
Using Simulations to Teach Negotiation:
Pedagogical Theory and Practice

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We believe that simulations are a valuable tool for teaching negotiation. There has been an enormous growth in the number of professional schools and corporations teaching negotiation, and most of these teaching efforts are built around simulations. Indeed, the professionals and academics who teach negotiation claim that well designed simulations are the key to teaching graduate students and mid-career professionals. This claim is rooted in the idea that negotiation is best taught by "doing it." Yet, most of the research and writing on the use of simulations offer little evidence to back up this assertion. We will review the pedagogical theory behind the use of simulations and review what leading academics have to say about their importance as a teaching tool.

What is a Simulation?

Generally, simulations model a complex process or reality. They place participants in an assigned role in a specific situation and challenge them to find ways to address the circumstances and the consequences likely to follow from various courses of action. Simulations can be based on real-life situations or purely hypothetical premises. They can include computer-based packages of information or not, and they are usually carried out via face-to-face interaction, although asynchronous interaction involving computer-assisted communication is gaining in popularity. Simulations offer the learner a safe setting in which errors are not costly and experimentation is encouraged.

The differences between simulations, games and role-plays are significant. Each fits with a different set of teaching objectives. Games generally have an agreed upon set of rules that limit possible final solutions or agreement. Success, or winning, in a game depends on adherence to a predetermined formula. Participants seek a solution that fits the rules of the game. Role-plays typically involve a set of specifications or characteristics that are assigned to each participant. They are devised to impose specific restraints, pressures and influences on the participants similar to those they would experience in a parallel real life situation. The shape of a final agreement, however, is generally not limited by the rules in a role-play. Simulations combine elements of games and role-plays. They typically consist of at least three parts: a written background piece that sets the stage, confidential instructions for each role player, and a teaching or debriefing note. The background introduces the rules of the game. The role-play, computer simulation, or related activity involves the players in a

problem-solving situation. Typically, multiple groups or "tables" play the same game at the same time so that the results can be compared.

The debriefing of the results at multiple tables provides an opportunity for the full group to examine the differences in outcomes. Participants are encouraged to reflect, not only on their own results but on why the outcomes of the other groups playing the same game were different. Student reflections and simulation outcomes are generally discussed openly with everyone. The instructor must be able to highlight commonalities and differences that teach important lessons.

Debriefings require the instructor to link the group's outcomes to key negotiation concepts and theory. In our experience, debriefings are when most of the learning takes place. Thus, it is important that inexperienced instructors, especially, use a carefully prepared teaching note to guide their debriefing efforts.

It may be helpful to illustrate. We have selected a simulation, called Harborco, and highlighted: (1) what is conveyed in the background instructions to all players; (2) what is contained in the confidential instructions for each player; (3) the a range of typical results; and (4) the lessons usually raised during the debriefing.

A Sample Simulation: Harborco

General Instructions

Harborco is multiparty, multi-issue, scorable face-to-face negotiation. The simulation centers around a negotiation over a proposal by Harborco, a consortium of development, industrial, and shipping concerns, to build and operate a deep-water port in the city of Seaborne. The proposal is controversial because of its potential impacts on the environment, the direction in which industrial development will proceed, impacts on competing ports and the distribution of new jobs related to construction and operation. The participants must decide whether to grant Harborco a license for the port development and if so, what the conditions are under which the license will be issued. The negotiation is organized by the Federal Licensing Agency (FLA). The participants include a representative of the environmental coalition, a spokesperson for the Federation of Labor unions, a representative of a consortium of other ports in the region, senior staff for the Federal Department of Coastal Resources (DCR) and the Governor of the host state.

Each of the parties to the negotiation views port development differently. Included in the background information that all participants

receive, is general information about each parties' stated positions. The developers, Harborco, believe that the port will provide economic benefits for the region. The Environmental League is generally opposed to any coastal development because it threatens fragile ecosystems, will increase air and water pollution, and adversely affect health and safety in the region. The Federation of Labor Unions is pleased with the employment the port will generate and seeks guarantees that the new employers will hire only union workers. The neighboring ports are not supportive of the new port being built and are seeking significant compensation if the project goes ahead. The Federal Department of Coastal Resources (DCR), a cabinet-level agency with a mandate to encourage economic development along the coast while also protecting coastal areas, is supportive of new port development. Finally, the Governor of Seaborne is eager to promote development and considers the unions one of her political allies.

The parties negotiate over five controversial issues. The first is the type of industrial development that will be allowed. The options include: a dirty mix of oil refineries, petrochemical plants, steel productions plants and other similar facilities; a clean/dirty mix, and all clean (i.e. high tech) industries. The second issue is the ecological impact that port construction is likely to have, including the impact on sensitive habitats in the tide lands. The parties must decide whether the project will be allowed to do some harm to the environment, should be required to maintain or repair the ecological balance, or should only be permitted if it improves the ecological setting. The third issue that must be decided concerns employment rules, including whether Harborco will be allowed to hire whoever it wants, or will be required to hire a certain proportion of unionized workers. The parties must also determine the size of the federal loan that the DCR will provide. The options include loans of \$3, \$2, or \$1 billion at 15% interest over 20 years or no federal loan at all. Finally, the parties must decide on a compensation package for other ports. The options include Harborco paying \$600, \$450, \$300 or \$150 million or no compensation at all.

Confidential Instructions

In addition to the general instructions that everyone receives, each party is given confidential instructions that they are not allowed to show the other players. These outline a suggested negotiation strategy and rank each of the contested issues in importance. The confidential instructions specify the minimum amount of points each party must achieve in order to accept an agreement, the point total if no agreement is reached and the maximum point total assumed possible. The confidential instructions are designed to create deliberate conflicts

among the parties but still leave room for agreement. It is up to the negotiators to maximize their points while negotiating an agreement. The Federal DCR is willing to make a the loan to Harborco, but also seeks to extract some concessions. The Federal DCR wants to preserve the ecological integrity of the coast, but does not want to require unnecessary expenditures. The DCR prefers a \$1 billion loan, the improvement of the ecology of the port, a maximum \$300 million compensation to other ports, a development mix of clean and dirty industries, and has no preference with regard to employment rules.

The environmental league negotiator is primarily concerned about improving the ecology of the coastal region. She sees the port development as an opportunity to secure important environmental protections. However, the environmental league representative does not want to be excluded from the deal entirely, thereby risking no environmental controls at all. So, he/she desires an all clean industrial mix and improvements to the environment, but does not feel strongly about any of the other issues.

The Governor's negotiator favors the project and insists on union preferences in hiring. The Governor's negotiator is also concerned with ensuring the maximum federal funding possible. His/her priorities also include a \$3 billion loan, unlimited union hiring preference, a primarily dirty industry mix, the possibility of some harm to the environment and no compensation to neighboring ports.

