

Open for Learning: Encouraging Generalization Fosters Knowledge Transfer in Negotiation

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Keywords

expertise, learning, openness, example familiarity, question type, knowledge transfer, negotiation pedagogy, management education.

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Abstract

We examined whether encouraging managers to attend to underlying principles in negotiation training examples rather than contextual specifics fosters openness to learning and enhances subsequent knowledge transfer to new negotiation situations. In an experimental study, 420 managers read a negotiation case study example set in a familiar or unfamiliar industry and answered either broadening or narrowing questions about an example. Managers given broadening questions about an example set in an unfamiliar industry were more open to learning than managers who were asked narrowing questions about an example set in a familiar industry. Openness to learning in turn fostered successfully applying the key negotiation principle to resolve a subsequent face-to-face negotiation. The findings suggest that negotiation training for professionals is unlikely to meet its intended purpose if it relies on offering managers examples set in their own industries and encouraging them to answer questions about the contextual specifics of those examples.

Enabling managers to learn negotiation principles that they can successfully apply to new situations is both challenging and important. One reason why negotiation is a fundamental management skill is because managers need to negotiate in so many situations (Lax & Sebenius, 1986; Lewicki, 1981; Neale & Bazerman, 1992). Managers benefit from an understanding of negotiation that applies across the full range from informal, interpersonal discussions to formal, interfirm arrangements (Bazerman, Curhan, Moore, & Valley, 2000; Raiffa, 1982; Thompson, 2019). A key question then is what types of learning experiences foster managers' ability to transfer knowledge across different negotiation situations. Answering this question can advance our understanding of how managers develop negotiation expertise and help generate effective negotiation training interventions. Answering this question could also have benefits beyond negotiation, as managers likely need to apply many kinds of knowledge in diverse situations.

Applying knowledge acquired in one context to problems encountered in another context—knowledge transfer—is one of the hardest challenges in learning to negotiate (Loewenstein & Thompson, 2000; Moran, Bereby-Meyer, & Bazerman, 2008). For example, a manager who learned the contingent contract principle by routinely using pay for performance to reward employees may not transfer the knowledge of that principle by applying it to design a contingent contract to resolve a disagreement about a project's future earnings, even if it would be beneficial to do so. The literature on learning for transfer has examined these issues in a variety of contexts (Alfieri, Nokes-Malach, & Schunn, 2013) and has raised and begun to address the challenges of knowledge transfer in negotiation specifically (Menon, Thompson, & Choi, 2006; Thompson, Gentner, & Loewenstein, 2000). According to this line of research, experience yields only modest

improvements in managers' ability to transfer ideas from one context to another (Loewenstein, 2010; Thompson, 1990). The improvements are modest because people are often plagued by the inert knowledge problem: They possess the skills and knowledge that could be used to solve a novel-appearing problem but fail to retrieve that knowledge because they do not recognize its relevance (Ross, 1984; Whitehead, 1929). People suffer from the inert knowledge problem because they tend to focus on the contextual specifics of the present situation rather than the general underlying principles at work (Gentner, Rattermann, & Forbus, 1993). As contextual specifics differ across situations, people often fail to see similarities across contexts, and so fail to transfer knowledge from one context to another.

Research on learning and knowledge transfer emphasizes the distinction between contextual specifics and underlying principles. The ability to negotiate effectively in any situation depends on recognizing and applying negotiation principles, such as generic contract structures (Gentner, Loewenstein, & Thompson, 2003). For example, agreements whose terms are contingent upon the outcome of future events are called contingent contracts (Lax & Sebenius, 1986). The contingent contract principle allows parties to capitalize on one another's differing expectations regarding the outcome of a future event. Oftentimes, negotiators reach impasses or settle for suboptimal outcomes because they have different beliefs about future events that prevent them from agreeing on terms (Bazerman & Gillespie, 1999). A contingent contract enables each party to be willing to proceed with an agreement by stating terms for the outcome each thinks will occur, thereby optimizing the allocation of risk and so maximizing the expected utility of outcomes (Bottom, 1998; Whitford, Bottom, & Miller, 2013). Conventional forms of contingent contracts include performance-based pay (pay increases with productivity), late penalties (e.g., a fee for completing a project past deadline), and call options (e.g., a payment for the right to later purchase items at a set price). There are also countless possible ad hoc contingent contracts, such as an agreement with an insurance company to adjust one's premiums as a function of the number of customer referrals one generates, or billing a client based on the effect of one's consulting work on the client's productivity. The particular issues and metrics (e.g., insurance premiums, client productivity) constitute contextual specifics, whereas the contract structure (i.e., terms contingent upon the outcomes of future events) and the rationale and conditions of its effective use constitute the underlying principle. The key question for knowledge transfer then is what enables managers to generalize away from the contextual specifics to the underlying principles, so that those principles can guide their thinking and action in new negotiation situations.

Learning and knowledge transfer research in negotiation has emphasized that experiences encouraging generalization are likely to foster knowledge transfer. One of the most effective techniques to encourage generalization is drawing comparisons across several analogous negotiation cases or examples (Loewenstein, Thompson, & Gentner, 1999, 2003). By doing so, the contextual specifics are deemphasized, and the general underlying principles become more evident because they are consistent across the otherwise dissimilar examples. Several studies have presented business students with analogous negotiation examples drawn from different contexts (e.g., one about salaries, another about sandwiches, and both illustrating the use of the contingent contract principle). These studies find that when encouraged to compare the examples, the students can draw out the general principle consistent across examples, and that doing so is linked to better solving a subsequent new negotiation problem (Thompson et al., 2000; Zerres, Hüffmeier, Freund, Backhaus, & Hertel, 2013). Thus, drawing comparisons across analogous examples is one means for encouraging generalization and fostering knowledge transfer.

To complement this work on comparison as a means for encouraging generalization, the current research examines two additional means for encouraging learners to generalize and apply negotiation principles: (a) exposing learners to case study examples from unfamiliar contexts; and (b) asking broadening questions. It is tempting to seek examples from familiar settings, such as from industries in which one has worked. Indeed, many companies, when seeking negotiation training for their executives, request the use of negotiation exercises set in their own industry, convinced that knowledge of industry nuances are essential for effective negotiation. In addition, it is tempting to ask learners questions focused on an

example's contextual specifics, and many learners spontaneously focus on the contextual specifics of examples they encounter. In what follows, we examine why these tendencies to seek examples from familiar contexts and ask questions about those examples' particulars tend to result in closing off rather than opening up learning and so inhibiting rather than fostering the transfer of learning to solve new problems. That is, we seek evidence for a *motivational* mediating mechanism influencing generalization, complementing the existing work which has focused on the *cognitive* mediating mechanism of developing abstract schemas to represent underlying principles. We present a study showing the value of using case study examples set in unfamiliar industries and asking broadening questions about them for stimulating a motivation to be open to learning. Then, we consider the implications for the kinds of experiences managers might select for themselves, and the kinds of interventions that instructors might create, so as to foster the development of negotiation expertise.

