PEDAGOGY AND THE DISCIPLINE

Building Knowledge? Evaluating the Effectiveness of the Global Problems Summit Simulation

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This paper is an initial attempt to evaluate the effectiveness of the Global Problems Summit, a simulation exercise developed for the international studies classroom over 10 years ago. We first situate the simulation exercise within the wider literature on active learning techniques and discuss how the Global Problems Summit can be used as a learning tool to introduce international relations students to issues and processes that underlie diplomacy and negotiations. The paper then assesses the pedagogical value of the simulation based on data from an experimental research design. We test whether students who participated in the summit demonstrated a statistically significant level of increased knowledge about these issues compared with control groups who learned the same material in a traditional classroom (lecture/discussion) format. The paper concludes that while both the Global Problems Summit and traditional lecture environments promote learning, they have a significantly different impact on the types of knowledge that students gain from the experience.

Keywords: active learning, simulation, assessment, Global Problems Summit

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The Simulations Literature

Classroom simulations are designed to place students within a representation of a real environment where political or social interactions occur. According to Smith and Boyer, “simulations have the power to recreate complex, dynamic political processes in the classroom [and have great value] . . . allowing students to examine the motivations, behavioral constraints, resources, and interactions among institutional actors” (1996:690). Simulations usually include structured interactions and negotiation among students, and as a result are often very useful in teaching about policy making, decision-making processes and negotiation and bargaining (Lantis, Kuzma, and Boehrer 2000). In some cases, simulations are designed to produce “winners” and “losers,” measured by political support for preferred outcomes. In other situations, simulations can be used to generate less defined, and more experiential, learning outcomes consistent with educational objectives.

While the use of simulations in the international relations classroom is not new, the discipline has experienced renewed interest in role-playing simulations as innovative teaching tools over the past 10–15 years (Endersby and Webber 1995; Kaarbo and Lantis 1997; Lantis, Kuzma, and Boehrer 2000). Fascinating work has been published on classroom simulations of the European Union (Van Dyke, DeClair, and Loedel 2000; Zeff 2003), the Bosnian War Crimes trials (Jefferson 1999), the General Agreement on Tariffs and Trade (Lowry 1999), the United Nations system (McIntosh 2000; Shaw 2004; Chasek 2005), and other international proceedings (Lantis 1998; Boyer 2000; Kille 2002).

Simulation advocates contend that these exercises enhance the educational experience. They promote the value of these exercises in promoting critical thinking and analytical skills, providing students with a deeper level of insight into the dynamics of political exchange, promoting oral and written communication skills, and building student confidence (Smith and Boyer 1996; Brock and Cameron 1999; Newmann and Twigg 2000; Caruson 2005). Given broader trends in the discipline, it also seems appropriate to employ problem-solving exercises and other innovative projects to foster “constructivist learning environments” (Brown and King 2000:245). Recent literature has focused on the value of the exercises in generating empathy and a broader understanding of contending perspectives toward controversial issues (Morgan 2003). Finally, advocates ground claims about retention in theories of learning drawn from the fields of education and psychology (Clark and Paivio 1991; Martin 1993; Banikowski and Mehring 1999).

Designing the Global Problems Summit

It was in this spirit that one of us (Lantis) created the Global Problems Summit in 1995. The simulation represents an alternative to the complexity of some commercially available simulations and can be easily incorporated into international relations courses (Lantis 1996, 1998). The simulation allows a contemporary focus on issues and reflects dynamics of real world summits organized around issues such as the environment, population, proliferation, and the status of women. The design can be as up-to-date as the evening news, and it can be easily adapted for a variety of courses and levels.

While educational objectives vary as a function of simulation design and setting, the Global Problems Summit presents students with a unique opportunity to experience the real-world successes (and failures) of international diplomacy. The summit design was influenced by the author’s own participation in Model United
Nations programs, but key differences include the empowerment of students to authorize changes in government policy and a simplified rules structure. Furthermore, summit diplomacy is not bound by constraints typical of UN institutions and processes. As they work with other delegates to reach a preferred outcome in the form of a conference resolution, students gain important insights about the complexities of international politics and they experience the process of global problem solving firsthand. Resolutions must receive an oversized majority of support to pass, promoting the construction of coalitions and integrative and distributive bargaining. The summit is also structured to educate students about the issues on the agenda, different country perspectives on these issues, and how to communicate effectively within the context of specific rules of procedure. The summit functions as a vehicle to move students from theoretical discussions in the classroom to real-world experience.

