has shown value has been a value ranking exercise where team members identify how various concepts such as achievement, autonomy, and dominance are valued in their native cultures. This exercise is illustrated in Figure 1.

Some research has indicated that global virtual teams create their own cultural rules (Pauleen, 2003; Earley & Mosakowski, 2000). Other authors suggest that teams tend to develop a "hybrid" culture that allows them to share a set of assumptions, norms and terminology (Hambrick, Davison, Snell, & Snow, 1998). Instructors may want teams to formalize the process of creating a shared culture by writing down the assumptions, norms and terminology adopted by the team.

Links between Culture and Team Communication

Teamwork can be problematic for student teams operating in a face-to-face setting because students may overreact to nonverbal cues. Moreover, in a virtual environment

Value Ranking Exercise

Rank each of the 10 values below according to what you think they are in the Chinese, Indian (from India), and U.S. cultures. Use "1" as the most important value for the culture and "10" as the least important value for that culture.

Value U.S. Chinese Indian

Achievement

Deference

Order

Exhibition

Autonomy

Affiliation

Dominance

Change

Endurance

Aggression

Discussion Questions

- 1. What are some main similarities and differences among the cultures? Were you surprised by the results? Explain.
- 2. What advice could your team offer for those doing business with individuals from the United States, China, or India based on their value systems?

Figure 1. Value Ranking Exercise

these problems may be exacerbated when nonverbal cues are not observed and where immediate responses and feedback are seldom provided. Conversely, Barry (2002) argued that virtual teams may allow teams to focus more clearly on the task and avoid nonconstructive discussion. Dickey, Wasko, & Thatcher (2006) suggested that miscommunication among team members is the result of lack of shared understanding. They proposed that text-based communication can result in shared understanding, but that the development of mutual knowledge may take longer in a virtual setting.

Effective communication and the development of a shared culture during the formation stage of team development help develop what Meyerson, Weick, and Kramer (1996) have called "swift trust", a trust that forms to perform a common, finite task. Jarvenpaa and Leidner (1999) discovered that swift trust formed as a result of initial actions and frequent, predictable patterns of task and social communication. Coppola, Hiltz, & Rotter (2004) found that trust developed in online courses where a positive social atmosphere and predictable patterns of communication were established early in the semester. Thus, it is important early in the team formation stage that GVTs establish norms for communicating within the team.

Problem Solving and Decision Making in the GVT

Instructors may want to suggest a variety of tools to support the different phases of problem solving. Different tools better address different parts of the problem-solving process. For example, if the problem or case study will take several sessions to solve, teams will benefit from an asynchronous tool that can keep a chronicle or history of the team's discussions. If problem solving can be resolved in a single session, a synchronous tool for discussing and defending individual perspectives or even voting can be useful. Asynchronous problem solving (email, discussion threads) is best supplemented with a synchronous tool (on-line meetings) during decision making to build closer connections to team members.

While it is often helpful to point out that consensus is often unrealized in team decision-making, suggesting such a course of action as a team member has limited value. Thus, teams frequently benefit from the intervention of a neutral facilitator when it comes to making critical decisions or selecting among alternatives. Brief summaries of progress are another effective tool for leading to quality decisions. Often team members are too busy looking forward to see where they have been. Thus, teachers can review and summarize a team's progress as illustrated in the following example. "I see that you are developing three distinct alternatives. The first appears to focus on user needs. The second focuses on the simplicity of design. The third addresses the cost advantages. Which do you feel are a priority given the goal of immediate success?"

Content and Format of GVT Deliverables

The pedagogical purpose of a project can serve multiple purposes: first, to provide students with opportunities to experience international and virtual interaction; second, to challenge the students to apply concepts learned in the class. Although the actual com-

pletion of the task is a measure of team success, task performance may not be the main goal of the project. The main goal may be to teach team members how to collaborate internationally through communication technology.

It must also be mentioned that identifying formatting requirements such as spacing, pagination, font size and style will help students to avoid relying solely on their memories from earlier conversations or other classes. Indeed, formatting norms may vary widely with individuals from different cultures. Therefore, it may be wise to include samples of content, as well as title pages and citations.