Learning from Case Study Examples

The development of expertise is grounded in reasoning about examples (Gentner & Medina, 1998). For example, many managers reflect on their own example negotiations, share case study examples with one another, and read still more case study examples as a starting point for learning and improving their capabilities (Movius, 2008). Most pedagogical approaches focus students on examples that illustrate specific negotiation principles (Levy, 2015). Case study examples are important for teaching and learning because merely providing abstract principles in the absence of a context example is likely to be unengaging, misunderstood, forgotten, or misapplied (Calhoun, Gentner, & Loewenstein, 2008; Ross & Kilbane, 1997). For this reason, examples are comprehensible and so offer the potential for gaining an understanding of principles (Kolodner, 1993, 1997; Pirolli & Anderson, 1985; Reed, 1987). The question is whether that potential is realized.

While case study examples are engaging, learners often do not realize the full potential of case study examples. Learners often focus on the contextual specifics of the case study itself rather than the general underlying principles at work (Medin & Ross, 1989). Contextual specifics, or the particular surface details in examples, are prominent for learners. A major finding in research on expertise, be it about playing chess (Chase & Simon, 1973), solving physics problems (Chi, Feltovich, & Glaser, 1981), or reading X-rays (Lesgold et al., 1988), is that learners tend to focus on contextual specifics. In contrast, experts tend to focus on the underlying principles governing examples. A further challenge to learners is that the same case example can be interpreted in multiple ways. This is an issue for experienced learners, such as MBA students and working managers, as their existing knowledge can obstruct, rather than expose, new insights and strategies (McNeil & Alibali, 2005; Wood & Lynch, 2002). Together, when learners focus on the contextual specifics of a particular case study example, they might not appreciate new general underlying principles at work in the example and so fail to seek to apply the information from the example when later to novel situations. Consequently, their performance will suffer and they will fall victim to the inert knowledge problem (Loewenstein et al., 1999). Thus, to learn new general underlying principles from case study examples, managers (and instructors) likely need to curb the tendency to focus on contextual specifics and focus instead on general principles, including new general principles.

The Contextual Familiarity of Case Study Examples

The surface properties of case study examples provide an opportunity to guide as well as mislead learners. Surface properties can mislead learners if they take focus away from principles. Yet if they are unfamiliar, they might be able to play a motivational role in fostering an attention to principles. Specifically, the proposal we consider is whether low contextual familiarity, by which we mean the learner's level of familiarity with the industry in which the case study example is set, can encourage generalization, whereas high contextual familiarity can impede generalization.

The apparent familiarity of a case study example due to the familiarity of its industry setting could interfere with learning because of what that familiarity implies. High contextual familiarity could lead managers to presume they should already know what the example suggests. If the example is from one's industry and presents a new principle, learning from that example can be perceived as challenging one's competence. Indeed, previous research on organizational learning has found that defensive reactions are a common response to being presented information from one's own firm or industry (Ancona, Bresman, & Kaeufer, 2002; Blau, 1955; Fein & Spencer, 1997; Feldman & March, 1981; Lee, 1997; Menon & Pfeffer, 2003; Schimel, Arndt, Pyszczynski, & Greenberg, 2001). In this sense, industry familiarity could generate defensiveness that impairs learning (Argyris & Schon, 1996; Seo, 2003). Also, if the new negotiation principle presented with an example conflicts with managers' current beliefs about negotiation (Loewenstein & Thompson, 2000), they may feel they are being told that their prior approach is wrong or flawed. As a result, the example's familiarity could divert learners toward defensive justifications of their prior approaches and their identity as competent industry professionals (Argyris & Schon, 1996). This is unlikely to foster an openness to learn from the training example. It is also unlikely to foster a willingness to apply anything gained from the training example to future negotiations.

In contrast, encountering examples from unfamiliar industries could foster openness to learning. Low contextual familiarity is not likely to lead learners to experience threats to their competency. They are unlikely to have expectations of knowing that industry's specifics. Instead, low contextual familiarity has the potential to spur curiosity. Prior work indicates that low contextual familiarity is likely to encourage managers to see information as being of potential interest to teach them something new that might be of use (Burt, 1992; Cuhadar & Kampf, 2015; Menon et al., 2006; Tushman & Scanlan, 1981). Further, information from unfamiliar industries is likely to be viewed as scarcer and more novel, and so more valuable, than information from familiar industries (Cialdini, 2001; Menon & Pfeffer, 2003). Consequently, learning negotiation principles could be less fraught and indeed actively sought out if managers are provided low rather than high contextual familiarity case examples. Managers could be interested in trying out what they learn from low contextual familiarity case examples as a valuable opportunity to improve through leveraging something deemed valuable elsewhere.

The core claim from this line of argument is that the contextual familiarity of a case study example influences managers' openness to learning new principles and willingness to applying those principles. High contextual familiarity implies one should already know what the example has to offer, whereas low contextual familiarity is a cue to learn something new. Thus, we predict that a case study example with low contextual familiarity, relative to one with high contextual familiarity, will encourage managers to be more open to learn a new negotiation principle from that case study example. Further, we predict that a case study example with low contextual familiarity, relative to one with high contextual familiarity, will encourage managers to seek out opportunities to apply the new negotiation principle. Accordingly,

Hypothesis 1a: Managers given a case study example set in an unfamiliar industry will be more likely to apply the negotiation principle in the example to a subsequent, novel negotiation situation than managers given a case study example set in a familiar industry.

Hypothesis 1b: The relationship between the industry familiarity of the example and application to a novel negotiation is mediated by openness to learning, such that managers will be more open to learning from examples set in an unfamiliar industry and openness will lead to greater knowledge transfer.

The Type of Question Asked about Case Study Examples

The questions learners consider about case study examples provide an opportunity to foster as well as suppress learning and knowledge transfer. Nearly all educational use of case study examples involves

asking the learner probing questions. Probing questions are designed to encourage learners to analyze the information in the example to identify insights (Alfieri et al., 2013). We focus on one aspect of probing questions, namely the broadening or narrowing that the questions encourage. Broadening questions lead learners to consider how the key insights in the example extend beyond the example itself. For example, broadening questions for a negotiation example might be the following: “Would you use the strategy taken by the lead negotiator in this example in future negotiations? How broadly applicable do you think it is?” In contrast, narrowing questions lead learners to consider the particular concerns in the example itself. For example, narrowing questions for a negotiation example might be the following: “Would you improve upon the strategy taken by the lead negotiator in this example? How could the lead negotiator have attained more value by doing so?” Narrowing questions can help learners arrive at better understandings of the contextual factors at play in individual examples (Kurtz & Loewenstein, 2007; Rittle-Johnson & Star, 2007; Star & Rittle-Johnson, 2009). Consequently, broadening questions, rather than narrowing questions, have several key advantages when it comes to openness to learning and knowledge transfer.