The choice of issues for the official agenda at the Global Problems Summit is also a direct function of educational objectives. Issues such as the proliferation of weapons of mass destruction and economic development assistance are popular choices and are very much in the news. The proliferation agenda theme, for example, could be tied to a real world Nuclear Nonproliferation Treaty Review Conference, completion of the Comprehensive Nuclear Test Ban Treaty, or debates about rogue state challenges to the international nonproliferation regime. Throughout any academic term, students are able to monitor real-world developments and relate them to their summit strategies.

The summit is designed to promote personal understanding of the complexity of international problems and negotiations and the long-term retention of this knowledge. While some tradeoffs are made on the breadth of material covered in the course, simulations are proven to enhance knowledge and promote learning. In fact, while students recall only 10% of what they read and 20% of what they hear, they remember 90% of their actions and statements combined (Dale 1969:108; Stice 1987:296).

Simulations should also provide a specific set of roles for students to adopt. For the artificial reality of the Global Problems Summit, students are allowed to choose from a controlled set of countries to be represented in negotiations. Student choices range widely, and almost all students receive their first or second preferences. Once students receive their role assignments, they are given a number of suggestions about how to research their roles. Students may make direct contact with embassies and consulates, the State Department, and the Congressional Research Service; others have conducted interviews with international students on campus; and many discover a wealth of information in government document archives, or at relevant sites on the World Wide Web.

Balance is a key theme in the assignment of roles for most simulations. This manifests itself in two ways for the Global Problems Summit. First, the controlled set of countries to be represented at the conference should be balanced to provide a variety of perspectives, or sides, for debates on the issues on the agenda. Second, students may be told they cannot represent countries at the summit from which they themselves originate. International students and U.S. citizens enrolled in the class are thus required to take on the perspectives of countries that are often quite different from their own. This has created situations, for example, where U.S. citizens have played the roles of countries like Cuba and North Korea, while students from Kenya and India have played roles as the United Kingdom and Russia. Scholarship on international relations simulations justifies this type of balance as a valuable sensitizing tool.

Background information is also an essential part of the simulation design. In preparation for the Global Problem Summit, students are given a preliminary agenda that lists the theme or themes to be discussed. The agenda also includes a simple list of questions that could be addressed at the summit. For example, a
proliferation focused summit agenda might ask whether diplomats should modify existing treaties on nonproliferation, how to approach these revisions, or even whether states might support a Global Zero treaty for weapons of mass destruction. The idea of a Global Zero treaty, forcing all states to eliminate their nuclear arsenals, is especially provocative. Students are directed to conduct research on their country’s positions on these issues, and the agenda also becomes the focus for class discussion of the politics of the global proliferation and development problems. As student participation in the summit is required, they are encouraged to carefully research their positions in advance. In sum, every effort should be made to provide students with a strong base of information about these issues.

Simulation Rules, Review, and Debriefing

Experts on simulation design stress the importance of a clear rules structure. Not only do rules help to guide participants toward the educational objectives, but they simplify and order the decision-making process. For the Global Problems Summit, student delegates are given a relatively simple set of ten rules of procedure that help to structure formal debate and focus the process of creating conference resolutions.¹ A rules briefing is also given in class; the instructor reviews each rule and its purpose, and suggests how each might be used during the conference. The rules of procedure allow for summit time to be divided between formal debate and caucus time. During formal debate, the rules are in force—delegates make speeches, respond to questions, and introduce and debate resolutions to these problems. In caucus periods, delegates meet informally with each other to debate and design resolutions.

For a summit resolution to be an effective solution, an oversized majority (two-thirds) of member states have to agree on and vote for the proposed solution. The mechanism for gathering support for the resolution is the “working paper”—a short outline of a country’s perspective on the issues, which could serve as an outline for a final resolution. Once the delegate believes that s/he has enough international support, the working paper could be converted into a resolution by adding appropriate wording and gathering the signatures of five member states. Students are reminded that working papers were individual efforts, but that resolutions required a great deal of negotiation and compromise.

