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Teaching experience: how to make and use PowerPoint-based interactive simulations for undergraduate IR teaching

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Teaching *Experience*: how to make and use PowerPoint-based interactive simulations for undergraduate IR teaching

Abstract: This paper is about designing and implementing PowerPoint-based interactive simulations for use in IR introductory undergraduate classes. Based on core pedagogical literature, models of human skill acquisition, and previous research on simulations in IR teaching, we argue that simulations can be usefully employed at the early transition from "novice" to "advanced beginner" in a learning process, where the student begins to leave behind rational rules in favor of an own situational experience. However, currently available IR simulations for teaching purposes are often high-cost/high-tech and especially time-intensive: if they do not require custom-made software packages with difficult interfaces and expensive licensing fees, they are often targeted at course-long or at least day-long activities that demand extensive preparation of both teachers and students, with book-length manuals, intricate rules, integrated assessment tools, and specific secondary literature, and conventionally target more experienced students. This paper explains how teachers can create an easily accessible and class-long (50 min) interactive experience for undergraduate IR students to encourage theoretical linkage with own in-class experience at a very low cost. We do this by employing PowerPoint, specifically in-built features such as hyperlinks, interactive pathways, or audio or video integration that can be used interactively rather than passively (as in a standard presentation).

Teaching; Simulations; Practical learning; Active learning; Decision Making; Games; PowerPoint

Introduction

This paper outlines the design and implementation of simple simulations in undergraduate introductory International Relations (IR) classes for the purpose of theoretical and conceptual learning. Simulations are suggested to create a space where students learn differently: instead of learning a series of facts or theoretical points about a given subject matter, our simulations are geared towards students experiencing and trying out a variety of ideas and actions to induce bottom-up theoretical abstraction and theorizing. This aligns with relevant literature on the use of experiential and active learning (Kolb 1984) as well as the use of simulations in the IR classroom (e.g. Asal 2005; Ishiyama, Miller & Simon 2015; Newman & Twigg 2000), where even at an early learning stage, students benefit from practice-based exercises and retain theoretical proposals significantly better if they are underscored by "livable" examples. Following Dreyfus and Dreyfus (1986) we argue that in a learning process simulations can be usefully employed at the early transition from "novice" to "advanced beginner", where the student begins to leave behind rational rules in favor of their own situational experience. Thus, although simulations such as the ones we develop here are necessarily based on context-independent rules (like those of a theory), they are an indispensable and helpful frame for the learner to develop beyond and into higher levels of performance (that is, "expertise").

The interactive class design allows students to take ownership of their own learning and formulate theory in an iterative process between learned knowledge and own simulated experience while challenging existing preconceptions about the intersection between theory and (simulated) practice (Laurillard 2002). Ideally, such an approach goes beyond illustrating theoretical insights through the simulated experience, and instead targets bottom-up, student-led, quasi-inductive theorizing (cf. Starkey & Blake 2001). This reversal of the theory-practice process often ingrained in both the mainstream IR curriculum as well as many conventional instruction methods can lead to initial confusion amongst students. As one of them wrote in one of our feedback surveys (which will be discussed further below):

> "More emphasis on theory should be brought to the simulations. IR100 is a very theory and concept heavy course and though the simulations were interesting they did not explore these concepts to a depth that could have been provided by alternative use of the time, perhaps".

This type of comment illustrates two things: first, the communication and linkage between simulated practice and theoretical orientation need to be implemented carefully so that its benefits can be fully utilized (and hopefully appreciated) by students. Also, to continuously improve on the implementation of simulations in the IR undergraduate classroom, a diligent evaluation process is necessary. Second, it might also be indicative of a common misunderstanding amongst students and even scholars of IR - there is more to concepts and theories especially in the first-year undergraduate IR classroom than a list of words and definitions that are necessary to "get" the discipline and succeed in examinations, before the student can then delve into more interesting endeavors, such as solve problems or come up with own theoretical explanations. Concepts and theories can be, and indeed should be, very practical things. As another of our students noted:

> "[The simulation] helped to synthesize thought about the rationality of the action and also ethical issues, meaning that you had to appreciate the decision-making process behind it and the balancing act that occurs. This level of reality made it very interesting".

The simulation approach we suggest here is based on the insight that nominally abstract conceptual teaching can profit from student-centered activity and experience. However, currently available simulations are by trend not geared to allowing these profits to be reaped fully in introductory undergraduate teaching and learning. Instead, we find they may 1) focus on factual knowledge derived from the scenario rather than on conceptual abstraction from it, (2) be time-intensive (regarding conduct and preparation both for teachers and students), or (3) insufficiently integrate benefits derived from digital learning technologies with conventional face-to-face instruction. Many currently existing solutions are difficult to transpose across different concepts or instruction-contexts. Others entail course-long or at least day-long activities that demand extensive preparation of both teachers and students, with long manuals, intricate rules, integrated assessment tools, and specific secondary literature, and conventionally target more experienced students. Off-the-shelf solutions based on custom-made software packages may come with difficult interfaces, expensive licensing fees ($35 per student for "*Statecraft Simulations*" materials; http://statecraftsim.com/international-relations-simulation-game/) or other possibly prohibitive requests (such as "registering" entire classes to access materials, e.g. in the Council of Foreign Relations' "*Model Diplomacy*"; for a review cf. Saiya 2017). Here, we suggest a standardized model of path-based interaction (Lebowitz and Klug 2011, 180) aimed at theoretical and conceptual learning, which may address some of the gaps we identify in the wide array of currently available simulations for IR teaching and learning. By carefully aligning our simulations with intended learning outcomes (ILO) and combining them meaningfully with reflection, student-driven generalization and theoretical abstraction, we suggest they offer a model which can easily be emulated to allow undergraduate teachers otherwise too burdened by time and budget constraints to contemplate creating and employing their own simulations to turn their classrooms into more interactive, student-centered sessions.

Simulations in the Teaching and Learning of IR

A vast range of literature now exists on the use, variously, of games (also including board games and virtual or computer-based exercises) and simulations in IR and the broader political science curriculum (for overviews, cf. Asal, Raymond & Usherwood 2015; Ben-Yehuda, Levin-Banchik & Naveh 2015). Broadly, existing literature can be divided into three types: Firstly, studies focusing on simulation theory and interrogating the pedagogical and disciplinary rationale for simulations find that international relations for a variety of reasons (notably the absence of hierarchy and the supposed equality between discursive participants) are well-suited to simulations (e.g. Ben-Yehuda et al. 2015; Ishiyama, Miller & Simon 2015). Secondly, a slightly different focus can be found in those contributions focusing primarily on simulation outcomes and learning effects, as well as the evaluation and assessment of simulations (e.g.

Obendorf & Randerson 2013; Pettenger, West & Young 2014; Raymond 2010; Shellman & Turan 2006). Thirdly, many publications detail the creation process and concrete application of simulations for taught provision in higher education (Boyer & Smith 2015; Bridge & Radford 2014; Kempston & Thomas 2014; Smith & Boyer 1996; Stover 2007; Tessman 2007). We suggest here that the many different interactive class-room activities based on student play to be found in these and other contributions may usefully be categorized along four idealtypical distinctions, which we then use to situate our own contribution: (1) games versus simulations; (2) theory versus practice-driven simulations; (3) short simulations versus long simulations and (4) face-to-face simulations versus virtual simulations.

