

PILOT PROJECT FOR GLOBAL COMPETENCY EDUCATION IN EASTERN
NORTH CAROLINA SCHOOLS

by

Taylor Joan Nicole Quinones-Martinez
A Senior Honors Project Presented to the
Honors College
East Carolina University
In Partial Fulfillment of the
Requirements for
Graduation with Honors

by

Taylor Joan Nicole Quinones-Martinez
Greenville, NC
May, 2020

Approved by:



Dr. Allen Guidry
College of Education

Abstract

In this study a group of 9th grade World History students from eastern North Carolina participated in a semester-long virtual exchange program to increase global competency learning. Virtual exchanges are technology-enabled, sustained, people-to-people education programs. Global competency is described as the capacity to examine local, global and intercultural issues, to understand and appreciate the perspectives and world views of others, to engage in open, appropriate and effective interactions with people from different cultures, and to act for collective well-being and sustainable development. The students in North Carolina connected with students from a school in Kazakhstan and engaged in three different virtual exchange experiences. These three exchanges focused on introductions, governments and policies, and current issues, respectively. Additionally, students completed guided journal entries after each exchange. Before and after the program students took the survey from the OECD's Programme for International Student Assessment (PISA) 2018 framework. The data collected comprised of the changes in responses to the PISA survey along with coded language identified in the journal entries.

Keywords: virtual exchange, global competency, global learning

Introduction

In our modern, globalized society it is increasingly important to be culturally aware and globally competent. Global competency is described as “the capacity to examine local, global and intercultural issues, to understand and appreciate the perspectives and world views of others, to engage in open, appropriate and effective interactions with people from different cultures, and to act for collective well-being and sustainable development (PISA 2018).” Several prominent organizations—such as the National Association of Foreign Student Advisers (About International Education), the Committee for Economic Development (*Education for Global Leadership*) the Asia Society (Teaching for Global Understanding), the Partnership for 21st Century Skills (Frameworks & Resources), and the Organisation for Economic Co-operation and Development (OECD) (PISA 2018)- have supported the idea to include global competency education in school systems. In 2015, 193 countries committed to achieving the 17 Sustainable Development Goals of the United Nations, with Goal #4 being Quality Education. This goal focused on engaging in open, appropriate and effective interactions across cultures, and taking action for collective well-being and sustainable development (Goal 4). In 2012, the U.S. Department of Education released an education strategy, entitled “Succeeding Globally through International Education and Engagement,” which had three objectives: Increase global competencies, learn from other countries to strengthen U.S. education, and engage in education diplomacy (McLaughlin, 2018). Many major cities around the United States have focused on providing international education opportunities to students on a district-wide level (Engel et al., 2016). It is clear that organizations and leaders all around the world have committed to teaching globally competent students. However, many students, like those in eastern North Carolina, do not have access to global learning opportunities that develop global competency and cultural

awareness. Many schools lack the resources and framework to implement global competency education initiatives (Reimers, 2009). While the school system of the high school in this study mentioned expanding global learning opportunities in its Strategic Plan, currently there is no consistent or standardized global competency education program in place. This lack of opportunity leads to a lack of understanding about how one's life and experiences relate to the rest of the world. It also prevents students from fully exploring educational, experiential, and career opportunities outside of the world immediately around them. A lack of international learning limits their potential to not only strive for their dreams, but also improve the future of the world around them.

In order for schools to meet the demands of an increasingly global society, they must begin implementing concrete global competency learning initiatives. The purpose of this study was to investigate whether or not a virtual exchange program has an effect on global competency learning. The research question guiding this study was as follows: What is the effect of a virtual exchange program on the global competency of high school World History students in eastern North Carolina?

Literature Review

Diverse Teaching Styles in the Classroom

In her dissertation, Dr. Jasmina (Maja) Budovalcev Konitzer (2018) described how students in a suburban, affluent, predominately white Western Pennsylvania-area high school developed global competence through an Introduction to Global Studies (IGS) course. The high school already offered a Global Studies Program (GSP), with the IGS course being one of the courses available in the program. The course could be taken by any student, whether as a GSP fulfillment or as an elective

course. Dr. Konitzer's observation of students in the IGS course had two focus points- high school students' knowledge and skills related to global competence, and how the IGS course was implemented to support high school students' development of global competence. Based on ratings from the Global Competence Aptitude Assessment the students took, Dr. Konitzer found that they scored either at the "developing" or "introductory" level of aptitude. This finding was a strong indication of the need for a program focused on improving students' global awareness and competency. To address the second focus point, Dr. Konitzer observed multiple class sessions and found that the teacher taught students to approach discussions and activities from multiple perspectives and encouraged students to participate in a deliberate dialogue. Dr. Konitzer's findings served as a case-study approach to how diverse learning styles can be implemented in schools to address the need for robust global competency education.

Harvard University's Interdisciplinary and Global Studies initiative at Project Zero examined the nature of global consciousness and global competence among youth, teachers and experts in multiple contexts of learning (Harvard Project Zero Team, 2013). The team at Project Zero claimed that globally competent individuals are aware, curious, and interested in learning about the world and how it works. Globally competent people go beyond just having the information, in that they are interested in what it means to the rest of the world. Students can be taught to think in a globally competent manner by implementing "Thinking Routines" in the classroom. Thinking Routines are patterns of intellectual activity that are repeated over time, shaping the fabric of a thinking classroom (Harvard Project Zero Team, 2013). Teachers can use these routines on a daily basis to engage new ideas and experiences openly, discern local-global significance, compare places, contexts and cultures, and take a cultural perspective and challenge stereotypes. Global competency thinking routines involve two main dispositions- the first being the disposition to discern

significance of a situation, topic or issue keeping global and local connections in mind. Essentially, this disposition addresses the “Why?” of a topic. Why does it matter to me or the rest of the world? The second disposition is the disposition to take social/cultural perspective, which is essentially thinking about a topic in the context of someone else’s experience and what it might mean for them. This work by Project Zero at Harvard University supported the idea of implementing diverse, intentional, and practical learning styles in the classroom so that students will naturally begin to think about topics in a globally competent way.

In the ever-changing global landscape, it is important to re-evaluate how educators are preparing students to solve global challenges. In her academic composition, Dr. Theoni Soubli Smyth claimed that implementing transdisciplinary learning strategies is paramount to contemporary learning goals of global sustainability (Smyth, 2017). Transdisciplinarity is different from other styles of learning in that it is collaborative, spans across multiple disciplines, and gives the student the role of knowledge producer and the teacher that of a learning designer. This modality moves away from viewing students as knowledge receivers and teachers as knowledge providers, which does not promote the discussion needed to educate globally competent leaders. Transdisciplinary learning focuses on four main competencies- critical and creative thinking, communication and collaboration, information media and technology skills, and project-based curriculum development. Through strategically targeting development of these four competencies, educators have the power to cultivate students’ metacognitive skills in order to successfully tackle many of the earth’s most challenging issues. Dr. Smyth’s findings further reiterated the need to implement innovative and diverse teaching strategies to prepare and educate globally competent students.

Need for Global Competency Education

In the study titled “Global Citizenship Education at a Local Level: A Comparative Analysis of Four U.S. Urban Districts” the research team investigated the global citizenship education initiatives and programs in four urban school districts- Chicago, Boston, Washington D.C., and Seattle (Engel, Fundalinski, & Cannon, 2016). To evaluate the initiatives, the team analyzed publicly available documentation, including published strategies, websites, reports, and mission statements by each of the four districts. As an additional source of data, the team interviewed representatives of the selected districts to verify, corroborate, or add to the publicly available information. The researchers found that all school districts mention global competency as an important concept, but the districts differed in the robustness of their global competency programs. The Washington D.C. school district provided language classes, IB programs, and funded study abroad opportunities for K-12 students. Boston Public Schools had language classes, a Global Ambassadors program, and IB programs focused on global competency. Seattle Public Schools had International Schools, dual language immersion programs, and a funded International Education department. Chicago Public Schools had language programs, a Global Citizenship Initiative program, as well as IB programs. The study’s findings display a wide range of terminology used among the school districts: global citizenship, global competency, global ambassadorship, world citizenship, global education, and international education. The findings also suggest the growing popularity of global competency within the U.S. context (Engel, Fundalinski, & Cannon, 2016). The fact that all of these school districts had a focus on global competency demonstrates that international education is becoming increasingly important.

In the study “Global Learning In Primary Schools In England: Practices And Impacts” Dr. Frances Hunt investigated the nature and impact on pupils of global learning in primary schools in England (Hunt, 2012). For data collection Dr. Hunt distributed an online questionnaire to gather over 200 responses from staff in primary schools in England. The questionnaire responded to three

main questions- What does global learning look like in practice in primary schools? What are the facilitators and barriers to including global learning in primary schools? How does global learning impact on children's learning in primary schools? Dr. Hunt also collected qualitative data via school-based group interviews with students in year 5 of three primary schools in England. Dr. Hunt found that 42.4% of schools engaged with many aspects of global learning, with 35.0% of schools participating in global learning in the past 3 to 5 years. 77% of respondents said that developing rights, responsibilities and values was an education objective at their school. 97.6% of schools reported that global learning was incorporated in curriculum content. On the impact side of the study, 52.8% of respondents reported to have observed some important changes in their schools in response to global learning initiatives. Only 10% of schools reported a significant increase in pupils' attainment levels, however 77% of respondents indicated that global learning supported pupils' respect for diversity. Dr. Hunt's findings indicated that there was a widespread understanding of the need to teach global competency, but the execution and impact of this teaching varied among schools. This is also an issue among American schools, which means that global competency education is an international issue that must be addressed.

In his article "Leading for Global Competency," Fernando M. Reimers spoke on the importance of teaching global competency, the challenges of implementation, and future directions for implementing global competency initiatives in the classroom (Reimers, 2009). The world is becoming more and more interconnected and interdependent. We all share one planet and therefore share in challenges facing climate, health, the environment, politics, terrorism, and human rights. While most educators agree that global competency is an important concept to be teaching, very little is being done to implement sustainable global competency initiatives in the classroom. Reimers claimed this is due to two main obstacles- lack of resources and an obsolete mindset. Reimers

claimed that many schools simply lack the resources to focus on global competency when they have other learning objectives they are already burdened with teaching. In addition, many educators operate with an obsolete mindset that compartmentalizes learning goals, leaving global competency as another objective to fit in alongside all the other objectives that must be taught. To address these obstacles, Reimers suggested shifting the mentality around global competency and empowering individual educators. Global competency should rather be seen as a concept that can be taught in existing objectives, rather than something that must be added to an educator's plate. Reimers also claimed that the most practical way to increase global competency educating is empowering educators to collaborate and form programs that can be expanded to the rest of the school, and eventually other schools. Reimer's work further supported the need for global competency education in the schools and provided suggestions for how educators can better prepare students for our ever-changing world.