A schedule that indicates the due dates for interim assignments and other preliminary tasks can be given when the project is assigned. Teams can use the schedule to plan and complete the activities in a timely manner.

A team status report midway through the project can assess the completed work, the present work, the work remaining, problems that occurred and how they were overcome, and any changes in the approach to the project. Instructors can ask teams to summarize their work and consider incorporating the write up in the final paper so as to not leave all of the writing until the end of the term.

Instructor Feedback to the GVT

It is important to help team members sustain participation. A major reason why some team members "disappear" at times has to do with students' feelings of not being connected (Crouch & Montecino, 1997). Instructors should consider frequent email prompts to help team members overcome procrastination. Email reminders are useful in helping keep the team task in the forefront of the learner's thoughts. Emails should not be nagging, but serve as friendly reminders to contact the instructor or other team members if assistance is required or for periodic reports on team progress.

Skill building depends on frequent practice and feedback. The instructor can use semi-private or private communications for feedback. Semi-private communications can be established by providing "exclusive" discussions accessible only by team members. Individual feedback should be conducted by email. The instructor should plan and use check points for communication, reporting, and questioning on a project's progress. Synchronous tools are effective for conducting such checkpoints. When the activity is completed, conduct an asynchronous debriefing or "lessons learned" discussion.

Discussions Within the GVT

Activities that develop new concepts and meaning may include reading, information searching and sharing, discussion, inquiries, and reflection. The facilitator (instructor) of knowledge construction may be skilled at scaffolding discussion, and encouraging exploration and elaboration. Effective scaffolding involves asking appropriate questions. Asking if there are any questions is not enough. In a virtual environment, you have to ask specific questions about specific content, solicit opinions, and follow up to engage stu-

dents in discussion and reflection. The structure can be minimal. If the discussion topic is new to students, post a topic along with 1-2 open-ended questions to initiate thinking. This allows the students to develop the concepts, ideas, and details. Instructors (facilitators) should avoid dominating discussions by using relay questioning techniques and only participating when necessary. Relay questions involve rephrasing a question from one GVT member and then relaying it to another member for her/him to answer. For example, "Serena has asked for the best way to respond to this situation. In light of your experience, Wanda, will you tell us your view of the best course of action?"

To encourage continued contributions, instructors can model rewards for participants' thoughtful responses with short affirmations. Finally, when discussion objectives have been met, the instructor can quickly "point to" the learning with a brief summary. This can serve as powerful positive reinforcement for future work.

As in face-to-face questioning, effective questioning techniques are useful to encourage elaboration. Open-ended questions are valuable to stimulate responses that build on prior concepts. For example, "Ricardo, you indicated a survey as one of the ways to capture primary data. What other techniques could you employ?"

Instructors can intervene, when necessary, to highlight areas of common ground. Responses to comments that are clearly not constructive should be carefully phrased. For example, "While I realize that we will not always agree with all points of view expressed on the project, this is a reminder to reflect and build on ideas, not judge the person for offering the idea(s)." This type of conflict can be avoided if teams adopt ground rules or "rules of engagement" that encourage members to suspend judgment and accept diverse views. An instructor may ask that the team post the rules at the beginning of the team activity. Then the instructor can monitor the interaction and remind members when a contribution is outside of the accepted rules. In this way, surprises linking sanctions to inappropriate behavior seldom occur.

Team members will expect the facilitator (instructor) to intervene when conflicts get personal or unproductive. Instructors can help the team members see areas within their conflict that they agree upon. For example, "Ruth and Henry, you seem to be at a standstill. In reviewing your contributions, it appears that you are both concerned that the end product be visually appealing. Is that correct?" Instructors can stress that not all conflict is "bad" and that it can generate an examination of alternatives leading to a better solution. Instructors can also propose the use of synchronous tools to resolve heated conflict in a timely fashion. Phone or video conferences may be more effective than computer-mediated communication to resolve personal conflict. Maznevski and DiStefano (2000) proposed that diverse teams must not suppress conflict by ignoring differences, but must instead generate an understanding of each team member's abilities and take advantage of distinctive competencies. This cognitive state of the team is a global extension of the collective mind. Differing perspectives in the team are, in fact, the sources of maximum creative potential. To tap this source, team members must know, respect, and trust one another.