The first distinction is between *games*, understood here as rule-based and abstract scenarios which can clearly be "won", and *simulations*, which are by trend more open in their scope of rules, have more complex interactions between players, and are often based on "realistic" or un-abstracted scenarios (Wheeler 2006, 333; also: Krain & Shadle 2006, Shaw 2017). Some computer and board games have been used to teach IR, e.g. the games of "*Risk*" (Romano 2014); "*Pit"* (Boyer et.al. 2006); or "*Diplomacy"* (Bridge & Radford 2014). Although gamified versions of core IR concepts exist, e.g. the "security dilemma" (Asal 2005), the predominant focus in the disciplinary literature has been on *simulations*. These may include simulations of EU organs (Elias 2014; Gusti, Muno & Niemann 2015; Jones & Bursens 2015), the United Nations (Obendorf & Randerson 2013), as well as hypothetical "realistic" scenarios such as the creation of a new International Human Rights Treaty (Kille 2002) or an AIDS conference (Crossley-Frolick 2010). Games have distinct advantages in terms of time management and instructor management, as complexity is reduced by tighter rule structures. Simulations in turn allow for more complex interactions and foster additional student engagement. In our approach, we try to combine these benefits by structuring our simulation scenario in different paths (see below).

The second distinction can be drawn between the simulation of *theory*, in which a simulation is created to help students learn about context-independent concepts, and the simulation of *practice* and specific *cases*, where theoretical abstraction resides in the background (Bridge & Radford 2014, 425). The theory-practice gap is where most simulations, including ours, situate themselves: Simulations are a particularly engaging way to teaching IR theory (Bridge & Radford 2014; Kille 2002; McCarthy 2014; Simpson & Kaussler 2009), which may be more difficult for students if only offered by abstract means. Equally so, however, simulations may effectively introduce the practical difficulties and real-life dilemmas of international politics to students who qua their background may have little experience in such matters (Asal et. al. 2014; Brynen 2010; Sasley 2010; Stover 2007). This may occur to the extent that practical and factual knowledge derived from the specific scenario is at the core of simulation design: Indeed, it may prove useful to future conflict managers, diplomats or analysts to have detailed knowledge of, for example, the South China Sea conflict (Kempston & Thomas 2014) or Middle East politics (Dougherty 2003; Stover 2005). Clearly, even complex and realistic simulations cannot teach students all the practical skills needed for actual statecraft. Nevertheless, simulations aimed at theoretical learning are usually already informed in their design by the theory they are supposed to teach, so there can be never be a truly "inductive" or "bottom-up" learning process (for an alternative approach: Glasgow 2014, who lets students produce simulations). In this way, any simulation employed in classrooms will exhibit theoretical and factual aspects, and its focus on one or the other may simply depend on the instructor. This necessitates the specification of learning objectives and corresponding alignment of the simulation activity (Elias 2014; see below).

The third distinction relates to simulation duration: there are *short* simulations and *long* simulations. For our purposes, *long* simulations last longer than one class (of ca. one hour), to the extent where the simulation can run in parallel to (or indeed *be*) an entire course (over several weeks or months, for example a semester-long simulation of the US National Security Council (DiCicco 2014) or of the fictional world of Politica (Tessman 2007). Long simulations have many advantages, including sustainable learning effects for students (Rivera & Simons 2008). However, especially in introductory and theoretical courses, many different topics and themes may need to be addressed within the time limits of a course or semester. Making room within such a course structure for a long simulation, then, may be very difficult. Shorter simulations such as ours can be used within the regular course structure of theoretical and introductory courses, and can still have a measurable impact on student learning (Baranowski 2006, 41). Also, in short simulations, students need not extensively prepare for the class. In long simulations, such preparations might include: a group formation phase, the reading of background information and wider context of the simulation, reading the specific instructions for the role that the group or actor is taking on, and lastly potentially research and writing activities that are tied to the simulation, such as memos, position papers, or a reflection essay (Shaw 2004). In most existing short simulations, the time that students spend on preparing for the simulation is considered an intricate part (even games may entail outside-of-class activities; e.g. Bridge & Radford, 2014). This, however, simply pushes the simulation to a remote place: Students start simulating at home and unobserved, making the effective time spent on the simulation greater than the length of a class. This in turn increases the likelihood of learning differences based on whether students find space, time, and quiet to practice or prepare at home (which differs with social background), and may even taint the simulation experience if some students prepare more than others.

Finally, we draw a distinction between *face-to-face* simulations, where students are physically present and interact in a class-room, and *virtual* simulations, where students play (online) by use of a computer program (Carvalho 2014; Stover 2007, 2005). Where face-to-face simulations are characterized by a degree of complexity not only in terms of planning but also (management of) interactions between students, virtual simulations have the advantage of being standardized, playable remotely, and in limitless supply. Frequently, a virtual simulation's (or videogame's) disadvantage lies in its price or licensing fees, which can be explained by the time and effort necessary to create it, but also severely limits availability for many teaching and learning environments. Alternatively, the simulation activity may not be restricted only to the class group (such as in the "*SimCountry*" game). Virtual games are often individual experiences with single-user interfaces (although notable exceptions exist; such as group-based variants of the online version of "*Diplomacy*"): individual gameplay can have important learning effects, but decreases the social aspects of learning together in a physical classroom.

Based on this short review, (1) simulations that are (2) aiming at conceptual learning and bridging the theory-practice divide, (3) of a short duration so that they can be run in a single class, and (4) effectively combine face-to-face learning and virtuality are in short supply, specifically so if the teacher is bound by time and budget constraints. While individual solutions to these problems may be frequent, current publications and available material on the use of simulations in IR courses about sophisticated and complex simulations with an at times unclear theory-practice relationship, which are more at the center of the respective course (long-term) and/or expensive (off-the-shelf), and frequently targeted at graduate students (with notable exceptions, e.g. Newman & Twigg 2000).

