Facilitating Cultural Exchange and Fostering 21st Century Skills Using Skype in the Classroom

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Abstract

The study was conducted to evaluate the effectiveness of Skype on the improvement of intercultural understanding and 21st-century skills among a population of 36 Vietnamese university students. The student participants took part in a 10-week Virtual Exchange (VE) with teachers and students from other countries. A 5-point Likert scale questionnaire and semi-structured interviews were employed as the two main data-collection tools. The findings show that the activities had a positive effect on the development of 21st-century skills with 91.7 percent of students perceiving themselves fostering their critical thinking and communication skills. There was still room for improvement in other studied skills, especially in the skills of collaboration, self-direction, making local connections, and self-monitoring. Results also suggest that international VE using Skype can also maximize the possibility of participating in authentic communication and improving intercultural understanding. Feedback from participants suggests VE with Skype could be improved by using educational technology tools such as Microsoft Teams or Edmodo to keep track of the students' group work and also by providing students with the topic prior to upcoming sessions so they can prepare and get the most out of the VE.

Keywords: Virtual exchange, Cultural exchange, 21st-century skills, Skype in the classroom, Educational technology

Introduction

Traditionally, chalkboards, textbooks, and visual aids have been used by teachers to teach EFL. However, the advancement of technology made a big difference in how teachers teach and students learn nowadays. Internet connectivity provides great opportunities for teachers and learners alike to enrich the teaching and learning process as well as expand the educational landscape. Technology is also being widely used nowadays to develop and enhance the cultural and communication skills which are needed to communicate successfully and efficiently in daily interactions of this century (Schenker, 2013).

The rise of technology and how it is used as a tool for learning and teaching has had a significant impact on many educational fields. Online learning and teaching materials and resources became easily accessible and manageable. This even made it possible for teachers to make learning more interesting and experiential for their students. Skype in the classroom, for example, is an online community platform used by teachers to connect and collaborate with other teachers and let their students learn from other students in different geographic locations without leaving their classrooms. In this platform, teachers can arrange for virtual field trips or invite guest speakers from different fields as well.

Though teachers have been integrating technology in their classrooms, the specific use of Skype as a learning and teaching tool has not been applied by everyone for several reasons. Nascimento and Melnyk's (2016) research on the usage of Skype for educational purposes notes these include: not having an internet connection; the lack of proper skills to operate the Skype platform and others. This present study, however, focuses on how the "Skype in the classroom" platform is used in facilitating cultural exchange and fostering 21st-century skills among non-English major students at the Posts and Telecommunications Institute of Technology.

Within the context of teaching or learning English as a Foreign Language (EFL) and technology, this study intends to discuss how using internet-enabled devices can be another effective means to enhance students' 21st-century skills. Foreign language pedagogy has often had a purely communicative focus. This study, however, uses a different but contextualized approach, within a globalized and interconnected community, to provide an authentic cultural exchange experience for students. Through Skype in the Classroom, this approach aims to create a real necessity for students to communicate in English. Therefore, students are more motivated and encouraged to have higher levels of participation because they are provided with an opportunity to produce more and better quality language (Verjano, 2013).

With the given opportunity to connect outside their classrooms and around the world, students can widen their perspectives about other people's cultures and lifestyles. Knowing the cultural backgrounds of other people living abroad helps students develop not only their intercultural understanding but also their communication skills. Along the learning process of the cultural exchange, the students were given opportunities to also enhance their 21st-century skills.

In their survey for measuring 21st-century teaching and learning in West Virginia, Hixson et al., (2012) have listed several conceptualized skills which were adopted as a framework in this study. The formulation of these skills also came from the international innovative teaching and learning the study of Shear, et al. (2010, as cited in Hixson et al., 2012). Aside from that, the deeper learning structure came from The William and Flora Hewlett Foundation (2010) and Partnership for 21st Century Skills. The 21st-century skills listed include critical thinking skills, collaborative skills, communicative skills, self-directive skills, being innovative and creative, the ability to connect globally and locally, and the ability to use technology as a tool for learning.

Indeed, learning EFL for Vietnamese students in the context of this study was a fun, memorable, and interactive experience. This time, it was not merely about learning a foreign language but learning about the people who speak the language whether they are native or non-native English speakers. Thus, it is more about making human connections

and using the English language as a Lingua Franca to build relationships, have an open mindset about other people's language and culture, and become global citizens.

After a semester of connecting with teachers and students from different countries via Skype, in-depth interviews were conducted and a survey was distributed to the participants to evaluate the effectiveness of Skype in the Classroom activities on the facilitation of cultural exchange and the development of 21st-century skills amongst the students.

