Experiential Learning with Global Virtual Teams: Developing Intercultural and Virtual Competencies

VOLUMEN 9 / NÚMERO 18 / JULIO-DICIEMBRE DE 2016 / ISSN 2027-1174 / BOGOTÁ-COLOMBIA / Páginas 129-146

Aprendizaje experiencial con equipos virtuales globales: desarrollando competencias interculturales y virtuales

Apprentissage expérimental avec Equipes Globaux Virtuels: pour développer compétences Interculturelles et visuelles

Aprendizagem experiencial com equipes virtuais globais: desenvolvendo competências interculturais e virtuais

Reception date: JUNE 12TH, 2013/Acceptance date: MAY 9TH, 2016/Publication date: DECEMBER 15TH, 2016

Find this article in http://magisinvestigacioneducacion.javeriana.edu.co/

doi: 10.11144/Javeriana.m9-18.elgv

Written by Anne Marie Zwerg-Villegas
Universidad de la Sabana
Chía, Colombia
anne.zwerg@unisabana.edu.co

Jaime Humberto Martínez-Díaz
Universidad de la Sabana
Chía, Colombia
jaime.martinez1@unisabana.edu.co

Abstract

This study evaluates the impact of Global Virtual Team (GVT)-based experiential learning in business education. During the first semester of 2014, 2,494 university business students from 37 countries from all inhabited continents participated in the X-Culture project. Post-project surveys applied to a participating group and to a control group of Colombian students reveal significant learning in terms of perceived difficulties related to cultural differences and virtual team coordination. This study provides evidence for the usefulness of GVT-based approaches and facilitates a better understanding of the challenges and learning opportunities in using this type of experiential learning activity.

Keywords

Global virtual teams; business education; X-Culture; cultural competences

Transfer to practice

This study evaluates the impact of Global Virtual Team (GVT)-based experiential learning in business education. Post-project surveys reveal significant learning in terms of perceived difficulties related to cultural differences and virtual team coordination. This provides evidence for the usefulness of GVT-based approaches and facilitates a better understanding of the challenges and learning opportunities in using this type of experiential learning activity. Participation in the GVT-based project allows students to experience the challenges and form more realistic expectations with respect to intercultural and international virtual collaboration.

To cite this article / Para citar este artículo / Pour citer cet article / Para citar este artigo

Zwerg-Villegas, A. M. & Martínez-Díaz, J. H. (2016). Experiential Learning with Global Virtual Teams: Developing Intercultural and Virtual Competencies. *magis, Revista Internacional de Investigación en Educación*, *9*(18), 129-146. http://dx.doi.org/10.11144/Javeriana.m9-18. elgv

VOLUMEN 9 / NÚMERO 18 / JULIO-DICIEMBRE DE 2016 / ISSN 2027-1174 / BOGOTÁ-COLOMBIA / Páginas 129-146

Palabras clave
Equipos virtuales globales;
educación de negocios; X-Culture;
competencias culturales

Resumen
Este estudio evalúa el impacto del Equipo Global Virtual (GVT) cuyo enfoque es el aprendizaje experimental dentro de la educación de negocios. Durante el primer semestre de 2014, 2.494 estudiantes universitarios de negocios (provenientes de 37 países de todos los continentes habitados) participaron en el proyecto llamado X-Culture. Encuestas posteriores a los proyectos aplicadas a un grupo de participantes, así como a un grupo de control de estudiantes colombianos, revelan el aprendizaje significativo obtenido en términos de dificultades percibidas, relacionadas con las diferencias culturales y la coordinación de equipos virtuales. Este estudio aporta evidencia sobre la utilidad de los enfoques basados en GVT y facilita una mejor comprensión de los desafíos y las oportunidades de aprendizaje en el uso de este tipo de actividad de aprendizaje experiencial.

Transferencia a la práctica
Este estudio evalúa el impacto del Equipo Global Virtual (GVT) cuyo enfoque es el aprendizaje experimental en la educación de negocios. Encuestas posteriores al proyecto revelan el aprendizaje significativo obtenido en términos de dificultades percibidas relacionadas con las diferencias culturales y la coordinación del equipo virtual. La investigación proporciona evidencia sobre la utilidad de los enfoques basados en GVT y facilita una mejor comprensión de los desafíos y las oportunidades de aprendizaje en el uso de este tipo de actividad de aprendizaje experiencial. La participación en el proyecto basado en GVT permite que los estudiantes experimenten los retos y formen expectativas más realistas con respecto a la colaboración virtual intercultural e internacional.

Mots clés
Équipes globaux virtuels,
éducation commerciale; X-Culture;
compétences culturelles

Résumé
Cette étude évalue l'impact de l'équipe global virtuel (EGV) –basée dans l'apprentissage expérimental dans l'éducation commerciale. Pendant le premier semestre 2014, 2,494 étudiants universitaires de commerce de 37 pays de tous les continents habités ont participés dans le X-Culture. L'enquête post-projet appliquée au groupe participant et au groupe de control d'étudiants colombiens montre un apprentissage significatif en termes des difficultés perçues par rapport aux différences culturelles et à la coordination de l'équipe virtuel. Cette étude donne une évidence de l'effectivité d'EGV rapprochements et facilite une meilleure compréhension des défis et opportunités d'apprentissage au moyen de ce type d'activités d'apprentissage expérimental.

Transfert à la pratique
Cette étude évalue l'impact de l'équipe global virtuel (EGV) basé dans l'apprentissage expérimental dans l'éducation commerciale. L'enquête post- projet montre l'apprentissage significatif en termes des difficultés ressentis par rapport aux différences culturelles et à la coordination de l'équipe virtuel. Cela donne de l'évidence pour l'utilité du (EGV)-basé rapprochement et facilite une meilleure compréhension des défis et des opportunités d'apprendre en utilisant ce type d'activités d'apprentissage expérimental. La participation au projet EGV-basé permet aux étudiants d'avoir l'expérience des défis et façonne des expectatives plus réalistes par rapport à la collaboration virtuelle, interculturelle et internationale.

Palavras-chave
Equipes virtuais globais;
educação de negócios; X-Culture;
competências culturais

Resumo
Este estudo avalia o impacto da Equipe Global Virtual (GVT) cujo enfoque é a aprendizagem experimental dentro da educação de negócios. Durante o primeiro semestre de 2014, 2.494 estudantes universitários de negócios (provenientes de 37 países de todos os continentes) participaram do projeto chamado X-Culture. Questionários posteriores aos projetos aplicados a um grupo de participantes, bem como a um grupo de controle de estudantes colombianos, revelam a aprendizagem significativa obtida em termos de dificuldades percebidas, relacionadas com as diferenças culturais e a coordenação de equipes virtuais. Este estudo contribui na evidência sobre a utilidade dos enfoques baseados em GVT e facilita um melhor entendimento dos desafios e das oportunidades de aprendizagem no uso deste tipo de atividade de aprendizagem experiencial.

Transferência à prática
Este estudo avalia o impacto da Equipe Global Virtual (GVT) cujo enfoque é a aprendizagem experimental na educação de negócios. Questionários aplicados posteriormente ao projeto revelam a aprendizagem significativa obtida em termos de dificuldades percebidas relacionadas com as diferenças culturais e a coordenação da equipe virtual. A pesquisa proporciona evidência sobre a utilidade dos enfoques baseados em GVT e facilita um melhor entendimento dos desafios e das oportunidades de aprendizagem no uso deste tipo de atividade de aprendizagem experiencial. A participação no projeto baseado em GVT permite que os estudantes experimentem os desafios e formem expectativas mais realistas a respeito da colaboração virtual intercultural e internacional.

