Virtual Teams and International Business Teaching and Learning: The Case of the Global Enterprise Experience (GEE)

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Abstract:

The increasing importance of global virtual teams in business is reflected in the classroom by the increased adoption of activities that facilitate real-time cross-cultural interaction. This article documents the experience of students from two Colombian universities who participated in a collaborative international project using virtual teams as part of the international business (IB) curriculum. The data reveals that in spite of challenges associated with time zone differences, technology limitations, and trust issues, the vast majority of students perceived that the use of virtual teams as a teaching tool facilitates cultural understanding and IB-relevant learning. The findings of this research suggest that online experiential exercises can be an effective approach in teaching and in the development of virtual collaboration skills.

Keywords: Virtual teams | International business | Teamwork | Trust | Global Enterprise Experience | Colombia

Article:

1. Introduction

This article aims to contribute to the existing literature by evaluating the effects of a case study incorporating online experiential learning through global virtual teams in international business (IB) teaching. It provides evidence of important aspects to be considered when developing cross-cultural competencies and in particular for developing students’ global teamwork skills and capabilities through the use of online technologies. More specifically, it draws upon survey results exploring Colombian student feedback when considering opportunities and challenges associated with using virtual teams (i.e., the Global Enterprise Experience) in IB teaching and learning within Colombian universities.

The Global Enterprise Experience (GEE, 2013) is an “international business competition that aims to develop skills in managing across cultures, time zones, world views and levels of wealth and poverty” (Developing Global Leaders, para. 1). The GEE was launched in New Zealand in 2004 aiming to prepare students for intercultural challenges via intense interactions in
a determined period of time. The objective of GEE is to develop teamwork skills amongst randomly selected international team members located in different time zones and teach them to overcome potential cultural, social, technological, and geographical challenges. To date, students from 155 higher education institutions from 64 countries have participated in the GEE challenge. To participate in the contest, students sign up on the project’s website and are allocated in multinational teams of eight. During approximately three weeks, each team assumes the challenge of developing a six-page project on a given IB topic. Additionally, each participant must submit a one-page journal sharing his or her insights and experiences related to the participation in the contest in order to be eligible for prizes or awards. In 2012, 90 teams participated in the GEE, and there was at least one member from Colombia in each of those teams. These Colombian participants represent the empirical context of our study. Examination of the engagement experience of the Colombian students has merit. Colombian universities have enrolled to date an estimated number of 5,000 students in IB undergraduate programs; approximately 20% of those studying solely IB are students from Universidad EAFIT. Latin American students represented around one sixth of student participants in the international business contest in 2012. This level of participation reflects the response of higher education institutions embracing teaching innovations and internationalisation to extend and complement IB classroom teaching.

This article now moves to review extant literature on the increasing importance of online virtual collaboration and main issues involved in using online teams both within the workplace and in the classroom. It then details methodological aspects and presents the results obtained. To illustrate the potential student challenges associated with online virtual teams, this article documents and analyzes empirical data on the dynamics of the Global Enterprise Experience (GEE) from the perspective of Colombian student participants. In the last sections of the article, conclusions and implications of the study are presented with particular reference to future research directions.

2. Literature Review: Internationalization and Global Virtual Teams

Latin American higher education institutions, like institutions around the world, appear preoccupied with relevance to practice (Johnson, Lenartowicz, & Salvador, 2006; Paton, Chia, & George, 2013; Pestonjee, Spillan, Song, & Virzi, 2010; Tanyel, Mitchell, & McAlum, 1999), and in particular with responding to rapid global business changes and new labor market and economic development demands. Universities are developing and adopting innovative teaching methods to appropriately prepare future international business leaders. One such adaptation to global pressures has been the internationalization of the business curriculum (Brookes & Becket, 2011; Carson, 2009; Chan, 2011; Gonzalez, Quesada, Mueller, & Mueller, 2011; Kedia & Englis, 2011; Hanson, 2010; Srivastava, 2012). It is observed that the use of team structures in business encourages the parallel use of team-based assignments in higher education to provide students realistic global experiences to inform their future career success (He, 2011). Indeed, projects based on global virtual teams are one of the ways identified as driving the in-house internationalization in business schools (Chappell & Schermerhorn, 1999; Eisner & Harvey, 2008; Freeman, Knight, & Butt, 2011; Gavidia, Mogollón, & Baena, 2005; Milhauser & Rahschulte, 2010; Shea, Sherer, Quilling, & Blewett, 2011). Scholars agree on the importance of organizations having employees that are adept team players with experience accomplishing effective virtual projects that require online interaction, managing the dislocation of geographic-
and time-based boundaries (Arnison & Miller, 2002; Duarte & Snyder, 2006; Gibson & Cohen, 2003; Lurey & Raisinghani, 2001; Townsend, DeMarie, & Hendrickson, 1998; Shea et al., 2011).

