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Understanding Student Engagement During Simulations in International Baccalaureate Global Politics

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Purpose of the Study

To what extent do students value participating in classroom simulations and games? Simulations, games, and the process of gamification—the use of game mechanics or operations in order to solve real-world problems—have become an important part of contemporary public discourse. Articles describing the ways in which businesses, firms, and governments construct games to influence individual behavior and learning are found in leading periodicals (Cavanaugh, 2013; NPR, 2011; Singer, 2012). Policy-oriented journals and think tanks that focus on world politics have even recently published articles describing how simulations can be used to learn about complex geopolitical affairs (McCormick, 2013; Tucker, 2012).

While there are a variety of active learning and problem-based learning techniques that instructors may incorporate into their teaching practice, simulations and games have a distinctive role to play in the learning process. This study is concerned with the extent to which 11th grade students describe how participating in simulations engages their learning of the prescribed coursework topics in their International Baccalaureate (IB) Global Politics course. This concern is premised on existing research findings that incorporating simulations and games into the curriculum is highly successful towards fostering student interest and instilling meaningful understanding of global politics (Bachen, Hernandez-Ramos, & Raphael, 2012; Shellman & Turan, 2006; Yukhymenko, 2011).

Background

The International Baccalaureate has recently embarked on developing a Diploma Program course entitled IB Global Politics. This two-year course offers students the opportunity to investigate, participate in, and report on global issues and challenges within the frames of the global distribution of power, human rights, development, and international peace and conflict. As one of roughly two dozen instructors around the world who are participating in the initial phase of curriculum development and teaching pilot of the IB Global Politics course, I have the unique opportunity to both examine student learning in this course as well as report these findings to a wider audience of international educators. From this standpoint, this study examines the ways in which students in this course understand, analyze, and create new knowledge through active learning experiences inside and outside of the classroom. Specifically, this research examines how IB students perceive the value of simulations in relation to the learning outcomes in the IB

Global Politics syllabus (International Baccalaureate, 2013). This prescribed curriculum encapsulates the primary themes of the *Power, Sovereignty, and International Relations* unit of the course.

This research employs a mixed-methods system of data collection, relying on both survey questions and open-ended survey prompts to collect information from the students in IB Global Politics. A simulation is generally understood as an event, model, or scenario where individuals can imitate behaviors and processes that are analogous to other situations, especially as this relates to study or for training. While lacking a consensus definition of *simulation*, the scholarly literature does coalesce around the idea that simulations are junior versions of real world events—versions that are essential for authentic learning experiences (Perkins, 2009). *Student engagement* is defined as a student's perspective towards participation in their school coursework and activities. Student engagement can be a function of a student's behavioral, emotional, and cognitive capabilities (Fredericks, Blumenfeld, & Paris, 2004) as well as the student's relationship with the classroom instructor (Hattie 2003; Skinner & Belmont, 1993).

Literature Review

Student Engagement

Historically, research on engagement has evolved from studies that cataloged a student's time on task (Brophy, 1983), to addressing emotional and participatory engagement (Finn, 1989), social factors (Skinner & Belmont, 1993), and self-regulation in the learning process (Pintrich & DeGroot, 1990). Recent reviews of the literature suggest that student engagement can be understood from multiple perspectives: behavioral engagement as participation in all activities, emotional engagement as the degree of positive or negative reactions to individuals and groups in a school setting, and cognitive engagement as a student's level stake in the learning process (Chapman, 2003; Fredericks et al., 2004).

Student engagement is closely associated with models of authentic instruction. Newmann and Wehlage tell us instructional practices that encourage student learning consist of higher order thinking and deep knowledge. Such practices are connected to the world beyond the classroom, incorporating a high level of meaningful conversation, within a context of positive social support (1993, p. 9). There is no shortage of practical, school-based commentary on student engagement from a variety of standpoints. Strong, Silver, and Robinson find that engagement in work, schooling, or other activities satisfy the needs for success, curiosity, originality, and relationships (1995). Conner's survey of IB Diploma candidates at eight different schools finds that the cohort experience, rather than coursework or school structure, has an important explanatory factor towards student engagement in the IB Extended Essay (2009). In short, student engagement is a topic of continual research that can be understood from a variety of points of view.