Introduction

In an increasingly globalized world, all businesses today are to some degree internationalized and must adopt structures and strategies apt for the international context. Included in this international adaptation process is the acclimatization of human resources (Oddou, Mendenhall & Ritchie, 2000). An increasing number of employees must be at least minimally literate in international affairs and industry-specific trends in order to spot new business opportunities or threats. Amongst management personnel, international awareness beyond a minimal level is required (McCall Jr. & Hollenbeck, 2002). Management must also be culturally literate and language proficient in order to do business across national borders (Caligiuri & Tarique, 2012).

Universities, and specifically business schools, are keen to educate students for their future management positions within these internationalizing firms (Jurse & Mulej, 2011; Rehg, Gundlach & Grigorian, 2012). Syllabi in traditional courses now include specific international modules, and new distinctively international courses are incorporated into the portfolio of obligatory and elective courses (Eisenberg, Lee, Brück, Brenner, Claes, Mironski & Bell, 2013). Meanwhile, foreign language certifications are shifting from a graduation requirement to an admissions condition, and there is greater emphasis beyond bilingualism toward trilingualism.

However, language skills and course-specific international study fall short (Blasco, 2009). Commonly-used international management education tools such as case studies and videos only provide indirect experiences and exemplification of cultural interactions, not the interactions themselves (Taras, Caprar, Rottig, Sarala, Zakaria, Zhao, Jiménez, Wankel, Lei, Minor, Bryła, Ordeñana, Bode, Schuster, Vaiginiene, Froese, Bathula, Yajnik, Baldegger & Huang, 2013). If "managers cannot be created in the classroom", as Henry Mintzberg and Jonathan Gosling (2002) argue, then certainly neither can be "global managers" (Mintzberg & Gosling, 2002, p. 65). The soft skills that global managers require —cultural intelligence and agility— require first-hand experience (Belton, Scott & Thornbury-Gould, 2006; Earley & Peterson, 2004).

Just as firms themselves often use international assignments for developing internationally competent managers (McCall Jr. & Hollenbeck, 2002; Oddou, Mendenhall & Ritchie, 2000), business schools seek international immersion opportunities for their students. Whether they be semesters abroad, foreign summer schools, international internships, or study tours, these options are problematic. First and foremost, these require costly travel and lodging. Especially for most developing country students, the costs are unaffordable (Langlois, Barrett-Litoff & Ilacqua, 2003). Second, they require time away from home. Again, in developing countries in which many students must work full- or part-time or contribute to the family upkeep to fund their education, this time away would be prohibitive. Third, for large groups of students, the logistics may be insurmountable (Barak, Lipson & Lerman, 2006). And fourth, particularly in the case of study tours, real learning may not occur given limited time to reflect upon and internalize the experience—the difference between "deep" and "surface" level learning (Tonks, 2002).

Global Virtual Teams (GVTs) circumvent these aforementioned issues (Taras, Caprar, Rottig, Sarala, Zakaria, Zhao, Jiménez, Wankel, Lei, Minor, Bryła, Ordeñana, Bode, Schuster, Vaiginiene, Froese, Bathula, Yajnik, Baldegger & Huang, 2013). They provide direct international-intercultural interactions and allow for reflection and internalization, while being cost- and

Article description | Descripción del artículo | Description de l'article | Artigo descrição
This research article is based on the research: "Medición de impacto de participación en un equipo virtual global". This study evaluates the impact of Global Virtual Team (GVT)-based experiential learning in business education. During the first semester of 2014, 2,494 university business students from 37 countries from all inhabited continents participated in the X-Culture project. Post-project surveys applied to a participating group and to a control group of Colombian students reveal significant learning in terms of perceived difficulties related to cultural differences and virtual team coordination. This study provides evidence for the usefulness of GVT-based approaches and facilitates a better understanding of the challenges and learning opportunities in using this type of experiential learning activity.

VOLUMEN 9 / NÚMERO 18 / JULIO-DICIEMBRE DE 2016 / ISSN 2027-1174 / BOGOTÁ-COLOMBIA / Páginas 129-146

time-effective (Chappell & Schermerhorn Jr., 1999; Clark & Gibb, 2006; Gavidia, Hernández-Mogollón & Baena, 2005). Virtual Teams (VTs) are a group of geographically dispersed individuals who collaborate on a common goal by means of technologically supported, long-distance communication or, as Jessica Lipnack and Jeffrey Stamps (2000) simply entitled their text, "people working across boundaries with technology" (Lipnack & Stamps, 2000). GVTs, therefore, are VTs composed of individuals dispersed geographically across national borders. Most often, the individuals on GVTs are culturally and linguistically diverse and have not had previous direct contact with each other.

The use of GVTs in business education provides a Kolbian, cyclical experiential learning platform (D. A. Kolb, 1984), through which students actively learn about others through their joint collaboration on the project at hand (A. Y. Kolb & Kolb, 2005). The explicit lesson regards the competencies involved in completing the project itself. For the purposes of this paper, the implicit lessons, the generic or meta-competences, are the focus (Arnold, Loan-Clarke, Harrington & Hart, 1999; Belton, Scott & Thornbury-Gould, 2006). By participating in GVTs, the students enter into direct contact, in a simulated business environment, with their foreign counterparts. This contact leads to learning about others, about others cultures, and about inherent difficulties in collaborating with others of distinct cultural and linguistic backgrounds. Additionally, by participating in this simulated business environment, the students learn about GVTs themselves, their coordination and administration, and their inherent complexities.

This research focused on the implicit learning opportunities involved in student participation in a Global Virtual Team-based project. Specifically, it sought to measure the impact of participating in the GVT-project on perceived difficulties arising from cultural differences in general, perceived difficulties arising from cultural differences specifically in the GVT context (the *global* aspects of the GVT), and perceived difficulties of administration and coordination of the GVT (the *virtual* aspects of the GVT). Evidence is based on survey responses from undergraduate business students in a Colombian university before, during, and after participation in the X-Culture project. Results point to significant cross-cultural learning leading to a reduction in the perception of problematic cultural differences. At the same time, results indicate an increase in the perception of difficulties arising from the GVT platform itself.

The structure of this paper will be organized as follows. The first section will discuss the theoretical basis for GVTs in business education and, specifically, their use in student-centered learning about cultures, working with others of distinct cultures, and working across national borders via virtual means. The second section will define the research context and methodology. The third section details the results of the study while the fourth section discusses the implications of these findings. The paper concludes with remarks about the generalizability of these findings, study limitations, and avenues for future research.

Theoretical Foundations

This study takes a constructivist approach to learning, with constructivism being the dominant theoretical foundation for technology-based education, given that students can explore the hypertext structure to create their own learning (Barak, Lipson & Lerman, 2006; Budd, 2002). As collaboration and interaction are central to constructivist learning, the synchronous and asynchronous technologically-enhanced communication tools employed in the virtual team provide a student-centered approach (Budd, 2002).

Recent developments in social media and online collaboration tools make the experiential learning tool of Global Virtual Teams increasingly feasible in international business education (Taras, Caprar, Rottig, Sarala, Zakaria, Zhao, Jiménez, Wankel, Lei, Minor, Bryła, Ordeñana, Bode, Schuster, Vaiginiene, Froese, Bathula, Yajnik, Baldegger & Huang, 2013; Vogel, Greenwood-Ericksen, Cannon-Bowers & Bowers, 2006). The four cyclical stages of the Kolb model of experiential learning —concrete experience, observation and reflection, abstract conceptualization, and active experimentation (D. A. Kolb, 1984)— are considered crucial to student development and are an inherent component to the GVT-based project in that students make decisions based on previous knowledge, reflect upon those decisions once teammates have commented, compare previously formulated decision with teammate decisions, and participate in teamwork to build the next set of decisions.

