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Educating Negotiators: Using Theory, Practice, Case Studies, and Simulations in an Integrated Learning Experience

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Abstract

In the past 40 years, negotiation studies have become increasingly available and sought after across college campuses. While there is widespread agreement on the prominent role negotiation plays in education, in the workplace, in public policy, and in other fields, there remains a lack of consensus on pedagogies and teaching models that effectively train students and practitioners in the various aspects of negotiation, ranging from pre-intervention assessment, to effective bargaining, dialogue, and facilitation, to evaluating procedural and distributive outcomes. In order to synthesize distinct disciplinary approaches and skill/content areas into an integrated pedagogical model, this article describes a negotiation simulation designed to incorporate skill building, process management, conflict analysis, and conflict management tools. The model incorporates equal emphasis on theoretical frameworks and understanding, self-awareness training for facilitators, social network and stakeholder analysis for negotiation preparation, participatory analytical and discursive process management, and developing metrics for monitoring, evaluation and impact assessment.

Introduction

In the past 40 years, negotiation studies have become increasingly available and sought after across college campuses. The main schools within which negotiation studies have been concentrated are law schools, business schools, planning and public policy departments, and programs on international relations (Fortgang, 2000; Lewicki, 1986). With increased interest in the field, departments explicitly dedicated to conflict resolution and negotiation have become more commonplace as well. Outside of academia, there is likewise significant interest shown in developing negotiation skills in the workplace, with many organizations providing negotiation workshops for their employees.

The curriculum and course described here were developed over several iterations of design in partnership with Marc Levy from Columbia University. The initial pilot workshop was coordinated and managed by Minal Patel and Meredith Smith, who were vital to its success. We would also like to thank the editors and reviewers for their thoughtful comments and critiques in the preparation of this manuscript.

The content of the negotiations studied and taught across these disciplines differ, yet within each, there are multidisciplinary influences that shape the negotiation pedagogy and affect how the theory is to be understood and applied (Menkel-Meadow, 2009). This, in turn, has influenced how the instruction of negotiation has been conceived and practiced. Lewicki (2014) examines the current state of teaching negotiation and describes the three phases of the history of as early, middle, and mature fields. He mentions that while there are some basic commonalities across programs (such as the use of role play and skill development) and resources are being pulled from multiple disciplines, there remains a lack of consensus on pedagogies and teaching models that effectively train students and practitioners in the various aspects of negotiation, ranging from pre-intervention assessment, to effective bargaining, dialogue and facilitation, to evaluating procedural and distributive outcomes. He goes on to question whether there is, at all, an accepted "Canon" of negotiation. There may be agreement on general concepts, skills, and techniques that introductory level of negotiation training could require, but this does not mean that the level of skill and knowledge gained through many existing pedagogies will be sufficient to address the complex or "wicked" problems that negotiators increasingly face (Kaufman, Lewicki, & Coben, 2013).

The increasing complexity of many negotiating contexts requires negotiators to master both content and skills of negotiations, as well as processes for designing negotiations, preparing parties and facilitators for negotiations, and enabling parties to assess the feasibility of a negotiated settlement. In other words, students learning negotiation (either in higher education or in executive trainings) must be equipped to analyze the negotiating context, conceptualize a negotiating strategy, and enact the actions and behaviors necessary to achieve their goals in the context of the negotiations and afterward (Menkel-Meadow, 2009). While this is a tall order for learners, it is a particularly difficult challenge for educators to design effective pedagogies and curricula to meet those needs. Moreover, designing teaching models that can be adapted to a range of learning environments including traditional course offerings, professional trainings, and executive or intensive seminars makes the task for educators and trainers all the more daunting.

To advance pedagogical development in this area, we present a pedagogical model, designed around a case study and simulation, that synthesizes theoretical knowledge and practical skills in the following areas: self-awareness and perceptions of "the other," social network and stakeholder analysis for negotiation preparation, participatory analytical and discursive process management, and negotiation skills and content. We piloted this model in a recent executive education program, offered as a 40-hour training model.

In the sections that follow, we briefly review recent trends in the negotiation literature and design considerations. We then present the design of the integrated pedagogical model we developed and describe the pilot application. In the final section, we discuss lessons learned and suggest strategies to adapt the key elements of the case to a variety of learning environments.

Rationale and Design Considerations

The field of negotiation teaching and research has undergone several waves of self-reflection and critique that have served to push our collective efforts at teaching and practice in new, and sometimes old, directions. One such wave involved a 5-year introspection called the Rethinking Negotiation Teaching (RNT) project, which turned a thoughtful and self-critical eye on the field (Honeyman, Coben, & Lee, 2013b). Among the wealth of topics explored in this effort, the resulting and subsequent literature examines the virtues of using role plays, case studies, simulations, online platforms, theory, and praxis for skill acquisition and basic exposure to the range of competencies needed for effective negotiation (Fortgang, 2000; Honeyman, Coben, & Lee, 2013a; Susskind, 2015). While each of these components provides potential value-added for the learner, there are few pedagogical models that both focus explicitly on each component of negotiation, and synthesize these into a holistic learning experience that imparts a range of knowledge and skills. This reinforces the traditional dichotomy between distributive and integrative

bargaining, taught and practiced as distinct approaches, when the majority of conflicts needing to be negotiated are actually mixed-motive (Deutsch, 2006). However, as the world has and continues to move toward more complex negotiating contexts, how to prepare students and learners to successfully integrate multiple approaches remains an unanswered, or perhaps under-answered, question. In fact, as Docherty and Lira (2013) describe, one can argue whether any level of formal negotiation instruction will be sufficient in any case, without real-life application and practice.