In his journal article entitled "High Schools in the Global Age," Dr. Anthony Jackson of the Asia Society reported on the progress of the International Studies Schools Network (ISSN), which is "a national network of design-driven schools with the core mission of developing college-ready, globally competent high school graduates (Jackson, 2008)." At the time of Jackson's report, the system included 13 schools around the country, and 85% of students served by the schools were of minority background. The schools in the network focused on infusing international education in all forms of teaching and across all subjects. Lessons were taught with an international lens and students were challenged to think critically about how what they were learning meant to the rest of the world. Jackson went on to give several examples of teachers infusing international learning into their lessons, students participating in international learning activities such as model United Nations, and schools reaping the benefits of this style of education. Jackson claimed that, from 2004 to 2007,

ISSN schools achieved higher levels in English, math, science, social studies/economics than schools with similar demographics within the same school districts. He finished his report by describing the need to develop an assessment tool to investigate the extent at which ISSN schools are preparing students to become global citizens. Dr. Jackson's report touched on two important ideas- that globalized education must be implemented in schools to prepare today's students, and that it can be implemented in a sustainable way that positively effects student outcomes.

Virtual Exchange and Global Competency

In her dissertation entitled "Intercultural Competence Development: Implementing International Virtual Elementary Classroom Activities into Public Schools in the U.S. and Korea" Dr. Eunhee Jung O'Neill detailed the process of implementing a virtual exchange program in both American and Korean elementary schools (O'Neill, 2008). O'Neill also described the effect of the virtual exchange on the Intercultural Competence (ICC) of the students. The virtual exchange program entailed communicating via technology on a weekly basis, with each week's exchange focusing on a different discussion topic. To assess development of ICC, O'Neill adapted a survey that focused on five key areas of ICC- knowledge, attitudes, skills, awareness, and language proficiency. Students from both U.S. and Korea took this survey before and after the experience. Additionally, students and educators were interviewed to investigate their observations on the changing landscape of their classrooms. O'Neill found that, after the virtual exchange program, the ICC scores of students from both countries increased in all five key areas of the survey. O'Neill's findings further supported the idea of using virtual exchange as a legitimate way to develop global competency. However, O'Neill's choice of instrumentation and data collection demonstrated how there is still a need for standardized and easily accessible ways to measure growth in global competency.

In his report entitled “Learning Through Telepresence with iPads: Placing Schools in Local/Global Communities,” Dr. Bente Meyer described his experiences and observations in a project that implemented videoconferencing as a teaching style in classrooms (Meyer, 2015). The project entailed using videoconferencing and what Meyer refers to as “telepresence” to connect 7th through 9th grade students in different cities Denmark to collaborate on shared educational goals. The purpose of the study was to investigate student engagement in the non-traditional teaching method of telepresence. The students videoconferenced with a teacher from a different school for a geography lesson taught by the distant teacher, and video conferenced face-to-face with students from another school to learn German. Meyer noted that both situations were not ideal, as students eventually expressed levels of disconnection and disengagement with both activities. Meyer contributed this behavior to unfamiliarity with the students from the other schools, and, in the case of the geography lesson, a lack of engagement with a teacher they cannot physically interact with. However, Meyer found the face-to-face videoconferencing to illicit the most engagement from the students and seemed most promising. Meyer concluded that telepresence can be a promising form of education when connections between students and teachers are developed and supported to create a more engaging sense of community. Meyer’s findings added to the growing body of knowledge surrounding the promising utility of forms of virtual exchange in the classroom.

In the study “Cultivating Student Global Competence: A Pilot Experimental Study,” Dr. Yulong Li connected college students from both China and the U.S.A. to collaborate on a business-related research paper over the course of a semester (Li, 2013). The aim of this study was to investigate the effect of virtual exchange on the students’ global competency. The Chinese and American students were randomly paired and communicated over a semester via instant text messaging, audio and video conferencing, instant file sharing, and electronic whiteboard. Li developed their own

instrument to evaluate global competency, which was a 17-item survey administered before and after the project that espoused a three-dimensional taxonomy to measure global attitudes, knowledge, and skills. Li made their own instrument because, after reviewing the literature, they found many inconsistencies in methodology, principle, and utility among pre-existing tools to measure global competency. Li found that global competence significantly improved for both the U.S. and Chinese students using the customized instrument. The U.S. students improved more than the Chinese students in the area of global knowledge. Li's findings supported the idea that virtual exchange, when sustained over time and given proper space in a classroom, can be used as a legitimate tool to develop global competency.

Measuring Global Competency

The concept note "Assessing Global Education: an Opportunity for the OECD" written by Dr. Fernando Reimers focused on the need to access global education and how the Organisation for Economic Co-operation and Development's (OECD) Programme for International Student Assessment (PISA) can be used to do just that (Reimers, 2013). Like previously published work (Reimers, 2009), Reimers called attention to the need to implement global education initiatives in schools to prepare students for an increasingly globalized world. When schools implement these initiatives, it is important that schools and educators assess the development in global competency among their students. Reimers argued that previous assessment efforts focused on school-taught disciplines such as language, mathematics and science. Instead of re-wiring these disciplines that have been taught for decades, it would be more feasible to engineer a new way of implementing 21st century global education. Measuring global competency with the PISA framework could be this avenue, while also providing a standardized platform for comparative studies. Reimers continued his note by providing history and background on global education, what questions should be answered

when assessing global education, and how global competency can possibly be measured. While Reimer's note certainly defended the use of the PISA framework, it also highlighted the need for continued study into a standardized way to assess global competency.

For her doctoral dissertation, Dr. Kathryn Brantley Todd developed a preliminary survey to "allow educators, supervisors, administrators, and mentors to establish baseline information on individuals' global competence characteristics prior to instruction, cross-cultural experience, international study or collaboration (Todd, 2017)." Todd built upon the ideas of the PISA framework and another framework called the Global Competence Aptitude Assessment® to craft one more directly tied to cosmopolitanism. After reviewing the literature Todd focused her survey on four main indicators of global competence: the Disposition/Affective Realm variable, the Knowledge variable, the Skill variable, and the Action variable. A draft of the survey was crafted and administered to university students in the U.S. Todd also submitted the draft to a panel of secondary and post-secondary educators for feedback on the survey items. After rounds of drafting and re-administering, Todd drafted a near final version that received the most positive feedback from the survey takers and panelists. However, Todd encouraged administering the preliminary survey to a larger population and possible future research in re-wording some of the items. Todd's dissertation work added to the developing field of global competency assessment and reiterated the current lack of standardized, reproducible assessment procedures.

In the study entitled "Establishing the Core Concepts and Competence Indicators of Global/International Education for Taiwan's Grade 1-9 Curriculum Guidelines" the research team developed a set of core concepts and competence indicators of global/international education to address the lack of standard assessment procedures at that time (Chou, Cheng, Lin, & Wang, 2014). After analysis of the traditions and latest trends of global education, the team identified the five most

popular core concepts: global system, multicultural beliefs, social justice and human rights, world peace, and ecological sustainability. Three rounds of Delphi surveys were administered to scholars who have engaged in global/international education in universities and experts who have participated in related policies or programs to identify core concepts, keywords, and competence indicators. After receiving the surveys, the researchers found that the key concepts identified were global systems, multicultural beliefs, social justice and human rights, world peace, and ecological sustainability—and 60 competence indicators. The key concepts were contextualized for each of four learning stages, spanning grades 1 through 9. The team’s findings served as a reference for educators looking to explore modes of assessing global education and augment the growing discussion around measuring global competency.

Summary

A review of the literature surrounding global competency, how it can be implemented in classrooms, and its potential outcomes focuses on central ideas. The first is that global competency education must be taught in schools to prepare students for today’s world. The second idea is that research has shown that diverse teaching styles must be implemented to effectively foster global competency in students. To that end, virtual exchange is a promising teaching method that, when meaningfully installed in classrooms, can promote development in global competency. Lastly, there is a need to measure global competency in a reliable and reproducible manner. A review of the literature leads the research team to investigate the effects of a virtual exchange program on the global competency development of high school students in eastern North Carolina.

Method

This study served as a pilot program for implementing a global competency education program in an eastern North Carolina high school. The program consisted of three virtual exchange opportunities between 9th grade students from an eastern North Carolina high school and a high school in Kazakhstan over the course of a semester. Before the program started, students completed pre-surveys from the OECD's Programme for International Student Assessment (PISA) 2018 framework. The three exchanges focused on specific discussion topics, and the students completed guided journal entries after each exchange. At the end of the program the students completed the same PISA survey, and the change in responses indicated or denied growth in global competence.

The research question guiding this study was: What is the effect of a virtual exchange program on the global competency of high school World History students in eastern North Carolina? The population of this study was high school social studies students, with the sample originally including 100 high school World History students in an eastern North Carolina high school. Because of classroom time restraints, curriculum requirements, and schedule changes, only 8 students were able to complete all components of the study. To implement the global competency education program, the research team collaborated with a high school in Kazakhstan. The school was found by searching for educators on www.epals.com who taught high school students, spoke English, and were also interested in engaging in culturally-focused virtual exchanges with foreign classrooms. Virtual exchanges are technology-enabled, sustained, people-to-people education programs (What is Virtual Exchange?). To communicate, the classrooms utilized a website named FlipGrid, a website that provides educators with a platform to share video and other media in a message-board style. The research team collaborated to focus the intention of each of the three virtual exchange opportunities the students participated in for

the fall 2019 semester. Originally the study was going to continue into the spring 2020 semester with a new cohort of students, however the COVID-19 pandemic and associated school closings did not allow the project to feasibly continue in that semester.

Students from both schools posted videos about the topic and replied directly to them with video or text. The FlipGrid site was only be accessible by the students and educators involved in the study. All students were prompted, per their respective instructor, to post video content on the FlipGrid site in response to the topic of discussion. Students were prompted to reply to the video with their video content, therefore engaging in active discussion. Figures 1 is a screenshot from FlipGrid illustrating the message-board style of communication on the website.