Engagement and Simulations

Simulations have become a widely used pedagogical practice in the social sciences, particularly in courses related to international politics. In a dated review of the literature, Wheeler documents more than thirty refereed articles on the use of simulations in international politics courses (2006). When asked, students consistently report that their experiences in simulations, particularly those related to the study of politics, is an enjoyable one (Andrew & Meligrana, 2012; Giovanello, Kirk, & Romer, 2013; McIntosh, 2001; Rivera & Simons, 2008; Shellman &

Two themes unite the literature on simulations: a focus on constructivist pedagogy and the recognition that student participation in simulations is an engaging way to learn about international politics.

Turan, 2006). Simulations also provide the necessary conditions to foster behavioral engagement in students (Levintova, Johnson, Scheberle, & Vonck, 2011). Students' emotional investment and engagement is also a regular part of their participation in simulations (Baylouny, 2009; Giovanello et al., 2013; McIntosh, 2001). Simulations also provide the necessary cognitive engagement structures, particularly those that focus on crisis decision making such as Model United Nations, that are linked with enhancing student engagement (Frederking, 2005; Krain & Lantis, 2006; Pettenger, West, & Young, 2013; Shellman & Turan, 2006).

Simulations are at the heart of contemporary studies in politics at both the university and secondary levels. Model United Nations, perhaps the oldest and most widely known simulation used in social science classrooms, offers students the opportunity to hone their research, negotiation, conflict-resolution, and diplomatic skills towards producing resolutions to global problems (Manzo, 2007; McIntosh, 2001; Muldoon & Myrick, 1995). Hundreds of thousands of students around the world participate in national and international Model United Nations conferences such as The Hague International Model United Nations (THIMUN), National Model United Nations (NMUN), and National High School Model United Nations (NHSMUN). Indeed, a survey of listed Model United Nations programs yielded hundreds of events from around the world in the 2013-14 academic year (Best Delegate, 2013). The Program on Negotiation at Harvard Law School offers resources and in-person simulations on a wide variety of topics in international and domestic politics (President and Fellows of Harvard College, 2014). Web-based simulations and curricula such as the GlobalEd 2, Online Model United Nations (O-MUN), the ICONS project, and Statecraft have come to blend the analytical, deliberative, and reflective components of Model United Nations programs with online simulations and debates.

Academic scholarship on the use of simulations is as innumerable as there are students who participate in Model United Nations, ranging from meta-analyses (Wheeler, 2006) to advice on constructing simulations for classroom use and research (Asal & Blake, 2007; Glazier, 2011; McIntosh, 2001; Smith & Boyer, 1996). Two themes unite the literature on simulations: a focus on constructivist pedagogy and the recognition that student participation in simulations is an engaging way to learn about international politics. Constructivist pedagogy assumes that learners make sense of their world, and thus generate knowledge, through active social engagement. Asal and Kratoville assert that simulations serve as a link for students between theoretical understandings and existing facts on the one hand, and the student's perceptions and experience in the simulated activity on the other (2013).

There is staunch support that participation in simulations contributes to students learning the prescribed outcomes for their coursework. Students who participate in classroom and extracurricular simulations experienced augmented levels of substantive content knowledge and analytical cognitive skills (Frederking, 2005; Kahn & Perez, 2009; Shellman & Turan, 2006). Students who engage in simulations also learn and master content and skills that they would otherwise not learn in traditional formats (Krain & Lantis, 2006; Rivera & Simons, 2008).

Simulations offer collaborative learning environments that allow learners to connect across time and space, and engage on global topics in ways not available to conventional pedagogical approaches (Levintova et al., 2011; Pettenger et al., 2013). Simulations offer gateways to deep inquiry on complex problems from multiple perspectives,tapping into students' intrinsic motivation to foster meaningful behavioral, social, and cognitive engagement (Baylouny, 2009; Crossley-Froelick, 2010; Stover, 2006; Shaw, 2007). Finally, the use of simulations in classrooms is aligned with Newmann and Wehlage's model of authentic instruction insofar as simulations: (a) necessitate that students demonstrate higher order thinking skills to successfully participate in problem solving and negations; (b) have a deep set and range of knowledge about the topic under scrutiny; and (c) are a reflection of real world interactions. Additionally, substantive conversations should occur within the flow of simulation and especially during debriefing, and social support for engagement in the simulation should be provided by peers and the instructor alike.