Our solution aims at taking bridging the theory-practice divide seriously even within the limits of a single-session IR undergraduate classroom. We consequently suggest short, path-based simulation activities to teach theoretical concepts that combine face-to-face instruction with virtual solutions. We do so, notably, by employing one of the simplest and most widely available software in academia, namely Microsoft PowerPoint, precisely because it is well-known to teachers, has familiar user interfaces, and is usually included in university software packages around the globe (also cf. Inoue-Smith 2016). Learning how to make and use our simulations, then, does not require studying new software, becoming intricately familiar with odd interfaces, IT problems, or even coding. This may serve to reduce the amount of time teachers need to spend preparing for and conducting simulations. Specifically, we suggest standardizing both the creation as well as (by extension) the student learning process by designing branched or *pathed* simulations. Path-based simulations, focus on choices and alternative story paths. In this, they are similar to "Choose your own adventure" books, which are works of fiction for children and young adults in which readers take an active part in the development of the storyline, as at various predefined narrative turns they are tasked with choosing between alternative paths (Kuemmerling-Meibauer 2015, 59). Employing this model has several consequences: Pathed simulations impose limitations on the way the scenario can unfold (which may restrict student creativity). However, they allow for additional levels of planning and closer focus on intended learning outcomes (as the writer retains control over the branching points; Lebowitz and Klug 2011, 181), better time control (as the simulation activity has clearer start and end points), and no need for additional preparation for students (for a discussion of the strengths and weakness of path-based approaches, cf. Lebowitz and Klug 2011, 197-203). Pathed simulations in this mold highlight agency and decision-making, both individually and in teams, within the given structure of the overall narrative: They can thus provide the "perfect bridge" between writer-focused storytelling and player-driven engagement (Lebowitz and Klug 2011, 181). This also means that our simulations let students decide their own levels of engagement in a collaborative activity. It implies a switch from instructor-driven teaching to processes of student learning: Central to the teaching method is not what is being taught, but what students actually learn. This focus leads to a reflection on the dynamics of student learning, and the ways in which teaching design (including its methods and forms of assessment) incentivizes different types of learning. In the next paragraphs, we detail the creation process of our simulations, and their integration into undergraduate IR classrooms.

PowerPoint-based Simulations for the IR Undergraduate Classroom

This part details the technical aspects of how we integrated small-class PowerPoint-based simulations into the IR undergraduate classroom in three distinct, short class sessions (55 minutes each) with class groups of 15 students (our simulations have so far been used by 5 different class teachers across a total of 14 different class groups in 2015/16 and 2016/17). Classes were held on a weekly basis to accompany one-hour weekly course lectures on different core concepts of International Relations. The three PowerPoint-based simulations we developed and tested centered on the concepts of "foreign policy", "diplomacy", and "intervention". This selection was derived mostly from the pathed nature of our model. Implementation required access to a PowerPoint software package, a device from which to play the simulation (PC station or laptop), and a projector in the classroom. In the subsequent section, we deal with the production and implementation of our simulation. First, we highlight the necessity of detailed learning objectives (ILO). Second, the choice of scenario is crucial to a successful simulation. Thirdly, the technical aspects of creating and implementing a simulation through PowerPoint and the hyperlink feature are shown to make our approach to this type of learning activity easily accessible, transposable, and potentially less time-intensive than many other frequently employed solutions.

Defining Learning Objectives

Our approach to teaching with simulations is based in the insight that learning objectives and means of teaching need to be carefully matched to ensure effective learning (Biggs 1996; 2004). Before the simulation is made, broader theoretical course aims and objectives need to be translated into clear, achievable and assessable intended learning outcomes (ILO) for the class. ILO describe what students are expected to be able to demonstrate, in terms of knowledge and skillsets by the end of an activity. They are commonly formulated for course-level instruction. We suggest here they can be useful specifically for individual activities, if the respective activity (here: a simulation) can take on a wide variety of different learning dimensions. This first step is important not only because it helps focus the simulation activity, but also because it anchors the teaching activity in student learning (Asal & Kratoville 2013, 134). Formulating ILO for short-term simulation activities is not a trivial enterprise, however.

Theoretical learning about concepts does not just automatically flow from simulation activity. Instead, simulations are here understood as vehicles for achieving broader learning objectives detached from the details of the scenario employed, or even the dynamics inherent to path-based simulation. We do not, for the purpose of student learning, care about whether the simulation is "won", or whether students together opt for "right" or "wrong" answers within the game (also cf. Sasley 2010; Youde 2008). Indeed, the consequences of different choices the students must make throughout the simulation activity need not be obvious, but can be surprising and even counter-intuitive (Lebowitz and Klug 2011, 187). It is the simulation *activity*, the process of student experience during the simulation, not its outcomes, that determines if learning objectives were achieved. The principal goal of our type of simulation activity is to have students experience the activity, reflect on their actions, and induce theoretical linkage. The simulation activity only has value in connection with explicit, bottom-up, student-led theoretical reflection and theorizing afterwards. The closer the simulation mirrors the (minimum) desired theoretical insights, the easier it will be for students to formulate them - which is an easy way to raise or decrease the level of difficulty depending on student performance levels. In that sense, the simulation must be tailored to the ILO, not the other way around. It is the strictly rule-based and pathed nature of the simulation that allows for this narrow targeting, even though naturally occurring learning processes may still be broader and add to the more narrowly defined ILO we target during our classes.

ILO can be explicitly formulated, e.g. to reflect taxonomies of learning (Bloom et al. 1956). Formulating ILO explicitly makes it easier for students to identify and demonstrate their achievements, and allow for constant re-evaluation of teaching activities given the intended outcomes (Biggs 1996; 1999; Cowan & Harding 1986). For our purposes, a broader sense of the ILO for the entire class group and at different levels may suffice. Consider the following example: in our simulation on diplomacy, we formulated four rather ambitious learning objectives, derived from the course aims and translated onto class/topic level.

1. that by the end of the class, the students are able to identify diplomacy as a practice, that is, something that can be done either well or poorly, and explain this theoretical insight accordingly,
2. that by the end of the class, the students are able to identify diplomacy as a concept, that is, as socially constituted and having a history (i.e. changing its meaning),
3. that by the end of the class, the students are able to distinguish between negotiation as the core of diplomacy, and the institutionalized rules and norms which define modern diplomacy as a distinct practice,

4. that by the end of the class, students are able to reflect on and evaluate the conduct and reasons for success and failure in the simulation activity.

The formulation of these relatively abstract ILO has a direct impact on the creation process of the specific simulation: In this example, we decided to apportion the class into three sections (namely: introduction, simulation, reflection), and split the simulation in two parts.

In the *first* simulation part, the students made choices that simulate planning the setting of a diplomatic meeting: they decided on a suitable location, given the choice between three possible alternatives; then, they decided on a menu presented with three different choices (following our path-logic, either choice would have different impacts on the subsequent negotiations). Although it also gave the students cause to reflect on diplomacy as a practice, this section of the simulation was more specifically aimed at the second and third learning goals: by having the students discuss the different options of location and food they were forced to challenge their own assumptions, and consider how diplomacy was socially constituted. Location and food are not irrelevant to the practice of diplomacy, but create the setting for negotiations to take place – the dinner table is the archetypical and oldest diplomatic site. Thus, in this example, penalizing the students for choosing "convenient conference food" over more "local and traditional" ones (a choice that was not at all obvious to the students) might be a way to align the simulation with our ILO. A similar insight was utilized for the *second* part of the simulation, in which subsequent negotiations were affected by the choices made in the planning stage. Here however, the play was more on the concept of "being diplomatic", as well as the bargaining and negotiation processes at the core of (high-level) diplomatic practice. To simulate the experience of a diplomatic meeting, we used additional insights from negotiation theory: Certain kinds of behaviors were penalized, but on varying and different grounds. This would make the students experience the consequences of practicing diplomacy well or badly, and thus drive them towards our first learning objective. It would also serve to distinguish "negotiating" from diplomacy as a broader institutionalized framework for state interaction.