Vas Taras, Dan V. Caprar, Daniel Rottig, Riikka M. Sarala, Norhayati Zakaria, Fang Zhao, Alfredo Jiménez, Charles Wankel, Weng Si Lei, Michael S. Minor, Paweł Bryła, Xavier Ordeñana, Alexander Bode, Anja Schuster, Erika Vaiginiene, Fabian Jintae Froese, Hanoku Bathula, Nilay Yajnik, Rico Baldegger and Victor Zengyu Huang argue that the GVT provides "an excellent opportunity for all stages of the (Kolb) cycle, but is particularly important from the perspective of experiencing and acting —the two elements of the learning cycle that are often missing in the classroom" (Taras, Caprar, Rottig, Sarala, Zakaria, Zhao, Jiménez, Wankel, Lei, Minor, Bryła, Ordeñana, Bode, Schuster, Vaiginiene, Froese, Bathula, Yajnik, Baldegger & Huang, 2013). Since the context of this study —X-Culture— takes place

over a period of just over two months, the students have repeated opportunities to cycle through multiple times. Learning opportunities certainly occur within the business competencies required to complete the project; but, as previously stated, the focus of this study is on the implicit learning opportunities —developing cultural competencies and understanding virtual team coordination and administration.

Both of these implicit learning opportunities are inherently better addressed through the experiential learning platform. First, in recent decades, understanding of cultural intelligence has shifted from a focus on recognition of static differences, which can be textbook-memorized, to the appreciation of difference, which requires experience in collaborating with someone of the target culture (Hammer, 2011; Johnson, Lenartowicz & Apud, 2006). Furthermore, recent scholarly work focuses beyond cross-cultural intelligence toward cross-cultural agility, or the ability of an individual to fluently elaborate collaboration methods in such a way as to reduce the negative effects of cultural differences and to channel the benefits (Earley & Peterson, 2004; Leiba-O'Sullivan, 1999; Matveev & Nelson, 2004; Taras, Caprar, Rottig, Sarala, Zakaria, Zhao, Jiménez, Wankel, Lei, Minor, Bryła, Ordeñana, Bode, Schuster, Vaiginiene, Froese, Bathula, Yajnik, Baldegger & Huang, 2013). Second, understanding the coordination and administration of virtual teams can only arise through actual experience in a virtual team. Students may be very comfortable and acquainted with the technical side of the on-line collaboration tools, but it is their use in practice that will cause students to question and reflect. Through the experiential exercise, students will confront challenges in the coordination of the virtual team and "practice how to deal with these challenges" (Taras, Caprar, Rottig, Sarala, Zakaria, Zhao, Jiménez, Wankel, Lei, Minor, Bryła, Ordeñana, Bode, Schuster, Vaiginiene, Froese, Bathula, Yajnik, Baldegger & Huang, 2013, p. 9).

In the GVT, as with any team, this experiential learning takes place in a social setting. Indeed, the social learning perspective (Bandura, 1977) would argue that the culturally distinct team members and the virtual platform itself are both cause and effect under the reciprocal determinism principle. As students gain agility in dealing with each others' cultural idiosyncrasies, the technological coordination changes; and new challenges arise (Maznevski & DiStefano, 2000).

According to the social learning theory, two conditions are necessary for modeling and, hence, learning: attention and motivation (Bandura, 1977). In the GVT-based project, motivated by grades and peer pressure, the students focus their attention on the explicit project at hand, in this case the preparation of a business proposal. By consciously focusing on successfully completing the task at hand, students must subconsciously focus on creating a collaborative, teamwork-inducing environment.

Intergroup contact theory specifically explains how this team-focused environment creates inter-cultural learning. Early research on race relations suggests that intergroup contact and collaboration reduces perceived differences and conflicts and promotes tolerance (Blanchard, Adelman & Cook, 1975; Bochner, 1982; Brameld, 1946; Sherif, Harvey, White, Hood & Sherif, 1961). More specifically, later research finds that experiential inter-cultural, international activities reduce ethnocentrism, promote knowledge about other groups, and foster development of cross-cultural competencies (Caligiuri & Tarique, 2012; Leiba-O'Sullivan, 1999; Taras, Caprar, Rottig, Sarala, Zakaria, Zhao, Jiménez, Wankel, Lei, Minor, Bryła, Ordeñana, Bode, Schuster, Vaiginiene, Froese, Bathula, Yajnik, Baldegger & Huang, 2013).

VOLUMEN 9 / NÚMERO 18 / JULIO-DICIEMBRE DE 2016 / ISSN 2027-1174 / BOGOTÁ-COLOMBIA / Páginas 129-146

In this theory, Gordon W. Allport postulates four conditions under which intergroup contact would be effective: equal status amongst contact members, cooperation between group representatives, common goals, and support authorities (Allport, 1954). The GVT-based project satisfies all four of these conditions: all team members, as students, are of equal status, each team member acts as a proxy to those other team members who may be unfamiliar with his or her country and culture, the required output (in this case the business proposal) constitutes a common goal, and the professors represent the support authority (Taras, Caprar, Rottig, Sarala, Zakaria, Zhao, Jiménez, Wankel, Lei, Minor, Bryła, Ordeñana, Bode, Schuster, Vaiginiene, Froese, Bathula, Yajnik, Baldegger & Huang, 2013). Under these conditions, students reduce their initial ignorance and fear of the unknown culture, overcome their own prejudices, educate others about themselves, and develop competencies in intergroup conflict resolution.

Research Design and Methodology

Building upon the perspectives of experiential learning, social learning, and intergroup contact, this study sought to measure the impact of participating in a GVT-based project on learning in two essential areas: 1) perception of difficulties in working with people of distinct cultures and nations and 2) perception of difficulties related specifically with work in GVTs. This second area can be divided into two categories: 1) the *global* aspect of GVTs and 2) the *virtual* aspect of GVTs.

The research context for the present study was student participation in the X-Culture project (www.X-Culture.org). X-Culture is an on-going educational activity in which university students participate in GVTs in order to prepare a business proposal. Dr. Vasyl Taras of the University of North Carolina founded the project in 2010 and has coordinated it every semester since. In the first semester of 2014, 2,494 students and 81 professors from universities in 37 countries from every inhabited continent participated. Students were assigned to teams of five to seven members, each member from a distinct country. In their teams, the students chose a real-life company from an approved list and developed a business plan for that company to expand into a foreign market with an existing or a new product or service.

During the approximately two months that the project lasted, students made weekly submissions. These submissions included components of the business plan —target market evaluation, entry mode, marketing plan, staffing strategy, etc. In order to prepare their submissions, teams met via virtual means which included but were not limited to emails, Facebook, WhatsApp, Google Docs, Google+, Skype, Hangout, JoinMe, and Skype. Teams checked their final business proposals for plagiarism through Turnitin and uploaded them to Dropbox. Also, for the specific purpose of collecting research data, these submissions included pre-project, weekly mid-project and post-project surveys via Qualtrics.

In Colombia, a total of 215 students from five different universities participated —one of these with two distinct campuses. These participating universities and campuses are located in Bogotá, Bucaramanga, Chía, and Medellín. All participating Colombian universities are private and with strong business schools noted for their international business focus. This study evaluated a participating group and a control group at one of these universities during the first semester of 2014.

The participating group was one class of the undergraduate business course Organizational Theory. Participation in the X-Culture project was

mandatory in the experimental group and accounted for twenty percent of the total semester grade. The enrolled students were a mix of International Business majors and Business Administration majors. The control group was an equally composed Organizational Theory class taught by a different instructor. Course contents, syllabus, textbook, and grading procedures were all standardized between the two instructors. Students were randomly assigned into one group or the other at the moment of semester matriculation. Once assigned to a class, university policy prohibits transfer to another group of the same course. With these controls in place, self-selection into or out of the X-Culture project was likely not a factor. However, as per usual, several students dropped the course in the first weeks of the semester, so there was potential for self-attrition; but course cancellations were approximately equal in both the experimental and the control group, and these numbers were comparable to numbers in any given semester. So, it was highly unlikely that selection bias posed any threat to the validity of research findings.