Setting

This study focuses on the degree to which students see participating in simulations and games as an engaging way of learning the established outcomes and content for IB Global Politics. In order to investigate this problem, the nature and setting of the curricular environment needs to be explained. The IB Global Politics course syllabus is broken down into four required units, along with two optional units of Higher Level study for students to pursue independently. The compulsory units of study are *Power, Sovereignty, and International Relations*, *Human Rights*, *Development*, and *Peace and Conflict* (International Baccalaureate, 2013, pp. 24-28). The scope of this study focuses on the *Power, Sovereignty, and International Relations*. The four obligatory learning outcomes for the unit, key concepts, and the prescribed content and skills are summarized in Table 1 below (International Baccalaureate. 2013, p. 25).

Table 1

Learning Outcomes for Power, Sovereignty, and International Relations

Learning Outcome	Prescribed Content
The distribution, recognition, and contesting of power at various levels of global politics	Definitions of power; theories of power; types of power
The operation and legitimization of state power in global politics	States and statehood; the role of institutional contexts for operation and legitimization of state power
The function and impact of international organizations and non-state actors in global politics	Definition of civil society; international organizations, including the United Nations (UN); non-governmental organizations (NGOs), multinational corporations (MNCs), and trade unions; social movements, resistance movements, and violent protest movements
The nature and extent of interactions in global politics	Global governance; cooperation: treaties, collective security, strategic alliances, informal cooperation; conflict: interstate war, intrastate war, terrorism, strikes, demonstrations

Students engage in several case studies within this unit over a period of five months. These case studies offer students the opportunity to come to understand the learning outcomes by engaging a variety of pedagogical practices that focus on the prescribed content in the course. Generally, case studies are organized into a process whereby students encounter the content and apply their knowledge and skills by engaging in a set of concrete experiences, reflect on this experience, think about the experience, and finally engage in experiments and new experiences in light of their newly informed understanding. This organizational model is broadly consistent with Kolb's learning cycle insofar that learning is understood as "the process whereby knowledge is created through the transformation of experience" (Kolb, 1984, p. 38).

Participants

Twenty-two 11th grade students participated in study; twenty female students and two male students. Each student is a part of a single class section of IB Global Politics Higher Level, all of whom are in their first year of study at an international, independent school located in a suburban city in Broward County, South Florida in the United States. While this is an atypical gender distribution of most high school classrooms, the number of students in this class section is consistent with other IB Higher Level courses in this school setting. Within this cohort of twenty-two students, two are boarding students who live at the school and two are new to the school itself. The class itself meets for four hours per week, four days a week, Mondays, Thursdays, and Fridays for fifty minutes and Tuesdays for ninety minutes. The class meets in a single classroom as well as in the school's Learning Commons and occasionally participates in experiential learning trips outside the classroom throughout the year.

Methods

To review, the research question for this study is: What is the relationship between student engagement in a simulation and the prescribed learning outcomes in their unit of study? All of the variables, hypotheses, and methodological approaches in this study are defined in order to properly address this question. A survey instrument will be used to collect data for this study. Questions 3-11 are constructed using a five-point Likert-type model of question design—a hallmark of social science research. Despite the broad use of Likert-type survey designs, this approach is not without its shortcomings. Matell and Jacoby find that there are no statistically significant differences in reliability and validity based on the number of scales or options in Likert-type responses (1971). Gliem and Gliem caution that inferences drawn from a single item analysis of a Likert-type question are not reliable in drawing conclusions about a topic under scrutiny (2003). The methodology employed in this line of inquiry should be considered alongside these caveats.