Review of Literature

The rationale for cultural exchange through interactions in a virtual community

The introduction of Skype in the Classroom using audio and video conferencing made it possible to connect a classroom with other classrooms from other parts of the globe. This offers an opportunity to connect people and objects that are not in the same physical environment. This elicited excitement and curiosity among the students, encouraging and motivating them to learn and be more engaged. This technological tool provides opportunities for students to experience social interaction with other people outside the classroom. This allows students to have interactive, cultural, and collaborative exchanges with global partners as (Sivakumar, 2015) noted that synchronous real-time discussions using software like Skype can expand the walls of the traditional classroom while engaging students to write, share and communicate with an authentic audience.

Skype is a software application by Microsoft for online communication. It is a free communication tool that allows users to make audio and video calls over the internet. Skype in the classroom, on the other hand, is a free community that connects teachers with educators and guest speakers from around the world. It is a website where teachers can find and run Skype lessons for their students.

Moreover, teachers can promote language and culture exchange among students using Skype and fulfill other educational goals as well, while providing a more interactive and interesting learning environment. The videoconferencing aspect of the software is important in providing a way to connect students who speak other languages, hold virtual field trips, and reach out to experts in different fields of study. If the teacher decided to invite guest speakers to share their expertise, this platform makes it possible and convenient for them so they don't need to travel or leave their offices. These experiences give students the chance to apply what they learn in the classroom to real-life experiences and it also encourages further learning opportunities (Thomann, 2006, as cited in Nascimento & Melnyk, 2016). Students have opportunities to ask for help from other students or field experts besides the teacher. Likewise, teachers can collaborate with other teachers around the world and design different learning experiences for their students. There are various Skype lessons in which students can participate. Teachers can also use Skype's search tool and find experts in the field of their choice (Nascimento & Melnyk, 2016).

There have only been a few papers on using Skype in the classroom done in Vietnam. Lim's (2019) article on connecting classrooms with Skype, for example, featured Fadzillah, a teacher from Malaysia who sets out to enhance the education process by introducing a more interactive and global learning procedure into her classroom.

According to the teacher, Skype gives a great opportunity for her students to communicate with friends from outside the country. As most of her students are also very shy, it became a perfect exposure for them to gain the confidence to communicate using the English language. The teacher used Skype sessions to collaborate with other teachers and schools in Malaysia and other countries to teach their students through demonstrations on different subjects like arts, science, and cooking. Both teachers and students had the chance to share their culture and traditions and were able to learn other people's culture and traditions as well. Throughout this teaching and learning procedure, a majority of the students learned from the experiences and asked for more. Thus, various activities were carried out throughout the year to equip the students with the right skills and values for the future.

Furthermore, the International Trade Council (2019) explains that cultural exchange ensures cross-border understanding and long-term problem resolution by allowing participants' exposure to other cultures, societies, and people through increasing personal connections. Cultural exchange is essentially a two-way communication process that involves efforts by students to explain their nation's image and values to foreign audiences as well as to try to understand the culture, values, and images of other countries and their people.

Similarly, the findings on Wang's (2013) study showed that cultural exchanges can play a role of catalyst to language learning, a mediator between different linguistic and cultural groups, developer of learning communities, provider of authentic information, peacemaker, and creator of multiple learning styles.

Thus, encouraging students to participate in cultural exchanges helps them be aware of their own culture at the same time widening their perspectives on other cultures. O'Dowd and Lewis (2016) also mentioned in their book on Online Intercultural Exchange that Online exchange projects of this nature can contribute to the development of learner autonomy, linguistic accuracy, intercultural awareness, intercultural skills, and electronic literacies. This will help them learn the right communication skills as well as form values and better attitudes towards other cultures. This is being covered in other regions too with the OECD (2018) mentioning that twenty-first-century students will face unprecedented challenges in the future in terms of social, economic, and environmental problems. Therefore, they need to attain global competencies that enable them to examine local, global and intercultural issues, understand and appreciate different perspectives, as well as promote cultural awareness and respectful interactions in increasingly multicultural societies. VE is expected to provide students with the chance to develop their ability to communicate effectively and appropriately in English in a diverse society (ATSEL, 2011, as cited in Bickley et al., 2014), thereby experiencing the benefits of improved intercultural understanding.