Broadening questions have advantages because they are likely to influence the construal level that individuals adopt. When people perceive examples as being distant as opposed to close, they tend to adopt a high-level construal that encourages them to think abstractly, as opposed to a low-level construal that encourages them to think concretely (Trope & Liberman, 2010). Further, high-level construals tend to foster a focus on the *desirability* of what is under consideration, whereas low-level construals tend to foster a focus on the *feasibility* of what is under consideration (Liberman & Trope, 1998; Trope, 2012). Broadening questions, by focusing individuals on other situations in addition to the example at hand, are likely to emphasize distance and so encourage adopting a high-level construal. Narrowing questions, by focusing on the details of the example at hand and only that example, are likely to emphasize proximity and so encourage adopting a low-level construal. Accordingly, asking broadening questions about examples illustrating negotiation principles appears more likely to focus learners on those underlying principles and why they could be helpful elsewhere, whereas asking narrowing questions appears more likely to focus learners on the example’s specifics and whether they are workable in that unique instance.

Broadening questions are likely to have advantages when it comes to openness and knowledge transfer, whereas narrowing questions are likely to have limitations. Narrowing questions could well have the unintended consequence of reducing openness to learning through a nudge toward feasibility and toward the example’s contextual specifics. This, in turn, is likely to hinder knowledge transfer to subsequent negotiation situations because there will be concerns over whether the example was effective and limited appreciation of the example as an instantiation of a general principle. Broadening questions are more likely to foster openness to learn from the example and more likely to prompt a consideration of the example’s relevance to new situations. Accordingly,

Hypothesis 2a: Managers who are asked broadening questions about a case study example will be more likely to apply the negotiation principle in the example to a subsequent, novel negotiation situation than managers who are asked narrowing questions.

Hypothesis 2b: The relationship between question type and application to a novel negotiation is mediated by openness to learning, such that managers will be more open to learning when asked broadening questions than narrowing questions and openness will lead to greater knowledge transfer.

The two factors, the contextual familiarity of case study examples and the type of probing questions asked about examples, can be used together. Both can work to encourage learners to be open to learning. Both can shift learners away from the tendency to focus on the contextual specifics of the example at hand and encourage learners toward generalizing. As fostering generalization is valuable for developing expertise, and as multiple factors can assist or detract from generalizing, there is

value in examining the combination of both factors to encouraging learning. The factors of contextual familiarity and question type are a focus in this article because both are readily usable by learners as well as instructors. In addition, when learners consider examples, they are likely to ask questions about them. Consequently, there is value to seeing the joint impact of the two factors on how open learners are to learning principles from examples and how likely they are to transfer knowledge to new problems.

Method

Participants

A total of 420 managers (72% male; $M_{\text{age}} = 38$ years) participated through an executive education program at a Midwestern University in the United States. All participants gave written consent.

Experimental Design

The study had five conditions resulting from the combination of a no-training control condition and the crossing of two factors, example contextual familiarity (low vs. high) and question type (broadening vs. narrowing). The sample sizes were as follows: a high-familiarity-example, narrowing-question condition ($n = 64$); a high-familiarity-example, broadening-question condition ($n = 78$); a low-familiarity-example, narrowing-question condition ($n = 66$); a low-familiarity-example, broadening-question condition ($n = 76$); and a control condition ($n = 136$).

Training Materials

The training materials were presented on one page and consisted of (a) a written case study example (approximately 230 words) involving a negotiation that used the contingent contract principle; (b) an abstract 80-word statement defining the contingent contract principle illustrated in the case study example in concise and clear terms; and (c) four questions (Appendices B and C). We examined the learning and knowledge transfer of the contingent contract principle to be able to relate this study to prior findings on learning and knowledge transfer within negotiation (Gentner et al., 2003). As prior studies tend to show consistencies in learning and transfer across different principles (Alfieri et al., 2013), this is unlikely to be limiting. The structure of the training materials was designed based on findings in the analogy learning literature indicating that combining an example with a principle can be an effective training intervention for experienced learners (Ross & Kilbane, 1997). The variations, in the form of the industry context of the case study examples and the questions asked about the examples, instantiated the conditions of interest.

To examine the predictions about the influence of case study example contextual familiarity, we generated case study examples set in four different industries exemplifying a contingent contract principle. These were generated based on the dominant industries represented in the executive education program population: computer/high-tech (an example about an original equipment manufacturer purchasing software), pharmaceuticals (an example about a firm entering a joint venture), consulting (an example about arranging fees for services), and insurance (an example about a branch manager negotiating coverage terms; see Appendix A for details). To develop training examples that were both realistic and represented appropriate structural characteristics, we surveyed separate groups of managers from each industry (consulting, $n = 15$; insurance, $n = 18$; high-tech, $n = 18$; and pharmaceuticals, $n = 27$). Based upon the survey and an hour of consultation with a representative from each industry, we developed a training example for each industry. The case study examples were approximately equal in length and described negotiation situations that could be profitably resolved with the use of contingent contracts.

The contingent contracts that were described in the training examples were ones that were discussed with the relevant industry representative for that example. The first two questions asked after the example and statement of the principle served as a manipulation check on participants' familiarity with the example context (i.e., Questions 1 and 2 in Appendices B and C).

To examine the predictions about question type (i.e., broadening vs. narrowing), the remaining two questions asked participants about the training example. First, there was a probing question about the quality of the agreement in the example. The narrowing question (Question 3 in Appendix B) encouraged participants to focus on how effective the negotiation strategy was in the particular example, whereas the broadening question (Question 3 in Appendix C) encouraged participants to focus on how effective the negotiation strategy would be across examples. Then, there was a question about applying the principle. The narrowing question (Question 4 in Appendix B) encouraged participants to focus on improving upon the approach, whereas the broadening question (Question 4 in Appendix C) encouraged participants to focus on breadth of applicability of the approach. All in all, these two questions were written either to encourage narrowing in on the specifics of the example or to encourage broadening out to consider the contingent contract principle more generally.

Negotiation Materials

The negotiation exercise was "Cartoon" by Brett and Okumura (1998). It involves a television station's agreement to broadcast episodes of a cartoon series. Thus, it was set in a different context (i.e., entertainment media) than any of the training examples. In addition to distributive issues that could be traded off and an optional issue that could be incorporated, the negotiation example provides an opportunity for a contingent contract based on different rating expectations of the cartoon series. By providing a rebate in the event of a poorly performing show, negotiators can shift some degree of risk away from the buyer and back to the seller. By providing a bonus payment in the event of a high-performing show, they can shift a degree of risk away from the seller to the buyer. Thus, a contingent contract can optimize the allocation of risk and increase expected returns for both parties (see Adair, Okumura, & Brett, 2001 for the full details of the example). The contingent contract is clearly beneficial, and after negotiating managers recognize that incorporating a contingent contract (if they did not do so) would have improved their agreements.