The single independent variable (IV) in this study is that of student engagement. Student engagement is operationally defined as a student's perspective towards participation in their school coursework and activities. The student engagement variable, abbreviated as ENGAGE, is constructed as an ordinal level variable with the categorical labels of "Not engaged," "Somewhat engaged," and "Very engaged" as options for the survey respondents. There are four different dependent variables (DV) in this study, each of which is tied to a specific, prescribed learning outcome. Each of the dependent variables are ordinal level variables with categorical labels of "Strongly disagree," "Disagree," "Neither agree nor disagree," "Agree," and "Strongly agree" as possible responses for survey respondents. The first DV for the concept of power, abbreviated as

POWER, represents the learning outcome of "the distribution, recognition and contesting of power at various levels of global politics" (International Baccalaureate, 2013, p. 23). The second DV for the concept of legitimacy, abbreviated as LEGIT, represents the prescribed learning outcome of "the operation and legitimization of state power in global politics" (International Baccalaureate, 2013, p. 23). The third DV for the concept of sovereignty, abbreviated as SOVERGN, stands for the prescribed learning outcome of "the function and impact of international organizations and non-state actors in global politics" (International Baccalaureate, 2013, p. 23). The fourth DV for the concept of interdependence, abbreviated as INTDEP, reflects the prescribed learning outcome of "the nature and extent of interactions in global politics" (International Baccalaureate, 2013, p. 23). Information about each of the four DVs is spread out over two to three questions; this variation is a reflection of the prescribed learning outcome.

A mixed methodology was employed to answer the following research question: What is the relationship between student engagement in a simulation and the prescribed learning outcomes in their unit of study? Methods of empirical inquiry in the social sciences may vary between exclusively qualitative, exclusively quantitative, or a system of mixed methods. This difference is one of style rather than of substance, however, as all social science methodologies are premised on a similar logic of inference (King, Keohane, & Verba, 1994). Practical and action research guides to social research, including that in education, contend that mixed-methods research occupy a realistic middle ground for researchers to use in pursuit of their inquiries (Leedy & Ormrod, 2013; Mertler, 2012). From a pragmatic perspective, a survey offers the opportunity to analyze student engagement from a variety of perspectives. The approach used in this study is similar to a portion of the model employed by Shellman and Turan (2006), where the authors focus explicitly on student perceptions to support their argument that participation in simulations enhances learning in light of explicit objectives. Similar methodological designs are found throughout the literature (Andrew & Meligrana; Giovanello et al., 2013; Blum & Scherer, 2007; Frederking, 2005; Mariani, 2007; McIntosh, 2001).

Simulation

Tulia and Ibad is a three-team mediation over multiple issues that involves two or more representatives each of the fictional country of Tulia, the fictional country of Ibad, and the fictional Organization of African Unity (OAU), pertaining to a cease-fire between the two warring states (Ury, Ibrahim, & Fisher, 2012). The purpose of *Tulia and Ibad* is to allow participants to learn about the complexities, costs, and opportunities of negotiating a peaceful settlement to a dispute involving issues of power, sovereignty, legitimacy, and interdependence, all while considering the perspectives of multiple actors in world politics such as individuals, armed groups, states, and international organizations.

Students working in the Tulian delegation represent a country rich in natural resources, but poor when measured by per capita income. In addition, Tulian politics is dominated by an authoritarian dictator, one whose alleged violations of human rights put him on par with some of the worst dictators in modern history (Ury et al., 2012, p. 17). Students operating from the Ibadi delegation also represent a poor country, but one without the natural resources found in neighboring Tulia. Ibadi politics is described as far more stable and moderate than its neighbors in Tulia. However, Ibad does have designs on securing the natural resources in Tulia, even if it means relying on rebel forces or a full-scale invasion of the country. (Ury et al., 2012, p. 19).

Finally, students working as representatives of the OAU are tasked with serving as mediators between the two warring countries. In addition, students serving as OAU delegates are deeply concerned with violations of any African state's sovereignty, an issue that should be addressed in the negotiations with delegates from the other two parties (Ury et al., 2012, p. 21).

Simulation Flow and Data Collection

Each student was given a briefing at random in the class period prior to the simulation. Students were asked to skim or review the packet on their own, but no work or substantive preparation was required outside of the simulation. Students met in the school's Learning Commons on the day of the simulation and were organized into three teams which reflected their assignment: Tulia, Ibad, or OAU. Students met in these groups for fifteen minutes to review their briefing packets and discuss strategies and approaches to the negotiation, as well as the general mechanics of the simulation. Once the 15-minute preparation period was completed, members of the OAU delegation split into two groups, each convening with the entire Tulia and Ibad teams respectively. After this ten-minute meeting, all students were broken into four negotiating groups, each having their own closed-door workspace, conference table, and whiteboard. Groups 1 through 3 consisted of two members each from Tulia, Ibad, and the OAU, while group 4 consisted of one member each from Tulia and the OAU and two members from Ibad. Negotiating teams were given ten minutes to present opening statements and negotiate on their positions. Once this first round of negotiation was complete, all students returned to their original teams for a five-minute reflection and strategy session. Following this brief meeting, students then returned to their groups for a second and final round of negotiations which lasted for 15 minutes. Once this final round of negotiations were complete, all students convened in a large classroom for a debriefing period.