Such challenges are daunting enough with regard to simple, transactional, negotiation. They are compounded, however, when considering how to train people to successfully navigate the world of complex negotiations involving a range of public, private, and corporate stakeholders and complex technical information. The thematic areas of public policy and environmental mediation have been at the forefront of addressing these questions and have developed robust theoretical models of managing conflicts through participatory processes (Balint, Stewart, Desai, & Walters, 2011). Due to their genesis in problems involving physical, social, and environmental sciences, these theoretical models increasingly integrate analytical components into preparation and negotiation including focus on: self-awareness (Maser and Pollio, 2011), joint problem definition (Balint et al., 2011), joint fact finding (Susskind, McKearnan, & Thomas-Larmer, 1999), facilitated dialogue, and process management (United Nations Environment Programme, 2015). Importantly, because this class of disputes is situated in an often complex legal, administrative, and regulatory structure, theoretical importance is placed on the constraints to participatory processes as a tool for conflict management. However, while theoretical importance is placed on these components of a negotiation, few pedagogical models have been developed that prepare learners to simultaneously master both analytical and process management skills.

Model Design

Kaufman et al. (2013) discuss the challenges associated with teaching wicked problems to negotiation students and advocate for the development of new teaching and training models to educate practitioners to successfully navigate complex disputes. In their essay, Lewicki suggests that such models might include the development of "advanced" elective courses as well as development of instructional packages of materials including cases, role plays, and simulations (p. 524). However, as Lande, Bustamante, Folber, and Lee (2013) lament, in developing new approaches to negotiation teaching, there is "so much to teach, and so little time" (p 21). Given that dilemma—the need for new models, but the richness of content and skills that need to be included, where should a new model focus?

A factor analysis of critical skills needed to assist communities manage natural resource conflicts conducted by Singletary et al. (2008) assisted us in bringing coherence to these challenges and organizing around three broad sets of skills that are important for professionals to master. These are (a) collaborative process skills—enabling parties to understand themselves and the other to collaboratively problem solve—as well as solid facilitation and active listening skills, (b) science and conflict skills—including being able to manage complicated data in a negotiation as well as enabling parties to grapple with scientific uncertainty, and (c) monitoring and evaluation skills—including being able to adaptively manage a negotiation and likewise understanding how to assist parties through the implementation phase. We thus designed a pedagogical model around these three sets of skills.

In addition to the content specific challenges, we also identified several logistical challenges to training conflict management practitioners to constructively manage such complex contexts. Learners seeking to develop each come with a unique motivation based on their personal and professional background and needs and are thus seeking a niche set of skills and experience. A pedagogy and curriculum must simultaneously be comprehensive, tailored to meet a core set of competency requirements, and flexible enough to incorporate new and additional skills as needed. Learners and practitioners likewise have a fixed amount of time for face-to-face teaching and learning experiences, adding additional considerations to pedagogy and curriculum design.

In designing a new curriculum and pedagogy, we decided to design a 40-hour intensive executive offering as a best attempt to balance these practical and pedagogical challenges. This format enabled us to work with experienced professionals with core competencies in several of the thematic areas identified earlier. The 40-hour intensive format provided sufficient face-to-face interaction to enable students to learn new theoretical constructs and practice new skills, while not being a prohibitive commitment for working professionals. Further, through preparatory and supplemental materials, students could gain access to certain foundational concepts and reinforce their knowledge outside of the classroom. Finally, piloting a new model through an intensive program enabled us to identify core competencies and teaching modules that could be distilled into shorter format trainings and seminars.

In line with the principles for designing negotiation instruction outlined by Lande et al. (2013), the goals that drove our curriculum design and pedagogy were specified a *priori* to (a) integrate theoretical developments from complex social-ecological systems and environmental peacebuilding theories with theoretical approaches to "wicked problems," (b) synthesize analytical approaches to problem definition, stakeholder analysis, conflict analysis, and context/structural analysis as they relate to negotiation preparation, and (c) instruct on integrative and distributive negotiation approaches in pursuance of goals, based on information elicited through theoretical insights and analytical preparation from points (a) and (b).

While there are many approaches to teaching effective negotiation from one of these three perspectives, there are few models that attempt to integrate across them all. However, when considering a complex negotiation context like a public policy or environmental conflict, the negotiating context can be viewed as a complex system. Docherty and Lira (2013) advocate that in such systems, an experiential learning model is well suited to enable learners to synthesize across the entire process of the negotiation —problem definition, analysis, preparation and design, negotiation, and implementation—rather than focus predominantly on the negotiation phase or preparation and negotiation only.

In line with their recommendations that "the experience in the classroom needs to be designed with enough complexity to engage the students, and it needs to be recognizable as an 'authentic' field-based problem. . ." (p. 408), the pedagogical model we designed consists of a progressive and iterative cycle of (a) building baseline knowledge through theoretical lectures that integrate four disciplines and thematic areas, (b) synthesizing concepts and skill building through immersive activities, and (c) creating experiential learning through a pseudo-reality based simulation (Ebner & Efron, 2005). The model is explicitly integrative and interdisciplinary, paying equal attention to enhancing learners' theoretical comprehension, analytical toolbox, and discursive skillset in content and practice areas related specifically to environmental and public policy problems. In so doing, the model prepares learners in an expanded range of

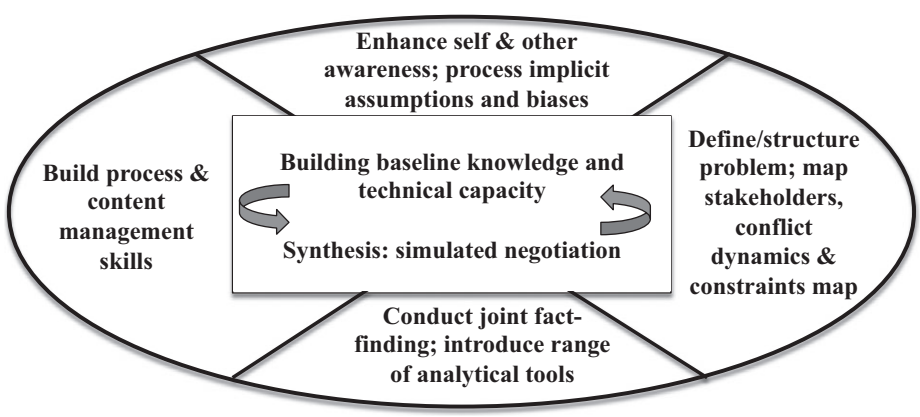

Figure 1. An integrated model for teaching negotiation preparation and facilitation.

areas relevant to negotiation preparation, process design and management, monitoring and evaluation, and impact assessment.