A recent article by Kimmel and Volet (2012) presented two consecutive studies examining the effect of study contexts on students’ attitudes toward learning and interaction with members of cultural diverse groups, and the drivers of student engagement within culturally diverse groups. The article provided evidence that the internationalization of university programs via increasing international student numbers, or via increasing the diversity of domestic student backgrounds, does not automatically lead to increase in group diversity or intercultural contact in the classroom (Hualualani et al., 2004; Kimmel & Volet 2012). Their findings conclude that providing “collaborative learning activities in culturally diverse, small groups is a highly complex, socially demanding and emotionally demanding experience” (Kimmel & Volet, 2012, p. 159). In addition, they show that cohort characteristics (e.g., science students versus business students), as well as language proficiency and academic competence, play a role in determining the nature of student interaction and the experience of working in virtual teams.

The current article builds on these studies with a focus on the importance of cross-cultural communication capabilities in creating a successful virtual team experience. In addition to addressing aspects related to cross-cultural differences, the article explores challenges associated with online interaction, and in particular, the time-space distance (Giddens, 1991; Zakay, 2012) and varying levels of media richness (Trevino, Lengel, & Daft, 1987) over a series of interactions in groups with students that have different levels of communication and technological competencies.

Since the 1990s, lower costs and responsiveness advantages have been identified as the main benefits of using virtual teams for international projects (Ahuja & Carley, 1999; Mowshowitz, 1997; Townsend et al., 1998). According to Martins, Gilson, and Maynard (2004), virtual teams are groups whose participants use information technology in functioning throughout locational, sequential, and interpersonal restrictions to undertake a codependent assignment. These teams, by their nature, can face additional stress when implemented in the workplace.

Time zone gaps, where team members were not able to work synchronously, have been identified as impediments to cohesive work (Espinosa, DeLone, & Lee, 2006), but these can be mitigated by the rhythms of communications created in the team (Maznevski & Chudoba, 2000). Crossing organizational boundaries within a team may create a level of conflict or mistrust (Dani, Burns, Backhouse, & Kochhar, 2006). Political, cultural, and institutional factors must be acknowledged when interacting and establishing rapport in virtual teams (Ahuja & Galvin, 2003; Elron & Vigoda-Gadot, 2006; Kauppila, Rajala, & Jyrämä, 2011; Martins & Shalley, 2011).

Recently, Mockaitis, Rose, and Zettinig (2012) suggested that a collectivistic cultural orientation is associated with more favorable impressions regarding global virtual team processes and that cultural difference is not concealed within the virtual communication context. People identify with their own locations before identifying with the team (Metiu, 2006). In addition, physical separation creates social “faultlines” and can result in conflict within teams (Hinds & Bailey, 2003) so that virtual teams may need to negotiate in order to work effectively (Cousins, Robey, & Zigurs, 2007). As such, participation in virtual teams presents challenges for team members in creating and maintaining trust (Elron & Vigoda-Gadot, 2006; Jarvenpaa & Leidner, 1998; Latané, Liu, Nowak, Bonevento, & Zheng, 1995; Smith, 2008) which may be particularly
fragile and temporary in this context (Jarvenpaa & Leidner, 1998; Kanawattabachai & Yoo, 2002; Sarker, Ahuja, Sarker, & Kirkeby, 2011).

However, there is a counterpoint to this argument. Trust between team members can arise or be developed in a number of ways. Swift trust, based on mutual faith in institutional context rather than a personal relationship has been shown to exist in virtual teams (Dani et al., 2006). High-performing teams have better levels of trust during the project than low-performing teams (Kanawattabachai & Yoo, 2002). Personal relationships can be developed (Sarker & Sahay, 2003), and so can common understanding (Espinosa et al., 2006), and strong work processes (Powell, Galvin, & Piccoli, 2004)—all of which contribute to more effective virtual teamwork.