To complement the rules of procedure, students are also given several important rules of protocol for the summit. Delegates are given country placards that they can raise to gain the attention of the chairperson. They are encouraged to refer to one another in a formal manner and to adopt the formal dress style of their country. Students are also asked to show respect for all speakers in formal debate and good behavior during informal debate and caucus. This protocol is designed to provide a level playing field for the delegates at the conference, and Gump and Woodworth (1987) point out that certain rules (which they term “police rules”) help to keep participants within the bounds of reality defined by the conference. Throughout the course of the summit, students are regularly reminded of the importance of accurate representations of their country interests; the coordinator and assistants monitor the caucusing periods and draft resolutions with this in mind. While students may make creative reference to side payments, they are actively discouraged from drifting too far from their assigned roles and perspectives. The few, simple admonitions included in the rules packet and feedback from the instructor and peers have been enough to assure compliance and a fair degree of accuracy in representation on the part of students.

¹The Rules of Procedure for the Global Problems Summit have previously been published elsewhere by Lantis (1996). They are also available at http://www.wooster.edu/polisci/mkrain/gps.html
A final, essential element of simulations is debriefing. This often provides necessary closure and an opportunity to discuss individual and group experiences. Scholars note that this type of analysis is particularly important because experiential learning frequently occurs after, rather than during, an exercise (Syler, Gosche, and Lueders 1997; Cooper 1998; Lantis 1998; Mooney and Edwards 2001; Sutcliffe 2002). Without reflection, students may see the activity as isolated event, rather than an opportunity for systematic observation and analysis (Lipka 1997). Therefore, following the Global Problems Summit students participate in two levels of evaluation and analysis. We direct a discussion session in which students respond to and reflect on specific questions about their experiences. Questions include: Which resources were most useful in the negotiations? Why did students support or oppose specific resolutions? What surprised students about caucus dynamics? The second part of the debriefing includes a written evaluation form with closed- and open-ended questions.

Testing the Educational Value of Simulations

For a decade, we have joined with other instructors in international studies in the development and application of active teaching and learning approaches—and in disseminating our ideas through academic journal articles, books, and conference papers. It has been our conviction that the Global Problems Summit achieves key educational objectives, including giving students a deeper understanding of (and empathy for) the complexities of the global problem solving process. Indeed, this is borne out in results from a series of subjective assessment tools at our institution and others including debriefing sessions and written evaluations. In debriefing sessions, students have reported that the summit gave them a better understanding of the preferences of countries that they represented, and of the overall complexity of the global problem solving process. The summit has visibly helped students to refine their negotiation, critical thinking, and communication skills. Students have experimented with a variety of interesting negotiation techniques in their efforts to build support for resolutions. Most often, students have employed integrative bargaining strategies in caucus meetings where they bargain for coalitions in support of palatable resolutions on global issues. Students have also experimented with distributive bargaining techniques such as the use of concessions and side-payments.

However, as the discipline considers a variety of innovative educational tools, it is also important to encourage a more systematic assessment of the effectiveness of these efforts in the classroom. To date, very few studies confirm our experiences (and convictions) that such exercises are truly effective methods for teaching political science and international relations.

That is not to say that simulations and other active learning strategies have remained untested in other disciplines. Indeed, scholars in the field of education have spent years rigorously testing and demonstrating the efficacy of active learning approaches to pedagogy. Studies consistently show that active learning approaches increase student comprehension (Jensen 1998), enhance student problem-solving skills (Bransford, Franks, Vye, and Sherwood 1989; Lieux 1996), and increase the retention rates (Stice 1987; Schachtler 1996; Silberman 1996; Hertel and Millis 2002). In particular, material learned through active learning exercises that tap into multiple senses and emotions and create “memorable events” have been found to create more enduring, more easily recalled memories (Clark and