As noted earlier, the first objective of the model is building an integrated baseline of theoretical and foundational knowledge relevant to the content areas. Because the area of interest is conflicts involving environmental drivers and public policy problems, we focused on four main theoretical approaches and integrated the foundational and state-of-the-art research into a series of lectures and facilitated discussions. This was designed to build competency in the following critical skills areas and provide experience with the following conceptual planning tools: (a) data collection and visualization, (b) risk assessment and program design using conflict analysis, system mapping, and stakeholder analysis, (c) communication and facilitation, and (d) analytical tools for assessment and monitoring and evaluation. The theoretical approaches we synthesized into our pedagogical model are briefly introduced below.

Environment Conflict and Environmental Peacebuilding Theories

Current trends in the study of conflict and the environment have broadened the definition of security beyond state security to a more holistic view of human security (Fisher & Rucki, 2016; Human Security Research Group, 2013; National Intelligence Council, 2012; United Nations Environment Programme, 2012). With this, there has been a broadening of the study and understanding of the linkages between environmental factors and conflict (Andrews-Speed et al., 2012; Humphreys, 2005; Humphreys, Sachs, & Stiglitz, 2007; Ross, 2004). We designed the curriculum associated with this pedagogical model to introduce students and executive learners to a range of associated topics related to the linkages between environment, peace and security, with distinct emphasis on the mechanisms that drive conflict at various scales ranging from national policies from a variety of contexts, international investment, foreign aid, private sector operations, and civil society initiatives. In addition to theoretical lectures, students worked with case studies to explore the real-world application and implications of those theories.

Complex Systems

While the first thematic area focused on the linkages between environment, security, and peace, much of the current theory is limited in its ability to address the complexity of our modern social and ecological systems. However, by connecting the mechanisms that drive individual manifestations of environmental conflicts through a unified framework, the curriculum that resulted from our model enabled students to gain a more nuanced understanding of the interconnectivity between social, environmental, economic, and political factors. Those connections were made by introducing students to the paradigm of complex systems. This paradigm has been utilized in environmental management for some time and has traditionally focused on the social–ecological nature of systems (Folke, Holling, & Perrings, 1996; Gallopin, 2006; Holling, 1973). More recently, scholars have looked at the dynamics that result from the interaction of social actors in these social-ecological systems in order to understand how the interconnectivity of these components can give rise to conflicts (Coleman, Vallacher, Nowak, & Bui-Wrzosinska, 2007; Vallacher, Coleman, Nowak, & Bui-Wrzosinska, 2010; Vallacher et al., 2013). Increasingly, however, theoreticians are working to understand how this approach can be utilized to assess and prevent or manage conflicts (Djuric & Filipovic, 2015; Fisher & Rucki, 2016).

After introducing these two sets of theoretical foundations, the curriculum for our model introduced a number of analytical tools to provide students with practical decision-support aids. These include conflict assessment toolkits (Brown, Hauptfleish, Jallow, & Tarr, 2012; DFID 2002; International Alert, 2005; Jensen, 2012; United Nations and World Bank, 2009), conflict-mapping techniques using qualitative, quantitative, and geospatial methods, environmental assessment tools from governmental and nongovernmental sources, and stakeholder profile tools. Through case studies and facilitated group sessions,

the model enabled students to gain experience applying these toolkits to real-world conflict situations and thus reinforced the linkages between theory and analysis.

Wicked Problems

Whereas the first two thematic areas focused on analysis and theory, the third thematic area introduced the construct of *wicked problems* (Rittel & Weber, 1973) as a framework for conceptualizing and designing interventions into environmental and public policy conflicts. First introduced in the environmental and urban planning literatures in the 1970s, this concept reflects how environmental problems are particularly pernicious due to several properties specific to this class of conflicts. Specifically, these conflicts are uniquely defined by each party or stakeholder involved. This means that there are simultaneously multiple conflicts and definitions of these conflicts. Because of that, there is no single solution to "the conflict." Rather, any solution will be aimed at a concretely identified subset of the issues involved. Next, because there is no common definition of the problem, and because the multiple issues involved are interrelated, any attempt to manage a conflict sets another chain of events in motion, giving rise to new definitions of the conflict. As such, there is no solution, but rather multiple attempts at resolutions to these problems (Rittel & Weber, 1973). Balint et al. (2011) utilize this concept to propose frameworks for designing and adaptively managing initiatives to address environmental conflicts. By coupling theory with these practical strategies for conflict management, the curriculum built out of our model enabled students to build upon their analytical and theoretical baseline and move toward intervention and monitoring and evaluation.

Again, as with the first two theoretical approaches, our model introduced several toolkits and decision support aids to enable students to combine theoretical understanding with practical skills. These included tools for monitoring and evaluation, impact assessment, and data management.

Coordinated Management of Meaning (CMM)

The fourth thematic area enabled students to situate themselves in the context of the environmental problem and enabled them to understand the roles that identity, self-awareness, and perceptions of others play in conflict and conflict resolution. The Coordinated Management of Meaning (CMM) is a practical theory that takes a communication perspective (Pearce, 2007). Its social constructionist stance promulgates that we create our social worlds through the types and qualities of the relationships we cultivate and that the agency we assert to create these relationships can also transform them. Through the use of basic principles, concepts, and heuristics, we are able to increase self, other, and contextual understanding through meaning-making processes.

This process of increasing understanding and awareness of self, other stakeholders, and the context from the perspectives of self and other is unique in the sense that it is done in the spirit of not only seeking personal group gains from the negotiation, but seeking appropriate gains for all parties. The emphasis on long-term relationships shifted the focus from 'this one deal' to 'this negotiation as part of a series of other interactions as we repair what was done in previous interactions and build a mutually beneficial future going forward.' The CMM heuristics provided opportunities to unpack some of the complexity of each stakeholder group and the situation and set the stage for continuous learning and reflection (Creede, Fisher-Yoshida, & Gallegos, 2012).

This approach and mindset is especially useful in complex conflicts with multiple stakeholders during implementation phases. There will be continued challenges in bringing other stakeholders who were not directly involved in the negotiation on board. During the process of negotiations that go well, trust is developed and as information is shared new knowledge and insights are gained. Those who were not present did not experience these shifts in attitude and the nuances of the decision-making process. In essence, good negotiation skills are needed with internal, as well as, external stakeholders.