It appears that although the barriers to effective working in virtual teams appear to be significant, they can be mitigated. Finally, some authors claim that the effectiveness of a virtual team is exactly the same as any other traditional (face-to-face) team, and requires understanding about work and relationships amongst the project’s participants (Berry, 2011; Hertel, Geister, & Konradt, 2005; Lurey & Raisinghani, 2001; Townsend et al., 1998).

Using information and communication technologies (ICTs) in the classroom has long been a research focus for scholars from all disciplines. In the earlier 2000s, some authors (Mueller, Jones, Ricks, Schlegelmilch, & van Deursen, 2001; Mumtaz, 2000) found that the lack of sufficient computer training, lack of technical support staff, and the increased time consumed in class preparation were the most significant limitations for mainstream implementation of ICTs in the classroom. Later on, other authors (McDougall & Jones, 2006; Postholm, 2007; Tondeur, Devos, van Houtte, van Braak, & Valcke, 2009) found that in order to maximize teaching and learning using ICTs, the role of the instructor providing context for learning activities was decisive. The technology that drives virtual teams can help educators also.

There are examples of educational virtual communities of practice (Lin & Lin, 2001) that show teachers sharing knowledge and techniques with remote colleagues to improve their provision of educational services, demonstrating an ability for educators to use ICT to spread best practice. Furthermore, there is a range of studies on online simulations and competitions that aim to develop global leadership and managerial competencies for business students (Anderson & Lawton, 2009; Borrajo et al., 2010; Brookes & Becket, 2011; Klein & Fleck, 2001; Lang & Rybnikova, 2012; Michalisin, Karau, & Conrad, 2006; Reeves, Malone, & O’Driscoll, 2008; Zhang & Shrestha, 2010). Different teaching methods in the intercultural communication domain have been shown to influence student learning outcomes (Metzger, Olarian, & Futoran, 1995).

By utilizing virtual teams in student projects, universities are allowing students to “explore remote collaboration leading to successful decision-making and problem-solving in multinational groups” (Rutowski, Vogel, van Genuchten, Bemelmans, & Favier, 2002, p. 220) as happens in modern multinational firms. Several studies (Loh & Smyth, 2010; Maynard, Mathieu, Rappand, & Gilson, 2012; Robey, Khoo, & Powers, 2000; Wiedow & Konradt, 2009) suggest that learning to operate within a virtual team is best achieved by participation in virtual teams (Robey et al., 2000).

Comba (2011) suggested that teaching “net generation” students (or millennials) merits continued research, that teaching digital competencies is important as online interactions and learning will continue both in higher education and in workplaces now and in the future. To define “digital competencies” Comba (2011) draws upon the definition offered by Calvani, Cartelli, Fini, and Ranieri (2008):
Digital competence consists in being able to explore and face new technological situations in a flexible way, to analyze, select and critically evaluate data and information, to exploit technological potentials in order to represent and solve problems and build shared and collaborative knowledge, while fostering awareness of one’s own personal responsibilities and the respect of reciprocal right/obligation. (p. 186)

Taken together, research findings of this type suggest that experiential learning activities like the GEE offer students the opportunity to learn “applied skills” (Jackson, 2009) and to bridge the possible skills gaps. The question then becomes what students are learning and how teaching can support student experience.

While there is abundant literature about virtual teams both in the workplace and the classroom, there is little evidence yet on how they contribute to learning and its relationship to the teaching of IB. Furthermore little is known about specific student groupings and their learning experience, in this instance, students from Colombian universities participating in the GEE.

3. Methodology

This study was carried out using the opportunity offered by a global virtual collaboration used as class activity in Colombia. More specifically, since 2008, undergraduate IB and commerce students from two Colombian universities (Universidad EAFIT and Universidad Pontificia Bolivariana) have jointly participated in the “Global Enterprise Experience” (GEE), hosted by Victoria University of Wellington, New Zealand and the Te Kaihau Education Trust.