Figure 1

Screenshot from FlipGrid showing posts and replies

<input type="checkbox"/> Actions ▾	Name	Date	Replies				
<input type="checkbox"/> <input type="checkbox"/>	Рахатик М. 21 views	Apr 1, 2019	-	Active ▾	Share	Actions ▾	
<input type="checkbox"/> <input type="checkbox"/>	Жумабек Б. 15 views	Apr 1, 2019	-	Active ▾	Share	Actions ▾	
<input type="checkbox"/> <input type="checkbox"/>	Жумабек Б. 34 views	Apr 1, 2019		Active ▾	Share	Actions ▾	
<input type="checkbox"/> <input type="checkbox"/>	Жумабек Б. 30 views	Apr 1, 2019	-	Active ▾	Share	Actions ▾	
<input type="checkbox"/> <input type="checkbox"/>	Shayla S. 43 views	Mar 15, 2019	-	Active ▾	Share	Actions ▾	
<input type="checkbox"/> <input type="checkbox"/>	Beibarys Y. 126 views	Feb 7, 2019		Active ▾	Share	Actions ▾	

The first exchange focused on introductions between the students, schools, and countries. The second exchange focused on the government and policies of both countries. The final exchange focused on current issues from both countries. After each exchange, the students in North Carolina

completed guided journal entries. After the first exchange the student's journal entry consisted of a Know, Want to Know, and Learned (KWL) exercise where they described what they knew about Kazakhstan, what they wanted to learn going forward, and what they had learned so far in their first virtual exchange. The other two entries were adapted from Harvard University's Project Zero Thinking Routines exercises (Harvard). In the journal entries, the following questions were answered:

Why might this [topic, question] matter to me?

Why might it matter to people around me [family, friends, city, nation]?

Why might it matter to the world?

Who is involved in the situation?

Why might he/she think this way?

What else might I need to find out?

The journals served two purposes. They served as another diverse strategy of thinking and interpretation, but also served as an additional data source for the research team. The journals were read for "coded language," or language that is indicative of learning. Words that were associated with learning include the following: important, good/great, eye-opening, understand, emotion, interesting, learned a lot, enjoyed, respect, and want to learn more (Smith and Guidry, 2013). Coded words indicative of the lack of learning included the following: hard, no fun, do not care, boring, and confusing.

To assess the students' growth in global competence they were given a survey to take at the beginning and end of each semester, encapsulating the virtual exchange curriculum. The surveys

were from the OECD’s 2018 PISA framework (PISA 2018) with some additional questions added to get background information on the students participating in the program. The responses before and after the experience were compared to assess growth in global competency. Because the survey had many questions, the research team chose a select number of questions to use in data analysis. The responses from the following questions from the survey were used for data analysis in this study:

Table 1.

Data analysis tool for responses from survey.

Section of Questions	Sub-Question of Section	Possible Responses
Item 1. How easy do you think it would be for you to perform the following tasks on your own?	Identify and explain my own culture to someone	I couldn't do this, I would struggle to do this on my own, I could do this with a bit of effort, or I could do this easily
Item 2. How well does each of the following statements describe you?	I try to look at everybody's side of a disagreement before I make a decision	Very much like me, Mostly like me, Somewhat like me, Not much like me, Not at all like me
Item 3. How well does each of the following statements describe you?	Before criticizing somebody I try to imagine how I would feel in their place	Very much like me, Mostly like me, Somewhat like me, Not much like me, Not at all like me
Item 4. How well does each of the following statements describe you?	I am capable of overcoming my difficulties in interacting with people from different cultures *Upon implementation of the survey this sub-question was changed to “I feel comfortable interacting with people from different cultures” to improve simplicity and understanding.	Very much like me, Mostly like me, Somewhat like me, Not much like me, Not at all like me

<p>Item 5. Imagine you are talking in your native language to people whose native language is different than yours.... To what extent do you agree with the following statements?</p>	<p>I frequently check that we are understanding each other correctly</p>	<p>Strongly Disagree, Disagree, Agree, Strongly Agree</p>
<p>Item 6. Imagine you are talking in your native language to people whose native language is different than yours.... To what extent do you agree with the following statements?</p>	<p>I chose my words carefully</p>	<p>Strongly Disagree, Disagree, Agree, Strongly Agree</p>
<p>Item 7. How well does each of the following statements describe you?</p>	<p>I respect people from other cultures as equal human beings</p>	<p>Very much like me, Mostly like me, Somewhat like me, Not much like me, Not at all like me</p>
<p>Item 8. How well does each of the following statements describe you?</p>	<p>I treat people with respect, regardless of their cultural background</p>	<p>Very much like me, Mostly like me, Somewhat like me, Not much like me, Not at all like me</p>
<p>How well does each of the following statements describe you?</p> <p>*Originally this question was going to be used for the study, however the students found this question to be confusing and it was therefore deleted.</p>	<p>I give space for people from other cultures to express themselves</p>	<p>Very much like me, Mostly like me, Somewhat like me, Not much like me, Not at all like me</p>
<p>How well does each of the following statements describe you?</p> <p>*Upon implementation of the survey question and the question below, “How well does each of the following statements describe you? [I value the opinions of others from different cultures],” were combined into the question “How well does each of the following</p>	<p>I respect the values of people from other cultures</p>	<p>Very much like me, Mostly like me, Somewhat like me, Not much like me, Not at all like me</p>

statements describe you? [I respect and value the opinions of people from other cultures]” in Item 9 to prevent confusion and redundancy.		
How well does each of the following statements describe you?	I value the opinions of others from different cultures	Very much like me, Mostly like me, Somewhat like me, Not much like me, Not at all like me
Item 9. How well does each of the following statements describe you?	I respect and value the opinions of people from other cultures.	Very much like me, Mostly like me, Somewhat like me, Not much like me, Not at all like me
Item 10. To what extent do you agree with the following statements?	I think my behavior can impact people in other countries	Strongly Disagree, Disagree, Agree, Strongly Agree
Item 11. To what extent do you agree with the following statements?	I can do something about the problems in the world	Strongly Disagree, Disagree, Agree, Strongly Agree
Item 12. Overall, do you think it is important for people to learn about the world, including other cultures, systems of government, religions, and perspectives?	N/A	Yes, I think it is very important. It is somewhat important. No, I do not think it is at all important
Item 13. Overall, how comfortable do you think you would be traveling to a country different than your own?	N/A	Very comfortable, Somewhat comfortable, I would be very uncomfortable and nervous

After all data was collected, the research team compared answers from the survey and reviewed the journal entries for coded language. The changes in survey question responses and presence of coded language in the journal entries comprised the data for the study.

Results

Presurvey and Postsurvey Results

Figure 2

Presurvey results from Item 1.

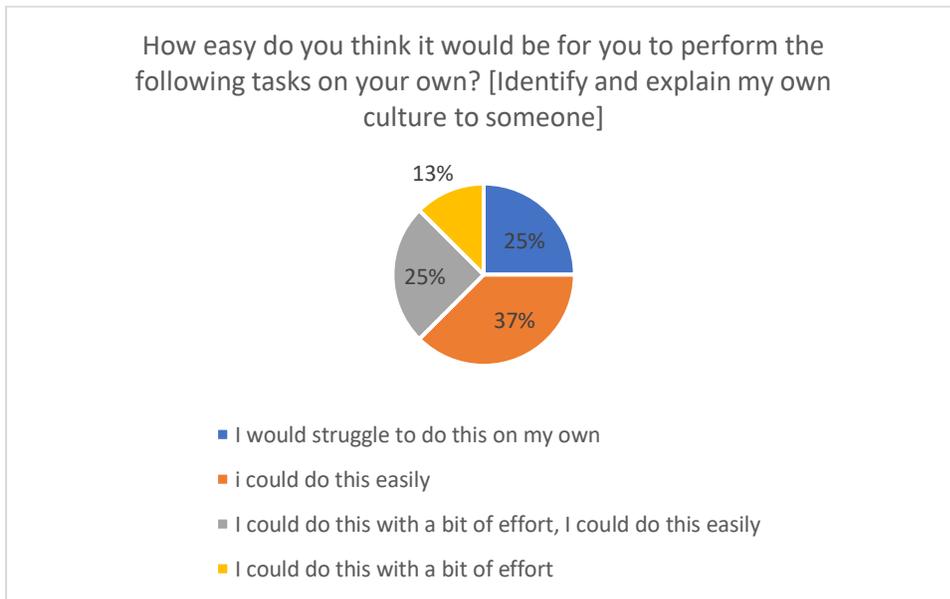


Figure 2 represents the frequency of response options to Item 1 before the virtual exchange experience. 37% of students said they could perform the task easily, 38% said they could do the task with a bit of effort, and 25% said they would struggle do complete the task on their own.

Figure 3

Postsurvey results from Item 1.

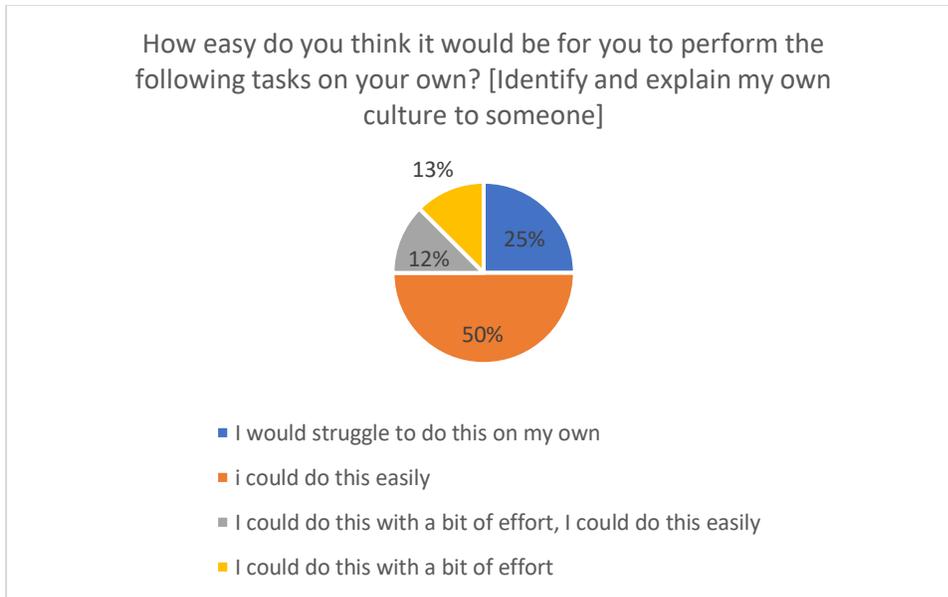


Figure 3 represents the frequency of response options to Item 1 after the virtual exchange experience. 50% of students said they could complete the task easily, 28% said they could complete the task with a bit of effort, and 25% said they would struggle to complete the task on their own. 23% more students said they could complete the task easily than in the presurvey results, indicating growth in global competency.

Figure 4

Presurvey results from Item 2.