After many years of teaching negotiation, Wheeler (2015) acknowledged that in addition to analytical proficiency in a negotiation, we bring who we are to the negotiating table. This means that beyond analysis and procedures are our attitudes and behaviors. These are formed from early childhood and because they are deeply rooted, there is only a certain amount that can be done to modify these behaviors in a classroom setting. First, teachers of negotiation may not be equipped to delve into deeper behavioral change, and second, there is not the amount of time needed to make these modifications. He identified that one way of addressing behavioral sensitivity and change is to develop ideas, concepts, and practices around trust. Trust plays a critical role in the quality of the relationship between negotiators (Lewicki & Tomlinson, 2014). Another way is to develop more self-awareness so that individuals are better able to guide and navigate themselves through the negotiation process (Fisher-Yoshida, 2005). We focused our attention on developing self-awareness, as the precursor to developing other- and context-awareness. By developing stronger awareness and understanding we know more and feel more comfortable; this familiarity breeds more trust.

Experiential Learning via Simulated Negotiation

In considering simulation as a vehicle for participants to develop awareness and skills in addressing complex multistakeholder negotiations, we refer to the four qualifying questions raised by Ebner and Kovach (2010). First, we needed to consider whether simulation was the better methodological selection compared to other resources and we decided that it would give the participants as close to a real-life experience as possible. Second, the selection of the scenario and pedagogy is being used, and in our situation, the case was an environmental conflict to which the participants could relate. The theories and tools we selected we believe would have life after the course and that the participants would find useful in their work in addressing complex issues. A third consideration is the personnel concerns and whether those leading the simulation are qualified. We took this to heart as well and had one person skilled in process lead the simulation, while others who were skilled in the use of the specific tools and concepts introduce those along the way. And finally, the fourth consideration is the debriefing, and we were committed to providing an iterative process for participants to reflect on their learning and participate in a group debrief after each phase of the pedagogical model, then integrate learning into the next phase of learning and practical exercise. Too often, we have experienced the missed opportunity when the debriefing session is not given enough time and we understand that the debriefing is where the deeper learning takes place.

To effectively situate the model in a practical case study, we designed a simulated negotiation of the Samarco Tailings Dam disaster that occurred in Brazil in 2015[1] (Oliveira Neves, Nunes, Alencar de Carvalho, & Wilson Fernandes, 2016). The case study utilized the pseudo-reality approach described by Ebner and Efron (2005) wherein the real case of a sudden collapse of a tailings dam from the Samarco Iron Ore Mine in the state of Minas Gerais, Brazil, served as the foundation of the simulation, and a hypothetical negotiation was created that expected students to negotiate the composition and financing of a fictional dam inspection committee to prevent future disasters from occurring. The choice to situate the negotiation on a real case rather than a fictional case was intentional in that it provided a case with rich information on a current environmental and public policy conflict that was evolving throughout the course of the training and thus mirrored an actual negotiating context. This meant that students were simultaneously expected to learn the case history and incorporate recent changes in the social, legal, environmental, and interactional facts and context. The use of real-world data enabled students to thoughtfully analyze the case according to the macro-economic, micro-economic, and institutional/structural context of the case, along with the needs, interests, positions, and goals of actual stakeholders. In

[1]Simulation materials include teaching prompts are available upon request to the corresponding author.

addition, situating a fictional simulation in an actual case enables students to situate the negotiation in the history of attempts at conflict resolution and mitigation, and thereby enabled students to understand the practical constraints on complex negotiations for public policy and environmental conflict contexts. This approach stands in contrast to other simulated negotiations in that students were presented with rich data on the context and parties of the conflict and through the analytical portion of negotiation preparation were able to assimilate deep knowledge about their assigned stakeholder group in order to overcome the challenge of data scarcity that many fabricated simulations face. In other words, this approach enabled students to more effectively represent their own stakeholder group and understand the needs, interests, and positions of other stakeholder groups in a simulated negotiation.

The simulation was designed with four stakeholder groups: industry, government, community members, and scientists/NGOs. Participants were divided evenly and assigned a group based on their experience and interest. Each of these stakeholder groups was further stratified, based on the actual stakeholder groups involved in the real-world case. For example, the owners of the Samarco Mine include two major companies who own the assets, and a third joint venture company that manages the assets. Likewise, the government stakeholder includes the Brazilian national government and associated ministries as well as the state government of Minas Gerais. Similar stratifications exist in the other two stakeholder groups, and this design simulated real-world complexity where stakeholders are rarely unitary, unified groups. This design requires that participants negotiate within their assigned stakeholder group as well as with other groups (see Figure 1).

Stakeholder groups were provided a short summary of the history and current state of the case, as well as their positions, interests, and constraints for the simulated negotiation. Additionally, participants were given several background readings on the case to provide them rich data to pull from throughout the simulation.[2] The simulation itself took place in three iterations, which were supported by practical exercises included in the rest of the workshop. The first round included introductory statements of positions. This was followed by a stakeholder mapping exercise in a subsequent workshop session to allow participants to explore these positions and the underlying assumptions. The second round of the simulation involved more formal negotiation preparation where stakeholders and facilitators design the negotiation, based on their understanding of the case and context. This was followed by a system mapping exercise to enable participants to explore how various actions taken in the context of the case could impact the overall system and the unintended consequences of various actions for each stakeholder group. The third round involved a single round of negotiation in which stakeholders attempted to reach consensus. Each round of the simulation was followed by a debrief to explore how the simulation preparation and practical exercises enhanced or otherwise impacted the simulation and the negotiation outcome.

Pilot Implementation of Pedagogical Model

We designed the model to be taught in a face-to-face format over a 40-hr intensive executive education program (Table 1), to gradually build knowledge, complexity, and skills so that the participants were facing increasingly challenging tasks and decisions along the way. This culminated in the integration and synthesis of the range of skills and knowledge in a simulated multiparty negotiation based on a real-life case study we identified. Thirteen participants in the course came from two postgraduate programs: Master of Development Program and Master of Environmental Management. Additionally, two executive learners who work in sustainability and environmental issues also attended the course. Their backgrounds varied and included sustainability management, engineering, architecture, management, and environmental sciences. Some were more recent graduates of undergraduate programs, but the majority

[2]The entire reading list for the course, including the background simulation readings, is detailed in Appendix A.