Procedure

For all participants receiving training, the instructor provided an overview of the four industries used for the case study examples. Participants in the high-familiarity-example condition were instructed to choose the case study example from the industry that was most familiar to them. What is critical, given the motivational focus of the hypotheses, is learners' perceived familiarity with the industry in which the case study example was presented. Thus, if the participants had previously worked in more than one industry, they were asked to choose the most familiar one. Participants in the low-familiarity example condition were instructed to choose the case study example from the industry that was least familiar to them. When picking up the example materials, participants were randomly given a version with either broadening or narrowing questions. Participants were not made aware of the alternative conditions. The instructor and the example instructions explained that the purpose of the materials was to act as a "warm-up" to get them thinking about the topic of negotiation. Participants read the example and completed the questions for between 15 and 30 minutes. Control condition participants did not receive any study materials or any information about the contingent contract principle. The following day, all participants worked with a counterpart in the same condition to complete their face-to-face, one-on-one negotiations.

Measures

Manipulation Checks

To indicate the difference in familiarity, participants in the four training conditions were asked two questions about the familiarity and the similarity of the training example to their own industry experience (i.e., Questions 1 and 2 in Appendices B and C) on 7-point Likert scales (1 = *not familiar/not similar*, 7 = *very familiar/very similar*). The responses to these two manipulation check items were consistent ($\alpha = .72$), so the two items were averaged to form a measure of familiarity. To indicate the difference in question type, two independent coders (Krippendorff's $\alpha = .69$, 95% CI = [0.48–0.85]) examined participants' open-ended statements in response to the broadening and narrowing question intervention to measure the specificity of the description using a 3-point scale (0 = describing only the details of the example; 1 = describing some example details and some generalities of the idea; 2 = describing only the general idea). The first coder was a fourth-year doctoral student in organizational behavior and coauthor, and the second coder was a staff member with many years of experience working with faculty and students. Both were female, and both were in the same age range as the study participants. Both coders were blind to participants' training conditions, and the second coder was blind to the study hypotheses. The authors generated the coding scheme and the coders learned the coding scheme in face-to-face meetings. The coders rated the statements independently. The coding process was overseen by two faculty members with decades of experience conducting these kinds of content analyses.

To provide further validation of the question type manipulation, we conducted an additional study with a nonoverlapping sample of business students ($N = 125$, 54% male; $M_{\text{age}} = 20$ years). Participants received the consulting industry training materials and were randomly assigned to respond to either broadening or narrowing questions. Afterward, they were asked to provide their impressions of whether the questions encouraged them to focus on the specifics of the examples or to generalize by responding to five items measured on a 7-point Likert scale (1 = *Not at all*, 7 = *A great deal*; $\alpha = .86$). The items are as follows: 1) "These questions led me to describe the specific details of the case" (reverse-coded); 2) "These questions helped me to think the applications of the contingency contract principle beyond the negotiation example described in the case"; 3) "These questions led me to consider the particular concerns in the example" (reverse-coded); 4) "These questions led me to consider how the key insights of contingency contract principle extend beyond the example described in the material"; and 5) "These questions helped me to think about generalizing the contingency contract principle." The participants given the broadening condition questions ($M = 4.54$, $SD = 0.62$) indicated the questions to be more broadening and generalizing than those who were given narrowing condition questions ($M = 4.18$, $SD = 0.57$), $t(123) = 3.38$, $p = .00$, $d = 0.61$.

Openness to Learning

Participants' open-ended responses to the final question were coded as to how open they were to learning the contingent contract principle. Statements were assessed by the same coders (Krippendorff's $\alpha = .72$, 95% CI = [0.60–0.82]) using a 3-point scale (0 = not open to learning; 1 = neutral/moderately open to learning; 2 = open to learning). Statements indicating that participants were willing to apply the negotiation principle in their own negotiations were coded as indicating openness to learning (i.e., scored as 2). Statements that neither explicitly criticized the use of the negotiation principle in the example nor expressed a willingness to apply the negotiation principle were coded as being moderately open to learning (i.e., scored as 1). Statements criticizing the contingent contract used in the training example or indicating that they were not willing to apply the training example's strategy in their own negotiations were coded as not being open to learning (i.e., scored as 0). Table 1 presents examples of the participants' statements in responses to the two question types, categorized according to the

Table 1
Examples of Participants' Statements to the Probing Question by Coding Score

Openness to learning	Examples
Open to learning (i.e., coded as 2)	<p>"Yes, I would use this principle. It seems to me a win-win negotiation because it shows that Pat's proposal can leverage the risk for both parties. It could broadly be applicable to most cases"</p> <p>"I would use this negotiation in parts of my dealings with clients that I am trying to sell software to. The contingency contract could allow me to lock in future events such as funding services to implement my software projects. Also, the contingency plan helps solidify both parties commitment to a long term success guarantee of a project. It is worth noting that I have not used a contingent plan in selling software but it appears to be an excellent solution for me moving forward"</p>
Neutral/moderately open to learning (i.e., coded as 1)	<p>"It's a principle, hence in a concrete situation, one probably need to fix the contractual details for the good/bad event in more detail, i.e., not just take the standing offer. In practice, this probably helps a lot to come to a close understanding of the value of the agreement. However, my experience is that in many cases companies prefer fixed contractual details they can build their business plan upon"</p> <p>"Yes or no. It depends on the situation. If I don't have good information, then I would use this negotiation principle because I have no idea what's going to happen to the new product that I buy in the future. Obviously, this negotiation principle would be applicable to the situation when I don't have enough information"</p>
Not open to learning (i.e., coded as 0)	<p>"Rather not, as it shifts responsibilities and makes potential future responsibility and reactions on upcoming issues unclear"</p> <p>"Pat could have based the contingency contract or some other measure than profits, on other factors more easily attained. He could have also reduced the time frame to shorter than 18 months, in order to accelerate the success/failure determination. My company tends to have more rigid pricing in order to maintain the perception of offering premium service, we would not likely engage in a contingency contract, but would walk away from a deal"</p>

openness coding scores. The individual participants' responses were averaged to yield a dyadic openness to learning score.

Transfer

Participants' negotiated agreements were evaluated by a negotiation faculty member who was blind to participants' training conditions as to whether the negotiation outcome included a contingent contract (1) or not (0). Only contingent contracts that were scorable and that positively contributed to the agreement's quality were counted. There were 10 agreements that indicated the potential use of contingencies (e.g., "price of strums contingent on ratings"), but that were not scorable. These agreements were not counted as demonstrating transfer of the principle. Contingent contracts are not challenging to identify on the agreement forms and, given that the facts of the example are the same for all parties, the agreements are also straightforward to score using established scoring systems distributed with the example materials.