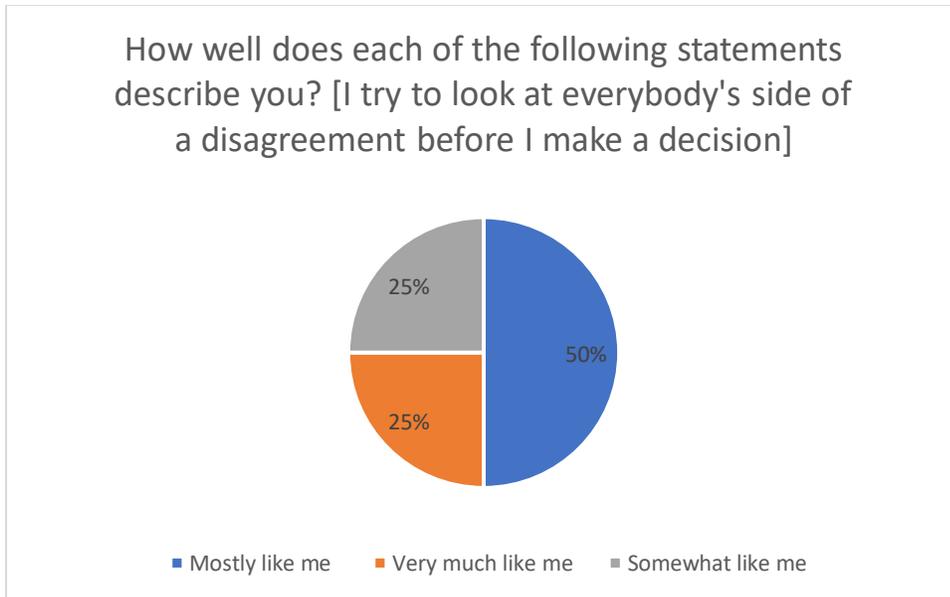


Figure 4 represents the frequency of response options to Item 2 before the virtual exchange experience. 50% of students said that the statement mostly described them, 25% said the statement very much described them, and other 25% said the statement somewhat described them.

Figure 5

Postsurvey results from Item 2.

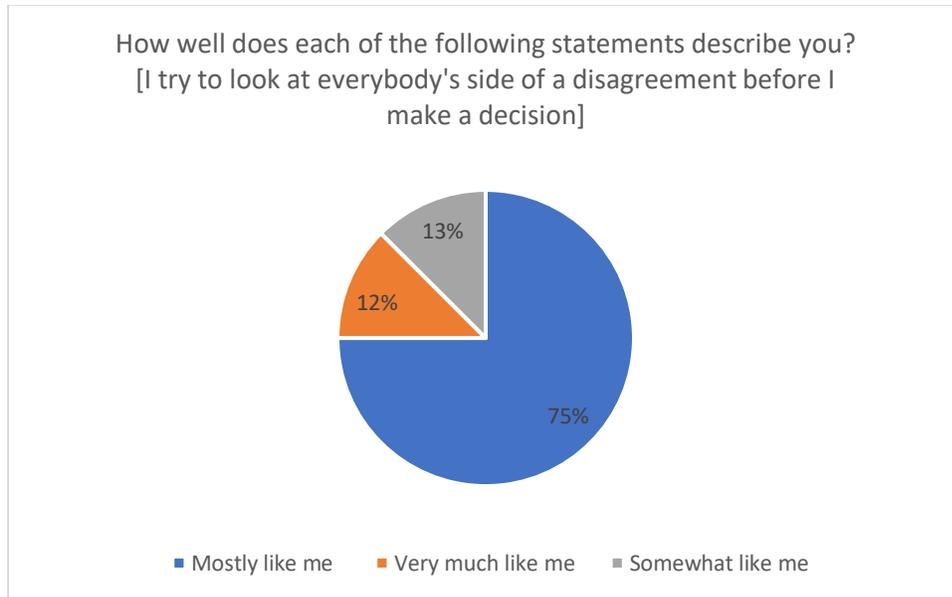


Figure 5 represents the frequency of response options to Item 2 after the virtual exchange experience. 12% of students said the statement very much described them, 13% of students said the statement somewhat described them, and 75% said the statement mostly described them. 12% less students claimed that the statement somewhat described them, indicating growth in global competency.

Figure 6

Presurvey results from Item 3.

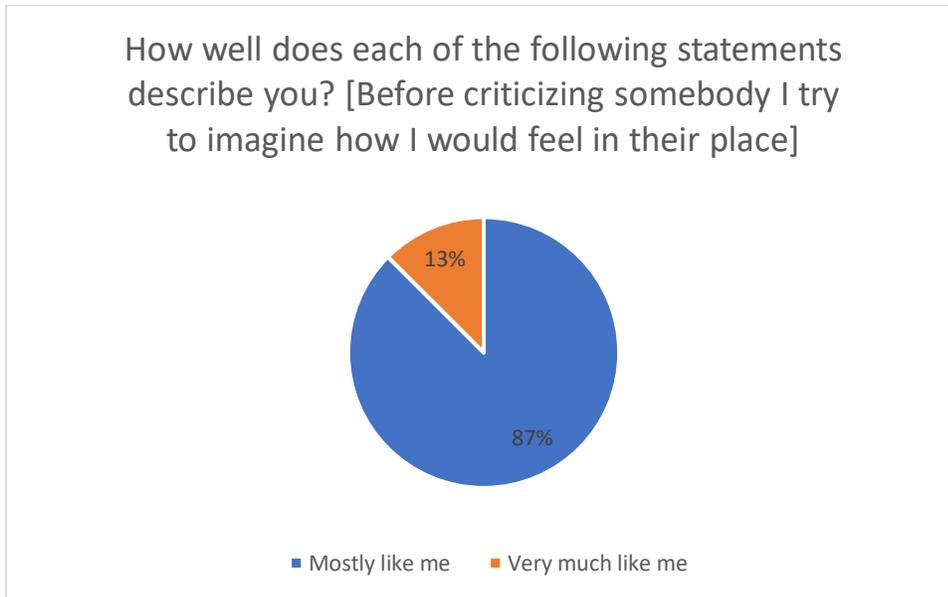


Figure 6 represents the frequency of response options to Item 3 before the virtual exchange experience. 13% of students said the statement very much described them, while 87% of students said the statement mostly described them.

Figure 7

Postsurvey results from Item 3.

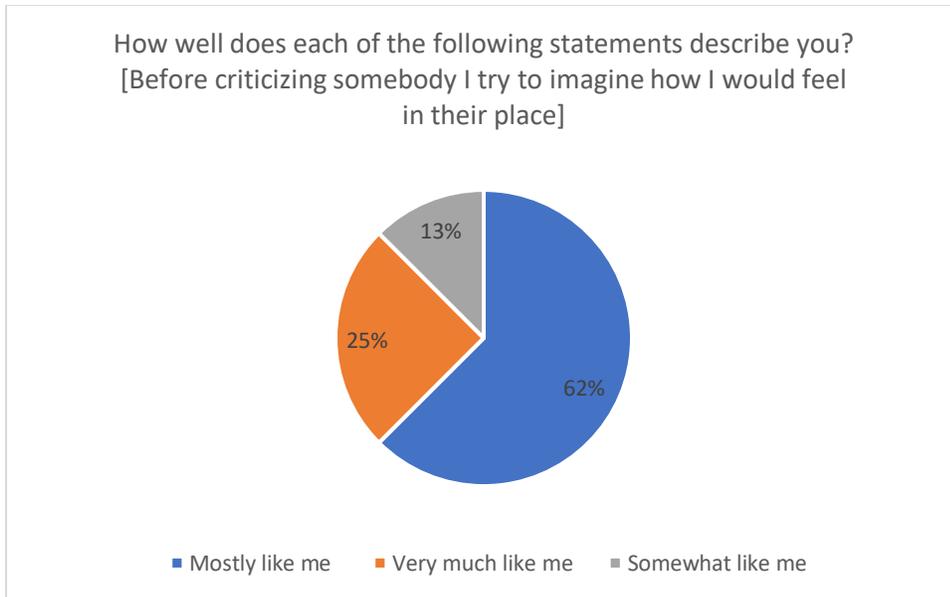


Figure 7 represents the frequency of response options to Item 3 after the virtual exchange experience. 13% of students said that the statement somewhat described them, 25% said the statement very much described them, and 62% said it mostly described them.

Figure 8

Presurvey results from Item 4.

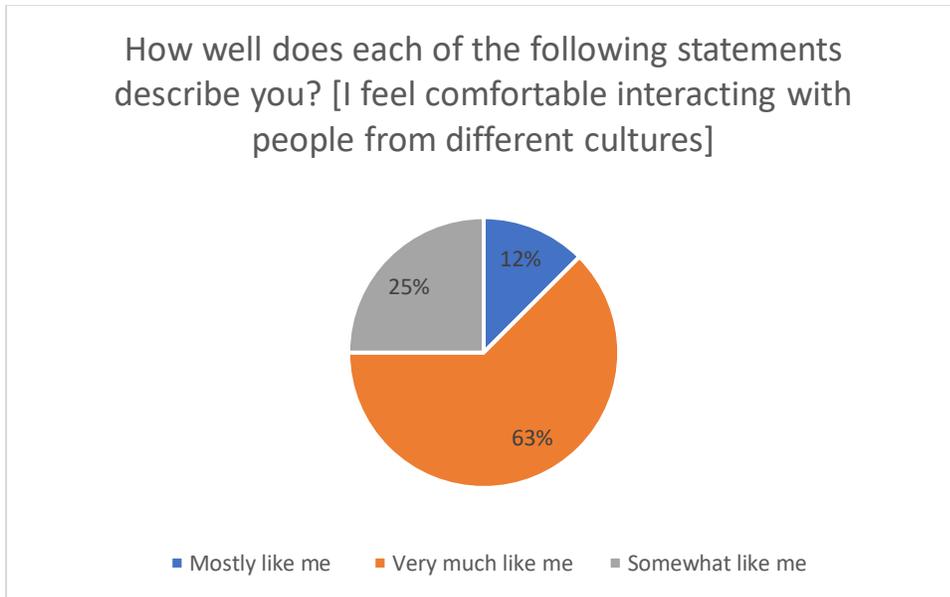


Figure 8 represents the frequency of response options to Item 4 before the virtual exchange experience. 63% of students claimed the statement described them very much, 12% said the statement mostly described them, and 25% said the statement somewhat described them.

Figure 9

Postsurvey results from Item 4.