Table 1
Schedule of 40-hr Intensive Training

Time	Monday	Tuesday	Wednesday	Thursday	Friday
8:30	Breakfast	Breakfast	Breakfast	Breakfast	Breakfast
8:45	Welcome & Introductions	Day 1 Recap	Day 2 Recap	Day 3 Recap	Day 4 Recap
9:00	Lecture: Core Challenges of Managing Environment, Peace & Security Linkages	Lecture: Using Insights from Dynamic Systems Theory to Understand EPS Challenges	Lecture: Making Conflict Assessments Work	Lecture: Designing Effective Responses	Practitioner Field Visit
11:15	Interactive Case Discussion 1: Climate and the Syrian Conflict	Simulation preparation: Dynamic system modeling (working lunch)	Simulation preparation: CMM modeling	Simulation Debrief (working Lunch)	
12:15	Lunch		Lunch		Lunch
1:30	Interactive Case Discussion 2: Environmental Drivers of Liberian Conflict		Simulation Part 3: Negotiation Round 2	Workshop: Analytics for Peacebuildling	Workshop: Hands-on exercise in combining climate and security data
2:30	Lecture: Core Challenges of Managing Environment, Peace & Security Linkages	Lecture: Communication and Facilitation for Environment, Peace and Security	Practitioner Field Visit	Practitioner Field Visit	
3:30	Simulation Part 1: Introduction and preliminary statements	Simulation Part 2: Negotiation Round 1			Seminar Debrief: Parting Perspectives on Environment, Peace and Security
5:00	Networking Event	Practitioner Field Visit			

of participants had at least 15 or more years' working experience. Below we describe the pilot application that took place in September 2016.

The pilot trial of our model began with a theoretical and factual overview of the content area, providing key information about environmental, climatic, and public policy trends around peace and conflict, to build a common core of knowledge in the thematic area. This was done through lecture, discussion, and preparatory readings. Building on this, we situated these trends in the context of the case study of the Samarco Tailings Dam Spill (Oliveira Neves et al., 2016). This simultaneously provided exposure to the practical implications of macro trends, as well as grounded those implications in a case, which formed the backbone of the simulation and skill building. Both the background and foreground information was provided as they began to understand in a more nuanced way, how the environmental impact affected the stakeholder groups.

Once a consistent baseline of content knowledge had been imparted, we began introducing new skills and content in a stepwise, iterative fashion throughout the week, introducing concepts and skills and tools to improve their self-awareness, their other-awareness, their interpersonal skills, and gradually branching out to addressing multiple stakeholders. We invested heavily in negotiation preparation because we believed the way for the students to become more immersed in the negotiation in a more realistic way was with thorough preparation. The novelty of our approach came through the integration of these new skills and competencies with the theoretical grounding, in an iterative process, as well as practical application to the case of the Samarco disaster.

In addition to wanting the participants to become deeply immersed in the negotiation to make it as realistic as possible, we also wanted to reinforce the importance of thorough preparation. Time is usually a constraint in the classroom, in the workplace, and in real life, and negotiation preparation suffers as a

result. Sometimes when there is a certain level of familiarity with the subject matter or stakeholders, perceived or real, there is a tendency to go to the default negotiation strategy of "winging it." On some occasions, this can suffice, but in complex, multiparty negotiations that explore a variety of issues, we do not recommend this strategy. Our goal is to develop good negotiation habits and useful tools and frameworks to support them through the negotiation and implementation phases.

The information on the stakeholders was designed to begin to present differing points of view. We introduced concepts and tools that would enable the participants to delve further into these stakeholder groups, starting with the group to which they were assigned. We wanted them to unpack what it meant to be a member of this group so they could more deeply get into character. In this process, the participants were introduced to Coordinated Management of Meaning (CMM) a communication and social construction theory and practice (Pearce, 2007). The tools and concepts CMM provided allowed the participants through individual reflection and small group discussion to reveal and acknowledge the complexities within each stakeholder group and how that might shape their participation in the negotiation.

We led the participants through an exercise to capture the running narratives these stakeholder groups said about themselves and the other groups and how these narratives may orient the stakeholders toward a certain disposition during the negotiation. We wanted them to be prepared for the assumptions each stakeholder group carried and how to respond in some of these scenarios. We used CMM concepts and tools in this situation as well because of the ways in which CMM addresses personal and social narratives and the underlying assumptions and influences shaping these stories (Wasserman & Fisher-Yoshida, 2017).

After introducing CMM, we introduced the stakeholder mapping and analysis tools incorporated in the Conflict Sensitive Conservation toolkit (IISD, 2009). This enabled the participants to clearly articulate the needs, interests, positions, and interconnectivity among stakeholders. With that increased clarity on actors and connections in the conflict system, we introduced *Causal Loop Diagraming* (Siokou, Morgan, & Shiell, 2014) to enable students to deconstruct the complexity of the situation through the use of schematic visualization on influence and effect in the conflict system. It was important for them to see the interrelatedness of the many factors involved, including environmental, social, economic, and political.

Systemic conflict mapping was done through the use of *Dynamical Systems Theory* (DST), and this fed into the conflict analysis of the situation (Vallacher et al., 2013). The previous activities led the participants to have a stronger and deeper understanding of the stakeholder groups, their needs, interests, and possible points of common ground. Using the systemic mapping approach of DST provided the platform for the participants to begin to deconstruct the complexity of the conflict situation. The mapping process increased their understanding of the conflict situation and how the different factors represented in the map reinforced or inhibited the presence of the other factors. It is not only the product of the maps themselves, but also the discussions that took place while creating these maps that allowed for different understandings and points of view to be expressed and explored. This information is used to increase understanding so they are better informed as negotiators when the formal negotiation is to take place.