The Harborco negotiator would like to avoid additional costs especially those associated with environmental improvements, compensation to other ports and union preference in hiring. However, he/she recognizes the enormous potential profit the port development can generate. Therefore, Harborco is willing to agree to some added costs as long as they are guaranteed a \$3 billion loan. They also want an industrial development that can be primarily dirty, allowing some harm to the environment. Harborco wants to avoid a costly lawsuit if no agreement is reached and thus seeks a consensual resolution of all the issues with all five parties.

The negotiator for other ports is concerned that his/her constituency will suffer if the Harborco proposal goes forward. He/she is instructed to do everything possible to derail the negotiations and to see that no agreement is reached. However, if a proposal has everyone else's support, the port representative is instructed to demand the highest possible level of compensation and to push to increase development costs for Harborco. The port negotiator supports unlimited union hiring preference, all clean industries and substantial environmental mitigation.

The union negotiator supports the project because of its job creation potential. The union negotiator also seeks guaranteed union preferences in all hiring and wants the maximum federal loan to ensure that the project is completed. The union supports a clean/dirty industrial mix, a small amount of compensation to other ports, but does not feel strongly about environmental impacts.

Typical Outcomes

The confidential instructions provide each "player" in the simulation with a desired set of outcomes. The negotiation includes periodic votes on the five issues. The parties score each issue based on the points assigned in their confidential instructions. At least five of the six parties must agree to a proposal for Harborco to get its license. Each party is instructed to seek its highest possible individual score.

The simulation is arranged so that a high scoring issue for one party is a low scoring issue for another. One objective in the simulation is to highlight the possibility that parties can work together to achieve a high score. In all, there are 55 possible agreements with only 9 being 6-way agreements. Generally, the Harborco negotiator will offer concessions to forge a winning coalition with at least four other players. Three typical results of the Harborco simulation include: (1) granting the loan with limited compensation to other ports and minimal environmental impact; (2) an agreement which leaves out the environmental league; or (3) no agreement at all.

When no agreement is reached, it usually means that the parties were holding out for more than their minimum scores or attempting to deprive others of what they presumed would be unduly large gains. When this is the outcome, no party leaves the negotiation better off than before it started.

Debriefing

The key negotiation lessons usually taught from this simulation are: (1) it is important to understand one's Best Alternative To Negotiated Agreement (BATNA); (2) there are opportunities to create value even in situations which are usually competitive; and (3) multiparty negotiations often hinge on the creation of winning or blocking coalitions.

The simulation illustrates how negotiators might best understand their BATNA by using a simple scoring system. By figuring the importance of each issue and its relative importance, parties can evaluate options more critically and be more clear about what others might need to be part of any agreement. In Harborco and other scorable simulations, a BATNA is assigned to each player. The lesson that can be explored in the debriefing asks simulation participants to articulate how they

understood their BATNA how it shaped the tradeoffs they were willing to accept.

A second important negotiation lesson from Harborco emphasizes that negotiations are rarely zero-sum. A key insight for participants to draw is that joint-gains are possible because each player attaches a different level of importance to each issue being negotiated. In order for participants to fully grasp this, they must listen to the other parties' interests and communicate their true interests in a believable way. In order to create joint-gains, parties trade across issues they value differently while developing packages that allocate these joint gains.

A third lesson is the importance that coalition building plays in multi-party negotiations. Coalitions can form to both block agreement and to "expand" and "divide" the pie. Participants in Harborco needed to find other parties who share their interests and to assess the strength and stability of all possible coalitions. The simulation highlights how coalitions are often fragile because an outside party may lure a coalition member away by offering more than the coalition can provide. The stability of coalitions also depends on each party understanding the interests of the other parties and being creative about identifying shared interests. The simulation highlights the importance of building coalitions in the right way.

Harborco is an example of a scorable role-play simulation. It is conducted through face-to-face negotiations in which participants are assigned "roles." The entire simulation, including preparations, negotiations and debriefing, typically takes about three hours to complete. Harborco, like many simulations, works best when there are two or more tables playing the same simulation so that outcomes can be compared. Harborco introduces students to many of the fundamental negotiation skills that comprise the mutual gains approach to negotiation.

Negotiation Skills

Teaching negotiation skills is different from teaching many other technical skills. Negotiation is not "one thing" or even one set of techniques. Thus, learning negotiation is not like learning a scientific formula or a mathematical equation—which once mastered, can be used again and again by following the same formula. Negotiation involves more art and science than that. While many authors have examined the bundle of skills involved in effective negotiation, or what we call "mutual-gains" negotiation, a short list of some of these skills is offered below:

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Preparing for Negotiation

- Clarify your mandate and define your team;
- Estimate your Best Alternative to Negotiated Agreement (BATNA) and theirs;
- Improve your BATNA (if possible);
- Know your interests;
- Think about their interests;
- Prepare to suggest mutually beneficial options;

Creating Value

- Listening to and understanding the other parties' interests;
- Suspend criticism;
- Invent without committing;
- Generate options and packages that "make the pie larger";
- Use neutrals to improve communication;

Claiming Value

- Behave in ways that build trust;
- Discuss standards or criteria for "dividing" the pie;
- Use neutrals to suggest possible distributions;
- Design nearly self-enforcing agreements;

Follow Through

- Agree on monitoring arrangements;
- Make it easy to live up to commitments;
- Align organizational incentives and controls;
- Keep working to improve relationships;
- Agree to use neutrals to resolve disagreements.

Our emphasis is not so much on the particular skills on this list but on the fact that the range of skills requires mastery of concepts and methods from an enormously wide range of fields. Lewicki (1997) suggests that negotiation skills are "a complex collection of elements that entail aspects of strategizing, advocacy, communication, persuasion, and cognitive packaging and repackaging of information" (1997:265). Skills such as understanding, questioning, defining, framing and re-framing do not necessarily fit neatly into a recognizable discipline or pedagogy. This diversity of skills suggests that the best way to teach negotiation is by having students practice in actual conflict settings (or simulations). The next section briefly reviews the pedagogical assumptions behind this recommendation and how five teachers of negotiation view the usefulness of simulations from their teaching vantage.

Simulations and Pedagogical Assumptions

If negotiation is best taught through reflection on one's own practice, what does it mean to learn by doing? In other words, what are the pedagogical assumptions behind this approach to learning? Learning is often understood as a process whereby concepts, principles and ideas are internalized into the learner's cognitive processes thus leading to changed thought patterns and actions (Dewey 1938; Kolb 1984). Learning by doing implies that there is an experience, "the doing," that causes thought patterns and theory-practice connections to change.