Teachers may evaluate from natural feedback whether the learning objectives are met during the simulation, but it is only with the reflecting session at the end that the learning goals can be explicated – ideally by the students themselves, on cues or prompt questions ("What did you learn? Why did move X or Y not work? Why did you make this decision?"). Again, defining ILO that are achievable within the parameters of the simulation can be difficult, but it is what gives the simulation value, and thus a crucial step in getting the simulation right.

Selecting and Drafting a Scenario

Choice and drafting of a scenario are central to any type of simulation activity, both from a pedagogical as well as from a practical standpoint. They also influence the quality (both actual and experienced) of the teaching and learning experience for instructors and students respectively. These choices span four different yet tightly interrelated facets.

The first facet concerns the accuracy in time and reality of the chosen scenario. In principal, scenarios can be *factual*, *hypothetical*, or *invented*. *Factual* scenarios are historical cases which are simulated because they matter for or illustrate well the challenges and situational factors inherent to the respective ILO (e.g. Stover 2007). As an example, the period immediately prior to WWI could illustrate alliance politics, diplomacy, and war at that time. Factual scenarios have advantages if knowledge about the case is crucial to the course/class, and because (for story-telling purposes) choices are determined by history and need not be invented. However, factual cases need to be well-researched to avoid inaccuracies, and players already know likely outcomes and may thus anticipate future choices within the scenario. *Hypothetical* scenarios move away from factual accuracy - they can consist of counter-factuals, or move actual current cases into the future to assess likely outcomes. Hypothetical scenarios are often easily adaptable to simulations such as ours, because they may grasp student attention well, give the (simulated) impression of actual change and influence on current world affairs, and play out different alternatives that have not yet occurred or will never occur. Hypothetical scenarios have the distinct disadvantage that they may be "overtaken" by actual history, and thus repeatedly changed to reflect developments in the real world. This cannot happen with *invented* scenarios. Invented or even fantasy scenarios transpose a decisional situation, most likely based on a real-world case, into the realm of fiction – with made-up actors, countries, or structures (e.g. Blanton 2013). They have the advantage of unlimited fictional freedoms – anything can happen. However, this is also their biggest pitfall: “world-building” may be necessary to a greater degree than in factual or hypothetical scenarios, which remain closely tied to real-world events. Simulation scenarios may float between these poles: Our diplomacy simulation is closely based on a real-world case, but freely invents actors and events, and indeed bends some rules of real-world diplomacy, where necessary for a smooth learning activity.

The second facet concerns the topicality vs. generic nature of a case, as well as its “illustrative-ness”. Topical scenarios, i.e. scenarios that cover crucial questions of the day (such as in our diplomacy simulation, the eastern Ukraine crisis), are often good to grasp student attention. Students are likely to have substantial knowledge about the case, and can use that to great benefit in class discussions over decision-making. However, scenarios may lose their topicality (where a scenario on SARS may have been topical a couple of years ago, today students might not know the abbreviation), and newer events and developments may make such scenarios seem dated. Also, topical scenarios may not always actually speak to the more abstract theoretical points one wishes to make based on the ILO – the logic of territorial land-grabs as a goal of warfare may be surprisingly difficult to represent in a modern case study. More generic scenarios that clearly illustrate desired dynamics may be better suited, but also often veer into the hypothetical or invented, with all the associated pitfalls described above. They also may suffer from an overt level of breadth and generality, which makes them less interesting narratively speaking. Having a good and exciting story is essential to getting the students engaged; making it entertaining does not hurt either. The way to think about the simulation is essentially as augmented reality: exaggerated plot points and larger-than-life characters may be essential to making an exciting story that will catch the student’s attention. Crucially, the story’s plot – regardless of the multiple outcomes one may choose to play with – should always contribute to the theoretical point explicated by the ILO. This often means that the plot ends in deadlocks or with unsatisfactory outcomes. The goal is exactly to exploit the students' lack of experience and show them that prejudgments about a specific topic may be wrong. The students may in fact learn more from "failure" than from guaranteed success (Sasley 2010; Youde 2008).

The third facet concerns possible paths and consequences and the complexity of the scenario. To fit into a short PowerPoint-based simulation, scenarios will require a considerable degree of fictionalization. More so, however, a core question revolves around how to fit the remaining complexity of the scenario into specific paths and consequences, as this is required by our narrative model. The scenario must be broken down into decision moments, from which different alternative routes divert. More so, it must be possible to narrate these alternative routes and their consequences, either based on invention or historical reality, and narrate them in a way that neither over-reduces nor over-complicates the scenario - as by the teacher's own time and cost constraints, the number of slides he or she may wish to fill with texts and explanations is limited. Inevitably, then, some level of detail and accurateness must be sacrificed for do-ability – which level precisely depends on the teacher's willingness to invest time and effort into the storytelling.

The fourth facet concerns the role of the students in the simulation. Fitting a scenario into this model of decisions, paths, and consequences requires thinking carefully about the actor that the students are supposed to play. Our model has the students, in smaller groups or as a class group, play together "against" the PowerPoint-based simulation (like the reader playing "against" the book in a "Choose your own adventure" story) and make decisions that shape how the story plays out (in the form of different paths and consequences). The chosen actor-in-simulation (e.g. a state delegation) needs to have at least two characteristics: it needs to consist of a group of individuals making decisions together (at least in theory) and have enough decisional power to realistically affect outcomes in-scenario. This could be the case e.g. for the UN Security Council, a group of foreign policy decision-makers (e.g. a National Security Council), a state delegation in negotiations, a cabinet of ministers, or monarchs/diplomats at the Congress of Vienna. Practically, the possibilities are limitless, but theoretically, these characteristics exclude several interesting scenarios, and will almost inevitably lead to a necessary level of fictionalization in the simulation (as diplomats cannot "call back home", decisions need not be ratified, etc.).

Creating the Slides

The following paragraphs provide a step-by-step guide illustrated with screenshots from our own simulations of how to create the simulation slides in PowerPoint. For the purposes of our simulations, we used four different types of slides: introduction slides, story slides, choice slides, and end slides. The following examples are based on our simulation on "diplomacy" with a (fictionalized) case on the Eastern Ukraine crisis.

Introduction slides present the scenario in easy terms, and delineate the tasks put to the students. They need to be succinct, and provide all necessary material to understand the scenario. Introduction slides bridge the narrative gap between the students' regular roles and their roles in-scenario: a "simulation start" slide should clearly delineate when the simulation activity begins. Depending on available time and teacher preference, introduction slides can also be sent to students prior to class as preparation or "homework".

Figure 1: Introduction slide (this slide and all subsequent slides are from the "diplomacy" simulation)

Story slides present the narrative in-scenario. They prepare the students for their choices, and respond to choices appropriately afterwards. Story slides need to be written carefully especially if used multiple times with slight variations, to make sure they accurately correspond to choices and paths in the scenario.