A significant part of the mapping process or any of the negotiation preparation steps is the quality of the engagement within each small group. The negotiation preparation period is the time when assumptions should be made explicit and missing information identified as part of the learning that needs to take place before encountering the actual negotiation. These are the moments when teammates can challenge and coach each other toward cohesive understanding and transforming of perspectives so that they are all on the same page going into the negotiation (Fisher-Yoshida & Yoshida, 2016). Of course, the negotiation process is also an opportunity for learning and the more preparation all parties do the more balanced the information power and the more likely reciprocal learning can take place. The more the prepared, the more agile the parties are to respond in the moment and change direction as needed.

As Matsuura, Fuller, Kaufman, Kim, and Baba (2013, p 218) describe in their analysis of implementing what the RNT project described as "Negotiation 2.0," practitioners need to both simultaneously manage content and process. To address this, we introduced a wide range of conflict assessment, environmental

assessment, and analytical toolkits for monitoring and evaluation through guest lectures, practitioner field visits, and workshop demonstrations. While this was not intended to provide deep skill building in any single analytical technique, the overview provided learners with exposure to a range of skillsets and toolkits that can be drawn upon in actual conflict interventions. Further, as Docherty and Lira (2013) aptly note, it is unrealistic to assume that students will learn and master tools and skills to negotiate wicked problems in a single training or class (p. 410). Thus, our introduction to practitioners and various analytical tools was meant to provide further exposure for students in order to reinforce the ideas and experience that students were gaining in the classroom.

Through the early analytical work done in class around stakeholder analysis and conflict mapping, students identified a set of information needs on the technical, environmental, and political aspects of the Samarco case. As new toolkits were introduced, linkages were drawn back to the case to demonstrate where and how technical information could be jointly discovered through fact finding, and a set of toolkits that could assist in generating that information and integrating it into a negotiation. Further, this analytical process enabled students to identify potential indicators from monitoring the progress of the negotiation toward meeting various parties' needs, interests, and positions, and likewise for evaluating the feasibility of a negotiated settlement.

This was part of our decision-making process in the design and development of the course. We weighed the value of 'less is more' and diving deeper into fewer tools and techniques versus providing an overview of a plethora of tools for a broader level of familiarity. We found ourselves somewhere in the middle of the continuum, having participants use a few select tools in their negotiation preparation and exposing them to a variety of tools that are available and to be referenced at some future point in time.

The stepwise introduction of new skills, new knowledge, and information progressively built a reservoir of analytical inputs and process management techniques that eventually served as the basis for a simulated negotiation. The simulation was crafted to guide participants toward the design of a mutually agreeable plan for new inspection teams for mine sites and tailings dams. As described earlier, the pseudo-reality approach to simulation design enabled us to provide a data rich simulation, without being tied explicitly to the actual constraints of the ongoing conflict resolution process of the real case. Our departure from the actual disaster and disaster response involved four stakeholder groups negotiating the composition of new inspection teams, as well as the terms of operation for those teams including associated financial responsibilities.

One added bonus of this type of small group processing is that as they are engaged on task in working toward a determined goal, participants also need to apply good communication skills, such as listening, probing, and empathy. In doing so, the groups build a stronger case by a more thorough exploration of the content matter and they develop a keener sense of self-awareness as they are asked to reflect on their learning in their small groups. They learn about themselves as they learn about each other, while they are tasked to learn about the case and tools. Or, as Fox and Press (2013) describe, this approach enabled students to learn greater awareness of self, awareness of other, and awareness of context.

We formed the groups to get as broad a representation across disciplines and experiences to add richness to the conversation by offering multiple perspectives. We appreciate that diversity also poses challenges in communication and fostering understanding when values and perspectives may differ. When this is done well, we create opportunities to expand the repertoire of perspectives we bring to this negotiation and others as we continue to broaden how we approach and understand complex negotiations across difference (Fisher-Yoshida, 2005).

Lessons Learned

The model we developed and piloted is unique in two aspects. First, it synthesizes learning across the various phases of negotiation, from problem definition and fact finding through negotiation preparation and the design of discursive processes, as well as design of the implementation of a

negotiated agreement. Rather than treating these as discrete phases, our model treats these as nested and iterative processes. Second, the model is unique in that it utilizes a contemporary case of environmental conflict that was ongoing at the time of the training. The case was sufficiently mature to provide rich historical data, but was also ongoing and thus provided a dynamic case with recent changes in the micro, macro, and structural contexts that needed to be analyzed and incorporated into a simulated negotiation. This is an important pedagogical development in that it provides a more realistic negotiating context than a fabricated case, enabling students to incorporate rich data on the case while forcing them to grapple with uncertainty and dynamic changes to the context. There are benefits and challenges to using real-life scenarios for simulations in conflict resolution workshops or programs, such as the ongoing changing nature of information, participants' emotional connection to the case and determining whether the focus is on developing participants' knowledge of content, enhancing their skills, or advancing their ability to manage processes (Ebner & Efron, 2005). In our case, the main focus is on enhancing skills, with secondary benefits of learning content and tools, while experiencing an iterative collaborative process.

Throughout the course of the week, the participants learned specific concepts and tools that they applied to the case from the perspective of the stakeholder group to which they were assigned. This layered building in complexity and information permitted the participants to become more deeply knowledgeable about and engaged in their roles and the case than they may otherwise have been. It is interesting to note that often students over the years have said that role plays are not real, and therefore, we noticed a superficial engagement with the stakeholder group they are supposed to be representing. This was one of the guiding principles that led us to want to have the students do a deeper dive into their characters, so they could experience this vantage point cognitively and emotionally. Regardless of whether it is a superficial engagement with the stakeholder or a deeper dive into the character, the students still bring who they are into the role. This affects how they portray the character, and at some points, within the negotiation, the lines get blurred as to whether they are reacting from their own personal stance or the perspective of the stakeholder they are portraying. When debriefing the experience, there is an opportunity for reflection and learning about this phenomenon. It provides another chance for the participants to understand themselves and their reactions more deeply.