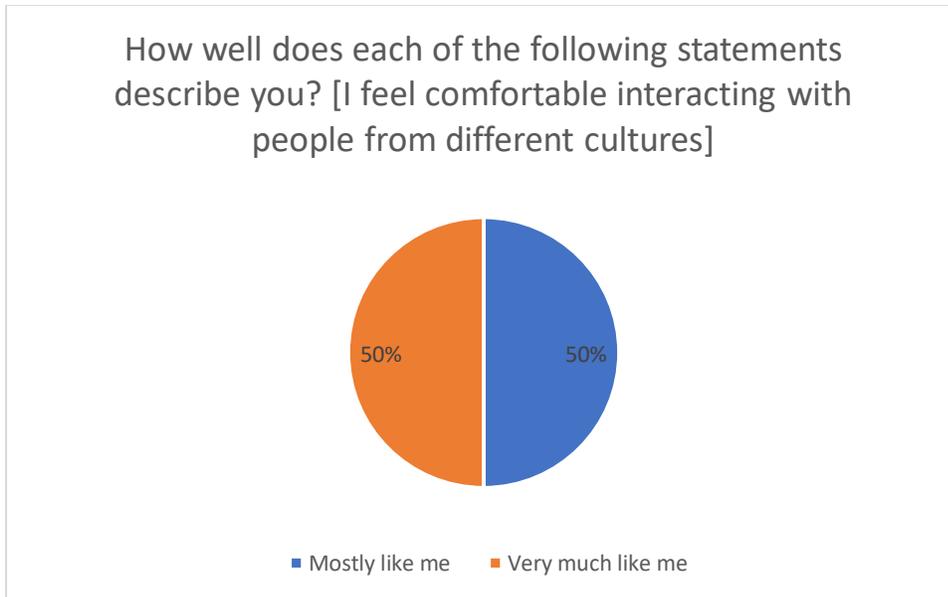


Figure 9 represents the frequency of response options to Item 4 after the virtual exchange experience. 50% of students claimed the statement very much described them and the other 50% claimed the statement mostly described them. 25% of students in the presurvey claimed the statement somewhat described them, indicating growth in global competency.

Figure 10

Presurvey results from Item 5.



Figure 10 represents the frequency of response options to Item 5 before the virtual exchange experience. 50% of students strongly agreed with the statement, and the other 50% agreed with the statement.

Figure 11

Postsurvey results from Item 5.



Figure 11 represents the frequency of response options to Item 5 after the virtual exchange experience. 75% of students strongly agreed with the statement, while 25% agreed with the statement. 25% more students strongly agreed than in the presurvey results, indicating growth in global competency.

Figure 12

Presurvey results from Item 6.

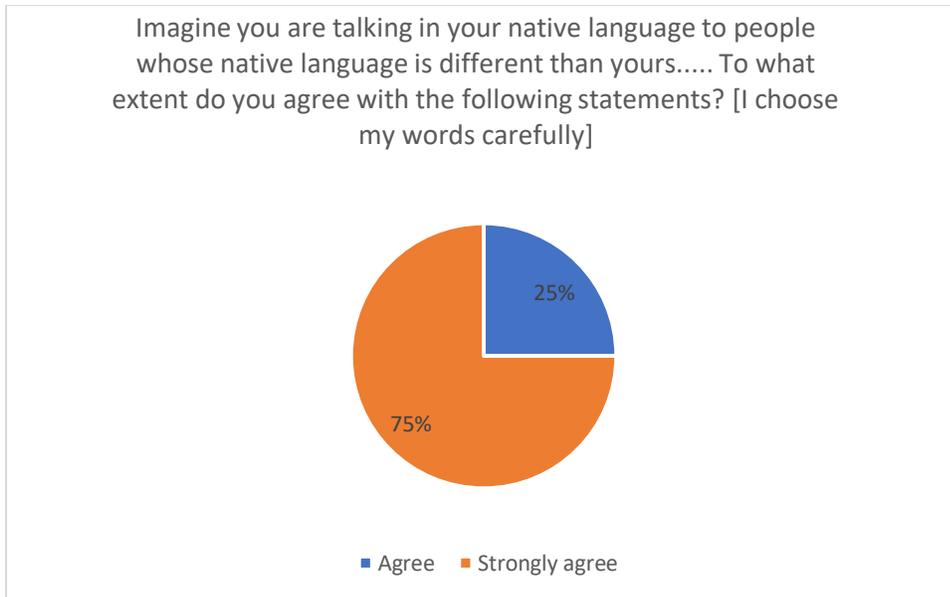


Figure 12 represents the frequency of response options to Item 6 before the virtual exchange experience. 75% strongly agreed with the statement and 25% agreed with the statement.

Figure 13

Postsurvey results from Item 6.

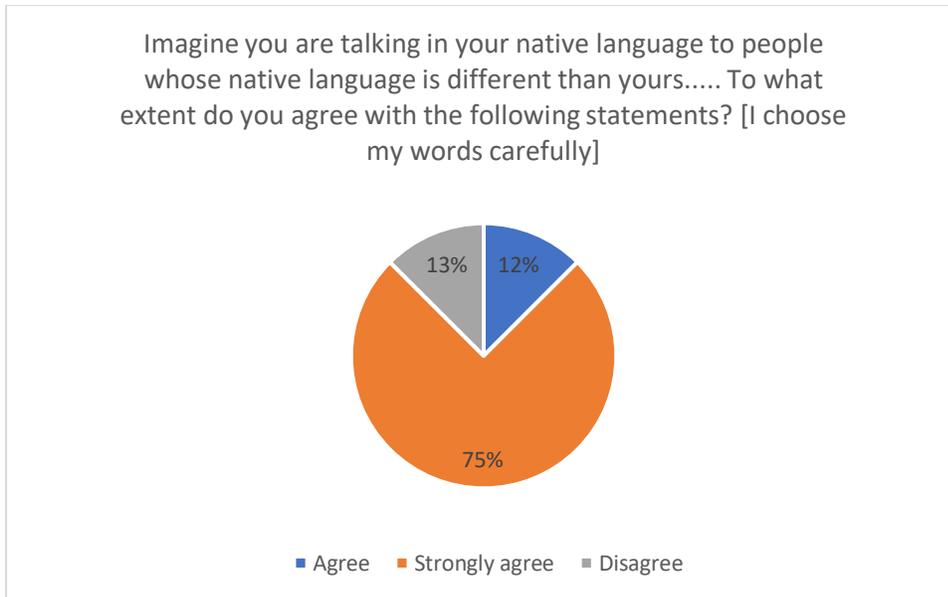


Figure 13 represents the frequency of response options to Item 6 after the virtual exchange experience. 75% strongly agreed with the statement, 13% disagreed with the statement, and 12% agreed with the statement.

Figure 14

Presurvey results from Item 7.

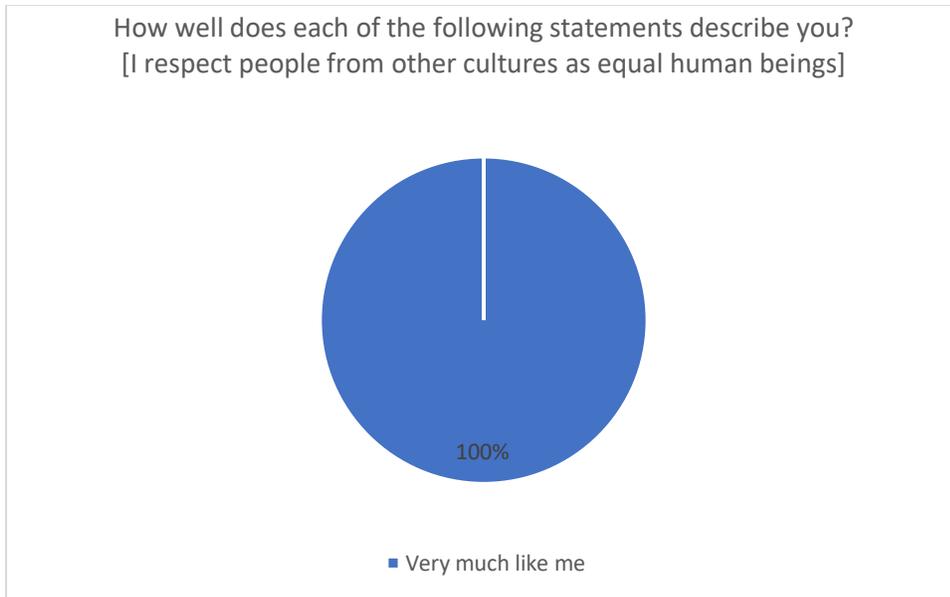


Figure 14 represents the frequency of response options to Item 7 before the virtual exchange experience. 100% of students said the statement very much described them.

Figure 15

Postsurvey results from Item 7.

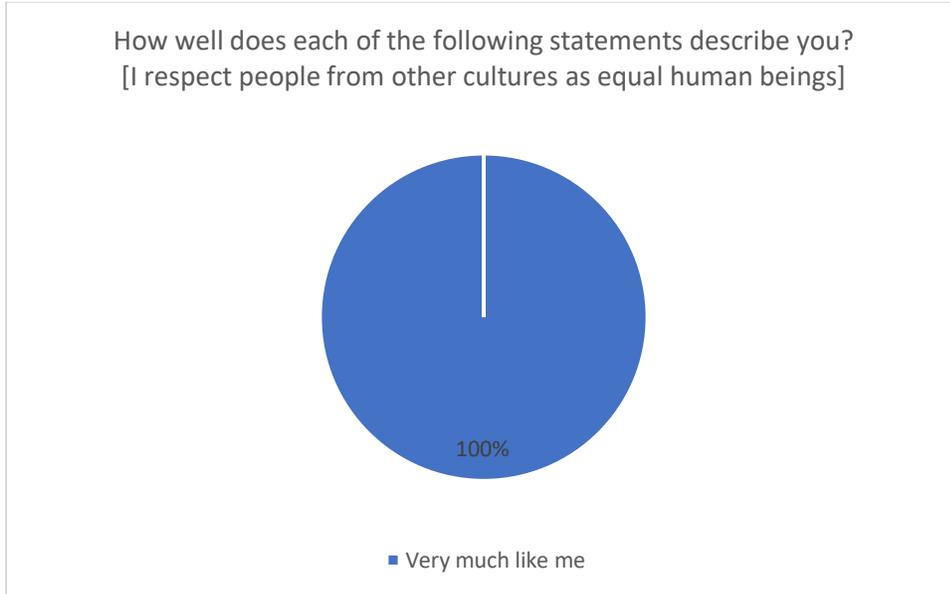


Figure 15 represents the frequency of response options to Item 7 after the virtual exchange experience. 100% of students said the statement very much described them.

Figure 16

Presurvey results from Item 8.

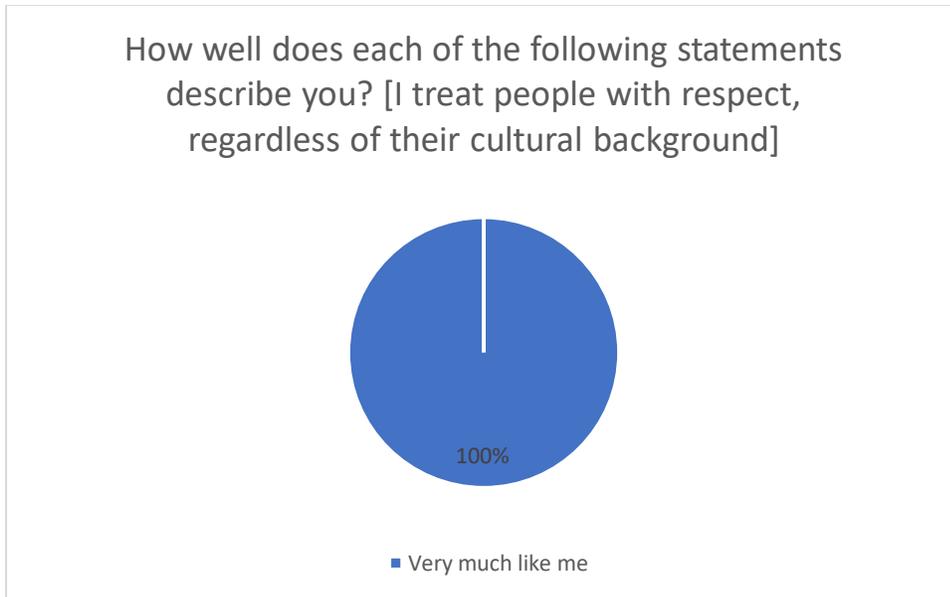


Figure 16 represents the frequency of response options to Item 8 before the virtual exchange experience. 100% of students said the statement very much described them.