This section will highlight three views about this process. The first, from Dewey (1938), stresses the interaction between the learner and his or her social environment. The second, from Lewin (1951), emphasizes the cyclical process of such experience (i.e., reflection allows abstract principles to form and these are tested in subsequent experiences). The third, drawn from cognitive psychology and epistemology, sees the learner "creating knowledge" by resolving "cognitive conflicts" which arise through challenging experiences. Taken together, these views provide a justification for experiential learning, or, more specifically, the use of simulations

All three views postulate a process of confronting our existing ideas about how and why certain things happen, breaking them down and offering a new model or set of postulates to replace the old ones. This does not occur easily because we are often reluctant to give up what works for us or to see the world in a new way. As Argyris and Schon (1974) point out:

[T]he trouble people have in learning new theories may stem not so much from the inherent difficulty of the new theories as from the existing theories people have that already determine practices. We call their operational theories of action theories-in-use to distinguish them from the espoused theories that are used to describe and justify behavior. We wondered whether the difficulty in learning new theories of action is related to a disposition to protect the old theory-in-use (1974:viii).

Schon (1987) later suggested that a theory-in-use could give way to a "theory-in-action" through reflection. Addressing primarily how practitioners learn, Schon stated that we often see an unfamiliar situation as "both similar to and different from the familiar one, without at first being able to say similar or different with respect to what" (1987:67). What we may wind up doing in a learning situation is using the familiar situation as a metaphor for the unfamiliar.

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Experiential learning theory suggests that we must open ourselves to what may seem a non-conventional view of the world. The process of challenging our existing "theories-in-use," is essential. Dewey's theory of experiential learning emerged in reaction to traditional educational strategy and asks the learner to embrace a new way of understanding or a new approach to practice.

Dewey and Experiential Theory

Dewey described learning as "intelligently directed development of the possibilities inherent in ordinary experience" (1938:69). He believed that learning through experience was the "progressive" alternative to more traditional education. Traditional education viewed information and skills as "givens" (formulated throughout history). The educational objective was to ensure that learners memorized and internalized this historical knowledge (i.e., what was "given to them"). In this model, students were viewed as passive spectators with empty minds waiting to be filled. The educator's role was to simply supply the learner with deposits of information.

Dewey's challenge to this model of pedagogy was his "progressive" model. His alternative was rooted in the belief that education should come through experience grounded in and relevant to one's social conditions. The goal for Dewey was to create genuine, positive and stimulating experiences. Dewey's educational theory had three major qualities: continuity; social awareness; and, "collateral learning."

For Dewey, learning entailed a continuity of experiences or, as he put it, "an experiential continuum." Each subsequent experience should be influenced by prior experiences. He claimed that every experience "modifies the one who undergoes it and this modification affects the quality of subsequent experience" (1938:36). Learning occurs when one experience opens the learner to other new experiences.

Dewey's theory was also built on a strong reaction to the social conditions through which experiences occur. One aspect of this view was that experiential learning could not occur to the person acting alone. Human contact and interpersonal communication were part of every meaningful learning experience.

Another feature of Dewey's theory were the "objective conditions," or the environment—both physical and social—within which experiences occurred and through which they were filtered. For Dewey, the objective conditions included everything from the physical conditions in the classroom to the learner's social and economic class. The learner's objective conditions often challenge internal, or individual,

understanding. The result is a constant interplay between the learner's internal (individual) and objective (external) conditions—the sorting out of which contributes significantly to Dewey's idea of learning.

The third aspect of Dewey's theory of experiential learning includes "collateral learning." This is the process whereby a student learns a skill relevant to a particular experience and, at the same time, forms attitudes, likes and dislikes which he or she carries forward to apply in subsequent situations. Dewey stressed that experiential learning was not just about acquiring skills relevant to a single experience but also about understanding the relationships and meanings among many, seemingly divergent experiences. He wrote:

What avail is it to win prescribed amounts of information about geography and history, to win ability to read and write, if in the process the individual loses his own soul: loses his appreciation of things worth while, of the values to which these things are relative; if he loses desire to apply what he has learned and, above all, loses the ability to extract meaning from his future experiences as they occur? (1938:49)

For Dewey, it was only in an experiential model of learning that these objectives could be met. Dewey viewed traditional education as teaching single skills in controlled laboratories where there was little or no room for creative relational idea making.

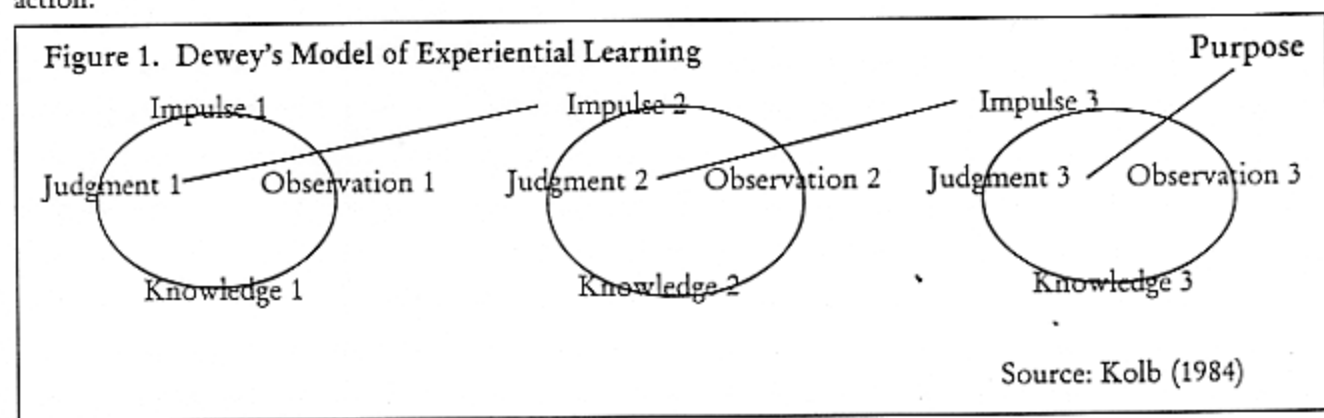
Dewey's Model

The focus of Dewey's learning model is the transformation of an impulse into purposeful action. It is built on a continuum of experiences in a social setting where collateral learning helps the participant make judgements. The model revolves around an initial impulse—an observation of "objective conditions"—and a knowledge of the experience which comes from the interplay between our internal and objective conditions. These all lead to a judgement about whether to or how to act. Dewey describes the cyclical process this way:

The formation of purpose is, then, a rather complex intellectual operation. It involves: (1) observation of surrounding conditions; (2) knowledge of what has happened in similar situations in the past, a knowledge obtained partly by recollection and partly from the information, advice, and warning of those who have had a wider experience; and (3) judgement, which puts together what is observed and what is recalled to see what they signify. A purpose differs from an original impulse and desire through its translation into a plan and

method of action based on foresight of the consequences of action under given observed conditions in a certain way (1938:69).