The iterative process for the participants engaging in this negotiation simulation allowed for mini-debriefs and reflections throughout the process. In these debriefs, participants can become more conscious of how they portray themselves in the negotiation and how they story themselves and the other parties. From the standpoint of a negotiation pedagogical lens, we can draw attention to how participants negotiate "the stories they tell" in relationship where meaning is made (Cobb, 2000, p. 317): change the story, change the dynamic. There is a direct link between how we tell our individual, personal stories and the social, contextual stories that are told (Wasserman & Fisher-Yoshida, 2017). In the process of delving deeper into more fully understanding all the involved stakeholders including self, there are ample opportunities to continue to modify these stories in the process of meaning making. The more we think of negotiation as an iterative process of relationship building the more we have the agency to author how stakeholders are portrayed and how we want the interactive engagement within the negotiation to go. This seems most relevant and applicable to the types of complex negotiations about wicked problems we are increasingly facing.

In the debriefs, participants were asked to reflect on their experiences throughout the lectures, workshop exercises, and simulation preparation in order to synthesize learning throughout the intensive. One aspect that stood out is the participants experience in developing their perspective of their stakeholder group, as well as, anticipating the needs, interest, and concerns of the other stakeholder group. As stakeholder groups used the variety of tools to conduct stakeholder and system analysis (such as the Daisy model from CMM, which asks them to identify the different influences shaping their position, needs, and interests), there was hesitation and surprise when we asked them to present their perspectives with the other stakeholder groups that they perceived as their adversaries (with whom they would later need

to negotiate). When they expressed this reticence to compromise their own stakeholder group's private information, we utilized the opportunity to reinforce two points. First, we highlighted the opportunity for building a collaborative and trusting negotiating environment via transparent negotiation preparation. That shared deeper understanding of each other has the potential to lead to better negotiation by clarifying explicitly needs, interests, positions, and assumptions. Next, we used the opportunity to highlight the "wickedness" of the problem. Each stakeholder group defined the problem differently based on their own perspectives. As such, the stakeholders were implicitly preparing to negotiate very different conflicts. For some, the issue was purely financial, and for others, it was a matter of what and whose scientific data was relevant. For still others, the issues were fundamentally about identity. Thus, this process enabled students to understand concretely the need to unpack assumptions prior to negotiation in order to enter the same negotiation and better understand their own and the others' position.

Our model differed from many standard teaching and simulation models by simultaneously building process management skills, jointly discovering and agreeing upon facts for negotiation, and infusing relevant assessment data into negotiations. However, returning to Lande's conundrum presented earlier—so much to teach, so little time—we were interested to know whether our approach was overly ambitious given the logistical realities of conducting negotiation education.

To assess the value of the model for the learners and students who participated in the pilot, we conducted a survey at the end of the one-week intensive on a number of aspects of the program so we could assess their experience and determine what worked well and what we would need to improve. Relevant excerpted questions and responses are presented in Table 2 below. Note that number of respondents is included in parentheses, followed by the percentage of responses.

What is notable is that while participants reported the approach to be novel, useful, and applicable, there are limits to what can be taught in a single negotiation training. Students in our training largely would have liked the training materials far in advance to assimilate theoretically dense and technically complicated materials. Likewise, there was a general sense of needing more time to grapple with this new set of skills, content, and practices. This leads us to agree with Kaufman et al. (2013) when they advocate that there is a need for a third wave of pedagogical development that can capitalize on the promise of teaching "wickedness" to students by refining pedagogical advance like the one described here in order to overcome these logistical and technical challenges of such complex subject matter.

Future Directions and Opportunities to Adapt the Teaching Format

We had the benefit of being able to run this program as a 40-hour intensive over the course of one week. Many organizations and trainers, however, do not enjoy that same flexibility and instead address their learning needs in 8-hour formats. There are certain principles in our design we believe can be adapted to shorter formats for a broader generalizability. In accordance, some of the expectations for learning and outcomes will need to be adjusted because of the lessened time allotted for skill development and mastery. The core principles to be included in shorter formats include focus on preparation with stakeholder analysis to deepen understanding of self (own stakeholder point of view), other party, and context or situation; apply and model a collaborative process throughout the simulation; introduce tools to enhance preparation, analysis and learning; and continue to prepare in an iterative process to deepen learning throughout the simulated experience. Therefore, in a shorter format with less time, one suggested way of framing the program would be to focus on a broad introduction of a variety of information and tools, while focusing the practice specifically on a few. This means that supplemental materials will be provided for participants to review before the program, if time permits, and as reference materials after the program.

Table 2
Excerpted Responses from Participant Survey

1) How did you feel about the application process and preparation materials?	2) Do you have any comments or suggestions regarding the application process or preparatory materials? Some participants mentioned they had no specific comments, while a few mentioned they would have liked to receive the readings and other preparatory materials further in advance to read and study	3) How did you feel about the timetable of the training?
(a)Application period and announcement [Please evaluate the timing of the. . .] (i) Too early 1 6.7% (ii) Just right 13 86.7% (iii) Too late 1 6.7% (b)Preparatory materials (readings, worksheets, etc.) [Please evaluate the timing of the. . .] (i) Too early 1 6.7% (ii) Just right 7 46.7% (iii) Too late 7 46.7% (c)Preparatory materials (readings, worksheets, etc.) [Please evaluate the ease of using the. . ..] (i) Too basic 2 13.3% (ii) Just right 12 80% (iii) Too complicated 1 6.7%	i No ii Maybe we can have the material at least 20 days prior to the course so we can take more advantage of it during the sessions. iii It could be useful have the materials in time to read and prepare it. iv I think by the time the final agenda for the course was defined there was too short a time for the preparation of all the reading material. I would have liked to have more time for analysis and preparation. v None vi I think it would be more useful if the preparatory materials were sent before. For example it would have been useful to have more information on the negotiation debate to have a better preparation. Likewise, I found some of the readings not mentioned in class. I recommended if is possible, bring the materials more early to improve our preparation for the sessions	(a)The days. . . (i) Ended too late 0 0% (ii) Were too many (entire training should have been shorter) 0 0% (iii) Were too few (entire training should have been longer) 1 6.7% (iv) Were just right 14 93.3% (b)The breaks were. . . (i) Too many 0 0% (ii) Too few 1 6.7% (iii) Too long 0 0% (iv) Too short 0 0% (v) Just right 14 93.3% (c)The sessions were. . . (i) Too long 0 0% (ii) Too short 0 0% (iii) Just right 15 100%

(4) Would you recommend this Executive Education training to a friend? Why or why not?
Comments were all positive. Some direct quotes include "All the information was really useful and allowed us to think immediately in the possible applications of it"; "Additionally, it is important to consider that environmental issues are not unrelated to security issues and peace building and that education is the perfect way to make the gap between these issues smaller to be less inequality and inequity"; and "In the field that I work it is very important to use complex analytical frameworks to understand the logic of human action, the impact, and generate alternative solutions. Studying, applying and analyzing what has been done in other parts of the world can show that these are useful tools and knowledge to transform our realities."