The rationale for fostering 21st-century skills through technology

With the help of new technology, educators can be creative in motivating their students and helping them develop both their traditional and 21st-century literacy skills in the classroom. Now that the education system is constantly evolving, Pun (2013) stated that technology is undeniably accepted as the most essential part of teaching and learning English. Likewise, Ottenbreit-Leftwich et al. (2010, as cited in Nguyen & Mai, 2019) agreed that teachers use technology as a tool to engage and motivate students, improve

student comprehension and promote higher-level thinking, as well as a means to facilitate technology skill development that could transfer to future applications. In addition, Nguyen and Mai (2019) confirmed that Skype in the Classroom, in particular, helped students build collaborative knowledge, solve problems, and break down the distinctions between knowledge and communication.

In their research on teaching and integrating Sustainable Development Goals (SDG) using Skype in the classroom to foster 21st-century skills among Vietnamese students, Nguyen and Mai (2019) produced an outstanding outcome using this strategy. Nguyen and Mai explained that besides being empowered with the English language to talk about different issues confidently, learners could develop critical thinking and problem-solving skills through enquiry-based discussions. Students could also develop their social skills such as listening, turn-taking, sharing ideas, and cooperating with others to carry out all the activities related to the tasks involved.   Their Vietnamese students were allowed to share their feelings and information, discover their interests together, and discuss the solutions to existing problems with other students outside the country. This provided a real-life experience with an English-speaking context to the students. This also cultivated their interest and motivation to learn the language as well as using the language to find common ground and talk about possible solutions to real-world problems.

Educators found the technology useful to promote the acquisition of 21st-century skills such as communication, collaboration, creativity, and critical thinking among their students which includes higher-order thinking abilities, communicative competence in local and international languages, and proficiency in information communication technology. However, aside from the opportunities that technology has provided to both educators and learners, challenges have also emerged with regard to promoting and acquiring the 21st-century skills. These challenges are often related to the role of technology in developing the characteristics of learners and the learning environments.

In his research on the advantages and disadvantages of using Skype for educational purposes, Nascimento and Melnyk (2016) mentioned a few disadvantages. Lack of personal contact for example, can make it difficult for the teacher to control the learners' actions. In some cases, the teacher cannot see what the students write and cannot correct their errors in time. He also noted that the success and effectiveness of conducting lessons through the platform largely depend on the technical skill or proper operation of equipment and a good internet connection.

Thus, the authors in this study took those advantages and disadvantages into consideration when implementing their VE and sought the answers to the following questions:

1. Is Skype in the Classroom an effective tool for the improvement of intercultural understanding and development of 21st-century skills?
2. What can be done to improve future VE using this tool?

Research methods

Participants and settings

42 first-year students in two classes (E18CN01 and E18CN02) at the Posts and Telecommunications Institute of Technology participated in different Skype in the Classroom activities during the second semester of the school year 2018-2019. Students were supposed to be at an intermediate level, which, according to the description in the Common European Framework of Reference for Languages, means that students will understand the key points of simple input on commonly encountered matters in English. They should also be able to handle most circumstances that they may occur when traveling to an area where English is spoken and produce simple connected texts on the topics that they are familiar with or they have a personal interest in. Moreover, they are expected to be able to describe experiences, wishes, and briefly justify opinions. The participants, however, have different levels of English proficiency with 21 out of 36 students having lower English proficiency and 15 having a higher level of proficiency. Their English was assessed based on their last English final exams on the four language skills with the former group attaining average scores of below 7 out of 10 and the latter getting over 7. Like other students in EFL classrooms, most of the participants (N=32) had never communicated with foreigners before. The students were introduced to the project and then they voluntarily participated in these exchanges.

Each session lasted about 30 minutes starting with Mystery Skype, followed by a presentation about a certain cultural aspect and ending with a quiz or Q&A section. These sessions were recorded so that the students could refer to the recordings later when necessary.

Data collection

The students were divided into groups of 5-6 students dealing with a specific aspect of Vietnamese culture. Each group then connected with a class or a teacher from another country to introduce Vietnam's culture to the world and to learn about different cultures as well. One Skype session often started with Mystery Skype in which students from both sides did not know where the other came from and they had to ask Yes/No questions only to locate their partner(s). After that, the session was followed by one student-led presentation about a particular topic related to their own culture and ended with students playing a Kahoot quiz designed by the group of speakers and/or asking and answering questions from the audience. Vietnamese students had the chance to virtually communicate with students and teachers from Turkey, Russia, Japan, Argentina, Thailand, and Costa Rica. After a 10-week virtual exchange, all the research participants were asked to complete the survey questionnaire. Unfortunately, only 36 out of 42 students sent the questionnaire back. Then, 12 of them were randomly invited for semi-structured interviews.