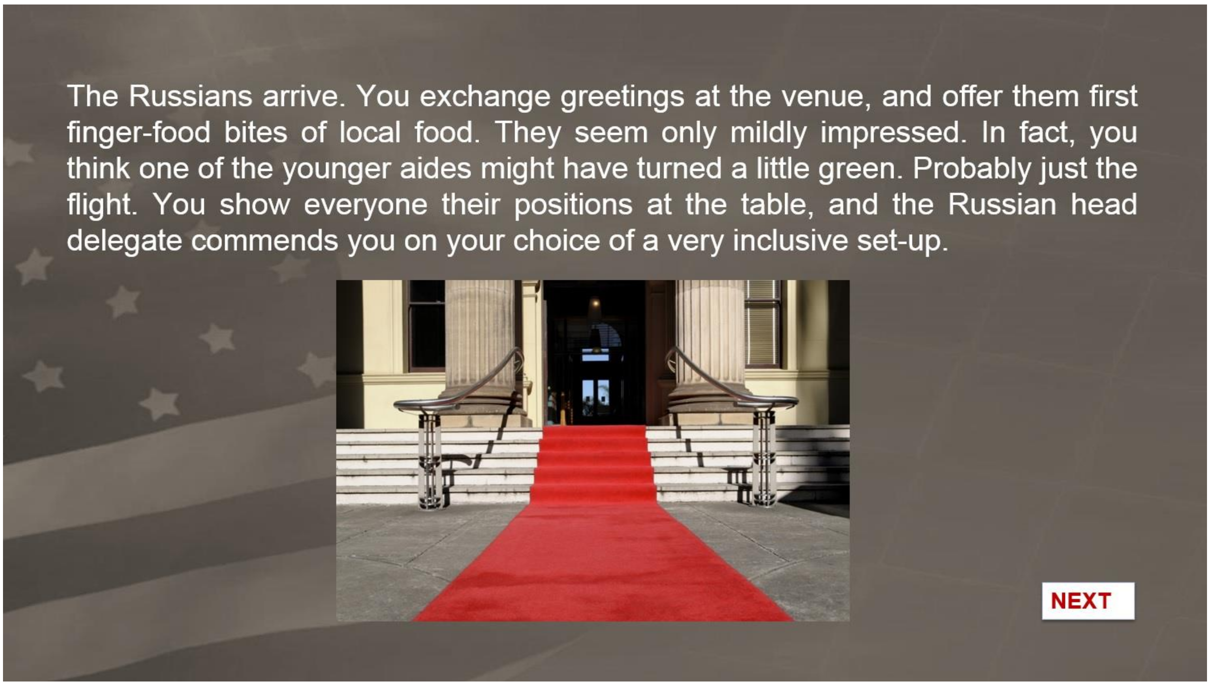

Figure 2: Story slide with picture.

Choice slides are at the heart of the simulation. They present “crossroads” at which students must decide which path to follow. Theoretically, the number of choices is limitless - practically, depending on the scenario and teacher preference, we suggest a maximum of four alternatives. Alternatives must be presented clearly and succinctly. Different choices are hyperlinked to corresponding story slides that follow the respective decision path.

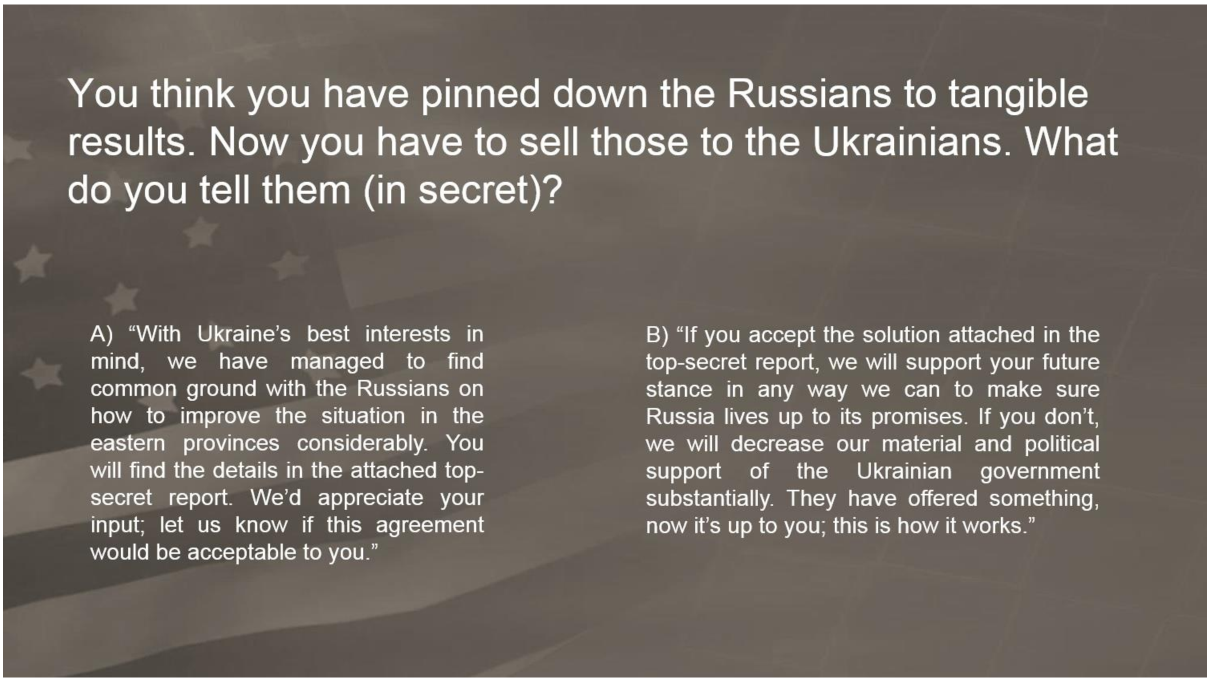

Figure 3: Choice Slide with two options

End slides wrap up the simulation and the respective decision paths. Ideally they address previously made choices. End slides can be positive, negative, or open-ended. They may surprise the students, but must be logically consistent with the respective decision path.