Dewey's model is diagrammed in Figure 1. Postponement of action after the observation stage is crucial because a series, or continuum of impulses, observations, and judgments should precede purposeful action.



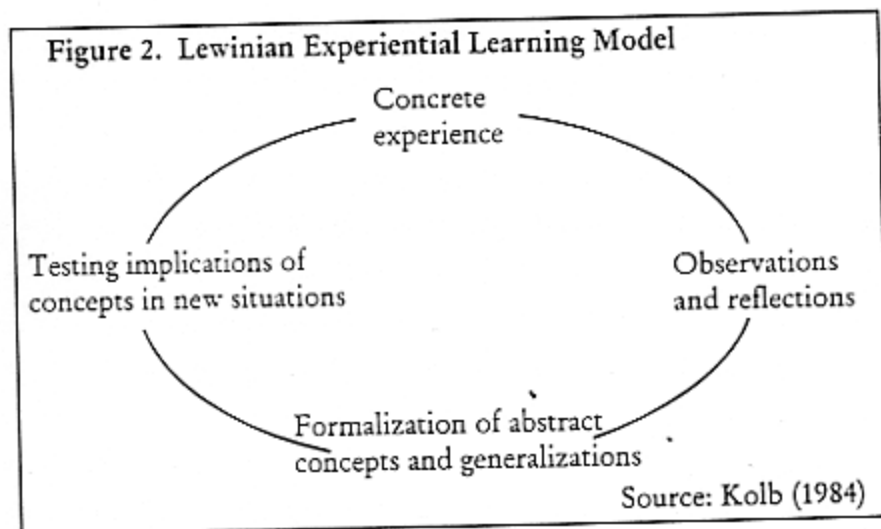
Lewin's Theory

The social psychologist Kurt Lewin offers a related model of experiential learning. Lewin's experiential learning theory is rooted in dialectical tension between immediate concrete experience and analytic detachment. Lewin developed his theory, often called T-groups ("T" for training), by noticing that participants in training learned best when they were involved in reflecting on and discussing their experience both with other participants and nonparticipant psychologists. He brought together trainees with his staff of psychologists in open dialogue where inputs from each could challenge and stimulate the others (Lewin 1951).

Like Dewey's cyclical model, Lewin also suggests cyclical experiential learning. Lewin offers a model with four stages; it differs slightly from Dewey's model, which has no real beginning or end. The initial emphasis is on the present experience. By focusing on the immediate personal experience, this theory attempts to provide "personal meaning to abstract concepts while at the same time providing for a concrete, publicly shared reference point for testing the implications and validity of ideas created during the learning process" (Kolb 1984:21).

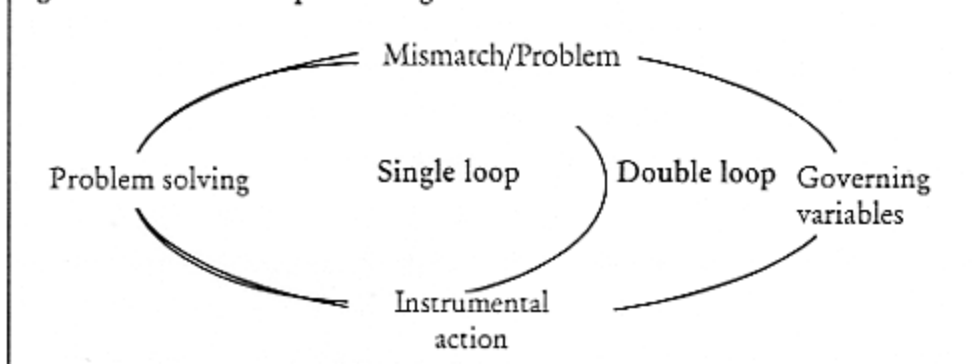
Lewin's theory also focuses on feedback. He viewed experiential learning as social learning and problem solving with feedback as a continual process of "goal-directed action." Experiential learning is

optimized when observation on experience and action toward a desired goal are integrated and balanced. The four stages of Lewin's experiential learning model are outlined in Figure 2.



Argyris and Schon (1996), expand on the idea of a "looped" learning process such as that offered by Lewin. They suggest that learning occurs whenever errors are detected and corrected, or when a match between intentions and consequences is produced for the first time. They found that in the learning process, individuals often design and implement a "theory-in-use" (actual behavior) that is significantly different from their espoused theory (what people say they do). They also found that individuals are unaware of the inconsistency when the theories they espoused and used were different. They are surprised to find out that there are often fundamental, systematic mismatches between individuals' espoused and in-use designs (1996:76). In addition, they found that individuals develop designs to keep them unaware of the mismatch. Argyris and Schon suggest that "single loop" learning involves changing behavior only to address the challenging situation at hand. This learning merely "satisfices" and does not change the underlying defensive routines that lead to the mismatch, implying that individuals are doomed to repeat the process never learning enough to understand the mismatch. In order for more meaningful learning to occur, Argyris and Schon offer a "double loop" learning process where the governing variables—the values and assumptions behind our understandings—are considered and questioned. Meaningful learning occurs in the "double loop" process because we don't merely solve problems but attempt to understand and challenge our governing variables behind our "theories-in-use." (Figure 3).

Figure 3. Double Loop Learning



Cognitive Psychology Theories

Cognitive psychology offers a third model of experiential learning. One psychologist, Jean Piaget (1968), offers a model rooted in cognitive development. For Piaget, the learner constructs cognitive structures through two major processes: 1) assimilation—in which new information is integrated into existing structures; and, 2) accommodation—in which a learner's cognitive structure is altered to integrate new knowledge. Assimilation occurs when a new experience is consistent with one's existing cognitive structures and the knowledge from the experience is easily integrated. In Schon's terms, this is the role that metaphor plays.

Accommodation, on the other hand, challenges our established perceptions. In this process, our perception and understanding of experiences do not fit neatly within our existing cognitive structures. We find ourselves in a situation of "cognitive conflict," in which our established perceptions are challenged and we seek new ways to understand our experience. For Piaget, cognitive conflict stimulates a reorganization of our ways of thinking and seeing the world. Learning emerges through this reorganization of our cognitive structures.

Generally, cognitive psychology claims that our cognitive structures provide the framework through which experience is interpreted and through which we attempt to reorganize our understandings—leading to learning. Cognitive psychology suggests that we abstract principles from repeated experiences and also link the principles together through these same repeated experiences. The reorganization is a process of deducing from the abstractions actions which we have never previously performed (Furth 1969:71-75).