Data analysis

A mixed-method approach was employed using quantitative data in the form of a questionnaire to measure the development of 21st-century skills among the research participants based on students' self-evaluation. Qualitative data were also employed in the form of interviews to expand on the initial results of the survey. The participants were asked questions related to student perspectives on the benefits of the VE via Skype,

challenges facing them during the exchange, and their recommendations for better Skype sessions.

Based on the questionnaire originally formulated by Hixson et al. (2012) for the measurement of 21st-century teaching and learning in West Virginia, the authors adapted and designed it using Microsoft Forms. The link was then sent to all the research participants and SPSS quantitatively analyzed the data obtained from the surveys of 36 students whose complete data were available. Questions were designed to ask students to self-assess their ability to do specific skills facilitating the practice of each of eight 21st century skills. For example, one of the practices that can help students develop their communication skills is to make an oral presentation in front of an audience. Accordingly, the self-evaluation statement 'I could deliver an oral presentation to the teacher and others' was included in the survey. Responses ranged from *not really* (1), *to a minor extent* (2), *to a moderate extent* (3); *to a great extent* (4) and *to a very great extent* (5).

The second data collection tool was a semi-structured interview which, according to Smith et al. (1995), could help both the interviewer and interviewees enjoy the flexibility in exchanging ideas. Furthermore, the researcher could have a detailed picture of the participants' perception of the given topic. The answers to the interview questions were analyzed qualitatively. The researcher coded the answers to reveal patterns in students' perceptions of (1) benefits and (2) challenges of Skype in the Classroom activities, as well as (3) the participants' recommendations.

Findings and Discussion

Impact of Skype in the Classroom activities on intercultural understanding and 21st-century skills

The results from both questionnaires and interviews showed that the improvements in the studied 21st-century skills were noticed by all the research participants though the degree of self-assessed development for each skill was different. Moreover, all of them, especially those with no experience in communicating with foreigners, showed very strong positive attitudes towards participating in cultural exchanges and using the target language. In addition, they specifically explained that their interest in cultural exchange increased because of these virtual exchanges. Skype sessions enabled them to introduce their unique culture to their international counterparts, learn about each other's cultures, and simultaneously have conversations over cultural topics with international students, which had never happened in the classroom before. According to Schenker (2013), VE using various approaches such as email exchanges, discussion forums and blogs, text or voice-based chat exchange, or class-on-class video conferences like this project allow instructors to make the learning happen beyond the classroom. This also confirmed the results of other studies on the effectiveness of the participation in synchronous computer-mediated communication on students' motivation and learning of the target language and culture (Donaldson & Kotter, 1999; Schenker, 2012; Sun, 2009).

Figure 1

The perceived development of 21ˢᵗ-century skills among students after participating in Skype in the Classroom activities
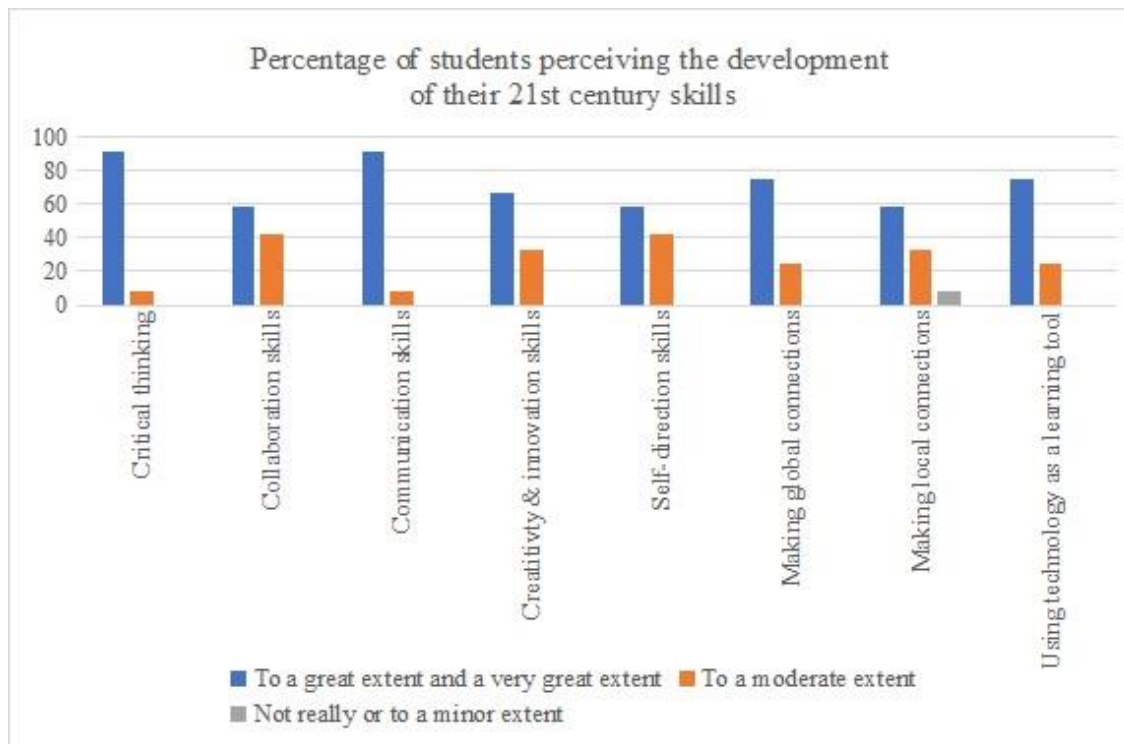