Results

Manipulation Checks

Table 2 provides means, standard deviations, and correlations for all conditions on the main variables reported in the study. The manipulation of example industry familiarity was effective. The participants in the high-familiarity-example condition ($M = 4.67$, $SD = 1.54$) perceived the industry examples to be

Table 2
Descriptive Statistics and Correlations (N = 284)

	Mean (SD)	1	2	3	4	5
1. Example Familiarity condition [†]	1.50 (0.50)					
2. Question Type condition [‡]	1.54 (0.50)	-.01				
3. Openness to learning	1.31 (0.67)	.22**	.51**			
4. Transfer	0.30 (0.46)	.19**	.29**	.26**		
5. Agreement value	3,905,197.08 (1,294,487.47)	.09	.19**	.16**	.31**	

Note. [†]Example Familiarity condition: 1 = high-familiarity example, and 2 = low-familiarity example; [‡]Question Type condition: 1 = narrowing question and 2 = broadening question.
***p* < .01.

more familiar than those in the low-familiarity-example condition ($M = 4.07, SD = 1.64$), $t(262) = 3.03, p = .00, d = 0.37$. The manipulation of question type was also effective. Nearly all (260 out of 284) of the participants responded to the final open-ended question. Among these participants, those given narrowing questions were more likely to focus on the surface details of the example ($M = 0.35, SD = 0.61$) than participants given broadening questions ($M = 1.72, SD = 0.59$), $t(258) = 18.41, p = .00, d = 2.28$. Thus, the example familiarity and question type interventions appeared to have their expected effects.

Example Familiarity and Question Type

A binary logistic regression was conducted to examine the effects of example familiarity and question type on the likelihood of transfer. As predicted in Hypothesis 1a, participants who studied a negotiation example from a low-familiarity industry (38%) were more likely to exhibit transfer than participants who studied a negotiation example from a high-familiarity industry (21%; $b = 1.13, SE = .48, \text{Wald } \chi^2 = 5.57, p = .02, R^2 = .05$). As predicted in Hypothesis 2a, participants who were asked broadening questions (42%) were more likely to apply the negotiation principle in the subsequent negotiation situation than participants who were asked narrowing questions (15%; $b = 1.58, SE = .48, \text{Wald } \chi^2 = 10.83, p = .00, R^2 = .12$). Both factors contributed to transfer, and there was no indication of an interaction between them ($b = 0.22, SE = .24, \text{Wald } \chi^2 = 0.83, p = .36, R^2 = .00$; Figure 1). Accordingly, we examined each effect independently in more depth.

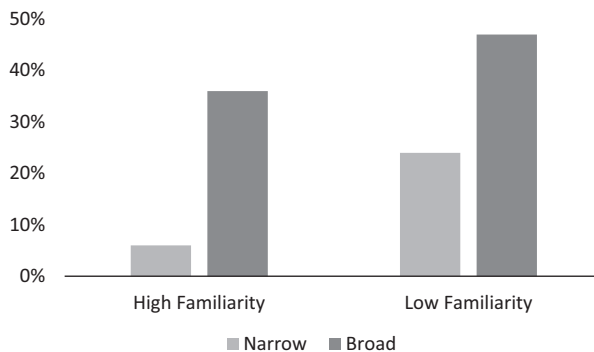


Figure 1. Percentage forming contingent contracts (i.e., exhibiting transfer) by high and low example familiarity and narrowing and broadening question type.

Example Familiarity, Openness to Learning, and Transfer

The low-familiarity-example group was more likely to show transfer of the negotiation principle than the control group (13%) who were not provided any training, $\chi^2(1, N = 139) = 11.12, p = .00, \phi = .28$. The high-familiarity-example group performed comparably to the control group, $\chi^2 = 1.51, p = .22, \phi = .10$. Thus, there is support for a transfer advantage due to learning from examples set in an unfamiliar-industry context.

To examine whether openness to learning is a key reason example familiarity influenced transfer of the negotiation principle, we tested for an indirect effect using 95% bias-corrected confidence intervals (CI) with 5,000 bias-corrected bootstrap samples (Hayes, 2013, model 4). The four training conditions were included in this analysis, while the control condition was excluded. Example familiarity was entered as the independent variable, openness to learning was entered as the mediator, and transfer was entered as the dependent variable. Consistent with Hypothesis 1b, there was a significant indirect effect of example familiarity on transfer through openness to learning, providing evidence of mediation, $b = .24, 95\% \text{ CI} = [0.08-0.49]$. Thus, low-familiarity examples seem to foster openness to learning, which in turn fosters transfer.

Question Type, Openness to Learning, and Transfer

The broadening question group showed greater likelihood to transfer than the control group not provided any training, $\chi^2(1, N = 145) = 14.28, p = .00, \phi = .31$. The narrowing question group performed comparably to the control group, $\chi^2 = 0.13, p = .72, \phi = .03$. This pattern of results is consistent with broadening questions fostering transfer.

Next, to examine whether openness to learning mediates is the key reason question type influenced transfer of the negotiation principle, we tested for an indirect effect using 95% bias-corrected confidence intervals (CI) with 5,000 bias-corrected bootstrap samples (Hayes, 2013, model 4). The four training conditions were included in this analysis, and the control condition was once again excluded. Question type was entered as the independent variable, openness to learning as the mediator, and transfer of the negotiation principle as the dependent variable. Consistent with Hypothesis 2b, openness to learning significantly mediated the relationship between question type and transfer of negotiation principle, $b = .40, 95\% \text{ CI} = [0.09-0.86]$. Thus, broadening questions seem to foster openness to learning, which then fosters transfer.

Agreement Value

To provide an indication of the usefulness of training, we examined the downstream effect of knowledge transfer: the expected value of the agreements. Among those given training, the agreements of participants who formed contingent contracts were of greater expected value than those who did not form contingent contracts ($M = \$4,519,532, SD = \$990,216$ vs. $M = \$3,657,177, SD = \$1,327,264$), $t(140) = 3.83, p = .00, d = 0.75$. As a result, the participants in the broadening question group tended to generate contracts with higher agreement values than those in the narrowing question group ($M = 4,127,454, SD = \$1,054,359$ vs. $M = \$3,641,908, SD = \$1,501,637$), $t(140) = 2.26, p = .03$. Furthermore, the broadening question group tended to form agreements with significantly higher value than the control group not provided any training ($M = \$3,504,493, SD = \$1,268,929$), $t(143) = 3.23, p = .00, d = 0.53$, whereas the narrowing question group did not, $t(131) = 0.57, p = .57, d = 0.10$.