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In the cognitive psychology view of experiential learning, our interpretive structures arise and evolve over time through repeated experiences. This interpretive process is similar to hermeneutics, which is the discipline (originally concerned with interpreting sacred texts) of interpretation (Palmer 1969). Hermeneutics is generally understood as a continuous cycle of interpretation and reinterpretation leading to new understandings. As such, it provides an important model for understanding experiential learning.

A classic example of a hermeneutic process leading to new learning and understanding is the interpretation of a written text as it is presented orally. The first reader gives meaning to the text not just through a reading of the written words, but also through the intonation in his or her voice. The meaning of the text for the listener can shift from their original understanding as the text is read aloud. Subsequent readers may present the same text differently as they read.

Hermeneutics suggests that only through this interpretive process does meaning emerge. Meaning of a text or an experience in the hermeneutic tradition comes about through an interplay between the parts of the experience and the whole experience. In the reading of the text example, the parts might be the meanings assigned to each word and the whole might be the entire text heard as an experience. As important in hermeneutics is reciprocity, where the meaning of the whole (e.g. the text) is dependent on the meaning of the parts (e.g. individual words). This process of parts and wholes taking on different meanings in each cycle in a continuous process of bringing understanding to an experience, is what is known as the hermeneutic circle (Palmer 1969).

The hermeneutic circle underlies all of the experiences through which we produce meaning. According to the hermeneutic perspective, meaning and meaningfulness are always contextual; they are part of the situation. There can be no understanding independent of a mutual set of experiences and interpretive practices. Learning occurs through the construction of common interpretive experiences. In this model, experiential learning is a cyclical process of interpretation and re-interpretation; assigning meaning to parts, to wholes, and back to parts again. The hermeneutic circle is similar to and consistent with the cyclical experiential learning models offered by Dewey, Lewin and Argyris and Schon.

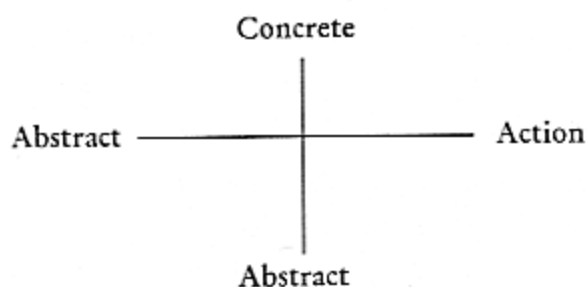
Towards a Theory of Experiential Learning

The three theoretical approaches to experiential learning described above suggest that learning is a continual process of confronting and

resolving conflicts between old "theories-in-use" and experiences (and interpretive frameworks). While the three have significant points of disagreement, their common embrace of dialectics and the multi-phased process of learning offer a basic pedagogical approach to experiential learning that justifies and explains the relevance of simulations for teaching negotiation. Similar to the hermeneutic process, experiential learning consists of ideas and concepts being formed, challenged and re-formed in multiple, often linked, experiences. Freire (1970) states that "knowledge emerges only through invention and reinvention, through restless, impatient, continuing, hopeful inquiry [people] pursue in the world, with the world, and with each other" (1970:58).

Lewin stated that the conflict between concrete experience and abstract reflection moves us to conceptualize abstract principles and then test these new abstractions in subsequent experiences. The axes of dialectic tension (Figure 4) however, in the experiential theories of learning still remain.

Figure 4. Axes of Dialectic Tension in Experiential Learning



Source: Kolb (1984)

Views From Practice

In further developing how experiential learning is encouraged through the use of simulations, we spoke to five leading practitioners in the field: Professor Robert Mnookin, Harvard Law School; Professor Deborah Kolb, Simmons College; Professor Roger Fisher, Harvard Law School; Professor Michael Wheeler, Harvard Business School; and Professor Max Bazerman, Kellogg School of Management, Northwestern University. We sought to find out why they use simulations and how they use them to teach negotiation to both graduate students and mid-career professionals. These views are intended to document how experienced instructors handle the dialectic tensions in experiential learning. We asked each respondent to describe how simulations can be effective in helping students understand key negotiation dilemmas.

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We also asked them to describe the actual simulations they find most effective and why. Finally, each person was asked to talk about the debriefings that they do and how these can be most effectively coupled with simulation exercises to provide meaningful learning opportunities.

What we found is that the practice of using simulations to teach negotiation is closely linked to the theory of experiential learning. Experiential learning, at a basic level, includes a structured experience, reflection on that experience, and a subsequent experience in which behavior may be altered based on the prior experience and reflection. We found that the instructors to whom we spoke use simulations to provide a carefully structured experience, encourage reflection through the debriefing and other techniques, and use different kinds of simulations to link experiences and reflections in different ways for different types of students.

Why Use Simulations?

According to Max Bazerman, "the most important thing simulations do is unfreeze people from past practice." Bazerman claims that simulations are used effectively to unfreeze past practice when the results of a simulation "are clearly lousy." Deborah Kolb agrees with Bazerman and adds that, "when you want to help people understand how they got a particular outcome—what they did—I think role-plays are great for that." Robert Mnookin claims that in his teaching, simulations help integrate negotiation theory and hard skills:

In teaching I try to provide students with an intellectual framework for understanding negotiations and prescriptive advice on how to most effectively negotiate. Through simulations, students actually experience the negotiation process and as a teacher I can use these student's own experience in the simulation to both develop conceptual frameworks and get them thinking hard about what does work, what doesn't work, and why?

Roger Fisher agrees that simulations are a useful way to unfreeze past practice while also teaching new skills for dealing with people in difficult situations. Fisher notes:

We use simulations because you can't tell someone how to deal with others and expect them to understand. They need to do it. There is clearly a difference between telling someone to put themselves in another's shoes and having them experience another's point of view in a role-reversal. Simulations are one way to do that.

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In practice, the simulation of face-to-face interaction between parties offers the critical experience through which negotiation themes, concepts and skills can be explicated. How negotiation themes, concepts and skills are raised using simulations varies from instructor to instructor.

Techniques and Types of Simulations Used

While a simulation offers an experience around which instructors can organize the lessons they want to teach, they often use different techniques to highlight both negotiation theory and skills. For example, Bazerman is "a big fan of scorable games." He believes that "the classroom is a great place to show you blew a million dollars." Michael Wheeler agrees with Bazerman, stating that despite some "misgivings," he is "still inclined to favor scorable games, ones in which it is possible to validate efficiency notions, for example, or coalition dynamics." However, other practitioners stress different concepts in their teaching and do not emphasize the use of scorable games.

Roger Fisher states that scorable games are often not the best way to introduce critical negotiation skills to students—whether they are graduate students or mid-career professionals. Fisher notes:

I am less intrigued by scorable games because so much in life is scorable in terms of money. People really care about how they are treated, how they are respected, whether you acknowledge their interests. There are a whole set of concerns. While scores count in life, my view is that they tend to count too much. I don't want to emphasize more dollars and cents. My impression is that relationships are more important. You can't score relationships. I prefer a role reversal exercise or other simulations to scorable games.