Moreover, because students run the risk of seeing the phenomena represented in the role play situation as overly simplistic, it is also important to use this time to compare the artificial nature of the model, and how and where its representation differs from reality (Zeff 2003).
Paivio 1991; Jensen 1998; Banikowski and Mehring 1999). Moreover, active and experiential learning generates or enhances personal interest in a subject (McKeachie 1986; Lieux 1996; Newmann and Twigg 2000). To date, however, the possible benefits of active learning in political science and international relations have remained generally untested in any rigorous fashion. Indeed, the literature on simulations tends to be dominated by either detailed classroom-ready examples absent any evaluation (Jefferson 1999; McIntosh 2001; Shellman 2001; Chasek 2005), anecdotal analysis of student reflections (Duffy 2001), or analysis of students’ subjective assessments of the benefits of active learning exercises (Endersby and Webber 1995; Kaarbo and Lantis 1997; Dougherty 2003; Zeff 2003; Shellman and Turan 2006). In a review of the literature on active learning approaches in political science, Smith and Boyer (1996:693) note that there is much anecdotal evidence to support the idea that experiential learning methods promote “greater depth of understanding and higher levels of retention . . . generating enthusiasm for learning,” yet they also note that there is surprisingly little systematic empirical evidence to support these claims. As Rochester (2003:2) argues, “Perhaps the claims made for the new progressive pedagogical paradigm are valid, but we should insist on no less rigorous empirical evidence for judging competing hypotheses in education than we do in our scholarly disciplines.” In response to this call, this study aims to develop a more rigorous (and replicable) test of the effectiveness of experiential learning and its merits relative to traditional techniques.

Methodology

This study tests the effectiveness of the Global Problems Summit as a pedagogical tool, and assesses the comparative effects of active learning versus more traditional classroom techniques. Experiments to determine these results were conducted over the course of one academic semester in two separate sections of Introduction to International Relations (each taught by one of the paper’s co-authors). One section of the course acted as the experimental group, learning the material by engaging in active learning, via the Global Problems Summit. The other section of the course acted as the control group. The control group was taught using a lecture format for information delivery, and discussion to assess understanding and retention, as well as to allow for deeper exploration of the issues. The professor teaching the control group took care to introduce the same material as would be covered by the experimental group in the Global Problems Summit. The other section of the course was designed to cover the same material as would be covered by the experimental group in the Global Problems Summit. This was done in order to ensure that both experimental and control groups received the same information via different teaching and learning techniques.

\[3^\text{It is also important to note that active learning techniques enhance student enjoyment of their educational experience (Dedeke 1999). This can have significant impacts on student satisfaction with their overall educational experience (Schmidt, Dauphinee, and Patel 1987; Albanese and Mitchell 1993; Leonard and Leonard 1995; Shellman and Turan 2006), attendance (Lieux 1996), and even student retention rates (de Vries, Schmidt, and de Graaf 1989).}

\[4^\text{This problem exists in other disciplines as well. See for instance Keys and Wolfe (1990) and Anderson and Lawton (1997) for discussions of problems related to research on the utility and effectiveness of business and management simulations.}

\[5^\text{A few unfortunately rare examples exist of rigorous empirical assessment of the benefits of specific active learning techniques for student knowledge acquisition in political science and international studies. For example, Brown and King (2000) found that the use of the computer-based ICONS simulation had a positive statistically significant effect on student knowledge of and interest in the subject matter. Even rarer are systematic empirical assessments of the comparative benefits of active learning and traditional classroom teaching techniques in political science. Examples include a study done by Krain and Shadle (2006:1), which found that students participating in the Hunger Banquet, an active learning role-play exercise, “clearly demonstrated a statistically significant level of increased knowledge about world hunger . . . [and] a greater degree of knowledge acquisition than students who learned the same material in a traditional classroom format.”}
Moreover, we conducted two sets of experiments. In one experiment the second author’s class acted as the experimental group, learning about issues of nuclear proliferation by engaging in a Global Problems Summit focused on negotiating a hypothetical Global Zero nonproliferation treaty, while the first author’s class acted as the control group, learning the material on nuclear proliferation through more traditional classroom techniques. In the other experiment, the first author’s class acted as the experimental group, learning about war crimes and torture by engaging in a Global Problems Summit focused on negotiating a hypothetical change to the Convention Against Torture (CAT), while the second author’s class acted as the control group, learning the material on war crimes and torture through the lecture/discussion approach. This allowed us to control for possible differences in outcome that might result from having different instructors teach the two sections.

With each group we employed a pre-/post-test experimental design to determine the impact of the pedagogical technique on student learning. In the pretest, students were given a six question multiple choice quiz designed to see how well they understood the nature and scope of the issue. Pretests were conducted at the start of the first class related to the issue to be taught—after students had read the required reading, but before the material was taught. This enabled us to control for the effects of learning by reading relevant materials on the topic.

