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# Effects of a Short-Duration Online Simulation on Global Empathy


Chad Raymond

Salve Regina University, [chad.raymond@salve.edu](mailto:chad.raymond@salve.edu)

Sally Gomaa

Salve Regina University, [sally.gomaa@salve.edu](mailto:sally.gomaa@salve.edu)

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## Effects of a Short-Duration Online Simulation on Global Empathy<sup>1</sup>

by

Dr. Chad Raymond      and      Dr. Sally Gomaa  
[chad.raymond@salve.edu](mailto:chad.raymond@salve.edu)      [sally.gomaa@salve.edu](mailto:sally.gomaa@salve.edu)

Salve Regina University  
100 Ochre Point Ave  
Newport, Rhode Island 02840  
USA

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### Abstract

The learning outcomes for undergraduate curricula typically emphasize the development of greater empathy for people who come from diverse cultural backgrounds—a quality that we are labeling global empathy. In an investigation of whether a particular instructional method is associated with greater global empathy among students, undergraduates were exposed to information about Haiti through lecture, news video, or an online game that simulated life in Haiti. Our hypothesis was that students would exhibit greater global empathy after playing the interactive online simulation than they would after hearing the lecture or watching the videos. Average scores for questions on a survey that we administered to these students varied according to the instructional method, as did students' behavioral responses during the experiment, but the variations were not statistically significant. A larger sample, a longer duration experiment, or the exclusion of students from particular academic majors from the experiment might elucidate a more noticeable indication that the choice of instructional method affects global empathy.

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## Introduction

Cross-cultural competence—the ability to “to operate effectively in other cultures and settings” (American Council of Education 2011, 14)—is now regarded as a critical student learning outcome by many U.S. higher educational institutions (American Association of Colleges and Universities n.d.; Eddy et al. 2013; Sales et al. 2013; Sprinks 2013; Carter et al. 2010; Cruz and Patterson 2005). Cross-cultural competence requires in part that students be able to empathize with people whose ethno-cultural, economic, political, and/or geographic backgrounds are very different from their own. Yet colleges and universities frequently find it difficult to demonstrate the development of this type of globalized empathy among their students, for three reasons. First, the percentage of U.S. higher learning institutions requiring undergraduates to take courses that “primarily feature perspectives, issues, or events from countries or areas outside the United States” has declined steadily since 2001 (American Council of Education 2012, 12). Undergraduates in the USA typically acquire “only a passing knowledge of other cultures” (American Council of Education 2011, 14).

Second, changes in students’ empathy are rarely assessed satisfactorily. Sound data on whether typical curricular initiatives convince students “to become more cosmopolitan [and] to . . . embed intercultural empathy in their learning” (Haigh 2009, 282) are often not collected. For example, research of 17,000 subjects found that undergraduate study abroad was associated with international career experience in the decades after graduation, but changes in students’ career aspirations before and immediately after study abroad were not measured (Norris and Gillespie 2009, 394).

Third, students on many campuses lack opportunities for encountering individuals who are culturally different. At the university at which the authors are employed, 93 percent of the students in the incoming class of 2018 class identified themselves as non-Hispanic Caucasian on the

*Beginning College Survey of Student Engagement*, and only 2 percent identified themselves as an international or foreign national student.

Classroom simulations could conveniently help students develop global empathy in courses that already exist in a university's curriculum, regardless of the characteristics of that university's student body. Simulations have been found to increase students' self-reported appreciation for the challenges of non-English speakers, their desire to learn about the practices and beliefs of different ethno-cultural groups, their sensitivity toward the effects of cultural difference, and emotional empathy (Junn et al. 1995; Sales et al. 2013; Cruz and Patterson 2005; Stroessner et al. 2009).

### History of the Project

This project originated with presentations by Daniel Beers and Tina Zappile at the American Political Science Association's Teaching and Learning Conference in 2013. At the conference, Beers discussed his use of a policymaking simulation on international aid to Haiti following the earthquake that struck the country in 2010. He found that this simulation, which reflected ongoing conditions in Haiti, was more engaging for students than traditional role-play simulations based on fictional scenarios or historical events (Beers 2013). Zappile (2013: 17) attempted to "evaluate levels of global empathy before and after student participation in the ICONS online international system simulation." Her research failed to show statistically significant changes in levels of students' global empathy as a result of having participated in ICONS.