The final 15 minutes of the 90-minute class period culminated with the introduction of the survey to the students which included a short question-and-answer session about the mechanics of the survey. Students were instructed to use their own laptops in order to complete the survey. Students were also reminded that there are no "correct" or "desired" answers to the survey questions and that they should answer them honestly and to the best of their ability. Finally, students were instructed that they had the remainder of the 90-minute class period to complete the survey instrument. Students began and completed the survey once these instructions were finished. Students had approximately 11 minutes without the instructor present to complete their responses to the survey in class.

Findings

This study set out to answer the following question: What is the relationship between student engagement in a simulation and the prescribed learning outcomes for the unit of study? The findings presented here suggest that participating in classroom simulations is an engaging activity for students. Over 75 percent of the student responses to the survey instrument indicated that they were "very engaged" during the simulation.[1] None of the students surveyed in this study described their participation in the simulation as "not engaged." This anecdotal data paints

[1] Students were asked following question on the survey: "Identify your level of engagement in *Tulia and Ibad*. The term *engagement* is defined as a student's perspective towards participation in their school coursework and activities."

a clear picture that students in this study found their participation in the *Tulia and Ibad* simulation an engaging way to learn about the concepts of power, legitimacy, sovereignty, and interdependence. In spite of the small sample size included in this study, there is ample evidence to suggest that students find learning through simulations an engaging activity.

Table 2

Perceptions of Student Engagement

Student-Reported Engagement	F	%
Not Engaged	0	0.00%
Somewhat Engaged	5	22.73%
Very Engaged	17	77.27%

Students were asked nine different questions related to the prescribed content in the *Power, Sovereignty, and International Relations* unit: three questions related to the concept of *power* and two each for the concepts of *legitimacy, sovereignty,* and *interdependence.* These questions were designed to capture a student's explicit connection between the unit concepts and learning outcomes (Table 1) and the degree to which the student perceived the simulation to be an engaging activity towards understanding the concept.[2] In all cases, the majority of student responses indicated that they found the *Tulia and Ibad* simulation as an engaging way to understand the prescribed content in IB Global Politics. Table 3 summarizes the percentage of student responses to these questions.

Table 3

Student Perceptions of Engagement in a Simulation with Topics in IB Global Politics

Concept	Strongly Disagree	F	Disagree	F	Neither agree or disagree	F	Agree	F	Strongly agree	F
Power	0%	0	6.06%	4	12.12%	8	39.39%	26	42.42%	28
Legitimacy	0%	0	4.55%	2	13.64%	6	40.91%	18	40.91%	18
Sovereignty	0%	0	2.27%	1	2.27%	1	50.00%	22	45.45%	20
Interdependence	0%	0	0.00%	4	9.09%		29.55%	13	61.36%	27

The anecdotal data reported as descriptive statistics above paints a clear picture that students in this study found their participation in the *Tulia and Ibad* simulation an engaging way to learn about the concepts of power, legitimacy, sovereignty, and interdependence. It is clear that students generally agreed that the *Tulia and Ibad* simulation was an engaging way to understand

[2] For example, students could respond to the survey question, "*Tulia and Ibad* is an engaging activity towards understanding the distribution of power at various levels of global politics" by answering "strongly disagree," "disagree," "neither agree nor disagree," "agree," or "strongly agree."

various aspects of *power*. The modal response for this entire set of questions was "strongly agree". There was a bimodal response for the set of questions related to *legitimacy*—a split between "agree" and "strongly agree." Students reported that the *Tulia and Ibad* simulation was generally an engaging way to understand various aspects of *sovereignty*. The modal response for the overall variable was "agree" and over 95% of the responses to these questions into the "agree" and "strongly agree" categories. Finally, the student responses to questions on *interdependence* reveal a high degree of correspondence between engagement in the simulation and the prescribed learning outcome. The modal response for these questions was "strongly agree" and over 90% of student responses were either "strongly agree" or "agree." Although the small sample size of student responses included in this study prevents the accurate use of more advanced statistical tests on this information, there is ample evidence to suggest that students find learning through simulations an engaging activity.