There was little difference in agreement value due to receiving a low-familiarity example ($M = \$4,025,719, SD = \$1,177,122$) versus a high-familiarity example ($M = \$3,784,675, SD = \$1,404,357$), $t(140) = 1.11, p = .27, d = 0.30$. Still, the low-familiarity-example group tended to form agreements with significantly higher value than the control group not provided any training, t

(137) = 2.51, $p = .01$, $d = 0.43$. In contrast, the high-familiarity-example group did not, $t(137) = 1.23$, $p = .22$, $d = 0.21$.

Discussion

Drawing upon learning and knowledge transfer research, we examined the kinds of learning experiences that managers might encounter that could improve their negotiation skills. The present study found that managers were more likely to learn a negotiation principle and successfully apply it in a new negotiation situation when they received an example set in an unfamiliar industry and asked broadening questions about that example. Conversely, managers who were only exposed to an example set in a familiar industry and asked narrowing questions about it showed no benefit over those provided no training at all.

Both the example familiarity and the question type had a significant effect on managers' learning and knowledge transfer. Specifically, both interventions fostered openness to learning, which in turn facilitated their ability to apply the principle from the case study example to resolve a novel negotiation situation the following day. When the two interventions were combined, such that managers were exposed to a negotiation strategy from an unfamiliar industry and asked broadening questions about it, this produced a more than threefold improvement as compared to the baseline performance of those not provided any training. Stated in terms of financial returns, managers who learned from a case study example set in an unfamiliar industry and asked broadening questions subsequently crafted negotiation deals in a new situation that had expected values that were worth about 30%, or \$1M, more than managers not provided any training.

These findings provide evidence for the value of a motivational mechanism to foster learning and knowledge transfer of negotiation principles. This complements prior work on learning and knowledge transfer in negotiation that emphasized a cognitive mechanism: drawing comparisons to improve understandings of negotiation principles. In addition, prior work implies that there is an overall negative influence of contextual information on learning and knowledge transfer for managers developing expertise in negotiation (Loewenstein & Thompson, 2000). This article contributes by identifying a positive role of contextual information: Low contextual familiarity prompted openness to learning. Also, while prior work relied on drawing comparisons between multiple examples as a means to encourage deriving negotiation principles, this article examined the role of the type of question asked about a single example and found that questions could encourage or discourage openness to learning, and thereby foster or inhibit knowledge transfer.

These findings have implications for promoting learning and transfer both for negotiation practitioners and for negotiation instructors. For practitioners, asking themselves broadening questions is a straightforward opportunity that provides gains even if applied to examples close at hand. Gathering examples from unfamiliar industries might be more difficult, but various business and alumni communities as well as business publications provide opportunities. Managers already have these kinds of experiences; at issue is encouraging reflection.

For negotiation instructors, the direct implication of the current findings is to provide guidance for selecting case study examples and designing probing questions to promote learning. The primary goal of negotiation education and professional training is to develop managerial skills and knowledge that can be applied later to solve new problems. The current research provides a basis for suggesting that the frequently expressed desire to learn from examples set in one's own industry to ensure relevance and lower hurdles to transfer can instead limit openness and so reduce transfer. The common tendency when discussing individual examples to focus on their specifics to ensure understanding and explore their richness can in practice lead to emphasizing limitations and exceptions, thereby decreasing openness and transfer. In contrast, examples in unfamiliar settings and broadening questions appear to be useful starting points for fostering openness and inculcating an orientation toward applying the knowledge to future problems. Business schools have spent considerable amounts of time and resources in developing custom

negotiation cases for executive programs. The results of this research suggest that, although well intended, this might be counterproductive. Reusing examples from unfamiliar industries and posing general questions about them are plausibly a better use of time and resources, and ones that can readily be implemented.

The suggestions from this research could extend more broadly than the context of this study. The lessons for practitioners and instructors could well apply to learning other principles beyond negotiation. Indeed, these findings are suggestive of broader implications beyond the development of expertise. Negotiators and managers are often in the position of introducing new ideas. New ideas are often not well received (Mueller, Melwani, & Goncalo, 2012), particularly among those making decisions (Mueller, Melwani, Loewenstein, & Deal, 2018). New ideas can be challenging if they do not fit with existing beliefs, leading to defensiveness, counterarguments, and rejection rather than curiosity and openness (Argyris & Schon, 1996; Menon & Pfeffer, 2003). Thus, identifying ways to introduce new ideas to managers that foster openness is useful. Low familiarity, like surprise (e.g., Schank, 1983), can indicate an opportunity for learning. Broadening questions can encourage considering where else a new idea might be relevant. Thus, both approaches tested here have the potential to be used to foster managers' abilities to learn by reflecting on examples they experience and encounter. Further, both can be leveraged to promote the learning of other principles beyond negotiation. For example, it is possible that both interventions could be used to promote openness to management education and ethics training by reducing defensive orientation to learning. Further, the two interventions suggested in this article could be used to promote openness to new ideas generally, and so play a role in fostering the uptake of creative ideas or proposals for organizational change.

Limitations and Future Research

This study examined learning conditions with the potential to foster transfer to new situations. There are ample opportunities to expand on this study that would provide important additional information. For example, one important question is whether the interventions found to be useful in the context of short-term transfer to a simulated negotiation scenario extend to increase managers' performance in their negotiations at work over longer periods of time. This is an opportunity for field research. Our working assumption is that expressed openness and demonstrated transfer are proxies for future on-the-job negotiation performance. Prior education research provides evidence that learning interventions with these kinds of short-term improvements extend over time and to tasks arising in people's daily lives (Chen & Klahr, 2008; Fong & Nisbett, 1991). Still, given the importance of these issues, field measures of actual negotiation performance would be valuable to obtain.

There is a further, subtler issue regarding the applicability of the current study to managers' own job performance. Because the current test example was a negotiation set in an industry unlike those of the participants' industries, the current study does not provide a direct measure of knowledge transfer from training examples to managers' negotiations in their own industries. Thus, future research could provide important additional evidence by directly measuring knowledge transfer in the form of applications of the principle to the managers' own industries. Still, the current data provide some grounds for speculation. Individuals who studied examples from industries different than their own and were willing to apply them to still further different industries are demonstrating a willingness to use the principles. Further, the more openness they showed toward using the training information, the more likely they were to transfer the principle in their negotiations. Thus, it is plausible that the most critical aspect of the simulated negotiation exercises used here is that they revealed managers' willingness to apply what they learned from the training.

There are critical aspects that remain to be studied regarding openness to learning. In the current study, we measured openness to learning by content analyzing participants' open-ended responses to questions about the case study example. It would be interesting to know whether managers would

provide valid responses to direct questions about their openness to learning, or whether defensive reactions and self-enhancement pressures would instead limit the usefulness of such questions. If answers to direct questions about openness to learning were informative, that could provide a simpler measure. It would also provide greater separation between familiarity and question type interventions on the one hand and assessments of openness to learning on the other.