Figure 1 shows the means of the percentages of students indicating their agreement to a great or a very great extent (as noted by the blue bars), to a moderate extent (the orange bars) and their disagreement (the grey bars) with all statements listed in each section of skills in the questionnaire. Figure 1 shows the development of the eight 21ˢᵗ century skills-based on students' self-evaluation. Only the skill of making local connections showed a small number of students noticing no positive changes after the exchange. All the 21ˢᵗ-century skills studied, however, were fostered with 58.3% – 91.7% of the responses perceiving all of them to be significantly boosted. We can see that critical thinking and communication skills were equally acquired skills as noted by the students, while making local connections was seen to be the least developed skill.

Table 1

The perceived development of critical thinking among non-English majors after participating in Skype in the Classroom activities

	Mean		Std. Deviation
After Skype sessions, I could:	**Statistic**	**Std. Error**	**Statistic**
Develop a persuasive argument based on supporting evidence or reasoning.	4.2500	.15622	.93732
Compare information from different sources before completing a task or assignment.	4.0000	.11952	.71714
Analyze competing arguments, perspectives or solutions to a problem.	4.0000	.15430	.92582

	Mean		Std. Deviation
	Statistic	Std. Error	Statistic
Draw my own conclusions based on analysis of numbers, facts, or relevant information.	3.8333	.13511	.81064
Summarize or create my own interpretation of what I have read or been taught.	3.8333	.16667	1.00000
Try to solve complex problems or answer questions that have no single correct solution or answer.	3.7500	.12199	.73193

It has been argued that Asian students cannot often think critically since they have been encouraged to conform from an early age (Atkinson, 1997; Ballard & Clanchy, 1992; Shi, 2006). This considerable increase in students' self-evaluation about their critical thinking suggested that the activities applied in the VE could support students' critical thinking cultivation. According to Fadel and Trilling (2009), critical thinking is the ability to analyze, interpret, evaluate, summarize, and synthesize information. In contrast, Ennis and Weir (1985) seem to focus on the final product (action) rather than a process of evaluation and thinking. Likewise, a lack of common understanding about definitions offered for critical thinking has been noticed by Ryan and Louie (2007). However, many experts have attempted to define critical thinking as a set of skills rather than any single skill and no one skill is necessarily more important than the others. Hixson et al. (2012) helped break down the skills into sub-skills, which gave the author clearer instructions on how to facilitate critical thinking among students. The students were also introduced to these concepts so that they could reflect on their learning of critical thinking.

As stated by Block and Cameron (2002), in the increasingly globalized world, it is more likely that individuals will be surrounded by people from diverse cultures and language backgrounds. It has been emphasized in a body of key documents that cultural awareness and communication skills will be needed to communicate successfully and efficiently in daily interactions this century (Schenker, 2013).

Table 2
The perceived development of communication skills among non-English majors after participating in Skype in the Classroom activities

	Mean		Std. Deviation
After Skype sessions, I could:	Statistic	Std. Error	Statistic
Answer questions in front of an audience	4.2500	.12199	.73193
Prepare and deliver an oral presentation to the teach or others	4.2500	.14015	.84092
Convey my ideas using media other than a written paper	4.2500	.12199	.73193
Structure data for use in written products or oral presentations	4.0833	.08333	.50000
Decide how I will present their work or demonstrate my learning	3.9167	.10820	.64918

With cultural exchange tasks, students were given the chance to do all the needed practice as listed in the table above, leading to the improvement in their communication skills. The effectiveness of this initiative suggests that English classes can use Skype in the Classroom to maximize the possibility of creating authentic communication and contributing to the development of intercultural understanding in the classroom.