The open-ended question from the survey instrument allowed students to provide a response to the following question: "'Participating in games and simulations is an engaging way to learn about global politics.' Discuss whether or not you agree with this statement and why." All 22 responses to this question framed participation in the *Tulia and Ibad* simulation as an engaging learning experience. For example:

> Games and simulations are an excellent method of learning and understanding Global Politics. The simulations help get students engaged and interest them in learning. Rather than being told what happened, we are shown what happens and we can use the simulations to apply them to more than just one situation because nothing is overly specific.

In this case, the student response notes that the simulation is at once an active learning experience, one that has application beyond the experience of the simulation itself. This connectivity ties directly to a different student's response to the same prompt:

> By participating in simulations and games, one can experience subject matter for oneself. Instead of simply reading an article about theories relating to conflict resolution, for example, one can actually participate in the conflict resolution for oneself. Through this experiential learning, one can gain a broader understanding of the subject material and find learning more enjoyable.

Students describe their engagement in both of the above examples as a function of their participation in the simulation in context with the course. Students report that they are interested in learning this way because they can apply the knowledge they acquire in new and different contexts. In addition, students describe how learning becomes a participatory activity, thus tapping into their behavioral, social, and cognitive engagement in learning.

One of the challenging aspects of this study was to connect participation in the simulation to the prescribed learning outcomes for the unit of study. Whereas previous studies have sought to assess student understanding of course material through traditional assessments such as tests or exams, this study adopted an approach which asked students to immediately reflect on their experience against four key concepts. The preponderance of student responses affirmed the

connection between engagement in the *Tulia and Ibad* simulation and their learning about the concepts of power, legitimacy, sovereignty, and interdependence. This data is born out in the students' own words on the connection between their participation in the simulation and their learning of the prescribed concepts.

Various manifestations of power—military, economic, diplomatic, the power of example, or the power of ideas—are challenging ideas to appreciate in the abstract. The notion of sovereignty—that a state has ultimate legal authority over its territory, citizens, and policies—is not easy to comprehend in a theoretical sense, particularly in the face of political, economic, and social interdependence between various actors in world politics. As the following student comment describes, learning concepts through participation in simulations may be an improved pedagogical practice over conventional approaches to the classroom:

> I strongly believe that this approach is more effective (and enjoyable) than traditional classroom structured learning. The freedom given in simulations and games only strengthens my understanding of global politics. I think that it works so well because of the nature of the global politics course itself. For instance, the class revolves around concepts and ideas like sovereignty, global governance, rights, etc. rather than straight facts. Therefore, a game or simulation allows us to use these ideas/concepts and apply them to a real-life scenario.

Nevertheless, simulations should not be considered a panacea for all of the challenges of creating engaging learning environments in classrooms. For all the perceived benefits of simulations, this student contends that simulations must be conducted in context with other forms of learning in order to construct a deep and durable learning experience:

> Games and simulations help me to remember and understand the concepts we learn. However, I find that they are more useful after readings/discussions/videos that have information about the topic. This is because simulations create a link between the scholarly information we read/discussed/watched, which is often difficult to relate to, and my own life. I've found that it makes my study of Glopo more engaging, personal, and understandable.

Students in this study clearly felt that participation in the *Tulia and Ibad* simulation provided them with an engaging and meaningful way to understand their prescribed topics. Further research on this topic is warranted as the anecdotal and descriptive evidence alone does not remove the shadow of doubt about the relationship between engagement, simulations, and learning.

The results of this survey suggest that incorporating simulations into classroom practices also contributes to students' motivation to learn. The intellectual liberty to think and act in preparation of, during, and in the debriefing phase of simulations is unlike all other forms of classroom activity or assessment. Simulations provide students with the incentive and opportunity to adopt the role of decision maker and apply their understanding of key portions of the curriculum in distinctive fashion.