Figure 17

Postsurvey results from Item 8.

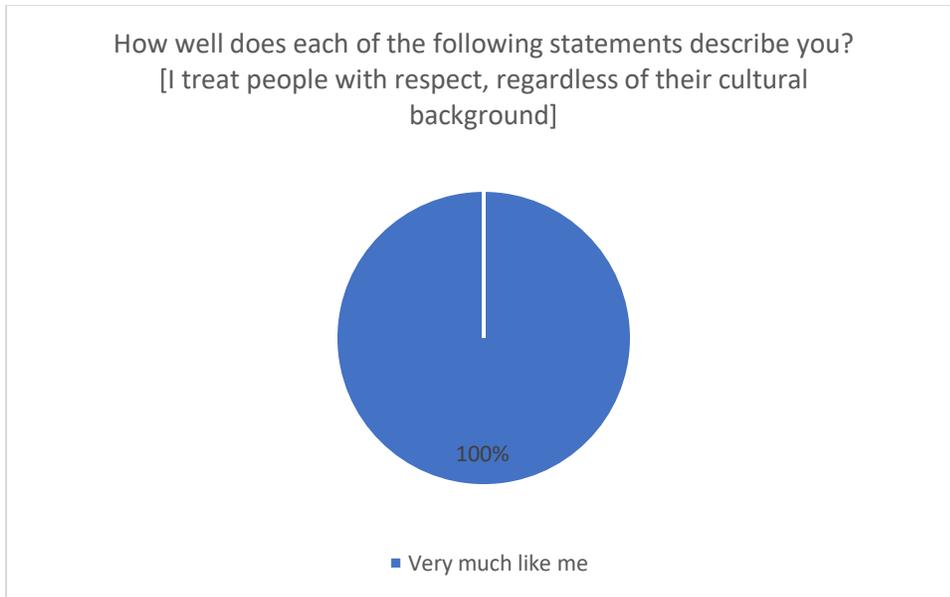


Figure 17 represents the frequency of response options to Item 8 after the virtual exchange experience. 100% of students said the statement very much described them.

Figure 18

Presurvey results from Item 9.

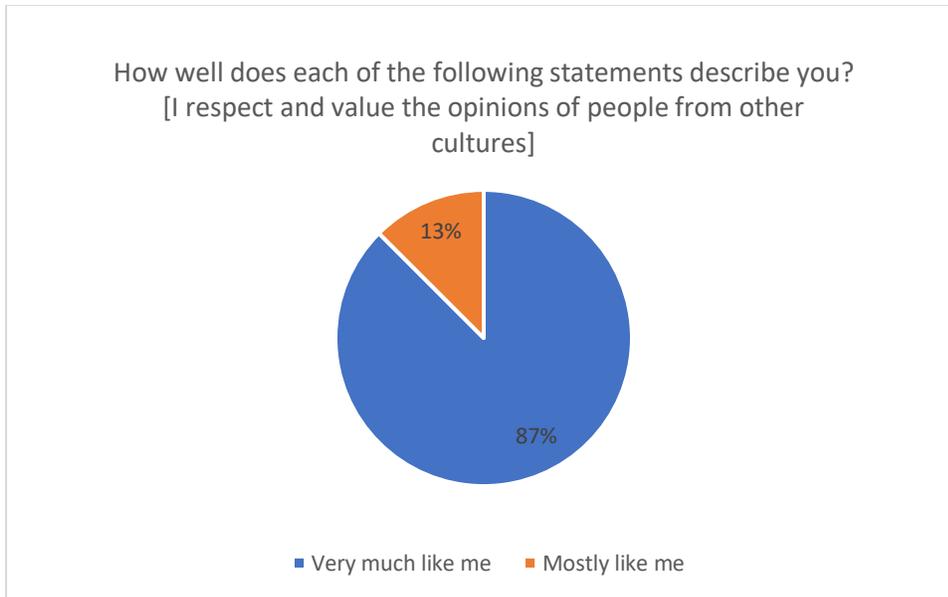


Figure 18 represents the frequency of response options to Item 9 before the virtual exchange experience. 13% of students said the statement mostly described them and 87% of students said the statement very much described them.

Figure 19

Postsurvey results from Item 9.

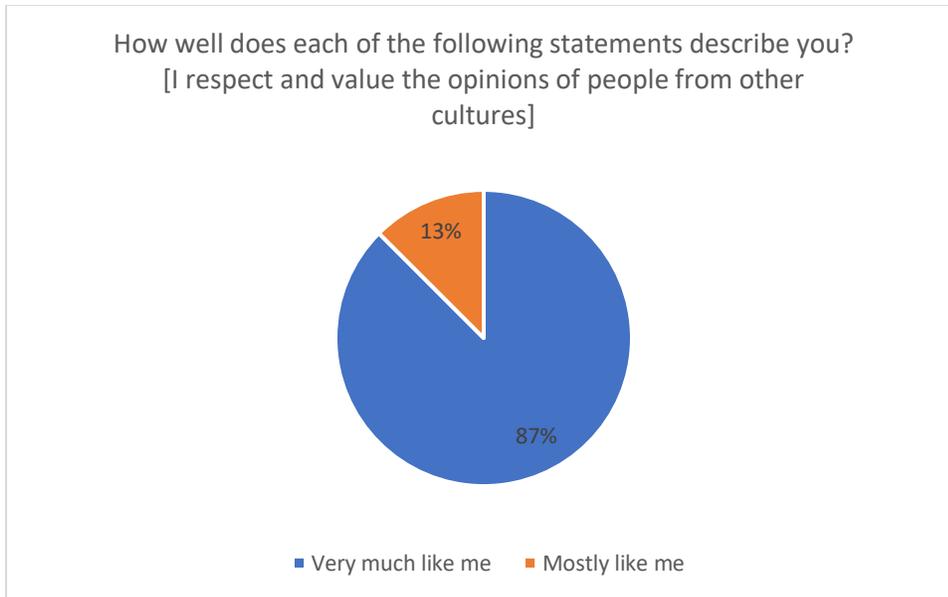


Figure 19 represents the frequency of response options to Item 9 after the virtual exchange experience. 13% of students said the statement mostly described them and 87% of students said the statement very much described them.

Figure 20

Presurvey results from Item 10.

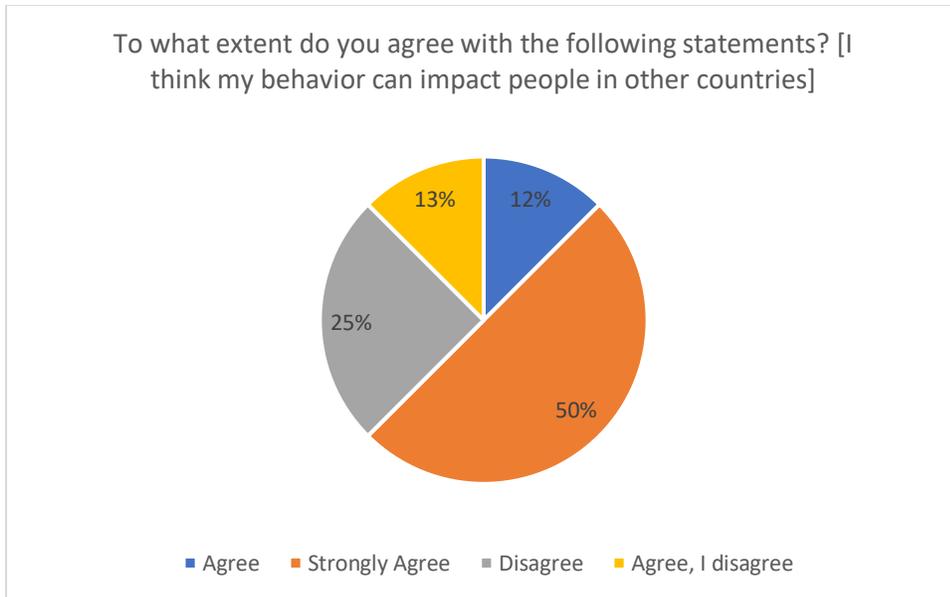


Figure 20 represents the frequency of response options to Item 10 before the virtual exchange experience. 50% of students strongly agreed with the statement, 12% agreed with the statement, 25% disagreed with the statement, and 13% agreed and disagreed with the statement.

Figure 21

Postsurvey results from Item 10.

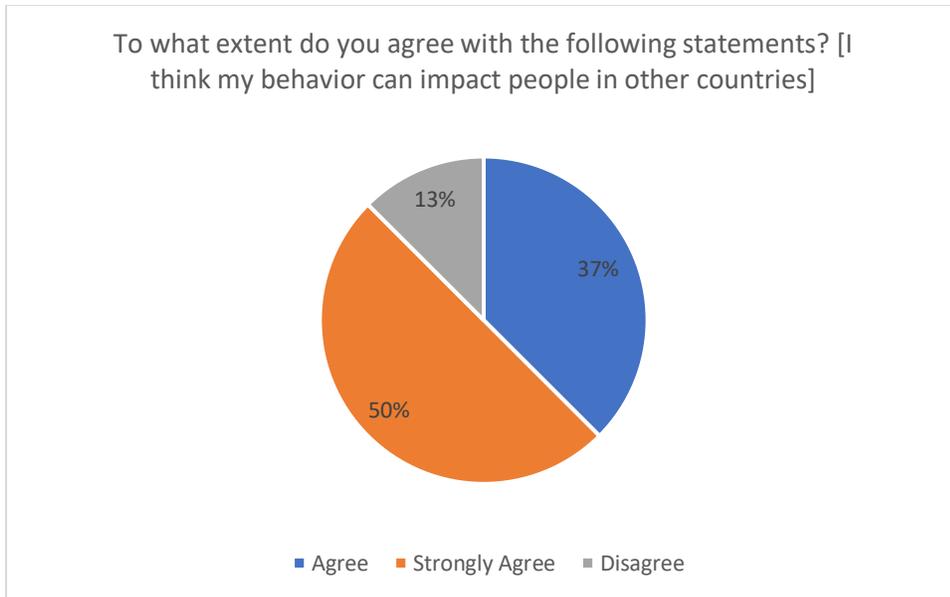


Figure 21 represents the frequency of response options to Item 10 after the virtual exchange experience. 50% of students strongly agreed with the statement, 37% agreed with the statement, and 13% disagreed. More students agreed with the statement than in the presurvey results, indicating growth in global competency.