Table 3

The perceived development of collaboration skills among students after participating in Skype in the Classroom activities

After Skype sessions, I could:	Mean		Std. Deviation
	Statistic	Std. Error	Statistic
Work with other students to set goals and create a plan for our team	3.8333	.16667	1.00000
Work in pairs or small groups to complete a task together	3.7500	.12199	.73193
Give feedback to peers or assess other students' work	3.6667	.15936	.95618
Work as a team to incorporate feedback on group tasks or products	3.6667	.18687	1.12122
Create joint products using contributions from each student	3.4167	.21223	1.27335

Collaboration, self-direction, and making local connections were perceived to be least developed with 58.3% of research participants agreeing to a great extent and a very great extent with the 5-point Likert scale items describing different practices of each skill. There is a number of studies that have indicated that when students are provided with the opportunity to collaborate with their peers, their performance will improve (Chen, 2018; Ocker & Yaverbaum, 2002). Though students were required to work in groups to complete several tasks together, many of them failed to create products using each student's contributions or assess and give feedback on their teammates' work (M=3.42, SD=1.27; M=3.67, SD=1.12; M=3.67, SD=0.96 respectively). During the interviews, most of the students mentioned that not every team member actively contributed to the tasks as required. They added that sometimes they did not know how to assess their peers' work or give feedback to their peers, suggesting that more detailed instructions on the final product criteria and training on giving constructive feedback should be provided to the students (Chen, 2018).

Table 4

The perceived development of self-direction skills among students after participating in Skype in the Classroom activities

After Skype sessions, I could:	Mean		Std. Deviation
	Statistic	Std. Error	Statistic
Use specific criteria to assess the quality of my work before it is completed.	3.8333	.13511	.81064
Plan the steps I will take to accomplish a complex task.	3.7500	.14015	.84092
Use peer, teacher or expert feedback to revise my work.	3.6667	.15936	.95618
Monitor my own progress towards completion of a complex task and modify my work accordingly.	3.6667	.12599	.75593
Choose my own topics of learning or questions to pursue.	3.5833	.12833	.76997
Choose for myself what examples to study or resources to use.	3.5000	.10911	.65465
Take initiative when confronted with a difficult problem or question.	3.5000	.14639	.87831

When it comes to self-direction skills, it was not surprising to see this among the least developed skills as Asian students often have a low level of self-directed learning readiness (Leatemia et al., 2016). Though "learner self-direction and autonomous learning are Western concepts" (Healey, 1999, p. 391), East Asian students might still have the same capacity to develop their self-directed learning for learner autonomy as

their Western counterparts if provided with proper training (Littlewood, 1999). Moreover, VE was believed to contribute to the development of learner autonomy (O'Dowd & Lewis, 2016).

An independent sample t-test was employed to see if the language proficiency had any effect on students' self-direction skills. The results indicated that there was no statistically significant difference between the group of low English proficiency (M=3.57, SD=0.12) and the group of high English proficiency (M=3.60, SD=0.13) (t(34)=-0.17, p>0.05). This agreed with the results of several studies (Ablard & Lipschults, 1998; Dafei, 2007; Zhang & Li, 2004) on the correlation between language proficiency and learner autonomy.

Table 5
The perceived development of making local connections among students after participating in Skype in the Classroom activities

After Skype sessions, I could:	Mean		Std. Deviation
	Statistic	Std. Error	Statistic
Apply what I am learning to local situations, issues, or problems.	3.9167	.12833	.76997
Talk to one or more members of the community about a class project or activity.	3.7500	.17078	1.02470
Investigate topics or issues that are relevant to my family or community.	3.7500	.17078	1.02470
Respond to a question or task in a way that weighs the concerns of different community members or groups.	3.5000	.12910	.77460
Analyze how different stakeholder groups or community members view an issue.	3.2500	.17078	1.02470

Specific practices for making local connections as described in the questionnaire were not fully taken into consideration when designing different tasks for VE, which led to the lowest results as shown in Figure 1. Students were merely required to learn about Vietnamese culture instead of applying what they learned on local issues, analyzing different views of different stakeholders, or responding to questions weighing the concerns of the community.