Furthermore, future research can explore individual- and dyadic-level training effects. The current study paired individuals who both received training, measured their openness to learning, and examined their negotiation outcomes. This design allowed us to maximize the chance of detecting training effects on transfer. It also raises questions about whether training effectiveness hinges on both parties improving. In this case, it does not appear to be so. Negotiation dyads in which both members were rated to be open to learning (45%) performed comparably to dyads in which one member was rated to be open to learning and the other was not open at all (42%). The big difference was with dyads in which neither member was rated to be open to learning (16%). This suggests that the key issue for fostering transfer is in strong training interventions that foster openness to learning in individual negotiators, rather than necessitating that all parties be so trained. Still, tests with one trained party and one untrained party could be useful.

A broad issue raised by the current study concerns the nature of familiarity. We suggested that a lack of familiarity between a case study example's industry context and one's own industry work experience can facilitate learning and that the presence of familiarity can hinder learning. However, familiarity is relative. Even our different-industry cases are familiar in the sense that they involve the business world, as opposed to, say, microbiology. Familiarity is also a perception. The extent to which case study examples and one's own experience actually are similar could deviate from one's perceptions of their similarity. We suspect that as long as the same underlying principles apply and the unfamiliar case is comprehensible and credible for the learner, the advantage for low familiarity is likely to hold. Still, a deeper investigation of what leads people to believe an industry is familiar or unfamiliar would be a useful line of research to undertake.

A further broad issue raised by the current study concerns the nature of broadening questions. Articulating general principles is useful for learners (Loewenstein et al., 1999). But this in itself may not encourage a learner to think about how those principles might be applied in other types of situations. This was the reason broadening questions could be helpful. Yet it is possible that broadening questions could encourage the overextension of learned principles even when that principle is not relevant in future situations. Future research is needed to examine the effect of general questions on such negative transfer.

Finally, there is a question about the kinds of knowledge that are relevant for effective negotiation and the kinds of learning conditions that support the development and transfer of that knowledge. The current study focused on negotiation principles in the form of generic contract structures. Prior work would indicate that the interventions that fostered the learning and transfer of knowledge about contingent contract would extend to knowledge about trade-offs. Yet there is considerable richness in the kinds of knowledge and skill that matter for effective negotiation. Future research could explore learning and knowledge transfer for different kinds of knowledge and even the learning and transfer of skills.

Conclusions

The popularity of negotiation education at professional schools places an obligation on the negotiation research community to identify training approaches that foster learning and knowledge transfer. The current research contributes by providing readily applicable suggestions for negotiation education about the types of examples and probing questions that are not the obvious choices for practitioners (and may not be for instructors either). These suggestions appear likely to help learners be more open to learning new negotiation principles and to applying those principles later to improve their negotiation

performance. Well-intentioned efforts to provide custom examples and to dive into the specifics of training examples may in fact result in less learning and less transfer.

References

- Adair, W. L., Okumura, T., & Brett, J. M. (2001). Negotiation behavior when cultures collide: The U.S. and Japan. *Journal of Applied Psychology, 86*, 371–385. <https://doi.org/10.1037//0021-9010.86.3.371>
- Alfieri, L., Nokes-Malach, T. J., & Schunn, C. D. (2013). Learning through case comparisons: A meta-analytic review. *Educational Psychologist, 48*, 87–113. <https://doi.org/10.1080/00461520.2013.775712>
- Ancona, D., Bresman, H., & Kaeufer, K. (2002). The comparative advantage of X-teams. *MIT Sloan Management Review, 43*, 33–39.
- Argyris, C., & Schon, D. (1996). *Organizational learning II: Theory, method, and practice*. Reading, MA: Addison-Wesley Longman.
- Bazerman, M. H., Curhan, J. R., Moore, D. A., & Valley, K. L. (2000). Negotiation. *Annual Review of Psychology, 51*, 279–314. <https://doi.org/10.1146/annurev.psych.51.1.279>
- Bazerman, M. H., & Gillespie, J. J. (1999). Betting on the future: The virtues of contingent contracts. *Harvard Business Review, 77*, 155–160.
- Blau, P. M. (1955). *The dynamics of bureaucracy*. Chicago, IL: University of Chicago Press.
- Bottom, W. P. (1998). Negotiator risk: Sources of uncertainty and the impact of reference points on negotiated agreements. *Organizational Behavior and Human Decision Processes, 76*, 89–112. <https://doi.org/10.1006/obhd.1998.2800>
- Brett, J. M., & Okumura, T. (1998). Inter- and intracultural negotiation: US and Japanese negotiators. *Academy of Management Journal, 41*, 495–510. <https://doi.org/10.5465/256938>
- Burt, R. S. (1992). *Structural holes*. Cambridge, MA: Harvard University Press.
- Colhoun, J., Gentner, D., & Loewenstein, J. (2008). In B. C. Love, K. McRae & V. M. Sloutsky (Eds.), *Leaving abstract principles through principal-case comparison*. Proceedings of the 30th Annual Conference of the Cognitive Science Society. (pp. 1659–1664). Austin, TX: Cognitive Science Society.
- Chase, W. G., & Simon, H. A. (1973). Perception in chess. *Cognitive Psychology, 4*, 55–81. [https://doi.org/10.1016/0010-0285\(73\)90004-2](https://doi.org/10.1016/0010-0285(73)90004-2)
- Chen, Z., & Klahr, D. (2008). Remote transfer of scientific-reasoning and problem-solving strategies in children. In R. V. Kai (Ed.), *Advances in child development and behavior* (Vol. 36, pp. 419–470). Amsterdam, PA: Elsevier.
- Chi, M. T. H., Feltovich, P. J., & Glaser, R. (1981). Categorization and representation of physics problems by experts and novices. *Cognitive Science, 5*, 121–152. https://doi.org/10.1207/s15516709cog0502_2
- Cialdini, R. B. (2001). *Influence: Science and practice* (4th edn). Needham Heights, MA: Allyn & Bacon.
- Cuhadar, C. E., & Kampf, R. (2015). Does conflict content affect learning from simulations? A cross-national inquiry into the Israeli-Palestinian and Guatemalan Conflict Scenarios. *Negotiation and Conflict Management Research, 8*, 243–260. <https://doi.org/10.1111/ncmr.12062>
- Fein, S., & Spencer, S. J. (1997). Prejudice as self-image maintenance: Affirming the self through derogating others. *Journal of Personality and Social Psychology, 73*, 31–44. <https://doi.org/10.1037//0022-3514.73.1.31>
- Feldman, M. S., & March, J. G. (1981). Information in organizations as signal and symbol. *Administrative Science Quarterly, 26*, 171–186. <https://doi.org/10.2307/2392467>
- Fong, G. T., & Nisbett, R. E. (1991). Immediate and delayed transfer of training effects in statistical reasoning. *Journal of Experimental Psychology: General, 120*, 34–45. <https://doi.org/10.1037//0096-3445.120.1.34>
- Gentner, D., Loewenstein, J., & Thompson, L. (2003). Learning and transfer: A general role for analogical encoding. *Journal of Educational Psychology, 95*, 393–408. <https://doi.org/10.1037/0022-0663.95.2.393>
- Gentner, D., & Medina, J. (1998). Similarity and the development of rules. *Cognition, 65*, 263–297. [https://doi.org/10.1016/s0010-0277\(98\)00002-x](https://doi.org/10.1016/s0010-0277(98)00002-x)
- Gentner, D., Rattermann, M. J., & Forbus, K. D. (1993). The roles of similarity in transfer: Separating retrievability from inferential soundness. *Cognitive Psychology, 25*, 524–575. <https://doi.org/10.1006/cogp.1993.1013>