Zappile, Beers, and Raymond (2016) then collaborated on a multi-campus study that examined the effects of a role-play simulation on global empathy. In the simulation, students were assigned to various stakeholder perspectives and tasked with drafting a policy on the problem of internally displaced persons (IDPs) in post-earthquake Haiti. A factor analysis of survey data revealed a statistically-significant increase in levels of global empathy among students, especially for those enrolled in courses with content related to the simulation and for whom the simulation occurred over several weeks (Zappile, Beers, and Raymond 2016: 16).

Raymond, Jacques, and Medeiros (2015) used a similar survey instrument on global empathy to undergraduate students at one of the three campuses. This survey was administered as a pretest/posttest at the beginning and end of the Fall 2014 semester. The students who took the survey were enrolled in five sections of a first-year seminar taught by four different instructors and an introductory international relations course. Survey results did not show any clear, statistically-significant increases in students' global empathy scores, despite the use of simulations in one of the first-year seminar sections and in the international relations course.

### Method

The authors hypothesized that a short-duration online simulation might be more effective than more traditional methods of instruction at increasing levels of global empathy among students. We designed a short-duration classroom experiment to test this hypothesis, and an IRB waiver was obtained for the project. Participants in the experiment experienced one of three conditions. In condition A, the control, the instructor delivered a lecture on Haitian history that emphasized the historical origins of the disaster that struck Haiti as a result of the earthquake in 2010. The lecture lasted approximately ten minutes and no visual aids were used.

For condition B, students watched two videos about living conditions in Haiti immediately after the earthquake. The first video was a two minute and eight second compilation of news reports by BBC World News America that won the 2011 Alfred I. duPont-Columbia University Award for excellence in broadcast journalism, titled "Haiti's Earthquake," available at <https://vimeo.com/27503985>. The video shows looting and collapsed buildings in Port-au-Prince, and a pregnant woman in labor whose life is saved by emergency medical treatment. The second video was a five minute and twenty-four second report by Adam Davidson, "Economy of a Tent City," produced for *NPR Planet Money*. This video originally aired on 26 March 2010 and is available at [http://www.pbs.org/wgbh/pages/frontline/haiti/view/economy\\_tent\\_city.html](http://www.pbs.org/wgbh/pages/frontline/haiti/view/economy_tent_city.html). The video

presents the economically disruptive effects of the earthquake on ordinary Haitians and their entrepreneurial efforts in a tent camp for survivors.

In Condition C, students played *Ayiti: The Cost of Life*, at <https://ayiti.globalkids.org/game/>, for fifteen to twenty minutes. *Ayiti: The Cost of Life* is a free online game produced by Gamelab and Global Kids with support from Microsoft Corporation. In this game, players decide how a family of poor, rural Haitians invests in and expends scarce economic resources. The objective of the game is to keep all five members of the family healthy and happy through sixteen turns that are equivalent to four calendar years. If both parents die, the game ends. If they survive, success is measured by the amount of education obtained by family members, represented by the number of baccalaureate degrees.

The instructor began each experimental session by telling students “today’s class involves helping with a research project on how news coverage of a recent historical event might affect a person’s memory of that event.” Students were informed during a debriefing that the experiment’s actual purpose was to investigate the possible effect of different instructional methods on student attitudes.

After being exposed to one of the experimental conditions, students were given five minutes to write an anonymous response to the following prompt:

“You are the director of Caribbean operations for Cisco, a company that designs and manufactures computer networking systems. You have previous experience working for a telecommunications company in the city of Port-au-Prince, the capital of Haiti. Cisco is opening an office in Port-au-Prince that will be staffed by Cisco employees from the USA. Write a letter to these employees that explains what you think they should know about Haiti and its people.”

Data on students’ global empathy levels were gathered with an attitudinal survey and two behavioral measures. The survey, which students completed after the letter-writing exercise,

consisted of the Alexandrian Inventory (Appendix A), is similar to the survey used by Raymond, Jacques, and Medeiros (2015) and based on the previously validated instruments used by Zappile, Beers, and Raymond (2016); Bachen, Hernández-Ramos, and Raphaelas (2012); and Wang (2003). Questions in the Alexandrian Inventory are on an eleven-point scale that ranges from zero to ten. Students completed the Alexandrian Inventory online using Google Forms. Responses were anonymous.