> I think that by participating in these games and simulations, I have been able to take the knowledge that we have already learned in the classroom, as well as gain more knowledge on the topic at hand. Through these games I have gained an appreciation for negotiations and the process of trying to protect where I am representing. I think that if it were not for these games, the understanding of these concepts would not be so meaningful, or would not fully resonate.

Simulations provide students with the incentive and opportunity to adopt the role of decision maker and apply their understanding of key portions of the curriculum in distinctive fashion.

Participation in simulations are at the heart of what Pink (2009) sees as the essential elements of motivation. Simulations offer individuals a sense of autonomy, and opportunities to demonstrate a mastery of a subject or problem as well as to define their sense of purpose in a subject. Whereas students in science classes use their laboratory experiments as a way to act as scientists, simulations serve as an analogous experience for students studying politics in the classroom.

> Participating in a simulation such as this one also helps individuals to have a better understanding of global politics because of hands-on interaction. This way, it is as if you are participating in the resolution of a conflict firsthand, and are actually making your own decisions and seeing the immediate repercussions as they would occur in the real world. Participating in games and simulations is my favorite way to learn about global politics because it allows me to act as a firsthand participant.

The preceding student commentary is tied together by the idea that they are motivated to learn about world politics because their participation in classroom simulations offers them a way to become involved in the construction of their own knowledge. It is reasonable to conclude that in the case of the specific circumstances of this study, a student's participation in classroom simulations corresponds positively with student engagement, motivation, and learning.

Discussion

The relationship between student engagement, participation in simulations, and learning outcomes is a fuzzy one. After all, the majority of factors that influence student achievement are exogenous factors from that of teaching (Hattie, 1999; Hattie, 2003, p.3). The multifaceted nature of student engagement leaves a considerable amount of variables that can explain the degree to which a singular student will or will not engage in a particular classroom activity with the aim of improving their learning outcomes (Fredericks et al., 2004; Newmann & Wehlage, 1993). There are also limits as to how teachers and researchers can explicitly connect experiences in simulations directly to improvements in assessed learning outcomes (Raymond, 2010; Raymond, 2012). In short, the complexity of any action research study should give a researcher pause before making any sweeping generalizations about the degree to which simulations can or cannot improve student engagement and learning. Put another way, Hedley Bull's (1977) advice that "it is better to recognize that we are in darkness than to pretend that we can see the light" remains prescient as always (p. 308).

There are inherent limits to the applicability of this research as a result of this specific line of inquiry, the associated methodologies, and by virtue of the universe of respondents who participated in this study. The small size of the population (n=22) does not lead to making generalizable statements about all high school students at any or all times. As such, this research should be treated as an explanatory case study within the confines of the literature on simulations and games, political science and international relations, and to a lesser extent, grouped with the larger body of work on student engagement and on the intrinsic motivation of students. With these qualifications in mind, the next section of this study turns to a more concentrated treatment of the literature relevant to understanding students' value of simulations and games as it will relate to their learning in IB Global Politics.

The findings presented here demonstrate a number of possible benefits to instructors, curriculum specialists, and administrators. Simulations offer a clear and convincing way to promote student engagement in the classroom. Faculty members would benefit from trying their hand at including simulations as a part of their unit designs. While some teachers could choose simply to include simulations in their practice, the literature and evidence presented in this research point to the value of using simulations as a component of student assessment. Teachers who are already a part of the IB Global Politics pilot cohort with the International Baccalaureate, in addition to those who will teach this course in the future, should consider the ways in which they too can incorporate simulations into their designs for this course. The anecdotal findings and student commentary presented here should serve as an encouraging factor for faculty who are interested in this line of pedagogical practice.

School administrators, International Baccalaureate coordinators, as well as curriculum leaders should consider these findings relevant to their work in instructional leadership. Their task is not only to model best practices for teachers but to support innovative teachers looking to improve the rigor and relevance of their classrooms. If educators are serious about enhancing the behavioral, emotional, and cognitive engagement of students in their schools, they would be well served to consider the ways in which simulations can help to build positive perceptions about school amongst their student community. The relationship between student engagement, participation in simulations, and learning prescribed content is an important topic for all educators. This study highlights the ways in which students view simulations as an engaging means of learning about global politics. Simulations not only connect with a student's intrinsic motivation to learn but also offer them a means of connecting their experience to the conceptual components of the prescribed curriculum.

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