In the posttest, students received a quiz containing the same questions from the pretest, with the order of the possible answers altered. Post-tests were administered at the start of the class session immediately following the 3-day period in which the material was taught. Changes in student performance on the quiz act as a more objective assessment of knowledge acquisition as a result of their experience learning the material. Both pre- and posttest also contained five questions asking students to self-assess their level of knowledge about the topic. These questions asked students to self-assess their knowledge or agreement with particular issue positions on a scale of 1-5 (with 1, “not much” and 5, “quite a bit”). Changes in student answers on this self-evaluation provide additional, if more subjective, assessment of the pedagogical technique’s effectiveness at achieving its educational goals.

Data Analysis

Experiment #1: Weapons Proliferation and Arms Control

For this experiment, the second author’s class acted as the experimental group, while the first author’s class acted as the control group. Both classes were assigned the same readings on the issue of weapons proliferation and arms control agreements. While the control group was taught about the issues over the course of three class sessions via the lecture/discussion format, the experimental group participated in a 3-day Global Problems Summit simulating international negotiations over a Global Zero disarmament agreement.

Students in the experimental group (n = 24) correctly answered an average of 4.38 out of six questions on the quiz (SD = 1.10) in the pre-test. In the post-test, the same students improved their scores to an average of 5.25 out of six questions answered correctly (SD = 0.99). Paired samples difference of means t-tests reveal that participation in the Global Problems Summit did have a statistically significant

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6While a longer quiz might have been a better tool to measure student understanding, we judged that students might not be willing to answer anything that looked too much like a test, or anything that took too much time.

7Both experimental and control groups were assigned the identical readings before the relevant class sessions.

8The evaluative instruments for this study (pre- and post-test quizzes) can be found at http://www.wooster.edu/polisci/mkrain/gps.html
positive effect on student performance on the quiz \( t(23) = 2.732, p < .01 \). The Global Problems Summit did indeed help students learn about weapons proliferation and arms control.

Students in the control group \( (n = 26) \) answered an average of 3.35 out of six questions correctly \( (SD = 1.55) \) in the pre-test. In the post-test, the same students improved their scores to an average of 4.73 out of 6 correct answers \( (SD = 1.15) \). Paired samples difference of means t-tests show that the more traditional lecture and discussion experience had a statistically significant positive effect on student performance on the quiz \( t(25) = 3.563, p < .01 \). Like the active learning exercise that the experimental group experienced, the more traditional pedagogical approach helped students learn about weapons proliferation and arms control.

When asked to evaluate their own level of knowledge, students in the experimental group experienced a significant increase in their perceived level of understanding of proliferation issues \( t(23) = 2.901, p < .01 \), knowledge of specific countries’ positions on the issues \( t(23) = 4.978, p < .01 \), and understanding of how countries negotiate at the international level \( t(23) = 2.937, p < .01 \). In comparison, when asked to evaluate their own level of knowledge, students in the control group also experienced a significant increase in their self-reported level of understanding of proliferation issues \( t(25) = 3.831, p < .01 \). However, the traditional classroom techniques appeared to have no significant effect on their perceptions of their knowledge of either specific countries’ positions on the issues \( t(25) = 1.949, p = .06 \) or how countries negotiate at the international level \( t(25) = 1.127, p = .27 \). Both techniques appear to give students confidence in their overall level of knowledge acquisition, but the active learning approach, as expected, also appears to have enhanced their understanding of the actors’ preference and the complexity of the processes involved, where the lecture/discussion format did not.

The t-tests above demonstrate that both active learning techniques and more traditional pedagogical techniques produce statistically significant positive effects on actual student learning about issues of weapons proliferation and arms control. In addition, both groups also perceived that they had learned from their experiences. However, students reported that they perceived a positive change in their level of understanding of key details such as country positions and the process of negotiations thanks to the active learning exercise, where no such benefit is found for students learning via the more traditional classroom model. This begs the question as to whether the Global Problems Summit had a greater effect on student learning, and on student perceptions of whether their knowledge increased, than did the more traditional lecture/discussion format.