For the first behavioral measure, the instructor made the following statement to students at the beginning of each experimental session:

“Before I begin, an announcement from the Office of International Programs: this semester the university has a few students from other countries who would like some help with their study skills. If anyone would like to meet with one of these students in the library for a 30 minute session over the next few weeks, put your name and email address on this sign-up sheet. The Office of International Programs will contact you to set up a mutually-convenient time. If you want to volunteer for more than one session, you can indicate that on the sign-up sheet.”

At the end of each session, the classroom instructor reminded students of the request and the sign-up sheet. Once students left the room at the conclusion of the experiment, we recorded the number of individuals who volunteered. During the debriefing, students were told that the request from the Office of International Programs was fictitious.

In the second behavioral measure, students were given the choice of receiving a cash gift or donating university money to a charity. Prior to taking the Alexandria Inventory, students were told:

“Notice that there are two envelopes in front of you. Each envelope is a thank you for your participation in this research project. One envelope contains \$2 in cash. The other envelope indicates that a \$2 donation will be made from Salve Regina to the

International Rescue Committee, a charity that assists refugees around the world. You get to choose whether you prefer the \$2 in cash or the \$2 donation. When you complete the survey, keep the envelope that you want and drop the envelope you don't want into this box."

After each session, we tallied the number of students who kept the cash and the number of those who chose the charity donation.

### Analysis

As shown in Table 1, a total of only three students volunteered to help a student from another country; two of them came from the lecture condition. The small amount of variation was not statistically significant, according to Fisher's exact test. The behavioral measure of the sign-up sheet failed to capture any useful information.

	Condition						Total
	A lecture		B videos		C game		
Volunteered?	N	%	N	%	N	%	
Yes	2	4.4	1	3.2	0	0	3
No	43	95.6	30	96.8	30	100	103
Total	45		31		30		106

Table 1: Students' Voluntarism

When deciding what to do with \$2, slightly more students in the lecture condition donated the money than in the video or game conditions, as shown in Table 2. Using Fisher's exact test, the differences in behavior between conditions did not meet the bar of  $P < .05$  for statistical significance.

	Condition						Total
	A lecture		B videos		C game		
	N	%	N	%	N	%	
Donated \$2	43	95.6	26	83.9	25	83.3	3
Kept \$2	2	4.4	5	16.1	5	16.7	103
Total	45		31		30		106

Table 2: Students' Charity



For the nine-item Alexandrian Inventory, average scores for the lecture condition were higher than for the *Ayiti* game on seven of the survey questions and higher than for the videos on six of the questions, as shown in Table 5. For some questions, these differences in average scores were full point or more on the survey's eleven-point scale.

Question	Condition			Differences		
	A lecture N = 45 Ave	B video N = 31 Ave	C game N = 29 Ave	C-A	B-A	C-B
1	6.6	5.3	6.1	-0.5	-1.3	0.8
2	8.8	8.7	8.3	-0.5	-0.1	-0.4
3	6	5.7	4.9	-1.1	-0.3	-0.8
4	(-)2	(-)1.9	(-)2.7	-0.7	0.1	-0.8
5	6.1	5.5	4.9	-1.2	-0.6	-0.6
6	4.5	4	4.6	0.1	-0.5	0.6
7	8.8	8.7	8	-0.8	-0.1	-0.7
8	(-)5.1	(-)5.8	(-)4.9	0.2	-0.7	0.9
9	4.3	4.2	4.1	-0.2	-0.1	-0.1