The data for this study were collected via an online survey from 143 undergraduate students studying IB in Colombia. The response rate for the online questionnaire was 93.7% (134 research participants) for Colombia. The survey was structured into the following broad areas: (a) demographics (age, gender, nationality, religion, previous international and cross-cultural exposure as represented by number of languages spoken, number of countries visited, international study experience, work experience abroad); (b) an open-ended question reflecting opinion about the contribution of the global virtual team project to enhancing cultural understanding and crosscultural competencies; and (c) Likert-scale questions summarizing students’ perception of the benefits and limitations of the project for global virtual teamwork.

In Colombia, the survey was conducted through a software developed by Universidad EAFIT, called SEVEN. The quantitative data was analysed using descriptive statistics for evaluating the mean scores.

4. Results

Results are descriptive of Colombian student experiences and offer insight into ways in which students engaged with the global business context. In turn this data allows for consideration of what teaching support might further benefit students engaged in action learning of this type.

4.1. Demographics (Age, Gender, Nationality, Religion, Cross-Cultural Exposure, Etc.)

One hundred forty-three students represented Colombia in the 2012 GEE contest. Ninety-five percent of the respondents to this present survey were Colombian, 63% were female, and 79% of
them reported themselves to be fluent in three or more different languages. For 110 participants in the survey (82%), being part of the GEE represented their first international virtual experience, and for 63% this project was their first multicultural and multinational endeavor.

In 2012, the GEE used its own online platform (Basecamp) for formal interactions amongst team members. However, 68% of the respondents reported having used alternative online mechanisms to communicate. The second most used platform was Facebook (27%), followed by conventional e-mail (17%), and then Skype (14%).

Figure 1 illustrates the reported use of computer-mediated tools used by students to carry out their international project.

Figure 1 Online Tools Used by IB Students Participating in the GEE (N = 143).

4.2. Open-Ended Question Reflecting Opinion About the Contribution of the Global Virtual Team Project to Enhancing Cultural Understanding and Cross-Cultural Competencies

Figure 2 shows respondents' perceptions regarding the contribution of the GEE to building competencies relevant to international business. Over 86% of the respondents rated as “very good” or “excellent” the GEE’s contribution to developing their global mindset and cross-cultural competence.

The following quote by one of the participants elucidates one of the main contributions of his participation in the GEE:

One of the most valuable contributions of this project is learning concrete things about world and international work dynamics. It was very useful to gain experience on how to compromise the scheduling of a meeting and dealing with time zone differences. Virtual projects never sleep, and you have to learn how to deal with this. And if you learn this, this is going to be a competence you could use in the future.
Figure 2 Perceptions Regarding Contribution of the GEE’s Contest to IB-Related Competences (N = 143).

4.3 Students’ Perceptions of the Benefits and Limitations of the Project for Global Virtual Teamwork

Figure 3 identified limitations to the carrying out of a successful virtual team project. Students primarily identified time zone differences as the main limitation for carrying out online team-based projects; 41% of respondents cited that the development of the project was jointly affected by time zones and the challenge of working asynchronously. Reaching consensus over specific aspects of the project demanded real-time virtual gatherings; here not only was time zone an influence but it also affected the achievement process. The second most noteworthy limitation was a lack of trust, as evidenced by their open-ended answers. Concerns relating to trust, as a determinant for successfully accomplishing a task, are captured in the following quote:

Tasks were demanding, time consuming, and require the work of a team. But it is so difficult to trust someone you never have seen. How would you know somebody is going to do her/his work if you have never worked with them, and you know nothing about him/her?

In addition, the survey contained an explicit question in which participants have to prioritize the limitations for carrying out a virtual project. These respondents identified technological limitations such as Internet speed, and lack of permanent Internet connection to mobile devices and cloud computing as the third most relevant constraint for this type of project.

Figure 3 Perceptions of Limitations to Carrying Out a Successful Virtual Team Project (Indicated by Number of Students; N = 143).
While the survey showed a perception of importance in developing trustworthy relationships amongst the team members, students also strongly believed that their individual attributes played a decisive role in accomplishing successful projects. Almost half of the sample reported that their personality and their attitude were their strengths. On the other hand, just over a third of the surveyed students responded that their academic background was their most significant asset in the global contest. Figure 4 illustrates these results.