Difference of means t-tests for independent samples shows that there was no statistically significant difference between the final quiz grades of the experimental and control groups \( t(47.770) = 1.715, p = .09 \). Interestingly, there is also no significant difference in student perceptions of their own knowledge acquisition \( t(47.989) = 1.203, p = .24 \). However, students who experienced the Global Problems Summit perceived that they had acquired a more enhanced understanding of countries’ positions on the issue of proliferation than did their counterparts in the control group \( t(46.337) = 2.425, p < .05 \). Overall, this experiment suggests that while each technique produces learning, neither produces greater knowledge gains

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9We used paired samples t-tests in this study in all instances where the samples being compared are scores for the same group before and after the introduction of the stimulus (the learning experience). In these instances, the pre- and post-test scores are “paired” for each person surveyed. Observations and groups being compared are not independent of each other, making an independent samples t-test inappropriate.

10In these comparisons we employed independent samples t-tests for these comparisons because the observations and groups being compared are independent of each other. See note 10 above.
than the other. Yet the latter piece of evidence suggests that the active learning technique and the lecture/discussion approach may affect student learning in different ways.

**Experiment #2: Torture and Crimes of War**

For this experiment, the first author’s class acted as the experimental group, while the second class acted as the control group. Both classes were assigned the same readings on issues of war crimes and the use of torture. While the control group was taught about the issues over the course of three class sessions via the lecture/discussion format, the experimental group participated in a 3-day Global Problems Summit simulating negotiations to renegotiate elements of the CAT.

Students in the experimental group \( (n = 27) \) answered an average of 3.33 out of six questions correctly on the quiz (SD = 1.27) in the pre-test. In the post-test, the same students improved their scores to an average of 4.19 out of six questions answered correctly (SD = 1.18). Paired samples difference of means t-tests reveal that participation in the Global Problems Summit had a statistically significant positive effect on student performance on the quiz \( t(26) = 2.414, p < .05 \). The Global Problems Summit was successful in enhancing student knowledge about war crimes and the issues associated with use of torture.

Students in the control group \( (n = 22) \) answered an average of 2.82 out of six questions correctly (SD = 1.05) in the pre-test. In the post-test, the same students improved their scores to an average of 3.73 out of six correct answers (SD = 1.39). Paired samples difference of means t-tests show that the more traditional lecture and discussion experience had a statistically significant positive effect on student performance on the quiz \( t(21) = 2.373, p < .05 \). The more traditional pedagogical approach apparently also helped students learn about war crimes and the issues associated with use of torture.

When asked to evaluate their own level of knowledge, students in the experimental group did not experience a significant increase in their perceived level of understanding of issues related to war crimes and the use of torture \( t(26) = 1.37, p = .18 \), but did report a significant increase in their perceived knowledge of specific countries’ positions on the issues \( t(26) = 2.850, p < .01 \). In comparison, when asked to evaluate their own level of knowledge, students in the control group also reported a significant increase in their perceived knowledge of specific countries’ positions on the issues \( t(21) = 3.69, p < .01 \). Yet unlike the students in the experimental group, the control group also reported a significant increase in their perceived level of understanding of issues related to war crimes and the use of torture \( t(21) = 4.06, p < .01 \).

The paired sample t-tests above demonstrate again that both active learning techniques and more traditional pedagogical techniques produce statistically significant positive effects on actual student learning, only this time about issues related to war crimes and the use of torture. In addition, both groups also perceived that they had learned about different countries’ positions. However, students reported that they perceived a positive change in their overall understanding of the issues thanks to the more traditional approach, where students exposed to the active learning model report no such learning. This once again raises questions about the effectiveness of the simulation for student learning, and on student perceptions of whether their knowledge increased, than did the more traditional lecture/discussion format.

Difference of means t-tests for independent samples show that there was no statistically significant difference between the final quiz grades of the experimental and control groups \( t(41.400) = 1.229, p = .23 \). There is also no significant difference in student perceptions of their own knowledge acquisition \( t(46.743) = 1.707, p = .10 \). Interestingly, there was also no statistically significant difference in student
perceptions of their understanding of different countries’ positions \( t(43.740) = 1.328, p = .19 \). Indeed, the only significant difference between the experimental and control groups appears to be that students who learned about issues related to war crimes and torture via the Global Problems Summit were less likely to support relaxations on the prohibition against the use of torture than were their counterparts in the control group \( t(42.454) = 2.159, p < .05 \). Overall, this experiment suggests that while each technique produces positive significant effects on knowledge acquisition, neither produces greater knowledge gains than the other. However, it also suggests that the active learning technique and the lecture/discussion approach affect student learning, perceptions, and attitudes in different ways.