Evaluation of the GVT Task

Evaluating a team and its task(s) is a difficult endeavor and instructors should have a clear idea of how they want to evaluate the team work. A good beginning is to determine what is being evaluated: the final product, the process, or both. Next, it is necessary to decide who assigns the grades: the instructor, the team members, or both. If process is going to be evaluated, it is important to give students an opportunity to assess the effectiveness of their team. At the end of the process, they should be able to list their contributions, their team member's contributions, and comment on the process as a whole. They should be able to identify those aspects that worked and those that did not. Peer evaluations allow the instructor to evaluate the team process in the most well informed, objective manner. Figure 2 illustrates an example of a peer rating form. Researchers argue that qualitative examination is needed to better understand what global team members perceive as challenging and rewarding (Finegold & Cooke, 2006; Song, Singleton, Hill, & Koh, 2004). Such understanding will help develop strategies for making GVT's a more satisfying experience for both students and instructors.

The instructional goal and the type of team activity has a direct impact on how team members explore and define objectives, plan a course of action, and their perceptions of success. A clearly communicated instructional goal and desired performance outcomes of the team are essential regardless of the delivery system. One method to convey this information is through a grading rubric which identifies the criteria by which the work will be graded. Stevens and Levi (2005) recommended rubrics because they help convey clear expectations to students, increase their focus on their efforts, improve task achievement, and reduce instructor grading time.

Reviewing each of the items on the grading rubric will help to emphasize the criteria that are to be met in completing the assignment (Mckeown, 2011). The grading form also can serve as a tool for students to use in evaluating their own work before submitting it to the instructor.

Finally, the role of peer and self-evaluations is a controversial topic. While some educators believe that the concept of the team working together means that the entire team should receive the same grade, others question this approach on the grounds that it may cause more conscientious team members to assume a disproportionately larger share of the work in order to compensate for the lack of productivity from less diligent team members. How this issue is resolved is ultimately at the discretion of the instructor. However, to reduce potential confusion and address issues of fairness, it is important to articulate the system of evaluation when the task is first assigned

Discussion

Transferring what is known about collaborative learning to a global virtual team requires careful thinking, planning, and execution. It requires thinking about the differences in the styles of interaction, and adaptive behaviors that will help students realize the full

<u>Dimension</u>	Person Being Evaluated: Rating (0-10)				
	Name	Name	Name	Name	Name
Quality of Deliverable (s)					
Ability to see the big picture / How parts of the project fit together					
Capacity to meet deadlines					
Collaboration with other team members					
Communication within the team					
Initiative					
Carrying out assigned duties (from the team)					
Responsibility					
Resourcefulness					
Professionalism					
Total Number of Points (0-100)					

Please provide an explanation/rationale for each rating:

Figure 2. Confidential Peer Rating Form

potential of the experience. Establishing relationships needs to be one of the purposes for exploring GVTs. The concept of a collective presence is critical in designing effective GVTs that focus not just on talking to each other but in building a community and making students realize that they are a part of something. Studies (Maynard et al., 2012; Parkinson, Zaugg, & Tateichi, 2011) indicate that GVT experiences are highly valued by students since they provide a sense of reality and timeliness to the work world.

Educators can easily adapt the suggestions offered in this paper and introduce GVT's into their courses. The key is to remember that better communication among the teacher and students will foster deeper understanding and build the trust critical for the success of GVTs. It is also important to adjust the expectations of the project to resources and limitations, particularly time. Finding ways to accelerate team building is essential. For example, the task should have a clear road map to completion and the instructor should facilitate decision making, thus relieving tension and frustration. Learning through global virtual experiences will give students a competitive edge in the global marketplace and offer them the opportunity to develop global leadership skills. This approach will also help educators and institutions of higher learning build fertile international connections and play a key role in reaching an overarching goal of promoting and teaching global collaboration.