To evaluate the impact of having participated in the X-Culture project, this study relied on two sources of data: 1) X-Culture, internationally administered, pre-, mid-, and post-project surveys and 2) a study-specific, locally designed and administered post-project survey.

X-Culture coordinators administered the pre-, mid-, and post-project surveys to all participating students worldwide. The pre-project survey asked students to rate their interest in participating in the project, on a scale of 1 (definitely want to participate) to 5 (would rather not participate), and asked them to define the number of hours available to dedicate to the project. The mid-project surveys had students rate, on a scale of 0 to 100, their level of motivation in participating in the project and their level of confidence in being able to successfully complete their team's business proposal. In the post-project survey, students reported their level of satisfaction with the experience, on a scale of 1 (minimal satisfaction) to 5 (maximum satisfaction), in terms of team performance, business proposal idea, business proposal quality, other team members' efforts, and usefulness of participation in the X-Culture project.

The locally designed and administered post-project survey, applied to both the experimental group and the control group had two main objectives. The first part of this survey had the purpose of measuring the impact of participation in the project in terms of perceived difficulties of working with people of distinct cultures and nations. Foreign countries (as proxies for foreign cultures) were roughly grouped as follows: 1) United States, Canada, Australia, and New Zealand; 2) Latin America; 3) Middle East; 4) Russia and Eastern Europe; 5) Western Europe; 6) East Asia; and 7) Africa. Students qualified their perceptions, on a range between 1 (minimal difficulty) and 5 (maximum difficulty), of collaborating with people from each region. It was expected that students would perceive lesser culturally-induced difficulties in collaborating with individuals from Latin America, given that this study took place in Colombia; and it was assumed that students would perceive greater likeness in their Latin American counterparts. The Anglo category and the Western European category were assumed to demonstrate lesser perceived cultural difficulties than the remaining categories, though higher than the Latin American category. Colombian students are highly familiarized with "western" cultures through travels and media. The other tested categories were assumed to be highly unfamiliar to the Colombian students.

Between the experimental group and the control group, it was hypothesized that the experimental group, having collaborated with their culturally diverse GVT, would perceive lesser cultural difference and difficulty across all tested categories. This section of the research had greater focus on the static perception of cultural differences and culturally-caused difficulties —cultural intelligence— rather than on the dynamic abilities in coping with cultural differences-cultural agility.

The second part of this post-project survey had the purpose of measuring the impact of participation in the project in terms of perceived difficulties related specifically with work in GVTs. First, it specifically measured perceptions of difficulty arising from the *global* aspect —cultural and lingual differences amongst the members of the team. Students rated their perceptions, on a scale of 1 (minimal level) to 5 (maximum level), of difficulty arising from 1) cultural differences, 2) language differences, 3) different opinions and values, and 4) stereotypes and prejudices. It was hypothesized that the experimental group, after completing the X-Culture project, would report lower levels of perceived culture-related difficulties in working in a GVT. However, it should be noted that prior research suggested that such difficulties arise in cross-cultural collaborations regardless of the level of perceived cultural difference and perceived tolerance for these differences (Butler & Zander, 2008; Hammer, 2011; Humes & Reilly, 2008; Johnson, Lenartowicz & Apud, 2006).

Second, it specifically measured perceptions of difficulty directly related with the *virtual* aspect —distant coordination and administration. Students rated, on a scale of 1 (minimal level) to 5 (maximum level), their perceptions of difficulty arising from 1) coordination of time zones (Sutanto, Kankanhalli & Tan, 2011), 2) differences in personal abilities (Liu, Magjuka

VOLUMEN 9 / NÚMERO 18 / JULIO-DICIEMBRE DE 2016 / ISSN 2027-1174 / BOGOTÁ-COLOMBIA / Páginas 129-146

& Lee, 2008), 3) coordination of work (Flammia, Cleary & Slattery, 2010; Liu, Magjuka & Lee, 2008), 4) electronic-virtual means of communication (Sutanto, Kankanhalli & Tan, 2011), 5) lack of authority and clear leadership (Caligiuri & Tarique, 2012; Flammia, Cleary & Slattery, 2010; Jonsen & Maznevski, 2010; Maznevski & DiStefano, 2000), and 6) differences in motivation of members (Liu, Magjuka & Lee, 2008). It was hypothesized that the experimental group, after completing the X-Culture project, would report higher levels of perceived difficulties related with these aspects of the GVT. While possibly counterintuitive this hypothesis, it stemmed from prior X-Culture research in which post-project survey respondents identified coordination as the greatest challenge to GVT collaboration, jumping from 16.2% in the pre-project survey to 34.8% in the post-project survey (Taras, Caprar, Rottig, Sarala, Zakaria, Zhao, Jiménez, Wankel, Lei, Minor, Bryła, Ordeñana, Bode, Schuster, Vaiginiene, Froese, Bathula, Yajnik, Baldegger & Huang, 2013).

The data from the internationally X-Culture administered surveys were analyzed and presented with basic descriptive statistics. The data from the locally administered surveys were evaluated with t-test to find the p-value ($p < .05$) and thus determine the significance of difference between the experimental and the control group. A significant difference was understood to imply that learning had occurred by means of participation in the project.

Results

Prior to initiating the project, participating students rated their disposition and interest in participating. To the question, "Are you sure you would like to participate in X-Culture?", 81.5% responded that they would "definitely want to participate", 11.1% responded that they "would give it a try", and 7.4% responded that they "would rather not participate in X-Culture". Table 1 compares the results of the one group under study with the general results of all X-Culture first semester 2014 participants.

Table 1
Interest in Participating in the X-Culture Project

	Definitely want to participate (%)	Would give it a try (%)	Would rather not participate (%)	Definitely do not want to participate (%)
Colombian experimental group	81.5	11.1	7.4	0.0
All X-Culture 2014-1 participants	69.8	26.0	3.0	1.1

Colombian group N = 33
All participants N = 2300

Source: Author's calculations based on participant surveys

In the same pre-project survey, students indicated their availability to participate. To the question, "How much time do you plan to invest in X-Culture", 15.2% planned to invest 5 hours, 27.3% planned to invest 4 hours per week, 36.4% planned to invest 3 hours per week, 15.2% planned to invest 2 hours per week, and 6.0% planned to invest 1 hour per week. Table 2 compares the results of the study group with the general results of all X-Culture first semester 2014 participants.

Table 2

Weekly Time Available to Participate in X-Culture Project

	0 hour (%)	1 hour (%)	2 hours (%)	3 hours (%)	4 hours (%)	5 hours (%)	6 hours (%)	7 hours (%)
Colombian experimental group	0.0	6.0	15.2	36.4	27.3	15.2	0.0	0.0
All X-Culture 2014-1 participants	2.0	2.9	12.0	26.6	29.4	15.1	7.9	5.0

Colombian group N = 33
All participants N = 2300

Source: Author's calculations based on participant surveys

Each week, for the eight weeks that the project lasted, students reported on their levels of motivation and confidence. Table 3 demonstrates the students' motivation levels, as rated on a scale of 0 (no motivation) to 100 (maximum motivation). Each column shows the per-week average motivation level of the participating group.

Table 3

Motivation to Participate in X-Culture Project

		1	2	3	4	5	6	7	8	Total
Colombian experimental group	Average	77.21	74.86	77.21	74.86	76.33	81.08	74.23	74.22	76.25
	S.D.	31.46	34.68	31.46	34.68	30.60	19.93	23.78	30.36	29.62
All X-Culture 2014-1 participants	Average	68.88	66.75	78.80	73.25	72.50	70.87	73.56	69.88	71.81
	S.D.	25.82	31.64	32.98	34.22	33.94	34.58	23.20	19.73	29.51*

* Average of the weekly standard deviations
Colombian group N = 33
All participants N = 2300

Source: Author's calculations based on experimental group surveys

Each week over the duration of the project, students also reported their levels of confidence in their ability to complete the project, on a scale of 0 to 100. Table 4 demonstrates the groups' average level of confidence.