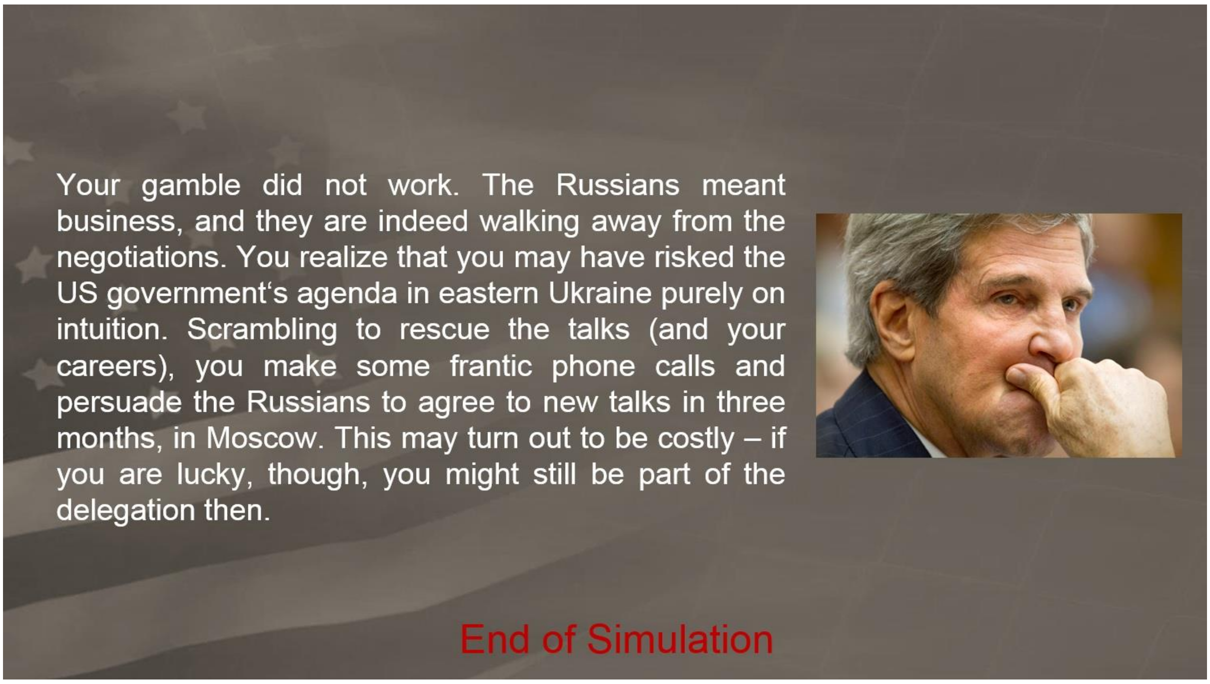

Figure 4: End slide with mixed negative outcome.

Our PowerPoint-based simulations rely on the "hyperlink" in PowerPoint. The hyperlink function makes it possible to link to slides outside of the regular slide sequence in the slideshow, which is essential for a path-based simulation.[1] In our simulations, the types of slides just introduced are connected through hyperlinks to create a narrative path. Choice slides are particularly crucial to this pathway, as they are the crossroads at which paths separate (or come back together). For example, after a series of introduction slides, the students are tasked with their first choice, between two alternatives A and B in choice slide 1. Choice slide 1 has two separate hyperlinks: one connected to A, and one connected to B (Figure 5).

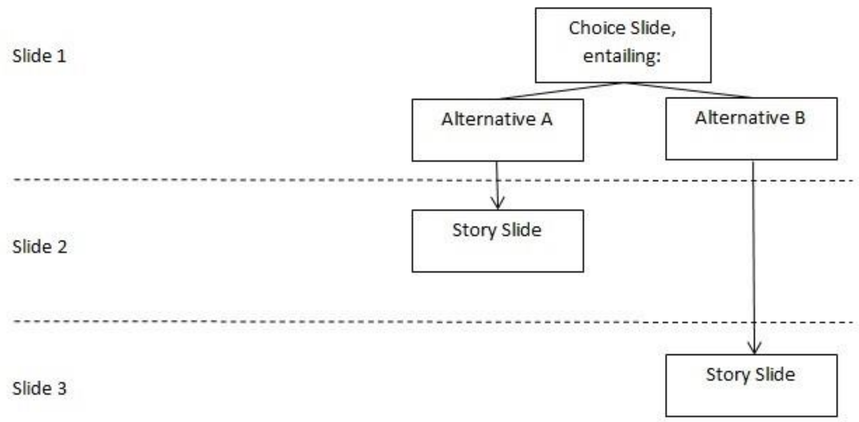

Figure 5: Explaining the need for hyperlinks in PowerPoint Slide sequences, arrows symbolize hyperlinks.

Further story slides and choice slides can mean that a lot of slides cover pathway A before the first slide appears that covers pathway B – this is something to be cautious about during the creation process. Every alternative needs a corresponding pathway. Unless paths re-merge with others, each additional choice needs additional story paths, which can quickly increase the work exponentially. We therefore suggest carefully designing the number of

[1] PowerPoint has two functions that allow for linking slides within a presentation: hyperlinks and "action buttons". We demonstrate the creation our simulations employing hyperlinks here, as they are more versatile (they can also link to elements outside the slideshow), and can be placed on existing elements on the slide, while "action buttons" are an additional element. "Action buttons" are accessed through an additional sub-menu (under "Insert"/"Shapes"), and thus harder to find. Beyond these reasons, employing hyperlinks or "action buttons" comes down to user preference.

choices to be made within the scenario so that neither the creation process nor the in-class simulation activity become too time-consuming (Lebowitz and Klug 2011, 192). Drawing an abstract story tree for all alternative choices *before* starting to create the PowerPoint simulation itself should serve as a guide for the creation process (Figure 6; Lebowitz and Klug 2011, 185; 190). One may then deviate from this draft tree where necessary, update changes, and return to it where appropriate.

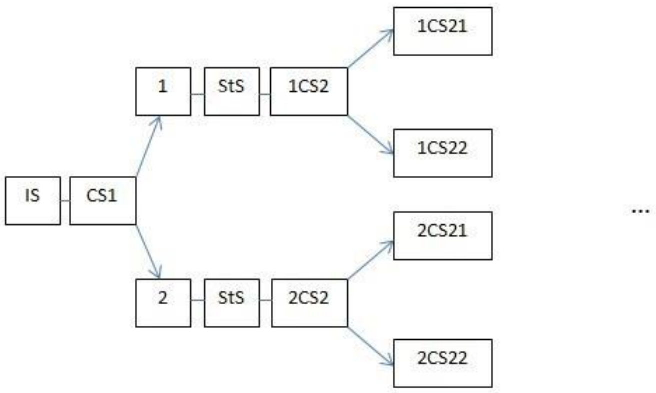

Figure 6: Story tree/slide tree, IS=introduction slide, 1, 2=alternative pathways, CS=choice slide

Hyperlinks in PowerPoint are set by using the “Hyperlink” option, which can for most versions of PowerPoint be found under “Insert”, then “Hyperlink”. Hyperlinks can be placed on text boxes, pictures, or specific words. Once “Hyperlink” is selected, PowerPoint will open a window in which the user may decide the location to which the hyperlink leads. For these simulations, we link to another slide in the same document, we select “Place in This Document”, and then select the desired slide in the drop-down list (Figure 7). It is also possible in this way to link to outside sources, including other documents on the hard drive, or Internet sources.