References

- AACSB International (The Association to Advance Collegiate Schools of Business) (2010). Eligibility procedures and accreditation standards for business accreditation. Tampa, FL, January 31, Retrieved January 3, 2012 from www.aacsb.edu/accreditation/business/standards/aacsb_business_standards.pdf.
- Alavi, M. (1994). Computer-mediated collaborative learning: An empirical evaluation. *MIS Quarterly*, 18(2), 159-174.
- Aranda, E. K., Aranda, L., & Conlon, K. (1998). *Teams: Structure, process, culture, and politics*. Upper Saddle River, NJ: Prentice Hall.
- Badrinarayanan, V., Madhavaram, S., & Granot, E. (2011). Global virtual sales teams (GVSTS): A conceptual framework of the influence of intellectual and social capital on effectiveness. *Journal of Personal Selling & Sales Management*, 31(3), 311-324.
- Baker, G. (2002). The effects of synchronous collaborative technologies on decision making: A study of virtual teams. *Information Resources Management Journal*, 15(4), 79-93.
- Barry, R. W. (2002). The efficacy of electronic communication in the business school: Marketing students' perceptions of virtual teams. *Marketing Education Review*, 12(2), 73-78.
- Brodie, L. M., & Porter, M. (2008). Engaging distance and on-campus students in problem-based learning. *European Journal of Engineering Education*, 33(4), 433-443.
- Cherry, M.A. (2010). The global dimensions of virtual work. *St. Louis University Law Journal*, 54(2), 471-496.
- Colbeck, C., Campbell, S., Bjorklund, S. (2000). Grouping in the dark: What college students learn from group projects. *The Journal of Higher Education*, 71(1), 60-83.
- Coppola, N. W., Hiltz, S. R., & Rotter, N. G. (2004). Building trust in virtual teams. *IEEE Transactions on Professional Communication*, 47(2), 95-104.
- Correia, A. P. (2008). Moving from theory to real-world experiences in an e-learning community. Innovate, 4(4), Retrieved December 10, 2011 from http://www.innovateonline.info/index.php?view=article&id=495
- Crouch, M. L., & Montecino, V. (1997). Cyberstress: Asynchronous anxiety or worried in cyberspace. Retrieved December 12, 2011 from http://www.eric.ed.gov/contentdelivery/servlet/ERICServlet?accno=ED412938

- Dekker, D. M., Rutte, C. G., & Van den Berg, P. T. (2008). Cultural differences in the perception of critical interaction behaviors in global virtual teams. *International Journal of Intercultural Relations*, 32(5), 441-452.
- Dickey, M. H., Wasko, M. M., & Thatcher, J. B. (2006). Do you know what I know? A shared misunderstandings perspective on text-based communication. *Journal of Computer-Mediated Communication*, 112(1), 66-87.
- Earley, P. C., & Mosakowski, E. (2000). Creating hybrid team cultures: An empirical test of transnational team functioning. *Academy of Management Journal*, 43(1), 26-50.
- Felder, R. M., & Brent, R. (2001). Effective strategies for cooperative learning. *Journal of Cooperation & Collaboration in College Teaching*, 10(2), 69-75.
- Finegold, A., & Cooke, L. (2006). Exploring the attitudes and dynamics of interaction in online groups. *The Internet and Higher Education*, 9(3), 201-215.
- Garrison, D. R., & Kanuka, H. (2004). Blended learning: Uncovering the transformative potential in higher education. *Internet and Higher Education*, 7(2), 95-105.
- Govindarajan, V., & Gupta, A.K. (2001). Building an effective global business team. *MIT Sloan Management Review*, 42(4), 63-72.
- Guzman, J. G., Ramos, J. S., Seco, A. A., & Esteban, A. S. (2010). How to get mature global virtual teams: A framework to improve team process management in distributed software teams. *Software Quality Journal*, 18(4), 409-435.
- Hambrick, D. C., Davison, S. C., Snell, S. A., & Snow, C. C. (1998). When groups consist of multiple nationalities: Toward a new understanding of the implications. *Organization Studies*, 19(2), 181-205.
- Hamilton, B. H., Nickerson, J. A., & Owan, H. (2003). Team incentives and worker heterogeneity: An empirical analysis of the impact of teams on productivity and participation. *Journal of Political Economy*, 111(3), 465-497.
- Harasim, L. (1993). Collaborating in cyberspace: Using computer conferences as a group learning environment. *Interactive Learning Environments*, *3*(2), 119-130.
- Hedlund, J., Ilgen, D. R., & Hollenbeck, J. R. (1998). Decision accuracy in computer-mediated versus face-to-face decision-making teams. *Organizational Behavior Human Decision Processes*, 76(1), 30-47.
- Hudson, B. (2000). A social perspective on teaching and learning in the context of computer mediated communication in higher education. *Journal of Information Technology in Teacher Education*, 8(3), 345-356.
- Huszczo, G. E. (1996). Tools for team excellence. Palo Alto, CA: Davies-Black.
- Institute of International Education/Forum on Education Abroad Survey of Study Abroad Enrollments During Academic Year 2010/11, (2011, November). Retrieved January 20, 2012 from
 - http://www.iie.org/Who-We-Are/News-and-Events/Press-Center/Press-Releases/2011/2011-11-14-Open-Doors-Fall-Survey-Study-Abroad.
- Jarvenpaa, S. L., & Leidner, D. E. (1999). Communication and trust in global virtual teams. *Organization Science*, *10*(6), 791-815.
- Jarvenpaa, S. L., Knoll, K., & Leidner, D. E. (1998). Is anybody out there? Antecedents of trust in global virtual teams. *Journal of Management Information Systems*, 14(4), 29-64.