Robert Mnookin best captures the advantages and disadvantages of scorable games when he states:

The advantage [of scorable games] is that students can compare their outcomes. If you are trying to teach them that some outcomes are Pareto-superior to others, you can demonstrate it very effectively. The disadvantage of scorable games is that the creativity to think outside the box of things that can be scored counts for nothing. A lot of what I'm trying to teach is this type of thinking, so this is a disadvantage.

Practitioners also differ over how to most effectively use simulations to create a series of learning experiences that link reflection to concrete

experience. Kolb noted that she uses a combination of games, cases, role-plays, and real-life applications in her teaching. Kolb finds games, such as the Oil Pricing Game* and Win-As-Much-As-You-Can*, to be extremely effective for their "aha!" quality — the critical moment when a participant experiences a key lesson in the exercise, but finds role-plays useful for teaching specific skills. She notes:

Games often don't look like the thing your doing but have an "aha!" to them. That is because they are an analogue to the thing you are trying to study. These are among the most powerful experiential exercises that there are. I combine these with role plays, which help people create an experience where the data helps make specific kinds of points to teach specific kinds of tactics, techniques and ways of thinking.

Each practitioner's view on the usefulness of simulations drives, in part, the selection of the simulations they use in their teaching. Robert Mnookin states the he tends to choose simulations to focus on negotiation themes he finds compelling. Moonkin states:

One of the basic themes of my teaching is that there are almost always opportunities to create value and there are almost always distributive issues. And, there is a tension between opportunities to create value and the problem of distribution. I want to choose situations not of pure distribution but where there are some value-creating opportunities, often ones that they may overlook. Sally Soprano, Power Screen and others, have this aspect. Not purely distributive, but there always is a distributive issue.

Practitioners stressed that teaching negotiation only with role-play simulations will deny students the opportunity to understand key negotiation lessons. They stated that role-plays may only capture certain skills needed to be effective in negotiation while missing others. Wheeler states:

I'm troubled by so-called simulations that ask people to assume the role of the victim of sexual harassment or to be a rabid environmentalist or developer, for that matter. Such assignments trivialize the complexity of the issues and mask important questions of identity, relationship, and even ethics.

As to the second issue, our need to highlight certain issues (and to keep the exercises from becoming all-consuming), we typically squeeze out important aspects of negotiation preparation, discovery and weighing

our interests, for example, or pursuing nonagreement alternatives, including other negotiations. In order to get people to a point where they can actually come to "agreements," we often push them well down the negotiation road, saddling them with assumptions that are not their own and may be of dubious plausibility.

Kolb also expresses concern over the important negotiation skills that a teaching strategy that only uses role-plays might ignore. She emphasizes that:

I have a number of issues with role-plays. One, the issue of complexity. In the world we don't get roles. The whole definition of how you decide what your preferences are, what your interests are, even what the issues are, is something that is very interesting to me and role-plays don't do that. I use different ways to get at these things. Role plays are also not a good vehicle to look at issues of gender, because they take some of the things that might be gendered to the world out. Because they tell people what to look for, role-plays are never, by themselves, a sufficient reflection of reality.

Thus, when using simulations practitioners stress that instructors must be aware of their limitations. All the instructors we spoke with agreed that to teach negotiation effectively, whether to graduate students or mid-career professionals, requires a teaching strategy which combines simulations with other games, cases and readings. None of the instructors rely heavily on computer-based simulations and are skeptical that computer simulations can replace the real-life dynamic that face-to-face simulations offer. They also stressed that no matter what the mix of simulations and teaching techniques in class, reflections outside of class on the experience is crucial to teaching negotiation.

Debriefing in Practice

The debriefing of a simulation is crucial. Wheeler claims that "the debriefing is everything. I can't imagine people getting much value from simply doing a series of negotiations." Kolb states that "if you can't debrief it, there is not much to learn—the debrief is a way to make the theory meaningful" Fisher concurs, stating, "reviewing what you did, either talking about it or hearing other people talk about it, is crucial." However, techniques for using the debriefing to convey lessons differ.

The success of a debriefing session depends on providing reflection "space" for experiential learning. Mnookin states that his debriefing sessions have the added challenge of providing meaningful space for

reflection with a large group of students. Mnookin describes his strategy as follows:

I have them discuss in smaller groups first or themselves think about what some of the critical lessons are. When teaching a big group, only a few individuals get air time. The most critical aspect of the debrief is for the teacher to both be able to use and build on what students are saying on one hand and at the same time have an idea ahead of time what major messages you want to get across. The skill is to build on their own experience to get to your messages.

Wheeler finds that small group discussions often leave the students impatient with the "he-said-then-she-said" type of reflections. Instead, Wheeler is more inclined to take an active role in framing the discussion and stresses the importance of linking successive debriefing sessions. He states that in a debriefing, he might:

Look at a data set and ask the group to construct a theory that explains how, when dealt the same cards, people could arrive at such different outcomes. I reframe their observations, leave them with research results, and try to organize the discussion so that a coherent model of negotiation emerges, if not from one debriefing, then from the succession of them.

Bazerman stresses that instructors should be very clear before using a simulation what the lessons are that the students should walk away with after the exercise. He states that far too many times teachers pick an interesting game but students walk away after an ambiguous discussion not knowing what they've learned. To prevent this, Bazerman admits:

If I have to be heavy-handed in the debrief I'll do that. I'll try to inductively get the point out from the students in the debrief, but if it isn't coming, I'll be heavy handed. I tend to have very clear analytic punch-lines that I see coming out of cases I use. I always know going in the lessons I want the students to come away with. I usually use the last 20 minutes of class. Students should never be confused over why we did that case or what it is they were supposed to learn.

It is clear that the instructors with whom we spoke view debriefings as the setting within which learning takes place. Carefully structured debriefings with clear analytic lessons are crucial to the effective teaching of negotiation skills. Simulations, combined with other experiential learning techniques, create an environment through which negotiation skills can be learned, practiced and reflected upon.

A Typology: Teaching Negotiation Using Simulations

The pedagogical models and views offered by our respondents suggest five important considerations in teaching negotiation: students/participants; setting; the process used; views of conflict; interpretation of information; reflection; and, the role of the instructor. Using simulations effectively to teach negotiation requires instructors to actively engage students in the process of listening and questioning. This is how they will increase their understandings of their own interests and those of others. Simulations put students in conflict situations, within which they can redefine their understandings and use information to explore ways of creating and distributing value. The views we heard emphasize not only the importance of experience but also the need to create opportunity to reflect on that experience. Debriefing offers such a space. The instructor must become an active participant by encouraging reflection on specific negotiation skills and concepts. Each consideration might be carefully weighed in designing an appropriate teaching environment (Table 1).