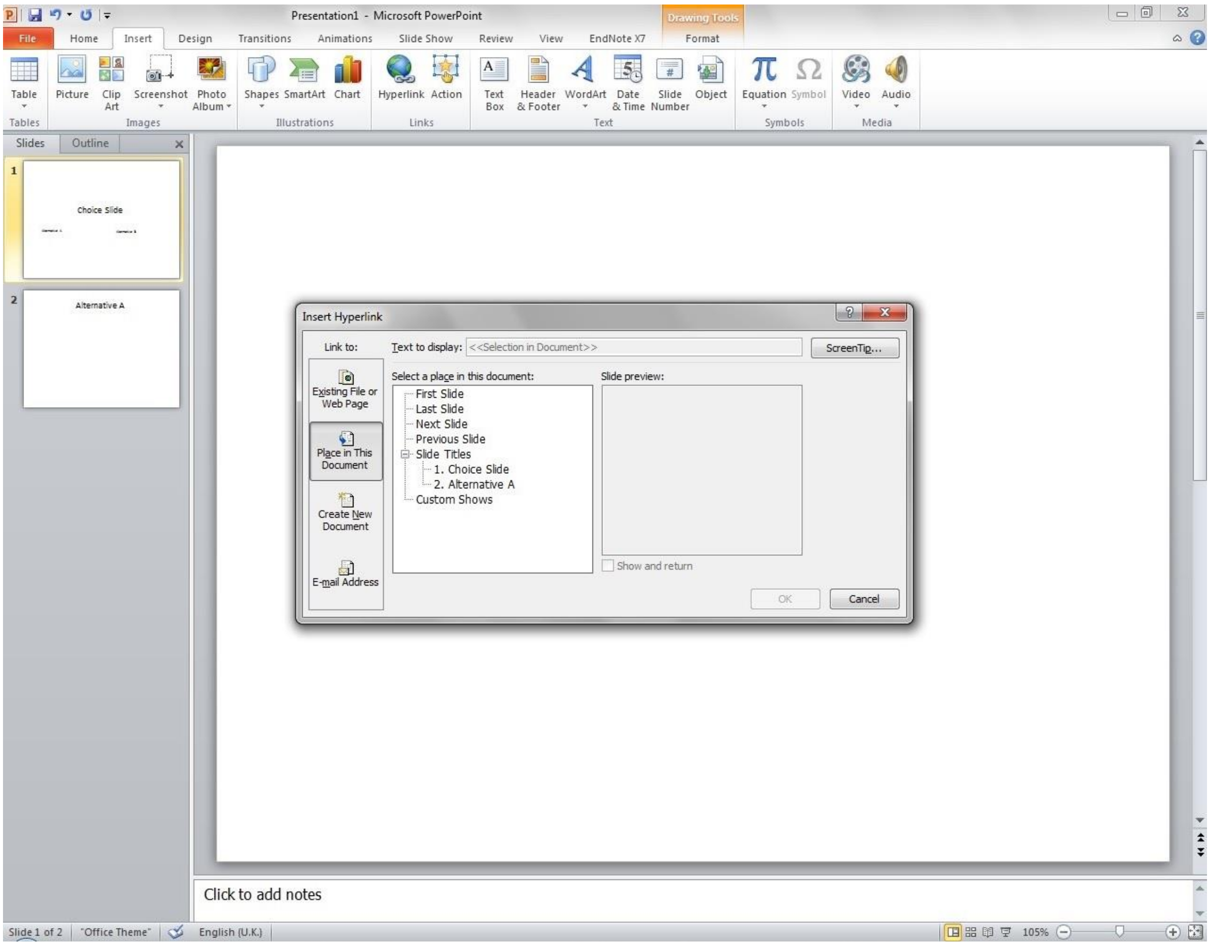

Figure 7: Placing the hyperlink on a slide in the same document.

The appearance of the hyperlink in the slide differs depending on where it is placed, e.g. on a word/text segment, text box, or another item. Hyperlinks on words/texts will color the text blue and underline it. The text color can be changed through a subset of commands, but to our knowledge, the underlining cannot. To avoid these changes, one may hyperlink the textbox as such rather than its content. Placing a hyperlink on a textbox will not alter the format of its text content in any way – which also means the hyperlink is invisible. The hyperlink will stay on the selected slide, even if new slides are added in between or after. The hyperlink will only disappear if explicitly deleted itself, or if its origin or goal slide is deleted. Multiple hyperlinks can link to the same goal, which is useful for end slides, as multiple paths could have the same outcome, or for re-connecting paths – multiple paths can also lead to the same next choice slide, which decreases the number of narrative paths. Every alternative on a choice slide must, however, have exactly one goal to which the hyperlink leads. The established hyperlink can then be used in the slideshow by clicking on the hyperlinked word, text box, or picture. This will make the slideshow jump to the hyperlinked goal. For pedagogical purposes, a separate "back to previous slide" hyperlink may be desirable, e.g. so that students can re-trace their decisional path later.

Freely available design options for slide backgrounds can be found in the PowerPoint package as well as online. For our simulations, we simply downloaded a generic free template and adapted it to fit our own design preferences. The language employed on the slides and in the simulation texts depends on individual preferences. However, the choice may be crucial for the effective use of the simulation. Importantly, we suggest striking several balances: (1) between accuracy and simplicity, (2) between desired level of detail and space available on a slide, and (3) between seriousness and humor. Where the specific simulation content is placed on these ranges depends on personal choice, but also on the ILO (for example, in our diplomacy simulation, we asked ourselves whether understanding sophisticated diplomatic language or "reading between the lines" was something students needed to try out), on the level of experience and knowledge the students have (simulations for undergraduate students are likely formulated differently than those for graduate students), and on the focus on theory versus case accuracy (is it relevant to the simulation activity that all details of the scenario are accurate?). The amount of text also affects the length of the activity, as time is spent on reading and re-reading the slides during the simulation.

Using the Simulation: A Teaching Plan

As indicated above, all our simulations take place over a standard class length of 55 minutes, and have three class sections, which translate into a standard teaching plan. Throughout, the teacher functions as a moderator and facilitator, rather than instructor (Burch 2000, 36). Note that while we employed these simulations in small-class teaching, they could easily be employed in a larger class setting, e.g. by breaking up students into smaller groups with access to a laptop each, or by making the slides available online. Students would then have to manage the simulation activity and its timing themselves, with the possible pitfalls this entails. However, it would also enable students to compare different outcomes across groups or replay story paths in their own time, which might induce intriguing theoretical insights.

Introduction (including slides)	5-10 minutes
Simulation Game	25-30 minutes
Evaluation (inductive theorizing)	10-15 minutes

Table 1: A Teaching Plan

The beginning of the class should introduce the students to the simulation as well as get it started with the background story slides. Depending on student background and course design, students can be asked to prepare the respective scenario before class – although differences in student preparation can negatively impact common decision-making, if for example a small group of student "experts" dominates class discussion during the simulation.

The central piece of the class is the simulation game itself. The process of employing the PowerPoint simulation in class follows three steps:

First, slides are read out to the students (or by a student), then students may take a short moment to re-read the slide by themselves. Once all students understand the slides and instructions, the simulation moves forward to the next slide.

Second, once a choice slide is reached, the choice activity begins: an initial vote can help clarify and clarify argumentative lines, and kick-start the discussion.

Third, students discuss the options, with the goal of an agreement on which alternative they wish to choose. This is a necessity: alternatives must be discussed openly with the goal of consensus. The students do not have to actually reach this consensus, but exchanging pro and contra arguments on all or some specific alternative choices is essential. Time pressure (both simulated time pressure within the simulation scenario, as well as actual time pressure, for example through a set time limit for decisions) has proven beneficial to push for discussion and agreement. Once a choice has been agreed, it is selected via hyperlink. The chosen path is followed up by the next slides, choice slides, and so forth, until an end slide is finally reached. When running a simulation in this format, it is imperative to carefully manage the time spent on discussion and reading out slides. By extension, it is necessary for the teacher to know the simulation well enough, i.e. by testing beforehand if it is possible to finish the simulation within given time limits of the class (nothing frustrates more than an unfinished scenario). Should there be time left at the end, students may find it useful to re-trace their decisions and explore alternative paths.