Table 4

Confidence in Ability to Complete X-Culture Project

		1	2	3	4	5	6	7	8	Total
Colombian experimental group	Average	73.14	74.79	73.14	74.79	78.89	79.79	76.50	74.91	75.74
	S.D.	32.73	33.27	32.73	33.27	27.58	18.74	22.78	27.70	28.60
All X-Culture 2014-1 participants	Average	69.76	70.75	78.73	73.13	73.06	71.20	71.25	67.71	71.95
	S.D.	30.15	30.13	21.12	19.74	19.76	19.03	19.33	19.20	22.31

* Average of the weekly standard deviations
Colombian group N = 33
All participants N = 2300

Source: Author's calculations based on experimental group surveys

After completing the project and turning in the final business proposal, students reported their level of satisfaction with the experience. Table 5 demonstrates the average satisfaction in terms of team performance, business proposal idea, business proposal quality, other team members' efforts, and usefulness of participation in the X-Culture project.

VOLUMEN 9 / NÚMERO 18 / JULIO-DICIEMBRE DE 2016 / ISSN 2027-1174 / BOGOTÁ-COLOMBIA / Páginas 129-146

To measure the perception of usefulness of participation, students responded to the question, "Do you feel the project helped you learn and was useful for your future career?" using a Likert scale in which 1 is "completely useless, I didn't learn anything" and 5 is "very useful, I learned a lot". Based on the responses of 25 participating Colombian students, the average response is 4.00 (SD = 1.29). Distribution is not normal: 52% chose the highest response (5); 16% and 20% chose 4 and 3, respectively; while 4% and 8% found the experience "not very useful" and "completely useless", respectively.

Table 5
Satisfaction with the X-Culture Experience

		Satisfaction with team performance	Satisfaction with business proposal idea	Satisfaction with business proposal quality	Satisfaction with the other team members' efforts	Usefulness of participation in X-Culture project
Colombian experimental group	Average	3.56	4.08	3.92	3.92	4.00
	S.D.	1.42	1.26	1.26	1.44	1.29
All X-Culture 2014-1 participants	Average	3.86	3.99	3.96	3.77	3.81
	S.D.	1.02	0.93	0.94	1.14	1.10

* Average of the weekly standard deviations
Colombian group N = 25
All participants N = 2260

Source: Author's calculations based on experimental group surveys

After completing the X-Culture project, the study-specific survey was applied to both the experimental group that had participated and to the control group that had not participated in the project. The first part of this survey had the purpose of measuring the impact of participation in the project in terms of perceived difficulties of working with people of distinct cultures and nations. Students qualified their perceptions on a range between 1 (minimal level of difficulty) and 5 (maximum level of difficulty). Table 6 compares the perceptions of the experimental and the control groups.

Table 6
Perceived National-Cultural Difficulties

		USA, Canada, Australia, New Zealand	Latin America	Middle East	Russia and Eastern Europe	Western Europe	India	East Asia	Africa	Total
Experimental Group	Ave.	1.58	1.58	3.00	3.08	2.46	3.21	3.08	2.88	2.61
	S.D.	0.65	0.88	1.10	1.10	0.83	1.02	1.02	1.12	0.56
Control Group	Ave.	1.82	1.64	3.71	3.36	2.58	3.58	3.64	3.78	3.01
	S.D.	0.96	1.11	1.10	1.13	1.08	1.20	1.13	1.04	0.60

Experimental Group N = 25
Control Group N = 45

Source: Author's calculations based on group surveys

Compared with the experimental group, the control group perceived greater difficulties in working with others from every one of the distinct geographic regions. When all perceived difficulties across regions are averaged, the control group rated national-cultural difficulties at 3.01, on the 5-point scale, versus 2.61 for the experimental group. This difference of 0.40 is statistically significant ($p = .0152$).

The second part of the post-project survey had the purpose of measuring the impact of participation in the project in terms of perceived difficulties related specifically with work in Global Virtual Teams. Specifically, it measured: 1) perceptions of difficulty arising from cultural and lingual differences amongst the members of the team (Table 7) and 2) perceptions of difficulty directly related with administration of virtual teams (Table 8).

Table 7 demonstrates students' perceptions of difficulties, rated on a scale of 1 to 5, related to the people participating in Global Virtual Teams, specifically to cultural and linguistic differences amongst the people who form these teams. Note that in each of the four aspects, the control group perceived a greater level of difficulty. However, with a p-value of .0551, this difference is not statistically significant.

Table 7

Perceived Cultural and Linguistic Difficulties amongst Members of Global Virtual Teams

		Culture	Language	Opinions/ Values	Stereotypes/ Prejudices	Total Cultural-Lingual Difficulties
Experimental Group	Ave.	2.42	2.54	2.54	2.33	2.46
	S.D.	0.93	1.10	1.02	1.01	0.67
Control Group	Ave.	2.69	3.17	2.79	2.73	2.85
	S.D.	1.21	1.38	1.23	1.32	0.86

Experimental Group N = 25
Control Group N = 52

Source: Author's calculations based on group surveys

Table 8 demonstrates the perceived difficulties directly related with coordination and administration of work in virtual teams, specifically in Global Virtual Teams. In this set of questions, X-Culture participants qualified a greater degree of difficulty in each of the measured aspects. As an averaged factor, the experimental group rated a 3.03 level of difficulty, on a 5-point scale, compared with the control group rate of 2.71. This difference of 0.32 is statistically significant ($p = 0.0207$).

Table 8

Perceived Difficulties in Virtual Team Administration

		Coordination of Time Zones	Differences in Personal Abilities	Coordination of Work	Electronic/Virtual means of Communication	Lack of authority, clear leadership	Differences in Motivation of members	Total Administrative Difficulties
Experimental Group	Ave.	3.67	2.46	3.13	2.17	3.30	3.46	3.03
	S.D.	1.01	0.98	1.08	1.17	1.02	1.22	0.55
Control Group	Ave.	3.21	2.19	3.12	1.92	2.90	2.92	2.71
	S.D.	1.18	1.03	1.18	1.08	1.14	0.90	0.55

Experimental Group N = 25
Control Group N = 52

Source: Author's calculations based on group surveys

VOLUMEN 9 / NÚMERO 18 / JULIO-DICIEMBRE DE 2016 / ISSN 2027-1174 / BOGOTÁ-COLOMBIA / Páginas 129-146

Discussion

Requisite to modeling and learning in the social learning theory are attention and motivation (Bandura, 1977). Therefore, this study began with an analysis of students' motivation to participate in the X-Culture project and their confidence in being able to successfully complete the project. Student responses to these questions provided an indication of how seriously they took the project and would be open to the learning opportunities that arose from it.

When specifically asked to rate their level of interest in participating in the X-Culture project, 92.6% of the test group responded favorably about their motivation to participate (81.5% definitely want to participate and 11.1% would give it a try). This was similar to the international results in which 95.8% responded favorably. The Colombian group had a higher percentage of those who definitely wanted to participate (81.5% versus 69.8% for the international aggregate). This may indicate that Colombian students are especially eager to participate in international and inter-cultural activities to compensate for their geographical, linguistic, and social disadvantages.

To further test motivation, students were asked how many hours per week they would have available to dedicate to the project. Again, the treatment group was comparable to the international aggregate, although the Colombian curve had shorter tails. 78.9% of the treatment group compared to 71.1% of the international aggregate could allot between three and five hours per week. 21.2% of the test group compared with 16.9% of the international group, with only two or fewer hours to dedicate, was cause for concern. With such little time to dedicate, their motivation to participate, ability to perform, and openness to learning was questionable.