With only intermediate language skills or less, students were limited in what they could do. Most of them could hardly "participate fully in topics of deeper meaning and pushing them to do so can result in miscommunication and possibly develop resentment toward their partner because of this" (Hagley, 2016, p. 227). Therefore, further VE for higher-level students could include these requirements to help boost student ability to effectively make local connections.

Table 6
The perceived development of making global connections among students after participating in Skype in the Classroom activities

After Skype sessions, I could:	Mean		Std. Deviation
	Statistic	Std. Error	Statistic

Use information or ideas that come from people in other countries or cultures.	4.0833	.10820	.64918
Study information about other countries or cultures.	4.0000	.15430	.92582
Study the geography of distant countries.	3.8333	.18039	1.08233
Understand the life experiences of people in cultures beside my own.	3.8333	.09344	.56061
Discuss issues related to global interdependency.	3.7500	.15622	.93732
Reflect on how my own experiences and local issues are connected to global issues.	3.7500	.12199	.73193

Making global connections, however, was widely perceived to be fostered by the participants since such activities as Mystery Skype, presentations on different cultures by Vietnamese and international classes and quizzes offered students the opportunity to develop all the sub-skills as described in table 6. As O'Dowd and Lewis (2016) stated, intercultural awareness and skills could be boosted thanks to online exchange projects. Even though there were some possibilities that some of the students' positive responses resulted from "the illusion of commonality" (Ware & Kramsch, 2005, as cited in O'Dowd, 2016, p. 277), that VE student were exposed to foreigners and other cultures might reduce their initial fear of exotic things. In a previous assignment where students in a similar context were required to talk with international tourists at some local attractions, they failed to have further discussions about culture after talking about general topics and felt demotivated to start another conversation with foreigners. One of the main reasons was that they were not confident enough and teachers could not always be there to support them due to the limited resources and time. Those VE students who have never interacted with any foreigners or foreign cultures will not likely to "have the shock that often comes with physically entering another country" (Hagley, 2016, p. 228). Hagley (2016) also explained that VE can introduce students to a foreign culture in a "far more gentle" way and "can, therefore, be considered a form of culture acclimatization" (p. 228). This VE allowed students to learn more about other different cultures without leaving their classrooms and with teachers offering their help anytime. This is, as they shared in the interviews, a motivator for them to learn about other countries and use the language.

Interestingly, all the interviewed students emphasized the importance of understanding their own culture and people before learning about other cultures and making global connections. Some principles they have learned and stated are as follows:
'If I don't know anything about my culture, I won't be able to understand other cultures.'
'If we want the others to talk about their cultures, we need to have something to share about our culture. Otherwise, the conversation will be really boring.'
'Understanding our own culture is the very first step to explore other cultures.'

Table 7

The perceived development of creativity and innovation among students after participating in Skype in the Classroom activities.

After Skype sessions, I could:	Mean		Std. Deviation
	Statistic	Std. Error	Statistic
Generate my own ideas about how to confront a problem or question.	4.0000	.15430	.92582
Test out different ideas and work to improve them.	3.8333	.11616	.69693
Create an original product or performance to express my ideas.	3.5833	.08333	.50000
Invent a solution to a complete, open-ended question or problem.	3.5000	.14639	.87831
Use idea creation techniques such as brainstorming or concept mapping.	3.3333	.15936	.95618

By creating authentic learning experiences using Skype in the classroom, the researchers gave the students meaningful purposes to use the language in an engaging setting (Willis, 1996). Students then became actively involved in the whole learning process, which facilitated their creativity and innovation skills. This included the sub-skill on generating their ideas about how to deal with a problem being the most developed skill in the set (M=4.00, SD=0.93) and the ability to use idea creation techniques being the least developed skill (M=3.33, SD=0.96). Some training for students using these techniques might be needed to significantly boost their creativity and innovation.

Table 8

The perceived development of the skills of using technology as a learning tool among students after participating in Skype in the Classroom activities

After Skype sessions, I could:	Mean		Std. Deviation
	Statistic	Std. Error	Statistic
Use technology to analyze information.	4.2500	.15622	.93732
Use technology to help them share information.	4.0833	.12833	.76997
Select appropriate technology tools or resources for completing a task.	4.0000	.13801	.82808
Use technology to support teamwork or collaboration.	3.9167	.12833	.76997
Use technology to interact directly with experts or members of local/global communities.	3.8333	.13511	.81064
Use technology or the Internet for self-instruction.	3.8333	.15171	.91026
Use technology to keep track of their work on extended tasks or assignments.	3.6667	.15936	.95618
Evaluate the credibility and relevance of online resources.	3.5833	.14571	.87423

21st century learners are called the net generation of digital natives (Trilling & Fadel, 2009). It means that they know how to utilize different educational technology tools for learning activities. The study confirmed this idea with the marginally positive responses between the highest and lowest mean of 4.25 (SD=0.94) and 3.58 (SD=0.87) respectively. The findings on the interviews also agreed with those of the questionnaire ranking using technology as a learning tool among the most developed skills after the experience. All the student participants expressed positive attitudes towards the requirement of using different tools to complete the tasks.