It is crucial to have time left for debriefing and reflection immediately after the simulation activity, which has the goal of student-led inductive theorizing (Petranek 2000, 109; on the importance of debriefing; also: Asal 2005; Shaw 2004; Dougherty 2003). This reflective session asks students to connect their experience with the teacher-defined ILO. Depending on complexity of ILO and scenario, this may be easier or more difficult. We suggest the teacher let student input guide this crucial part of the class. Students should find it easy to get engaged based on their experience of the simulation. One way to further induce student engagement may be to start asking students several prompt questions: what did they notice about the simulation? Why did they make certain decisions? Lived *experience* is essential: What happened when they argued in one way rather than another? What surprised them? A more difficult segment could address the teaching method itself: What in the simulation incentivized a specific move? Is the scenario realistic? Follow-up questions should be selected for fit with theory, and point to the ILO, but may also usefully link back to or reference readings from a course reading list, or a previous lecture. Depending on how well students have understood relevant theory, and are able to abstract away from the simulation, they can be asked to summarize the activity themselves. We found that driven by immediate insights from the simulation activity, 1) even students not usually prone to participating very actively in class were likely to contribute by sharing specific own experiences, 2) students in general were both willing and able to formulate at times very sophisticated general and theoretical insights derived from their experience. If the teacher feels that students are overwhelmed or time is running out, he or she may also sum up the simulation and give the students a take on the theory, or have them reflect in writing as homework.

Finally, a mixture of different evaluation, feedback and assessment techniques promises the best results when evaluating PowerPoint-based simulations and assessing their impact on student learning and ILO achievement. Evaluation and assessment of simulation activities must not be an afterthought: specifically, thinking carefully about the learning, engagement and awareness effects of simulations (specifically also in comparison with other instruction methods) is crucial to constructive alignment (Baranowski & Weir 2015; Rivera & Simons 2008; Wheeler 2006). In terms of appropriate assessment of simulation activities, frequently employed forms include preparatory forms of writing (e.g. policy briefs, position papers), prepared student presentations or opening statements, reflective essays, exam questions with specific reference to the simulation activity, or peer-assessment. In our case, measurable effects of simulation activities in terms of student performance may be different to isolate from the overall assessment portfolio (cf. Baranowski & Weir 2015, 395): Currently, our simulations are one part of the overall mix of instruction methods employed to foster conceptual learning in our course, and not directly reflected in specific assessment forms. This is not least because university regulations at our home institution still restrict the use of diverse forms of assessment more aligned with interactive teaching methods.

We currently employ student surveys in combination with peer or expert observations, student focus groups, and analysis of filmed simulation activities to yield data on three core questions: (1) Has the method helped in achieving pre-defined learning outcomes? (2) Has the method helped in deepening the learning experience towards student-led exploration of themes and topics? (3) Has the method otherwise enhanced the learning experience, e.g. by adding a fun element to class teaching? Depending on the level of integration of PowerPoint-based simulations in overall course teaching and in virtual learning environments, additional data (e.g. course assessment and student performance data) can be used to supplement this information. Evaluation/feedback to simulations may include gender or diversity effects, but research on this matter remains inconclusive primarily for lack of robust data (for excellent contributions on the evaluation and assessment of simulation activities, cf. Baranowski & Weir 2015; Obendorf & Randerson 2013; Pettenger, West & Young 2014; Rivera & Simons 2008). Student surveys, peer and expert reviews, and our analysis of video data gathered during the activity suggest positive impacts of the evaluation on multiple aspects of the student learning experience and process (for similar results, cf. Shellman & Turan 2006). Based on a post-course survey (distributed amongst all class participants after the last semester week, but prior to the final exam), student evaluations were mostly positive: Overwhelmingly, students evaluated the simulation activity as providing a differentiated way to introduce theoretical concepts in practice. When asked immediately after the simulation, students tend to focus in their feedback on how they experienced the activity ("fun"), which, while not in itself a learning objective (Baranowski & Weir 2015, 396), may still contribute positively to the overall learning process. Peer and expert observations (conducted by the university's Teaching and Learning Centre staff) as well as student responses point to positive effects on student participation not only during the simulation activity, but more importantly during the theoretical discussion and reflection session. Especially students otherwise reluctant to share own insights or arguments in class seemed more willing to explain their choices, arguments, or experience both during the activity and after. An increase in student engagement and ownership of learning processes may be especially positive in early university courses, when students familiarize themselves with their own role in academic conduct and learning (cf. Smith & Wertlieb 2005). The overt focus on the immediate experience in student surveys could be balanced through multiple feedback/evaluation surveys at different points in time (e.g. immediately after, and three weeks after), as well as including questions addressing student learning and knowledge gains.

Our students felt they could "try out" in the simulation what they had read or heard about the concepts beforehand, and that the simulations "synthesized thought" at a sufficient level of accuracy. The simulation activity "encouraged" at least one student to read further on the simulated concepts. While some students worried that the simulations did not explicitly address the type of questions they felt they had to prepare for the course exam, when prompted in our survey others elaborated (at times at great length) on what exactly they had learnt conceptually from the simulations (i.e. that there is a difference between "negotiations" and "diplomacy", or that "legitimacy matters for external intervention" in specific ways). That students had in fact achieved our ILO may also be visible in the analysis of video material we gathered during the simulation activity: By the end of the class, students would demonstrate their theoretical and conceptual insights derived from the simulation activity in an extensive theorizing and reflection session. We cannot ascertain that this learning effect is sustained over longer-term periods, but can report from our experiences and the video analysis that the depth of student insight derived from personal experience of the simulation activity often went beyond what would be expected both in first-year undergraduate courses in general as well as in other classes with more traditional instruction methods (this aligns with findings reported by, among others: Baranowski 2006; Frederking 2005; Newman & Twigg 2000; Shellman & Turan 2006; for a critical overview, cf. Baranowski & Weir 2015, 395).

Conclusion

This paper suggests a model for using easily accessible, readily usable path-based simulations in IR undergraduate classrooms for the purpose of conceptual and theoretical learning. Based on a categorization of existing literature, we suggest that existing simulation solutions frequently pose challenges to teachers of introductory undergraduate classes focused on concepts and theories of International Relations. This is because these simulations at times exhibit an unclear theory-practice focus, are frequently aimed at longer-term courses and time-intensive in preparation (both for teachers and students). Shorter, off-the-shelf solutions in turn may have prohibitive fees or licensing requirements. To address some of these shortcomings, we outlined a standardized model of path-based simulations (similar to "Choose your adventure" books) based on interactive features in PowerPoint. Simulations following this model can easily be transposed to different concepts and widely differing story lines. We suggest that this may help teachers create own simulations tailored to their individual teaching needs all the while reducing the necessary time investment both with regards to producing and conducting the simulation activity. Once carefully aligned with formulated intended learning outcomes (ILO) and meaningfully combined with bottom-up, student-led reflection and theorizing, as well as appropriate evaluation and assessment mechanisms, we suggest our PowerPoint-based short simulations can help bridge the theory-practice gap in interactive, student-centered sessions.

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