Conclusion

Our initial attempts to assess the relative effectiveness of the Global Problems Summit and more traditional lecture/discussion techniques have consistently found that both pedagogical approaches produce statistically significant positive effects on student learning, regardless of instructor or issue area. These results confirm the suspicions of advocates of the more traditional model that the lecture/discussion approach remains an extremely effective means of teaching students in political science and international relations classes. The results also confirm the assumptions of advocates of active and experiential learning approaches that these pedagogical tools yield significant increases in student knowledge acquisition. However, these results do not suggest that one approach is inherently superior to the other. Instead, as we note below, we suspect that different approaches yield different kinds of learning. This would seem to represent an avenue ripe for further research.

The evidence presented here suggests that role-playing simulations such as the Global Problems Summit may be particularly well suited for helping students to go beyond the boundaries of their own locales and experiences, and to develop empathy. Both groups in the first experiment saw significant increases in their perceived understanding of other countries’ positions on the issue of weapons proliferation. However, the experimental group’s gains in this area were significantly greater than those of the control group. Assessment of the more subjective elements of our study also suggests a possible link between simulation participation and an increased understanding of the importance of the ability to think beyond one’s own experience. These conclusions are consistent with Morgan’s perspective that active learning exercises allow “subjective, intersubjective, and contested understandings” to impact on their outcomes. This also raises fascinating questions about the value of contending “theories of knowledge” such as constructivism in shaping state behavior—and representations thereof in active learning simulations (Morgan 2003:351).

If true, this would also help explain why students in the experimental group of the second experiment (torture issues) were less likely to be willing to relax the

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11Moreover, the results suggest that, in choosing between active learning approaches and more traditional pedagogical techniques, instructors are not faced with a tradeoff between process learning versus content learning. Instead, based on the experimental results, and on the analysis of student self-assessment questions, we suspect that while both approaches lead to knowledge acquisition gains, active and experiential learning techniques may be better at helping students put themselves in the place of the actors making policy choices. Thus, instructors wanting to employ this simulation need not fear content knowledge loss at the expense of enhanced process understanding. We owe this point to one of the anonymous reviewers of this article.

12It should also be noted that, as with the first experiment, both the experimental and control groups in the second experiment also reported a significant increase in their perceived understanding of other countries’ positions on the issue of the use of torture, though this time neither group saw dramatically different gains in this area.

13For instance, during debriefing students reported that the summit gave them a better understanding of the preferences of countries that they represented, and of the overall complexity of the global problem solving process. Our observation also suggests that the simulation had a noticeable effect on students’ critical thinking and communication skills, and ability to quickly master the art of negotiation and bargaining.
restrictions on the use of torture in the service of national security. Indeed, during
the debriefing session following the simulation, many students in the experimental
group noted that the experience highlighted for them the moral dilemmas inher-
ent in the debate over the legality and appropriateness of use of torture to enhance
national security. They also noted in their answers to open-ended questions on the
post-test that as a result they often found themselves at odds with the positions of
the countries they represented. Many resolved this dilemma by attempting to put
themselves in the role of the country they represented. As one student noted: “You
had to remember that you were representing an entire country, not just yourself.”
Regardless, most acknowledged the competing moral imperatives of state and in-
dividual security, and were disappointed to find that when faced with that dilemma,
“countries consider state sovereignty more important than a ban against torture.”

Finally, it is important to note that valuable lessons were learned through this
experience. While the study yielded significant results in terms of the effectiveness
of both approaches to enhance student learning, more focused investigation may be
possible. Ideas to strengthen future studies would include multiple runs of compa-
patible designs, across several semesters and multiple sections. In addition, it
might be possible to develop a stronger pre- and post-test format for future ex-
ercises incorporating a wider range of themes.

In summary, while both active learning techniques and more traditional class-
room techniques can be effective in helping undergraduates increase their knowl-
edge about global issues, the Global Problems Summit helped boost student
understanding of some of the broader dimensions of international cooperation.
This finding adds empirical evidence to bolster claims made by proponents of active
and experiential learning. Not only did students enjoy the simulation and believe
that it helped them to relate better to what otherwise might feel like distant and
abstract global problems, but they also gained knowledge as demonstrated by rig-
orous and objective assessment techniques. Accordingly, we encourage others to
follow even more rigorous replicable experimental designs to promote a cumu-
lative understanding of the significance of active teaching and learning approaches
in the discipline.

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