Student recommendations to improve this type of VE

It can be said that from the students' perspectives, Skype in the Classroom activities facilitated cultural exchange and enhanced 21st-century skills. However, some challenges facing students during the experience included the lack of collaboration among group members, and some difficulties in communicating with international partners caused by their limited vocabulary, low level of listening skills and sometimes due to poor Internet connection.

To address the first problem, the participants suggested using educational technology tools such as Microsoft Teams or Edmodo which can help the teacher keep track of the workflow of the different groups while all the communication among the group members is recorded and kept confidential between the teacher and the members. Furthermore, some monitoring process could be enhanced by making weekly teamwork reports and individual work reports compulsory to keep the teachers updated on the contribution of each member.

Although the second challenge was reported by participants, they were aware that this problem could be solved mainly by their efforts; expanding their vocabulary repertoire and improving their listening skills. However, they also recommended that the topic should be provided before each Skype session so that they could prepare possible related vocabulary and get themselves more familiar with the accent of the country they are going to talk with. As Mystery Skype (students of the two classes had no idea where each class came from and they had to locate their counterparts by asking Yes/No questions only) was one of the activities in each Skype session, the teacher could not reveal the topic for students before the session. However, since such preparation is believed to help students better understand the session and learn more from it, Mystery Skype might be replaced by another activity in future sessions.

Another recommendation came from one of the interviewed students asking for subtitles of conversations with new words being highlighted. Although subtitles can be automatically generated by Skype during video calls, vocabulary cannot be dealt with immediately as it may cause disjointed interactions between the two classes. The teacher would encourage the students to note any new words that they encounter and learn them after the call or ask for help from the teacher or their peers when possible. This challenge can become an opportunity for students to develop their self-direction skills if they are provided with appropriate scaffolding from the teacher.

The results of the interviews suggested that students would expect the Internet connection to be stronger, which could pave the way for smooth sessions, maximizing the experience of cultural exchange between the two classes. This confirmed the results of many studies on the use of Skype for educational purposes. Technical skills and a good Internet connection tremendously contribute to the success of VE using this platform (Nascimento & Melnyk, 2016). In terms of technical problems, well-equipped classrooms are expected to be the only answer to them to bring better exchanges to students.

Limitations

The lack of a control group was a major limitation in this study. Including a control group that did not take part in this 10-week VE would help validate the results. In addition,

pre- and post-tests should be considered to help verify any improvements in intercultural understanding and development of 21st-century skills after the whole experience. Future research needs to take into account the assessment of these skills rather than using students' self-reporting so that the ceiling effect could be minimized and the change could be more easily measured. Additional open-ended questions specifically targeting students' self-evaluation of these skills and their intercultural understanding along with a finer assessment scale could also help provide a clearer picture of the impact of the Skype activities on the studied skills. Furthermore, a larger sample of students at obviously different levels of language competency would help give a better answer to the research questions.

Conclusion

The study was conducted to investigate the impact of Skype in the Classroom activities on the improvement of intercultural understanding and development of 21st-century skills. The VE presented in this study allowed students to enhance their understanding of their own culture and their counterparts' cultures. Students were offered meaningful ways of learning and an engaging setting where they could use the language and explore different cultures through authentic open-ended communication.

After getting involved in a variety of Skype in the Classroom activities, students noticed a significant improvement in all the studied 21st-century skills. While critical thinking and communication skills were ranked the most developed skills, there is room for improvement in the development of the other skills, especially for collaboration, self-direction, and making local connections. Thus, more attention needs to be given to task designing, student training on sub-skills, appropriate scaffolding, and monitoring processes. There was no statistically significant difference in the perceived development of self-direction skills between the group of students with lower English proficiency and the group of students with higher English proficiency.

From the students' perspective, a variety of activities using Skype in the Classroom to connect students with the world proved effective in facilitating cultural exchange and fostering 21st-century skills. VE using this platform is an ideal approach for those that desire to connect their students with the world and encourage them to use the language they are studying. Such VE also are useful for developing the skills required for this century in contexts within and beyond their ordinary educational experiences.

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