Motivation was monitored through the eight, mid-project surveys. Over the course of the project, the test group motivation ranged between a low of 74.22 (SD = 30.36) and a high of 81.08 (SD = 19.93) on a scale of 1 to 100. This was comparable to the international range between 68.88 (SD = 25.82) and 78.80 (SD = 32.98).

Motivation scores highly corresponded with the confidence in ability to complete the X-Culture project, which was another measure included in the weekly, mid-project surveys. The test group confidence ranged between a low of 73.14 (SD = 32.73) and a high of 79.79 (SD = 18.74) compared with the international range between 67.71 (SD = 19.20) and 78.73 (SD = 21.12). Interestingly, the test group felt the lowest level of confidence in the first week of the project, and the international aggregate felt the lowest level of confidence in the last week of the project. Lack of confidence in the first week can explained by the fear of initiating a new and unknown learning approach, while lack of confidence in the last week can be explained by the surrender of the final business proposal to the grading procedure.

After teams had completed the project and submitted their final business proposal, they reported their level of satisfaction with the experience. On all five measures, the test group scores were comparable to international scores: satisfaction with team performance 3.56 vs. 3.86, satisfaction with business proposal idea 4.08 vs. 3.99, satisfaction with business proposal quality 3.92 vs. 3.96, satisfaction with the other team members' efforts 3.92 vs. 3.77, and usefulness of participation in the X-Culture project 4.00 vs. 3.81; all ranked on a scale of 1 to 5.

The response to the usefulness of participation in the project deserves particular comment. When asked "Do you feel the project helped

you learn and was useful for your future career?", the average response of the test group was 4.00 (SD = 1.29) on a scale of 1 to 5. The distribution is not normal: 52% chose the highest response (5); 16% and 20% chose 4 and 3, respectively; while 4% and 8% found the experience "not very useful" and "completely useless", respectively. While negative responses were minimal compared to the number of positive responses, they reveal that experiential projects of this type are not a universal remedy and that some students are unfamiliar with and uncomfortable with this method and will consider this pedagogical approach ineffective (Crittenden & Woodside, 2007).

A previous study asked instructors to rate their perceptions of the ability of the X-Culture project to enhance learning in their courses. On scale of 1-not at all to 10-very much, the average instructor rating was 7.87 (SD = 1.97), which roughly corresponds to "the project considerably enhanced learning in my course" (Taras, Caprar, Rottig, Sarala, Zakaria, Zhao, Jiménez, Wankel, Lei, Minor, Bryła, Ordeñana, Bode, Schuster, Vaiginiene, Froese, Bathula, Yajnik, Baldegger & Huang, 2013). Notably, instructor perceptions of enhancing learning were affected by class size; the perception decreases as class size increases. Converted to a 5-point scale, the instructor average would be 3.94, which is directly comparable with the student average discussed above.

At this point, the discussion turns toward the results specifically sought in this research project-impact of participating in the GVT-project on perceived difficulties arising from cultural differences in general, perceived difficulties arising from cultural differences specifically in the GVT context (the *global* aspects of the GVT), and perceived difficulties of administration and coordination of the GVT (the *virtual* aspects of the GVT). To measure the impact of participation, survey results were compared between the experimental group and the control group. A difference between the two indicates learning. No difference would indicate no learning, either because the students had a strong basis before the project and thus no room for improvement or because, despite initial limitations, students made no progress.

In the social learning (Bandura, 1977) and intergroup contact (Allport, 1954) approaches, as a result of social/intergroup interaction, people perceive reduced differences and difficulties in dealing with others. As a result of having participated in the X-Culture project, students rated a lower perception of difficulties in collaborating with others from all tested geographical regions of the world. As a factored average, the experimental group rate of 2.61 (SD = .56) contrasted with the control group rate of 3.01 (SD = .60), on a scale of 1 to 5. With a p-value of .0152, this is a statistically significant and suggests that learning has occurred through participation in the GVT-based project, thus supporting the first hypothesis.

Of particular interest is the learning that has occurred about people from Latin America, the Anglo regions, and Africa. Given that Colombia is in Latin America, it would have been reasonable to have suspected an intrinsically low perception of difficulty in dealing with other Latinos and that no learning would occur about this area. Certainly, the perceived difficulty in dealing with others from Latin America was lower than that of all other tested regions. However, the control group average rating of 1.64 and the experimental group average of 1.58 suggest that even amongst Latinos there are perceived problematic cultural differences and that regional interaction can decrease these perceptions.

Post-project rating of difficulties in dealing with people from the Anglo region —USA, Canada, Australia, and New Zealand— reached

VOLUMEN 9 / NÚMERO 18 / JULIO-DICIEMBRE DE 2016 / ISSN 2027-1174 / BOGOTÁ-COLOMBIA / Páginas 129-146

the same low level as Latin America, 1.58. Interestingly, the greatest learning occurred about people from Africa. The control group rated Africa as the most different and difficult at 3.78, while the experimental group rated Africa at 2.88. Also interesting to note, is that, after analyzing individual student responses, changes in perception of differences and difficulties were comparable regardless of whether or not the students' teammates were from countries in the tested groups. In other words, the GVT-based international, inter-cultural activity had the impact of lowering perceived differences among cultures in general, not only for the ones in which students had direct contact.

Since this study sought to determine impact of the GVT-based experiential activity on cultural agility, the post-project survey also asked students to rate their perceptions of cultural and linguistic difficulties specifically in the GVT setting. The experimental group reported lower perception of difficulties in all four variables: culture, language, opinions and values, and stereotypes and prejudices. A total factor average for the experimental group of 2.46 (SD = 0.67) compared with the control group average of 2.85 (SD = 0.86). While indicating some level of learning, this difference is not statistically significant; and therefore, the hypothesis is not supported.

It is interesting to note that the greatest difference between the control group and the experimental group was in the perception of language related difficulties. Through participation in the X-Culture project, students learned that English can function as the working language for a team of non-native English speakers and that on-line translators such as Google Translate can ease the process significantly. The second greatest difference between the control group and the experimental group was in the perception of difficulties caused by stereotypes and prejudices. Colombians, who suffer from a negative reputation based on the activities of prominent drug-traffickers, seemed to enter into international interactions somewhat hesitantly, fearing that they will be judged, ridiculed, or scrutinized. The X-Culture project taught students that, even if their teammates did hold this preconception, it was easily overcome and that the team goal superseded any initial prejudices.

Finally, this study sought to determine the impact of X-Culture participation on understanding of virtual team coordination and administration. Students of the digital generation generally feel comfortable with the concept of technologically-enhanced communications, so it was hypothesized that the control group would perceive a lower level of difficulty with virtual team administrative concerns. Indeed, the control group reported a lower perceived level of difficulty for each of the six tested variables: coordination of time zones, differences in personal abilities, coordination of work, electronic and virtual means of communication, lack of authority and clear leadership, and differences in motivation of team members. A total factor average for the control group was 2.71 (SD = 0.55) while the factor average for the experimental group was 3.03 (SD = 0.55). With a p-value of 0.0207, this is statistically significant, thus indicating that learning has occurred and supporting the hypothesis. Coordinating and administering the work in a virtual team (especially a Global Virtual Team) is complex, beyond what one who has not participated in a virtual team can imagine.