![Figure 4 Perceptions of Individual Attributes That Influence Success in a Virtual Team Project (N = 143).](image)

**Discussion**

Scholars share the view that teamwork competencies are increasingly becoming a vital part of IB study and preparation for the global workplace. Identifying specific challenges and describing student engagement offers insights into how students engage. This in turn offers insight into how teaching might further support student learning.

In this study, Colombian student experiences are explored. The findings presented in this article likely extend to other online interactions in higher education and within organizations more generally. Our view is that opportunities to implement online projects as part of the mainstream IB curricula are vital. It would be useful to compare these results with those from participants from other countries in the same competition, and also to correlate the results found here with a survey of other online team-based IB simulators (such as Freeman et al., 2011; Shea et al., 2011).

Beadles’ (2001) review of literature in intercultural business and intercultural communication revealed difficulties in IB related to perceptions and stereotypes, language, communication style, and values especially in the development of trust (p. 71). This Colombian student data once again offers confirmation of these dimensions. The fact these dimensions informed student experiences within the GEE suggests two things—(a) the GEE captured key aspects of the real IB world within a teaching context, and (b) that further research into these dimensions is of merit for students, teachers, and business people alike.

Thomas and Bostrom (2010, 2012) suggest a research paucity regarding virtual team leadership with limited empirical work. They state that some literature suggest the skills are essentially the same as nonvirtual team leadership (Hackman, 2002), and that the skills and resources needed for successful virtual team leaderships are similar (Pinsonneault & Caya, 2005; Piccoli & Ives, 2003; Martins et al., 2004). We suggest that this paucity offers opportunity for future research to address not only the skills and competencies expected but also how these
might be successfully taught. Conrad and Newberry (2012) and Du-Babcock (2006) suggest there is room for improvement in the preparation of student’s communication skills for the managerial workplace. They cite a disconnect between the classroom and the real world, and empirical support for inadequate written and oral communication skills (Conrad & Newberry 2012, pp. 112–113). They suggest that the focus should be on the practical use of skills and not on theoretical understanding or abstract knowledge. This stance is similarly supported by Pittenger, Miller, and Mott (2004) and Pfeffer and Fong (2002).

Within the GEE, students from one of two New Zealand Universities (Victoria University, Wellington and the University of Otago, Dunedin) are nominated at the beginning of the contest as being the leader. This nomination likely has an influence on expectations and virtual behaviors. While outside the scope of the current article, the influence of role and role expectations upon experiences and learning offers rich potential for further research. Zemliansky (2012) suggests that participants working in cross-cultural teams work more effectively when they have time to build trust and connections with each other, when time is devoted to the development of leaders and to the articulation of leadership expectation held within the team, when experiential learning teams use a variety of communication tools, and when virtual team members openly work to address perceived cultural and professional discourse differences. Comparison of Australian and Japanese student experiences in online engagement suggests students with limited intercultural experiences were surprised with: the levels of self-disclosure in which they had to provide personal and sensitive content; stereotypes previously held that were not necessarily accurate; language challenges; the relationship dynamics of power differentials, and that the Australian students were concerned with or influenced by equity issues (Thomson, Yasufuku, & Crowe, 1996–1997).

Drawing these points to the current article suggests that technological developments potentially shape the communication strategies and in turn the students’ experience, and that the Colombian student experience is somewhat similar to findings comparing Australian and Japanese students’ experiences. However, what remains unknown as yet is how role influences communication dynamics. Exploration of cultural groupings’ experiences with each other as mediated within specific forms of online technology also merits further research.

Different teaching methods likely lead to different student learning outcomes (Metzger et al., 1995), and this remains true for experiential learning within virtual space. Contrasting and characterizing decision-making within geographically dispersed teams experiencing fragile trust and the effect of time zones on communication process also requires further research.

Conclusions

This study presents Colombian students’ perspectives and in so doing suggests that dynamic understanding of group communication processes and product require further research. Future research might examine the response of Colombian students to a particular style of online leadership and their constructions of online conflict. Research might also explore teaching methods, that is, how does the “teacher” now offer value to student learning and in turn what might this mean for assessment. It suggests that it is possible to train students in gaining skills for communicating and effectively working within teams, especially through the platform of online experiential learning. This line of thinking brings to the fore what and how we need to teach students.
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