Figure 22

Presurvey results from Item 11.

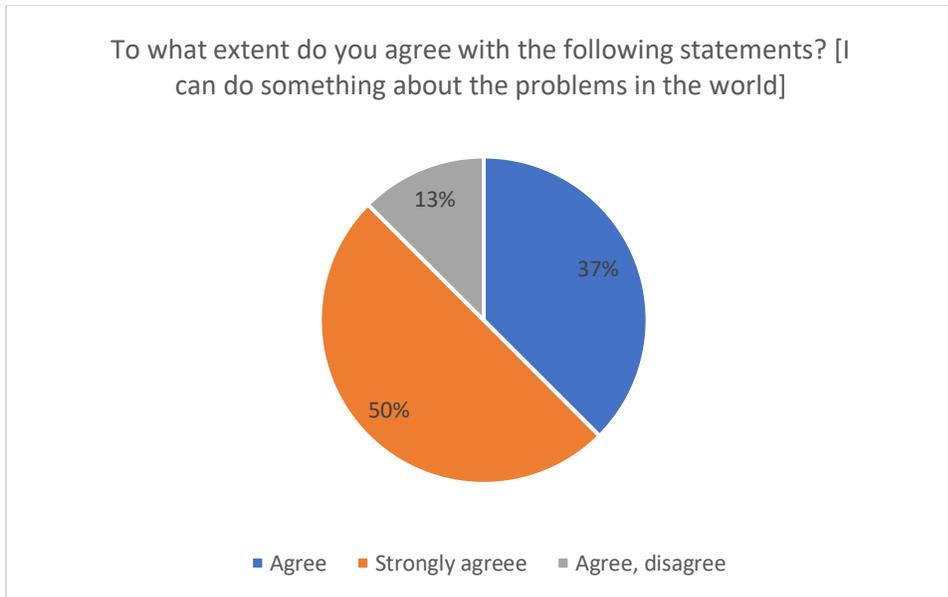


Figure 22 represents the frequency of response options to Item 11 before the virtual exchange experience. 50% of students strongly agreed with the statement, 37% agreed with the statement, and 13% disagreed.

Figure 23

Postsurvey results from Item 11.

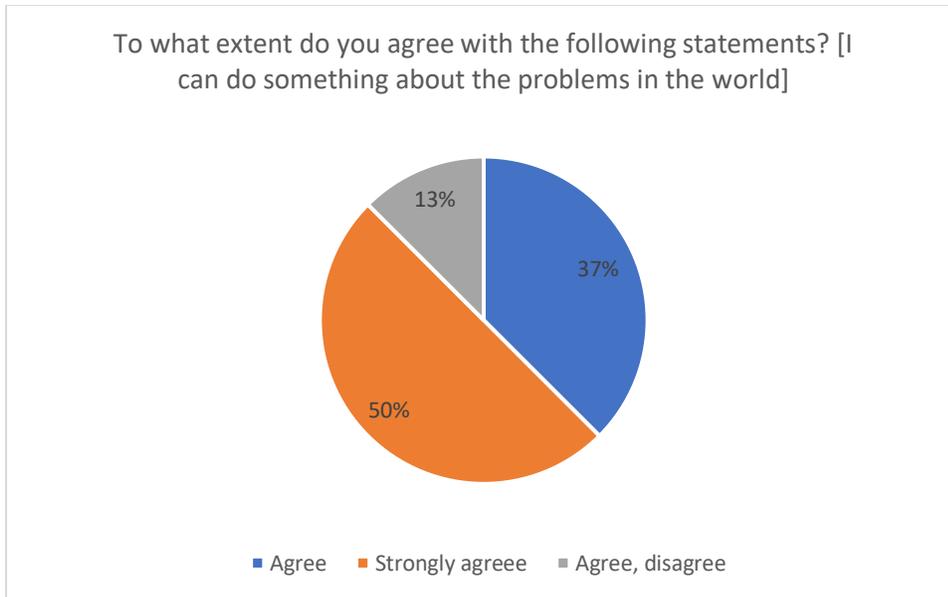


Figure 23 represents the frequency of response options to Item 11 after the virtual exchange experience. 50% of students strongly agreed with the statement, 37% agreed with the statement, and 13% disagreed.

Figure 24

Presurvey results from Item 12.

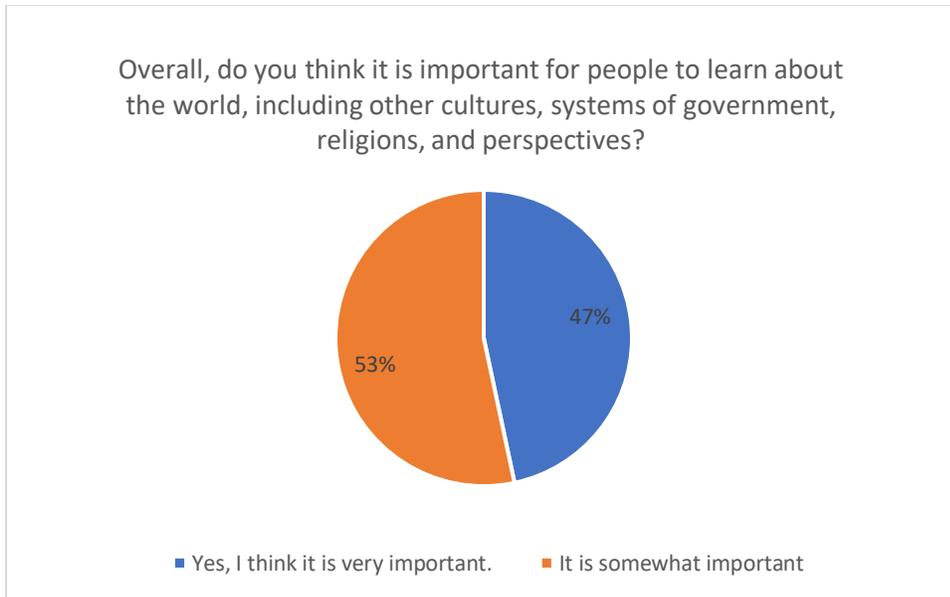


Figure 24 represents the frequency of response options to Item 12 before the virtual exchange experience. 53% of students thought it was somewhat important to learn about the world, and 47% thought it was very important.

Figure 25

Postsurvey results from Item 12.

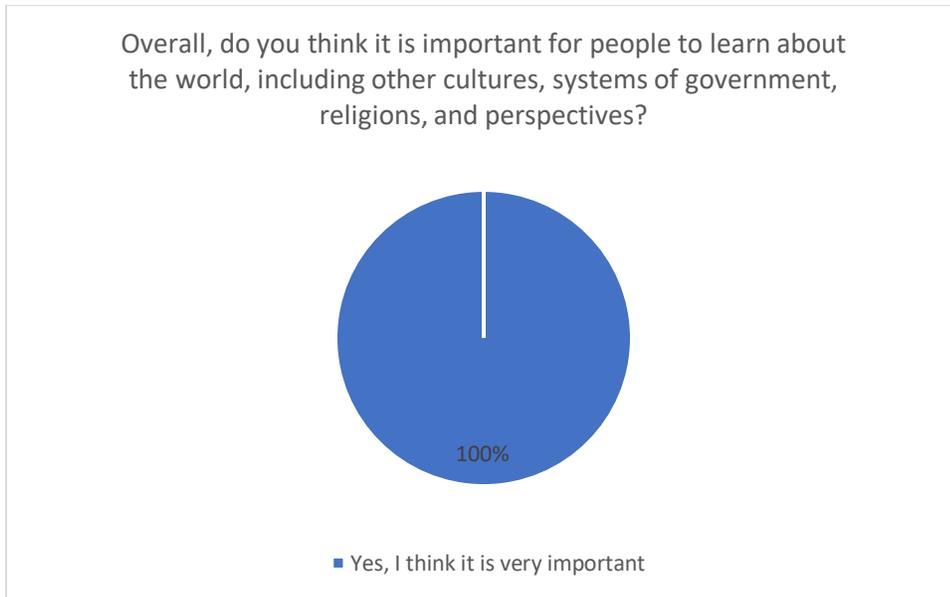


Figure 25 represents the frequency of response options to Item 12 after the virtual exchange experience. 100% of students thought it was very important to learn about the world, whereas only 47% of students responded this way in the presurvey results. This change in belief is indicative of growth in global competency.

Figure 26

Presurvey results from Item 13.

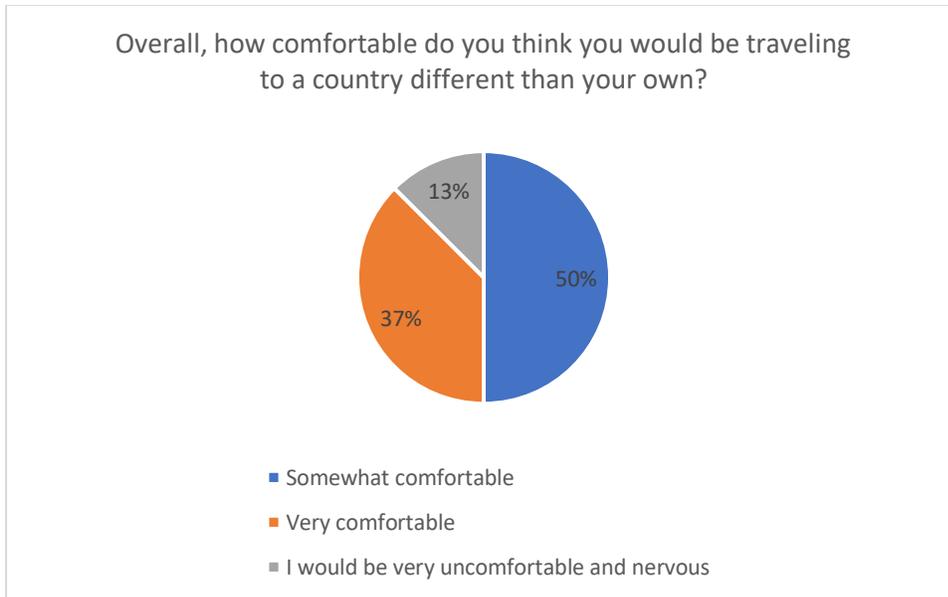


Figure 26 represents the frequency of response options to Item 13 before the virtual exchange experience. 50% students said they would be somewhat comfortable traveling to a different country, 37% said they would be very comfortable, and 13% said they would be very uncomfortable and nervous.