Table 1. Key Considerations In Teaching Negotiation

Characteristics	Non-Experiential Learning	Experiential Learning	Teaching Negotiation
Participants	Passive spectators	Active; observant	Active
Setting	Laboratory-like	Social; inter-personal; real-life	Simulation, game, role-play
Procedure	Memorize and acquire skills	Cyclical; continuum of experiences	Questioning, listening
Conflict	Discouraged	Encouraged; occurs with internal pre-existing epistemology; cognitive conflict	Used to redefine understandings and create value
Interpretation	Information is given	Hermeneutic circle; relationships stressed between experience	Framing and reframing understandings of all parties' interests
Reflection	Not necessary	On each experience; on abstract principles derived from experience; assigns meaning	Debriefing
Instructor	Transmit information; not engaged in learning	Facilitate genuine, constructive experiences active part of learning process	Active participant in the debriefing

All the instructors to whom we spoke agreed that since teaching negotiation involves building skills to get along better with others, there is no substitute for simulated experiences in which students can practice getting along with others. However, they differed on the choice of teaching strategies for creating experiential learning environments.

Teaching Strategies Using Simulations

The experiential learning model suggests taking part in a structured experience, reflecting on that experience, abstracting concepts from the reflection, and moving into subsequent experiences. Instructors describe a similar process using simulations as the primary vehicle for the "experience." However, our view is that there can not be a "one-size-fits-all" approach to using simulations to teach negotiation. Many factors ought to determine which teaching strategy works best including, but not limited to; teaching objectives; skill level of participants; comfort of instructor with simulations; size of the group; the technology available (e.g., computers); and, the extent and type of the debriefing sessions possible. Most importantly, instructors must be clear about their teaching objectives before introducing a simulation. Simulations work best when they are part of an overall teaching strategy, grounded in experiential learning, not simply as isolated exercises to supplement more traditional curricula. We offer four basic suggestions for using simulations to teach negotiation: start simple; rely on layering; encourage constant reflection; use mixed media.

When using simulations, we recommend starting with simple exercises that emphasize behavioral lessons. Simple games, such as "Sally Soprano," "Power Screen," and "Win-As-Much-As-You-Can," introduce key negotiation concepts to students effectively. These games generally work best when they do not relate to the participants's real life situations. That is, the more abstract or generalizable the initial lessons, the better. Roger Fisher points out that if the introductory simulations are too familiar to participants they have a tendency to "argue and fight" with them. Simple games can be understood and played in a short time and highlight fundamental negotiation themes such as distinguishing interests from positions, creating value and distributing the value in a way that doesn't undermine relationships. The idea is to encourage students to re-think the way they might view a conflict-laden situation and to provide a framework for integrating additional negotiation skills later on. As many of the instructors we spoke to stated, getting the "aha!" or the critical moment when the participant experiences a key lesson from the exercise, is often a crucial step before more complex simulations will work.

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The second general suggestion for using simulations is to layer or add on complexity one step at a time. By this we mean that each simulation should build on the themes of the previous simulations. Layering can include starting with a two-party role-play that puts the participants in a situation with which they are not familiar. This challenges them to understand a negotiation from another party's point of view.

From two-party negotiations, students can move to multiparty negotiations where they must begin to understand the interests of several players. As the complexity increases, it is often useful to offer simulations that more closely (contextually) relate to the situations that students face in real life. This will enable students to apply what they have learned in simple simulations to more complex negotiations where they may be "stuck" in old ways of doing things. For example, in training public sector environmental officials, it is often useful to engage them in a simulation such as Harborco, where the parties include other governmental officials, private sector technicians, and environmental NGOs. Using this scenario, participants can begin to see how a range of concepts and skills might be applied in their professional setting. They can also see how the mutual gains approach can work in a complex situation.

A third suggestion is to encourage constant reflection. The simulation itself is an important experience, but negotiation lessons must be "drawn out" from these experiences through critical, structured reflection. As we noted earlier, debriefings are crucial. During a debrief, instructors should build on student self-reflection as well as comparisons of the results achieved by different groups of negotiators playing the same "game." Simulations are effective only when they are accompanied by a carefully arranged review of the results by a skilled instructor. Students should be encouraged to reflect on how the simulation outcome relates to an experience in their real life and how they might have handled the real-life situation differently in light of what they learned from the simulation. We also recommend that reflection go beyond the debriefing. Students should keep daily journals as a written record of their reflections. Journals allow students to go back periodically throughout the course and review what they have learned.

A fourth suggestion is that simulations are often best combined with other teaching techniques. Many of the instructors we spoke with supplement simulations with case studies, videotapes, and even computer-based exercises. For example, one technique is to videotape all or part of a simulation and have participants watch themselves negotiate. This can enhance reflection. Another strategy is to use computer

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there are important situations in teaching negotiation that computer simulations seem to miss. She states:

The kinds of things I'm interested in are when someone says to a woman, "you're not a risk taker, you can't pick up this responsibility." That is an effort to put her in a down position and how can a person respond to this? Or, in a salary negotiation, the person says "you're being greedy." These are the kinds of things that disempower people when they negotiate. These are the things I'm interested in and I'm not sure how technology can help.

The most effective use of technology may be as a supplemental source of information that participants can use in a face-to-face negotiation. One simulation, Hitana Bay, uses a complex computer model to estimate the impacts of different development scenarios. Participants in that negotiation can better estimate their BATNA using this information than they otherwise could. Thus, computer-based information can often complement, but not substitute for, face-to-face negotiations.

The development and testing of new simulations is another area in which we feel more work needs to be done. Protocols for constructing simulations and systematically testing their effectiveness need to be refined. Roger Fisher states that in designing simulations the temptation is to make them complicated, rather than simple. He observes:

[W]e can do better in making these exercises. I think a more clear understanding of why we are doing it and what makes it good is needed. We ought to have more theory of why simulation designs are good and apply it further. The temptation is to make simulations complicated. I want the cases to be simple. It is much easier to learn things from simple cases.

Designers of simulations often start with a negotiation lesson(s) they want to convey. Next, they choose a conflictual situation and the parties to the conflict. A conflict is constructed where the negotiating parties confront the designer's key lessons. The designer often maps possible negotiated outcomes and then "tests" the simulation using participants experienced in negotiation. In the testing stage, the designer and the test players determine whether the intended negotiation lessons are clear from the simulation. Often, the original design is altered after the "test-run." Designing an effective simulation is an iterative process. Simulation design is as much an experiential learning process as is simulation use in the classroom. More clearly articulating the theory behind the design of simulations is closely linked to the

development of the theory itself. Thus, the two research agendas should proceed hand-in-hand—developing the theory behind the design while conceptualizing why and how the design will work in practice.