Johnson, D., & Johnson, R. (2004). Cooperation and the use of technology. In D. H. Johnssen (ed.), *Handbook of Research on Educational Communications and Technology* (pp. 785-811). Mahwah, NJ: Lawrence Erlbaum Associates.

- Johnson, D., & Johnson, R. (2003). *Joining together: Group theory and skills*. Needham Heights, MA: Allyn & Bacon.
- Johnson, D. W., Johnson, R. T., & Smith, K. A. (1991). *Active learning: Cooperation in the college classroom*. Edina, MN: Interaction Book Company.
- Kreijns, K., Kirschner, P. A., & Jochems, W. (2003). Identifying the pitfalls for social interactions in computer-supported collaborative learning environments: A review of the research. *Computers in Human Behaviors*, 19(3), 335-353.
- Kristof, A. L., Brown, K. G., Sims, H. P., & Smith, K.A. (1995). The virtual team: A case study and inductive model. In M. M. Beyerlein, D. A. Johnson, & S. T. Beyerlein (Eds.), *Advances in Interdisciplinary Studies of Work Teams: Knowledge Work in Teams* (pp. 29-253). Greenwich, CT: JAI Press.
- Lipnack, J., & Stamps, J. (1997). Virtual teams: Reaching across space, time, and organization with technology. New York: John Wiley & Sons.
- Lipnack, J., & Stamps, J. (1999). Virtual teams: The new way to work. *Strategy & Leadership*, 27(1), 14-19.
- Lurey, J. S., & Raisinghani, M. S. (2001). An empirical study of best practices of virtual teams. *Information Management*, 38(8), 523-544.
- Maynard, M. T., Mathieu, J. E., Rapp, T. L., & Gilson, L. L. (2012). Something(s) old and something(s) new: Modeling drivers of global virtual team effectiveness. *Journal of Organizational Behavior*, 33(3), 342-365.
- Maznevski, M. L., & Di Stefano, J. J. (2000). Global leaders are team players: Developing global leaders through membership on global teams. *Human Resource Management*, 39(2-3), 195-208.
- Mckeown, R. (2011). Using rubrics to assess student knowledge related to sustainability: A practitioner's view. *Journal of Education for Sustainable Development*, 5(1), 61-74.
- Meyerson, D., Weick, K. E., & Kramer, R. M. (1996). Swift trust and temporary groups. In R. M. Kramer & T. R. Tyler (eds.). *Trust in Organizations: Frontiers of Theory and Research* (pp. 166-195). London: Sage Publications.
- Mezgar, I. (2005). Trust in virtual organizations. In S. Dasgupta (Ed.), *Encyclopedia of Virtual Communities and Technologies* (pp. 452-456). London: Idea Group.
- National Center for Education Statistics (2012). Section 5. Enrollment in Postsecondary Degree-Granting Institutions: Total Enrollment. Retrieved January 9, 2012 from http://nces.ed.gov/programs/projections/projections2020/sec5b.asp
- Oakley, B, Brent, R., Felder, R., & Elhajj, I. (2004). Turing groups into effective teams. *Journal of Student Centered Learning*, 1(3), 9-23.
- Oetzel, J. G. (1998). Culturally homogeneous and heterogeneous groups: Explaining communication processes through individualism-collectivism and self-construal. *International Journal of Intercultural Relations*, 22(2), 135-161.
- Oladiran, M. T., Uziak, J., Eisenberg, M., & Scheffer, C. (2011). Global engineering team--A programme promoting teamwork in engineering design and manufacturing. *European Journal of Engineering Education*, 36(2), 173-186.