These results complement previous findings published in Vas Taras, Dan V. Caprar, Daniel Rottig, Riikka M. Sarala, Norhayati Zakaria, Fang Zhao, Alfredo Jiménez, Charles Wankel, Weng Si Lei, Michael S. Minor, Paweł Bryła, Xavier Ordeñana, Alexander Bode, Anja Schuster, Erika Vaiginiene, Fabian Jintae Froese, Hanoku Bathula, Nilay Yajnik, Rico Baldegger and

Victor Zengyu Huang (2013). In an international, post-project survey of 5,324 participants in 2011 and 2012, 4,909 (92%) reported that they would change their behavior or handle the project differently if they had it to do over again. Most of these listed three to five areas that specifically relate to virtual team coordination and administration such as devoting more attention to the technical aspects, establishing team collaboration rules, being more proactive with respect to decision making, procrastinating less, verifying team member progress more often, communicating with teammates more frequently, creating a group in Facebook or Google+ earlier on in the process, and relying on more advanced virtual collaboration tools such as Google Docs (Taras, Caprar, Rottig, Sarala, Zakaria, Zhao, Jiménez, Wankel, Lei, Minor, Bryła, Ordeñana, Bode, Schuster, Vaiginiene, Froese, Bathula, Yajnik, Baldegger & Huang, 2013).

Conclusions

This research focused on the implicit learning opportunities involved in student participation in a Global Virtual Team-based project. Specifically, it sought to measure the impact of participating in the GVT-project on perceived difficulties arising from cultural differences in general, perceived difficulties arising from cultural differences specifically in the GVT context (the *global* aspects of the GVT), and perceived difficulties of administration and coordination of the GVT (the *virtual* aspects of the GVT).

Results were based on pre-, during- and post-survey responses from the 2,494 students from 37 countries around the world and on post-survey responses from a treatment group in one of the Colombian universities participating in the X-Culture project during the first semester of 2014 and were analyzed under the theoretical approaches of constructivism, experiential learning, social learning and inter-group contact.

After participating in an approximately two-month-long GVT-based experiential learning project, students perceived significantly lesser cultural-related difficulties in dealing with others from other countries. This suggests that learning had occurred by means of GVT participation. By working on a common goal with others from distinct nationalities and cultural backgrounds, students gain cultural intelligence, thus reducing stereotyping and biases. These lowered perceptions of differences and difficulties were comparable regardless of whether or not the students' teammates were from tested countries. In other words, the GVT-based activity had the impact of lowering perceived differences among cultures in general, not only for the ones in which students had direct contact.

In addition to reduced perceptions of cultural differences and difficulties in dealing with people from other countries in general, students' perceptions of difficulties arising from cultural and linguistic differences specifically in the GVT context also declined, however less significantly. This does not imply that learning did not occur. It may be that students did learn (significantly) that the *global* aspects of the GVT are indeed difficult even after the stereotyping and biases are removed.

Certainly, students did learn that the *virtual* aspects of the GVT are complex. Post-project survey respondents rated a significantly higher perception of difficulties related to the administration and coordination of the GVT. Students of the digital generation generally feel confident with the use of technologically-enhanced communications, but participation in the GVT-based project taught them that coordination and administration of the virtual team (especially a Global Virtual Team) is complex beyond what one who has not participated in a virtual team can imagine.

VOLUMEN 9 / NÚMERO 18 / JULIO-DICIEMBRE DE 2016 / ISSN 2027-1174 / BOGOTÁ-COLOMBIA / Páginas 129-146

Insights from this study provide evidence for the usefulness of GVT-based approaches and facilitate a better understanding of the challenges and learning opportunities in using this type of experiential learning in business education. While GVTs are undoubtedly beneficial in regards to the explicit learning opportunities involved in developing the competencies required to complete the project itself, this study focused on the implicit learning opportunities. By participating in GVTs, the students entered into direct contact, in a simulated business environment, with their foreign counterparts. This contact led to learning about others, about others' cultures, and about inherent difficulties in collaborating with others of distinct cultural and linguistic backgrounds. Additionally, by participating in this simulated business environment, the students learned about GVTs themselves, their coordination and administration, and their inherent complexities.

Recent developments in social media and online collaboration tools make the GVT-based project increasingly feasible, thus providing universities and business schools with a formidable option in their international immersion arsenal. Given that GVTs provide direct international-intercultural interactions while remaining cost- and time-effective, they circumvent the disadvantages associated with semesters abroad, foreign summer schools, international internships, and study tours.

International, intercultural academic experiences provide students with a preview to the real-world, globally interconnected workplace. Participation in the GVT-based project allows students to experience the challenges of collaborating cross-culturally and virtually and aids them in forming more realistic expectations with respect to what it takes to successfully collaborate across cultural and national borders via virtual means. These skills will prove essential in the student's future professional life. In an increasingly globalized world, all businesses today are to some degree internationalized. Employers respond accordingly by expecting their employees to be acclimatized to this new reality.

Limitations and Future Research

As with all research, this study does have its limitations. The most salient limitation is that the experimental group and the control group were comprised of two different groups of class with two different instructors. While the participating instructors and researchers took steps to avoid bias, the risk exists. It is certainly feasible that the experimental group instructor had a teaching style that promoted the skills and competencies being attributed to the GVT project. Future research would benefit from more internal design controls.

Student perception surveys serve as the basis of this study. While perception-based surveys are an accepted method in social sciences; the authors recognize that in this particular research, students in the experimental group may have been responded as they thought they should, not as they actually perceived. Future research may include observation of student, post-project behavior rather than or in addition to the perception surveys.

Since this research advocates the use of GVTs as an experiential learning alternative which promotes deep, reflective, and internalized experience (as opposed to in-class activities or short study tours); future research could certainly test whether the suggested impact of GVT participation is long-term. In this study, students completed the post-project survey within weeks of having completed the project. Future study could retest students at various time periods after the project, as well as test mediating and moderating factors in the interval between project completion and later-date surveys.

Avenues for future research also include delving into the specificities of each variable rather than the treatment of factors, as was the treatment in this research. Additionally, future research may identify the many mediating and moderating factors correlated with each variable. Team size, national/cultural composition, media usage, time dedication, and motivational level (amongst others) may influence in the learning process and in competency development.

About the authors

Anne Marie Zwerg-Villegas is the Director of the Master in International Management International School of Economics and Management Sciences at the University of La Sabana.

Jaime Humberto Martínez-Díaz is the Director (e) Program Business Administration and Head of Department of Management and Organizations at the University of La Sabana.

References

Allport, G. W. (1954). *The Nature of Prejudice*. Cambridge, Massachusetts: Addison-Wesley.

Arnold, J.; Loan-Clarke, J.; Harrington, A. & Hart, C. (1999). Student's Perception of Competence Development in Undergraduate Business-related Degrees. *Studies in Higher Education*, *24*(1), 43-59.

Bandura, A. (1977). *Social Learning Theory*. Englewood Cliffs, New Jersey: Prentice Hall.

Barak, M.; Lipson, A. & Lerman, S. (2006). Wireless Laptops as Means for Promoting Active Learning in Large Lecture Halls. *Journal on Research on Technology in Education*, *38*(3), 245-263. Retrieved from http://files.eric.ed.gov/fulltext/EJ728904.pdf

Belton, V.; Scott, J. L. & Thornbury-Gould, H. (2006). Developing the Reflective Practitioner-Designing an Undergraduate Class. *Interfaces*, *36*(2), 150-164.

Blanchard, F. A.; Adelman, L. & Cook, S. W. (1975). Effect of Group Success and Failure upon Interpersonal Attraction in Cooperating Interracial Groups. *Journal of Personality and Social Psychology*, *31*(6), 1020-1030.

Blasco, M. (2009). Cultural Pragmatists? Student Perspectives on Learning Culture at a Business School. *Academy of Management Learning and Education*, *8*(2), 174-187.

Bochner, S. (ed.) (1982). *Cultures in Contact: Studies in Cross-Cultural Interaction*. International Series in Experimental Social Psychology, Vol. 1, Oxford: Pergamon Press.