Finally, a noticeable gap in the field of simulation research is that there is no shared framework for evaluation. Most instructors rely on a range of tools to evaluate whether students have learned what is being taught—everything from journal entries to exams to course ending evaluations. But, very little progress has been made in figuring out how to evaluate the success of specific simulations as tools for teaching particular negotiation lessons. Many instructors rely primarily on post-course/training feedback and word-of-mouth reaction. Student evaluations may not capture all the significant learning, however, because students may have difficulty articulating what they have learned in such a short period after a particular class. Indeed, they may not realize what they have learned until they face a challenging situation in their lives six or more months after the negotiation training.

We suggest that in addition to “last-day-of-the-course” evaluations, instructors teaching negotiation with simulations should begin developing medium and long-term post-course evaluations. For example, Wheeler stated that scheduled “follow-up sessions, in which people are asked to identify situations in which they have tried to apply the ideas,” might begin to structure more systematic evaluation. Deborah Kolb states that she is planning to incorporate long-term evaluation into her mid-career training by “asking people after the training to write down the one or two things they’d like to remember from the class. They give it to you [the instructor] and you mail it to them [participant] six months later.” The idea is to develop some gauge of skill retention over time and develop a better sense of how simulations contribute to long-term skill retention.

Teaching Negotiation Using Simulations: Conclusions

Teaching students negotiation by having them participate in simulations builds on the experiential model of learning. We have shown that the models of experiential learning—in which an experience is followed by reflection leading to altered views of subsequent experience—helps to explain why simulations are an effective teaching tool. Simulations provide an important structured experience. When coupled with a well-managed debriefing session and linked with subsequent simulations in an overall experiential teaching program, they can add enormously to the effectiveness of negotiation training.

While the instructors with whom we spoke differ on specific tactics and teaching strategies, they all agree that simulations help "unfreeze" past "theories-in-use" and provide space for reflection. Teaching negotiation through simulations is most likely to be effective when simulations are chosen with specific learning objectives in mind and when simulations are linked together to create a continuum of experiences and managed reflection in an experiential learning environment.

Bibliography

- Argyris and Schon (1994). *Organizational Learning II: Theory, Method, and Practice*. Reading MA. Addison Wesley.
- _____ (1974). *Theory in Practice: Increasing Professional Effectiveness*. San Francisco. Jossey-Bass.
- Bailey, B.A. (1990). "Developing Self-Awareness Through Simulation Gaming." *Journal of Management Development*, 9(2), 38-42.
- Barkai, J. (1996). "Teaching Negotiation and ADR: The Savvy Samurai Meets the Devil." *Nebraska Law Review* 75: 704-751.
- Boud, D., Keogh, R., & Wlaker, D. (1985). *Reflection: Turning Experience Into Learning*. London. Kogan Page.
- Dewey, J. (1938). *Experience and Education*. New York. Macmillan.
- Druckman, Daniel (1996). "Bridging the gap Between Negotiating Experience and Analysis." *Negotiation Journal*. 12:371-383.
- Druckman, D. (ed). (1977). *Negotiations: Social-Psychological Perspectives*. Sage. Beverly Hills.
- Faria, A.J. (1987). "A survey of the use of Business Games in Academia and Business." *Simulation & Gaming*, 18(2), 207-224.
- Fisher, R. & Ury, W. (1981) *Getting to Yes: Negotiating Agreement without Giving In*. Boston. Houghton Mifflin.
- Freire, P. (1970). *Pedagogy of the Oppressed*. New York. Herder and Herder.
- Furth, Hans G. (1969). *Piaget and Knowledge: Theoretical Foundations*. Englewood Cliffs, NJ. Prentice Hall.

Greenblat, C.S. (1988). *Designing Games and Simulations*. Newbury Park, CA. Sage.

Gredler, M. (1994). *Designing and Evaluating Games and Simulations*. Houston. Gulf Publishing

Madigan, D. , Weeks, T. & Susskind, L. (1984). *Harborco*. Clearinghouse, Program on Negotiation, Harvard Law School.

Kolb, D. (1984) *Experiential Learning; Experience as the Source of Learning and Development*. Englewood Cliffs, NJ: Prentice Hall.

Lane, D.C. (1995). "On a resurgence of Management Simulations and Games." *Journal of Operational Research Society* 46(5), 604-625.

Lederman, L. (1992). "Debriefing: Toward a Systematic Assessment of Theory and Practice." *Simulation & Gaming*. 23(2) 145-160.

Lewicki, R. (1997). "Teaching Negotiation and Dispute Resolution in Colleges of Business; The State of the Practice." *Negotiation Journal* 13, 253-269.

_____ (1986). "Challenges of Teaching Negotiation." *Negotiation Journal* 2:15-26.

Lewin, K. (1951). *Field Theory in Social Sciences*. New York. Harper & Row.

Laveault, D. and Corbeil, P. (1990) "Assessing the impact of simulation games on learning; A step-by-step approach." *Simulation/Games for Learning* 20(1), 42-54.

Neale, M and Bazerman, M. (1991). *Cognition and Rationality in Negotiation*. New York. Free Press.

Palmer, R. (1969). *Hermeneutics*. Evanston, Ill. Northwestern University Press.

Piaget, J. (1973). *To Understand is To Invent: The Future of Education*. New York. Grossman.

_____ (1968). *Structuralism*. New York. Harper.

Raiffa, H. (1982). *The Art and Science of Negotiation*. Cambridge. Harvard University Press.

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Randel, J., Morris, B.A., Wetzel, C.D., & Whitehill, B.V. (1992). "The Effectiveness of Games for Educational Purposes: A Review of Recent Research." *Simulation & Gaming*, 23:261-276.

Saunders, D. M., and Lewicki, R. J. (1995). "Teaching Negotiation with Computer Simulations: Pedagogical and Practical Considerations." *Negotiation Journal* 11, 2: 157-167.

Schultz, B (1989). "Conflict Resolution Training Programs: Implications for Theory and Research." *Negotiation Journal* 5:301-311.

Shubik, M. (1989). "Gaming Theory And Practice, Past And Future." *Simulation & Games*, 20(2), 184-189.

Susskind, L. (1985). "Scorable Games: A Better Way To Teach Negotiation?" *Negotiation Journal*, 1: 205-209.

Susskind, L. and Cruikshank, J. (1987). *Breaking the Impasse: Consensual Approaches to Resolving Public Disputes*. New York. Basic Books.

Thatcher, D.C. (1990). "Promoting Learning Through Games And Simulations." *Simulations & Games*, 21(3), 262-273.