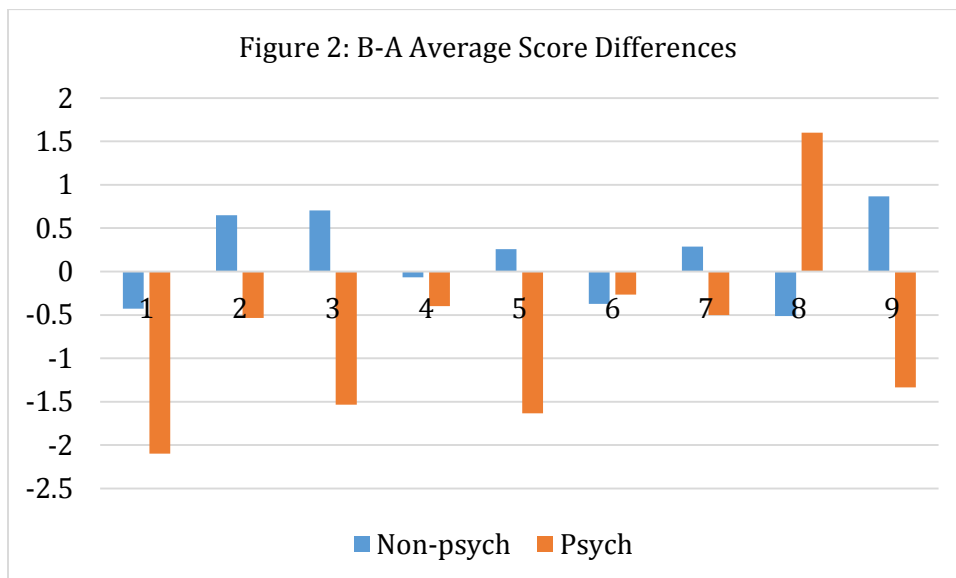
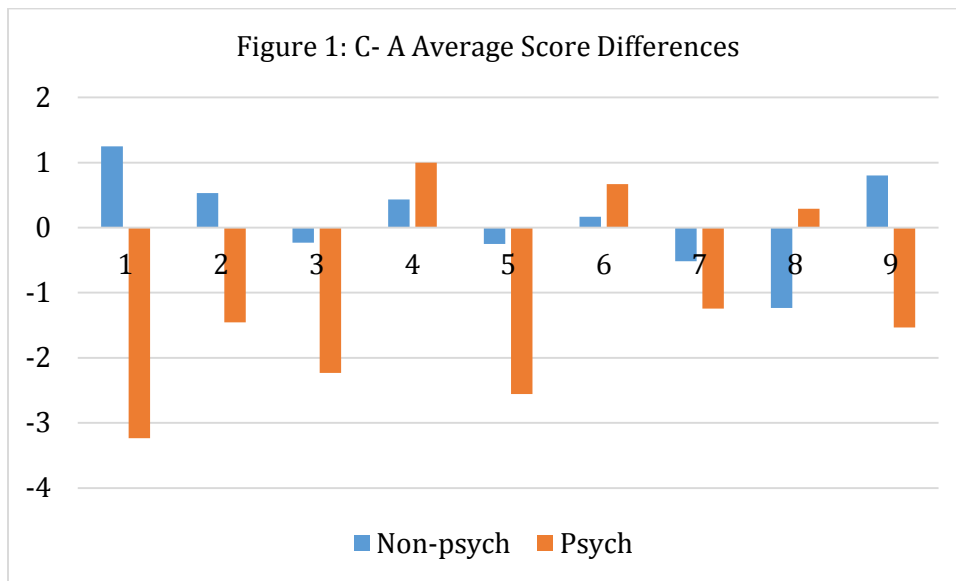
Table 5: Alexandrian Inventory Results<sup>2</sup>

While none of the differences in average scores were statistically significant in two-tailed t-tests, the survey results suggest the possibility that the lecture was better at stimulating global empathy than the online simulation or the news videos—a finding that contradicts our hypothesis. However, average scores on some of the survey's questions changed radically once forty-nine students enrolled in a research methods course participated in the experiment. These students were all psychology majors and had all completed at least two semesters of college. The initial group of experimental subjects consisted of seven global studies majors in their senior year and forty-nine students in their first-semester of college.

As shown in Figures 1 and 2, the differences in average scores for the psychology majors were often strongly negative, while the average scores for other students were often slightly positive. For psychology majors, survey scores were much higher for the lecture condition than in

<sup>2</sup> One student in the experiment, exposed to condition C, did not submit survey responses.

the video or game conditions. None of the differences in average scores for either group of students were statistically significant when subjected to a two-tailed t-test.