- Orton-Johnson, K. (2009). I've stuck to the path I'm afraid: Exploring student non-use of blended learning. *British Journal of Educational Technology*, 40(5), 227-233.
- Parkinson, A., Zaugg, H., & Tateishi, I. (2011). Global virtual teams: A new frontier for capstone design. *International Journal of Engineering Education*, 27(6), 1221-1230.
- Pauleen, D. J. (2003). Lessons learned crossing boundaries in an ICT-supported distributed team. *Journal of Global Information Management*, 11(4), 1-19.
- Pillai, R., & Meindl, J. R. (1998). Context and charisma: A "meso" level examination of the relationship of organic structure, collectivism, and crisis to charismatic leadership. *Journal of Management*, 24(5), 643-671.
- Ruhleder, K., & Michael, T. (2000). Reflective collaborative learning on the web: Drawing on the master class, First Monday, 5(5), Retrieved December 6, 2011 from http://www.firstmonday.org/issues/issue55/ruhleder/
- Sarker, S., Ahuja, M., Sarker, S., & Kirkeby, S. (2011). The role of communication and trust in global virtual teams: A social network perspective. *Journal of Management information Systems*, 28(1), 273-309.
- Savin-Baden, M., Gourlay, L., Tombs, C., Steils, N., Tombs, G., & Mawer, M. (2010). Situarting pedagogies, positions and practices in immersive virtual worlds. *Educational Research*, 52(2), 123-133.
- Scholtes, P. R. (1998). *The leader's handbook: Making things happen, getting things done.* New York: McGraw-Hill.
- Schulz, B. (2003). Collabotative learning in an online environment: Will it work for teacher training? In Proceedings of the 14th annual Society for Information Technology and Teacher Education International Conference (pp. 503-504). Charlottesville, VA: Association for the Advancement of Computers in Education.
- Shea, T., Sherer, P., Quilling, R., & Blewett, C.N. (2011). Managing global teams across classrooms, students and faculty. *Journal of Teaching International Business*, 22(4), 300-313.
- Sivunen, A. & Valo, M. (2006). Team leader's technology choice in virtual teams. *IEEE Transactions on Professional Communication*, 49(1), 57-68.
- Song, L., Singleton, E., Hill, J., & Koh, M. (2004). Improving on-line learning: Students perceptions of useful and challenging characteristics. *The Internet and Higher Education*, 7(1), 59-70.
- Stevens, D.D. & Levi, A. (2005). Introduction to rubrics: An assessment tool to save grading time, convey effective feedback, and promote student learning. Sterling, VA: Stylus Publishing.
- Strickland, K., Adamson, L., Blight, C., & McInally, W. (2011). Breaking down barriers: Development of a wiki based module to enhance the international learning experience. In Proceedings of the European Conference on E-Learning (pp. 1012-1014). Edinburgh, UK.
- Tuffley, D. (2012). Optimising virtual team leadership in global software development. *IET Software*, 6(3), 176-184.
- Uber-Grosse, C. (2002). Managing communication within virtual intercultural teams. *Business Communication Quarterly*, 65(4), 22-39.
- Warketin, M. E., Sayeed, L., & Hightower, R. (1997). Virtual teams versus face-to-face teams: An exploratory study of a web-based conference system. *Decision Sciences*, 28(4), 975-996.

Williams, C. (2002). Learning on-line: A review of recent literature in a rapidly expanding field. *Journal of Further and Higher Education*, 26(3), 263-272.

Williamson, M., & Harrison, L. (2010). Providing culturally appropriate care: A literature review. *International Journal of Nursing Studies*, 47(6), 761-769.