Brameld, T. (1946). *Minority Problems in the Public Schools: A Study of Administrative Policies and Practices in Seven School Systems*. New York: Harper & Brothers.

Budd, J. W. (2002). Teaching Labor Relations: Opportunities and Challenges of Using Technology. *Journal of Labor Research*, *23*(3), 355-374.

Butler, C. & Zander, L. (2008). The Business of Teaching and Learning Through Multicultural Teams. *Journal of Teaching in International Business*, *19*(2), 192-218.

Caligiuri, P. & Tarique, I. (2012). Dynamic Cross-Cultural Competencies and Global Leadership Effectiveness. *Journal of World Business*, *47*(4), 612-622.

Chappell, D. S. & Schermerhorn Jr., J. R. (1999). Introducing International Business Experience through Virtual Teamwork. *Journal of Teaching in International Business*, *10*(3-4), 43-59.

Clark, D. N. & Gibb, J. L. (2006). Virtual Team Learning: An Introductory Study of Team Exercise. *Journal of Management Education*, *30*(6), 765-787.

Crittenden, V. & Woodside, A. G. (2007). Building Skills in Thinking: Toward a Pedagogy in Metathinking. *Journal of Education for Business*, *83*(1), 37-43. Recuperado de https://www.academia.edu/15346061/Building_Skills_in_Thinking_Toward_a_Pedagogy_in_Metathinking?auto=download

Earley, P. C. & Peterson, R. S. (2004). The Elusive Cultural Chameleon: Cultural Intelligence as a New Approach to Intercultural Training for the Global Manager. *Academy of Management Learning and Education*, *3*(1), 100-115.

Eisenberg, J.; Lee, H.-J.; Brück, F.; Brenner, B.; Claes, M.-T.; Mironski, J. & Bell, R. (2013). Can Business Schools Make Students Culturally Competent? Effects of Cross-Cultural Management Courses on Cultural Intelligence. *Academy of Management Learning and Education*, *12*(4), 100-115.

Flammia, M.; Cleary, Y. & Slattery, D. M. (2010). Leadership Roles, Socioemotional Communication Strategies, and Technology Use of Irish and US Students in Virtual Teams. *IEEE Transactions of Professional Communication*, *53*(2), 89-101.

Gavidia, J. V.; Hernández-Mogollón, R. & Baena, C. (2005). Using International Virtual Teams in the Business Classroom. *Journal of Teaching in International Business*, *16*(2), 51-74.

Hammer, M. R. (2011). Additional Cross-Cultural Validity Testing of the Intercultural Development Inventory. *International Journal of Intercultural Relations*, *35*(4), 474-487.

Humes, M. & Reilly, A. H. (2008). Managing Intercultural Teams: The eOrganization Exercise. *Journal of Management Education*, *32*(1), 118-137.

Johnson, J. P.; Lenartowicz, T. & Apud, S. (2006). Cross-Cultural Competence in International Business: Toward a Definition and a Model. *Journal of International Business Studies*, *37*(4), 525-543.

Jonsen, K. & Maznevski, M. L. (2010). Gender Differences in Leadership-Believing is Seeing: Implications for Managing Diversity. *Equality, Diversity and Inclusion: An International Journal*, *29*(6), 549-572. Recuperado de http://homepages.se.edu/cvonbergen/files/2013/01/Gender-Differences-In-Leadership-%E2%80%93-Believing-Is-Seeing_Implications-for-Managing-Diversity.pdf

Jurse, M. & Mulej, M. (2011). The Complexities of Business School Alignment with the Emerging Globalization of Business Education. *Kybernetes*, *40*(9-10), 1440-1458.

Kolb, D. A. (1984). *Experiential Learning: Experience as the Source of Learning and Development*. Englewood Cliffs, New Jersey: Prentice Hall.

Kolb, A. Y. & Kolb, D. A. (2005). Learning Styles and Learning Spaces: Enhancing Experiential Learning in Higher Education. *Academy of Management Learning and Education*, *4*(2), 193-212.

Langlois, G. A.; Barrett-Litoff, J. & Ilacqua, J. A. (2003). Transforming Educational and Business Practices in Belarus. *Journal of Teaching in International Business*, *14*(2-3), 41-66.

Leiba-O'Sullivan, S. (1999). The Distinction between Stable and Dynamic Cross-Cultural Competencies: Implications for Expatriate Trainability. *Journal of International Business Studies*, *30*(4), 709-725.

VOLUMEN 9 / NÚMERO 18 / JULIO-DICIEMBRE DE 2016 / ISSN 2027-1174 / BOGOTÁ-COLOMBIA / Páginas 129-146

Lipnack, J. & Stamps, J. (2000). Virtual Teams: People Working Across Boundaries with Technology. 2nd ed. New York: John Wiley & Sons.

Liu, X.; Magjuka, R. J. & Lee, S.-H. (2008). An Examination of the Relationship among Structure, Trust, and Conflict Management Styles in Virtual Teams. *Performance Management Quarterly*, *21*(1), 77-93.

Matveev, A. V. & Nelson, P. E. (2004). Cross Cultural Communication Competence and Multicultural Team Performance: Perceptions of American and Russian Managers. *International Business Review*, *17*(5), 520-532.

Maznevski, M. L. & DiStefano, J. J. (2000). Global Leaders are Team Players: Developing Global Learders through Membership in Global Teams. *Human Resource Management*, *39*(2-3), 195-208.

McCall Jr., M. W. & Hollenbeck, G. P. (2002). *Developing Global Executives: The Lessons of International Experience*. Boston: Harvard Business School Publishing Corporation.

Mintzberg, H. & Gosling, J. (2002). Educating Managers beyond Borders. *Academy of Management Learning and Education*, *1*(1), 64-78.

Oddou, G.; Mendenhall, M. E. & Ritchie, J. B. (2000). Leveraging Travel as a Tool for Global Leadership Development. *Human Resource Development*, *39*(2-3), 159-172.

Rehg, M. T.; Gundlach, M. J. & Grigorian, R. A. (2012). Examining the Influence of Cross-Cultural Training on Cultural Intelligence and Specific Self-Efficacy. *Cross-Cultural Management: An International Journal*, *19*(2), 215-232.

Sherif, M.; Harvey, O. J.; White, B. J.; Hood, W. & Sherif, C. W. (1961). *Intergroup Conflict and Cooperation: The Robbers Cave Experiment*. Norman, Oklahoma: University Book Exchange.

Sutanto, J.; Kankanhalli, A. & Tan, B. C. (2011). Deriving IT-Mediated Task Coordination Portfolios for Global Virtual Teams. *IEEE Transactions of Professional Communication*, *54*(2), 133-151.

Taras, V.; Caprar, D. V.; Rottig, D.; Sarala, R. M.; Zakaria, N.; Zhao, F.; Jiménez, A.; Wankel, C.; Lei, W. S.; Minor, M. S.; Bryla, P.; Ordeñana, X.; Bode, A.; Schuster, A.; Vaiginiene, E.; Froese, F. J.; Bathula, H.; Yajnik, N.; Baldegger, R.; Huang, V. Z., Taras, V.; Caprar, D. V.; Rottig, D.; Sarala, R. M.; Zakaria, N.; Zhao, F. & Huang, V. Z. (2013). A Global Classroom? Evaluating the Effectiveness of Global Virtual Collaboration as a Teaching Tool in Management Education. *Academy of Management Learning and Education*, *12*(3), 414-435.

Tonks, D. (2002). Using Marketing Simulations for Teaching and Learning. Reflections on an Evolution. *Active Learning in Higher Education*, *3*(2), 177-194.

Vogel, J. J.; Greenwood-Ericksen, A.; Cannon-Bowers, J. & Bowers, C. A. (2006). Using Virtual Reality with and without Gaming Attributes for Academic Achievement. *Journal of Research on Technology in Education*, *39*(1), 105-118.