### Conclusions

Given the results of our experiment, we have no firm conclusions about what our investigation reveals. The data suggests that different instructional techniques might be associated with different affective outcomes for students of different ages and academic majors, yet the validity of the methods used to assess these outcomes might also vary by type of student. For

example, the largest negative differences in average scores—of over two points—occurred among psychology majors on survey questions 1, 3, and 5. These questions asked students about their willingness to spend time interacting with people who are culturally different from themselves. Perhaps psychology majors perceive themselves as too busy to engage in these activities whereas other students do not.

It seems obvious that any instructor who seeks to produce an emotional response in his or her students as an intentional learning outcome needs to be aware of which teaching methods are most likely to achieve this outcome and which assessment instruments are most likely to record its achievement by particular student populations. Doing so necessitates that instructors first know what kinds of students—in terms of characteristics such as socioeconomic status, ethnic identification, and field of study—populate their classrooms. At many colleges and universities, this information is not provided to faculty in an effective manner.

Similarly, the results of the Alexandrian Inventory weakly suggest that providing some students detailed factual information about the historical context of current social conditions—in this case, Haiti's origins as a slave colony and post-independence interference in the country's economy and government by foreign powers—might increase their empathy toward others whose cultural backgrounds and perspectives are different. For other students—perhaps those in their first semester or two of college—brief exposure to a body of factual information through lecture might make them less tolerant of others, perhaps by making them more self-assured in the validity of their own perspectives. In this situation, classroom instruction that includes the use of video or simulations might be more beneficial than lecture alone. It should be stressed, however, that these explanations are mere conjecture given the lack of statistical significance in the experiment's results.

Second, proponents of simulations and games claim that their immersive and participatory environments are more effective than “passive” lectures at generating affective outcomes (Fisher

2008; Waren 2011; Bachen et al. 2012; Mariani and Glenn 2014). This study finds no clear evidence to support this claim.

Our last conclusion is about engaging in experimental research. Our university has a small undergraduate enrollment and advertises itself as a post-secondary educational institution that prioritizes effective teaching. Yet research of this type is rare on campuses like ours. Building a sufficient sample size requires using students in courses taught by other people, which creates an opportunity cost for all faculty members involved. Occupational and financial incentives for faculty to research teaching effectiveness, whether on their own or in partnership with students or colleagues, are frequently meager or non-existent. Faculty members at many colleges and universities must overcome significant barriers to investigate whether they are in fact meeting institutionally-imposed pedagogical standards.

## Appendix A: Alexandrian Inventory

1. I am willing to spend \_\_\_\_\_ hours per month eating breakfast, lunch, or dinner with students from other countries whose cultural backgrounds are different from my own.

10 9 8 7 6 5 4 3 2 1 0

2. I sometimes try to understand people better by imagining how things look from their perspective.

10 = Strongly Agree 9 8 7 6 5 4 3 2 1 0 = Strongly Disagree

3. I am willing to spend \_\_\_\_\_ hours per month on a project run by a student organization at Salve that has the goal of improving the economic, political, or social circumstances of people in another country.

10 9 8 7 6 5 4 3 2 1 0

4. Sometimes I tend to ignore the feelings of other people when they are having problems.

10 = Strongly Agree 9 8 7 6 5 4 3 2 1 0 = Strongly Disagree

5. I am willing to spend \_\_\_\_\_ hours per month on a project sponsored by a student organization at Salve to promote the rights of people in another country.

10 9 8 7 6 5 4 3 2 1 0

6. I prefer letting other people take responsibility for solving global or international problems.

10 = Strongly Agree 9 8 7 6 5 4 3 2 1 0 = Strongly Disagree

7. When I see someone being taken advantage of, I often feel concerned or protective toward them.

10 = Strongly Agree 9 8 7 6 5 4 3 2 1 0 = Strongly Disagree

8. If I'm sure I'm right about something, I tend to concentrate on my perspective instead of listening to other people's opinions.

10 = Strongly Agree 9 8 7 6 5 4 3 2 1 0 = Strongly Disagree

9. I am willing to spend \_\_\_\_\_ hours per month attending campus events such as Pell Center lectures to learn about people in other countries whose cultural backgrounds are different from my own.

10 9 8 7 6 5 4 3 2 1 0

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