(5) Do you have other final comments or suggestions for the Executive Education in Environmental Peacebuilding? Comments included suggestions for testimonials from other peace builders in the world to be more aware of lessons learned to make progress, to include cases of decision making in different industries facing environmental peace building and security issues so students can better learn the theoretical content, and an appreciation of us from academia wanting to provide solutions

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The original framing of negotiation pedagogy and practice in the classroom and in organizations has increasingly moved away from simple, single-issue negotiations toward more complex contexts. However, the development of new pedagogical approaches remains an important area for development. Other research has demonstrated that there is a profound need to develop curricula and pedagogies that enable professionals to engage parties in dynamic and collaborative processes for managing environmental and public policy conflicts (Patton & Blaine, 2001; Singletary et al., 2008) that rely on synthesized skills and knowledge from multiple practice and theoretical approaches (Daniels & Walker, 2001). We have explored the changing nature of increasingly complex real-world situations calling for new and innovative ways to address these multi-issue, multiparty negotiations. The model that we developed and piloted is a response to such calls in that it focuses on the entire cycle of the negotiation—from problem definition through monitoring and evaluation—rather than focusing predominantly on the negotiation design and discursive phases. Further, by grounding this in a contemporary and ongoing case, students are enabled to experience and adapt to a dynamic conflict context that more closely mirrors the reality of contemporary environmental and public policy conflicts.

While our model is grounded theoretically in the literature dealing with wicked environmental problems, the core innovation for negotiation educators is the equal emphasis of (a) synthesis of hard and soft analytical techniques in negotiation preparation to focus equally on Fox and Press's (2013) awareness of self, other, and context, and (b) infusion of analytical inputs into a pseudo-reality based simulation to reinforce through experiential learning. The soft analytical skills and tools including CMM, causal loop diagramming, and stakeholder mapping are easily adapted to a variety of negotiation contexts including interpersonal conflict to corporate and business settings. The hard analytical skills that need to be integrated—in our case GIS, remote sensing, climate modeling, etc.,—need to be selected based on the types of data and information which are peculiar to the context. Importantly, however, exposure to such tools is required for the pedagogy, not expertise. The key is to merge hard and soft analytical skills in negotiation preparation in order to develop skills around awareness and to provide a more realistic simulation experience. Considering the increasing presence of multiparty, multi-issue negotiations in a variety of contexts, there is room for simulations with different content to be developed, while still following the principles and flow we established. For example, in a corporate context, a multicultural merger and acquisition can be used as case content, or a restructuring project in an institution of higher education as another subject matter.

The challenge of how best to prepare participants to engage successfully in the complex negotiations they face in their work and life continues to be a consideration. There is a steady pressure for learning as much as possible in as short a time as possible. This is particularly difficult to meet because skills require time and experience with critical reflection for learning to be internalized and used well. Information on issues and stakeholder perspectives is not always easily accessible and perceived constraints can stymie productive development in preparing for and experiencing negotiations. We need to be responsive to these demands in order to remain relevant. There is still much to be done in lessening the gap between what is learned in a controlled classroom environment and the agility that is needed in the field. These are opportunities for us to continue to push ourselves to refine how we best prepare negotiators and for them to adequately and successfully transfer their learning to meet these challenges.

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Appendix A Course Reading List

Topic	Author(s)	Year	Title	Reference
Assessments and Analytics	John Steinbruner et al.	2013	Methods for assessing national security threats	Climate and social stress: implications for security analysis. The National Academy Press: http://nap.edu/14682

Appendix A
(continued)

Topic	Author(s)	Year	Title	Reference
Assessments and Analytics	Michael Schmandt	ND	GIS Commons: An Introductory Textbook on Geographic Information Systems	GIS Commons http://giscommons.org/
Assessments and Analytics	Greg Miller	2014	The Huge, Unseen Operation Behind the Accuracy of Google Maps	Wired Magazine. 8 December 2014
Case Study	Joan Martinez Alier	2015	Samarco Tailings Dam Disaster, Minas Gerais, Brazil	EJAtlas. https://ejatlas.org/conflict/samarco-tailings-dam-disaster-minas-gerais-brazi
Case Study	Ana Carolina de Oliveira Neves et al.	2016	Neglect of Ecosystems Services by Mining, and the Worst Environmental Disaster in Brazil	Natureza & Conservacao Volume 14, pages 24–27
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Conflict Resolution Strategies	Palvi Ljula & Siri Rustad	2013	Land and post-conflict peacebuildling	ELI & UNEP: Policy Brief #3
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Conflict Resolution Strategies	Catherine Creede, Beth Fisher Yoshida, & Placida Gallagos	2012	CMM as transforming practice: an introduction	The reflective, facilitative, and interpretive practices of the coordinated management of meaning: making lives, making meaning. New York: Rowman & Litlefield
Conflict Resolution Strategies	Beth Fisher Yoshida	2014	Creating constructive communication through dialogue	Handbook of conflict resolution: Theory and practice, 3rd edition. San Francisco, CA: Jossey Bass
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Appendix A
(continued)

Topic	Author(s)	Year	Title	Reference
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Environment & Conflict Nexus	Michael Ross	2015	What have we learned about the resource curse?	Annual Reviews of Political Science 18: 239–59
Environment & Conflict Nexus	John Steinbruner et al.	2013	Climate events and national security outcomes	Climate and social stress: implications for security analysis. The National Academy Press: http://nap.edu/14682
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Wicked Problems	P. J. Balint et al.	2011	Wicked environmental problems: managing uncertainty and conflict	Washington D.C. Island Press

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