Figure 27

Postsurvey results from Item 13.

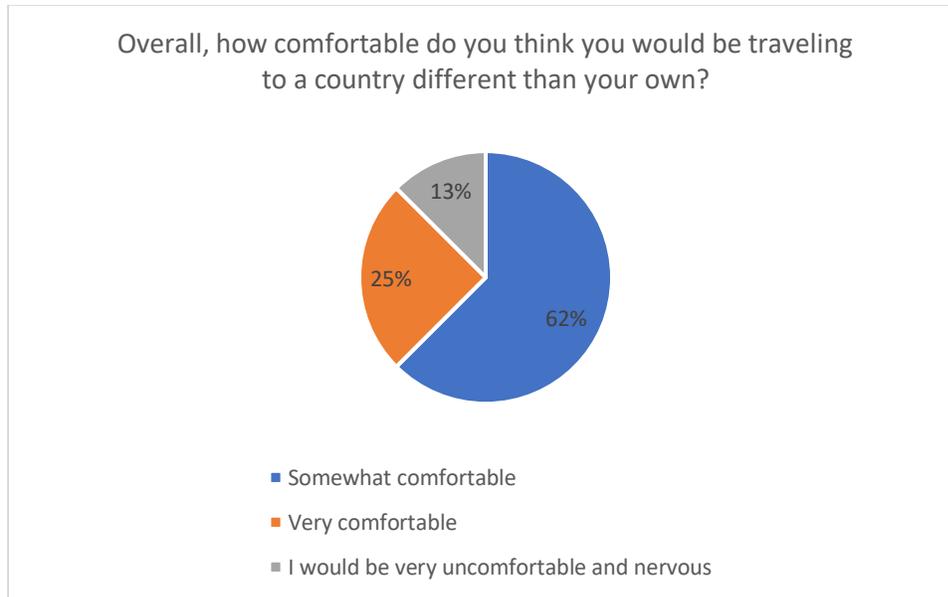


Figure 27 represents the frequency of response options to Item 13 before the virtual exchange experience. 62% students said they would be somewhat comfortable traveling to a different country, 25% said they would be very comfortable, and 13% said they would be very uncomfortable and nervous.

Coded Language in Guided Journal Entries

Seven journals were recovered from the eight students that participated in all aspects of the virtual exchange experience. The journals were reviewed for coded language indicative of learning or the lack thereof. Words that are associated with learning include the following: important, good/great, eye-opening, understand, emotion, interesting, learned a lot, enjoyed, respect, and want to learn more (Smith and Guidry, 2013). Coded words indicative of the lack of

learning include the following: hard, no fun, do not care, boring, and confusing. Table 1 demonstrates the frequency of each type of coded language identified in the students' journals.

Table 2

Number of incidents of coded language in students' journals

Journal Number	Number of events in which coded language indicative of learning was used	Number of events in which coded language not indicative of learning was used
1	4	0
2	2	0
3	9	0
4	12	0
5	5	0
6	2	0
7	4	0

Table 2 demonstrates the number of incidents of coded language identified in the students' journals. 38 incidences of coded language indicative of learning were identified, while 0 incidences of coded language not indicative of learning were identified. These findings support the idea of virtual exchange as a means of global competency learning.

Discussion

In this study, high school students completed a semester-long virtual exchange program where they connected with a foreign classroom on three different occasions. Each one of these exchanges were guided by a particular topic, and students completed journal entries after each exchange. Additionally, students were given a survey before and after the program to assess growth in global competency understanding. For Item 1, Item 2, Item 4, Item 5, and Item 10 of the survey more students agreed or strongly agreed with the questions in the items after the virtual exchange experience, indicating a higher level of global competency. For Item 12, 100% of students agreed that it is very important for people to learn about the world, including other cultures, systems of government, religions, and perspectives, whereas only 47% of students thought this before the virtual exchange experience. When looking at the guided journal entries, every journal displayed language indicative of learning and none of the journals displayed language not indicative of learning. The changes in responses to the mentioned survey items, along with the coded language in the journal entries, show preliminary data that supports the use of virtual exchange as a means of increasing global competency among high school students. For 6 of 13 survey questions, students agreed more closely with the survey questions after the virtual exchange experience than before, indicating a greater level of global competency. All the journal entries indicated language indicative of learning, which suggests virtual exchange is an engaging and effective avenue to impact learning.

As mentioned in the literature review of this study, students often need to experience global competency learning in different avenues to make a lasting impact. The combination of online virtual exchange, guided journal entries, and classroom discussions likely bolstered the student's learning and interest. As Dr. Theoni Soublis Smyth (2017) described in her journal

article “Transdisciplinary Pedagogy: A Competency Based Approach for Teachers and Students to Promote Global Sustainability,” educators must employ a multi-disciplinary approach to teaching global competency that touches on main competencies: critical and creative thinking, communication and collaboration, information media and technology skills, and project-based curriculum development. The different activities included in the design of this study touched on all these competencies and allowed students to interact with information in a variety of ways. Additionally, it likely allowed students to become the facilitators of their own education, as they designed unique questions and responses during the exchange. In the guided journal entries students were able to not only reflect on what they had learned during the virtual exchange, but also propose ideas to further extend their learning. This engagement is critical to the learning process, as opposed to a lecture back-and-forth type of exchange. As Dr. Bente Meyer (2015) described in his preliminary research entitled “Learning Through Telepresence with iPads: Placing Schools in Local/Global Communities,” communicating with authentic others through telepresence can support learners’ communicative approach to a language being learned and engage learners in the target language. While the students in the study were learning about global competency and not a language, it is equally as important for students to be engaged in their own learning to ensure learning outcomes.

While using virtual exchange as a method of implementing a global competency education program seem promising, there are some key lessons to be learned from this pilot study. The first lesson is that there must be concrete structure to the program. Because this study was done on top of existing curriculum requirements, it was difficult at times to use class time for the project. Additionally, as this study was implemented by only one teacher in the North Carolina school, it was difficult to have every eligible student complete every aspect of the

virtual exchange program while giving them the individual time and attention they needed to complete other assignments. Lastly, educators need a concrete way of assessing growth in global competency. The research team picked the 13 items from the PISA 2018 survey because they are, according to the team's opinion, most closely related to global competency and interacting with people from different cultures. It is possible that choosing another combination of survey items could have accomplished this goal. If written data, such as journal entries, are used for data purposes it is necessary to develop a reproducible way of indicating learning in those written documents. The coded language system employed in this study was a start, however there are other words adolescents may use to indicate interest and learning. The research team also discussed how students may not use language not indicative of learning in an assignment that is going to be given to their instructor. To successfully use virtual exchange as a method of implementing a global competency education, educators must have the time and resources to integrate the program with other required curriculum and an objective, reproducible way of measuring learning outcomes.

Bibliography

Battelle For Kids, Partnership for 21st Century Learning. Frameworks & Resources. Retrieved from <http://www.battelleforkids.org/networks/p21/frameworks-resources>

Budovalcev Konitzer, J. M. (2018). *Promoting Global Competence Among High School Students*(dissertation).

Chou, P.-I., Cheng, M.-C., Lin, Y.-L., & Wang, Y.-T. (2014). Establishing the Core Concepts and Competence Indicators of Global/International Education for Taiwan's Grade 1–9 Curriculum Guidelines. *The Asia-Pacific Education Researcher*, 24(4), 669–678. doi: 10.1007/s40299-014-0215-0

Education for Global Leadership: The Importance of International Studies and Foreign Language Education for U.S. Economic and National Security. Education for Global Leadership: The Importance of International Studies and Foreign Language Education for U.S. Economic and National Security. (2006). Washington D.C.: Committee for Economic Development.

Engel, L., Fundalinski, J., & Cannon, T. (2016). Global Citizenship Education at a Local Level: A Comparative Analysis of Four U.S. Urban Districts. *Revista Española De Educación Comparada*, (28), 23–51. doi: <https://doi.org/10.5944/reec.28.2016.17095>

Harvard Project Zero Team. (2013, June). Global Thinking Routines: Foundations for Our Work. Retrieved from https://goglobal.fiu.edu/wp-content/uploads/sites/16/2014/05/4005_ReadingD_GlobalThinkingRoutines.pdf

Hunt, F. (2012). Global Learning In Primary Schools In England: Practices And Impacts. *University of London Institute of Education Development Education Research Centre*, (9).

- Jackson, A. (2008). High Schools in the Global Age. *Educational Leadership*, 65(8), 58–62.
Retrieved from https://new.trinity.edu/sites/default/files/file_attachments/may-08-ed-leadership-jackson.pdf
- Li, Y. (2013). Cultivating Student Global Competence: A Pilot Experimental Study. *Decision Sciences Journal of Innovative Education*, 11(1), 125–143. doi: 10.1111/j.1540-4609.2012.00371.x
- McLaughlin, M., & Miller, R. (2018, November 13). Retrieved from <https://blog.ed.gov/2018/11/succeeding-globally-through-international-education-and-engagement/>
- Meyer, B. (2015). Learning Through Telepresence with iPads: Placing Schools in Local/Global Communities. *Interactive Technology and Smart Education*, 12(4), 270–284. doi: 10.1108/itse-09-2015-0027
- National Association of Foreign Student Advisers. About International Education. Retrieved from <http://www.nafsa.org/about/about-international-education>
- OECD. PISA 2018 Global Competence. Retrieved from <http://www.oecd.org/pisa/pisa-2018-global-competence.htm>
- O'Neill, E. J. (2008). *Intercultural Competence Development: Implementing International virtual Elementary Classroom Activities into Public Schools in the U.S. and Korea*(dissertation). ProQuest.
- Reimers, F. (2009). Leading for Global Competency. *Educational Leadership*, 67(1).

Reimers, F. (2013, October). Assessing Global Education: an Opportunity for the OECD. Retrieved from <http://www.oecd.org/pisa/pisaproducts/Global-Competency.pdf>

Smith, C., & Guidry, A. (2013). Doing' History: Oral History and the Effect on Student Engagement. *East Carolina University*.

Smyth, T. S. (2017). Transdisciplinary Pedagogy: A Competency Based Approach for Teachers and Students to Promote Global Sustainability. *Journal of Interdisciplinary Studies in Education*, 5(2), 64–72.

Teaching for Global Understanding. Retrieved from <https://asiasociety.org/education/teaching-global-understanding>

Todd, K. B. (2017). *Global Competency Survey Development*(dissertation). ProQuest.

United Nations. Goal 4- Quality Education. Retrieved from <http://www.un.org/sustainabledevelopment/education>

What is Virtual Exchange? Retrieved from <http://virtualexchangecoalition.org/>