- Hayes, A. (2013). *Introduction to mediation, moderation, and condition process analysis. A regression-based approach*. New York, NY: Guilford Press.
- Kolodner, J. L. (1993). Understanding creativity: A case-based approach. In *European Workshop on case-based reasoning* (pp. 1–20). Berlin, Heidelberg, Germany: Springer.
- Kolodner, J. L. (1997). Educational implications of analogy: A view from case-based reasoning. *American Psychologist*, *52*, 57–66. <https://doi.org/10.1037//0003-066x.52.1.57>
- Kurtz, K. J., & Loewenstein, J. (2007). Converging on a new role for analogy in problem solving and retrieval: When two problems are better than one. *Memory & Cognition*, *35*, 334–341. <https://doi.org/10.3758/bf03193454>
- Lax, D. A., & Sebenius, J. K. (1986). *The manager as negotiator*. New York, NY: The Free Press.
- Lee, F. (1997). When the going gets tough, do the tough ask for help? Help seeking and power motivation in organizations. *Organizational Behavior and Human Decision Processes*, *72*, 336–363. <https://doi.org/10.1006/obhd.1997.2746>
- Lesgold, A., Rubinson, H., Feltovich, P., Glaser, R., Klopfer, D., & Wang, Y. (1988). Expertise in a complex skill: Diagnosing x-ray pictures. In M. T. H. Chi, R. Glaser & M. J. Farr (Eds.), *The nature of expertise* (pp. 311–342). Hillsdale, NJ: Erlbaum.
- Levy, F. (2015). *Harvard Business Schools has the market concerned on case studies*. Bloomberg Businessweek. Retrieved from <https://www.bloomberg.com/news/articles/2015-04-09/harvard-s-case-study-monopoly>
- Lewicki, R. J. (1981). Organizational seduction: Building commitment to organizations. *Organizational Dynamics*, *10*, 5–21. [https://doi.org/10.1016/0090-2616\(81\)90029-2](https://doi.org/10.1016/0090-2616(81)90029-2)
- Liberman, N., & Trope, Y. (1998). The role of feasibility and desirability considerations in near and distant future decisions: A test of temporal construal theory. *Journal of Personality and Social Psychology*, *75*, 5–18. <https://doi.org/10.1037//0022-3514.75.1.5>
- Loewenstein, J. (2010). How one's hook is baited matters for catching an analogy. In B. Ross (Ed.), *Psychology of learning and motivation* (Vol. 53, pp. 149–182). San Diego, CA: Elsevier.
- Loewenstein, J., & Thompson, L. (2000). The challenge of learning. *Negotiation Journal*, *16*, 399–408. <https://doi.org/10.1111/j.1571-9979.2000.tb00767.x>
- Loewenstein, J., Thompson, L., & Gentner, D. (1999). Analogical encoding facilitates knowledge transfer in negotiation. *Psychonomic Bulletin and Review*, *6*, 586–597. <https://doi.org/10.3758/bf03212967>
- Loewenstein, J., Thompson, L., & Gentner, D. (2003). Analogical learning in negotiation teams: Comparing cases promotes learning and transfer. *Academy of Management Learning and Education*, *2*, 119–127. <https://doi.org/10.5465/amle.2003.9901663>
- McNeil, N. M., & Alibali, M. W. (2005). Why won't you change your mind? Knowledge of operational patterns hinders learning and performance on equations. *Child Development*, *76*, 883–899. <https://doi.org/10.1111/j.1467-8624.2005.00884.x>
- Medin, D. L., & Ross, B. H. (1989). The specific character of abstract thought: Categorization, problem-solving, and induction. In R. J. Sternberg (Ed.), *Advances in the psychology of human intelligence* (Vol. 5, pp. 189–223). Hillsdale, NJ: Erlbaum.
- Menon, T., & Pfeffer, J. (2003). Valuing internal vs. external knowledge: Explaining the preference for outsiders. *Management Science*, *49*, 497–513. <https://doi.org/10.1287/mnsc.49.4.497.14422>
- Menon, T., Thompson, L., & Choi, H. S. (2006). Tainted knowledge vs. tempting knowledge: People avoid knowledge from internal rivals and seek knowledge from external rivals. *Management Science*, *52*, 1129–1144. <https://doi.org/10.1287/mnsc.1060.0525>
- Moran, S., Bereby-Meyer, Y., & Bazerman, M. (2008). Stretching the effectiveness of analogical training in negotiations: Teaching diverse principles for creating value. *Negotiation and Conflict Management Research*, *1*, 99–134. <https://doi.org/10.1111/j.1750-4716.2007.00006.x>
- Movius, H. (2008). The effectiveness of negotiation training. *Negotiation Journal*, *24*, 509–531. <https://doi.org/10.1111/j.1571-9979.2008.00201.x>
- Mueller, J. S., Melwani, S., & Goncalo, J. A. (2012). The bias against creativity why people desire but reject creative ideas. *Psychological Science*, *23*, 13–17. <https://doi.org/10.1177/0956797611421018>

- Mueller, J. S., Melwani, S., Loewenstein, J., & Deal, J. (2018). Reframing the decision-makers' dilemma: A socio-cognitive model of creative idea recognition. *Academy of Management Journal*, *1*, 94–110. <https://doi.org/10.5465/amj.2013.0887>
- Munnich, E., & Ranney, M. A. (2019). Learning from surprise: Harnessing a metacognitive surprise signal to build and adapt belief networks. *Topics in Cognitive Science*, *11*, 164–177. <https://doi.org/10.1111/tops.12397>
- Neale, M. A., & Bazerman, M. H. (1992). Negotiating rationally: The power and impact of the negotiator's frame. *Academy of Management Perspectives*, *6*, 42–51. <https://doi.org/10.5465/ame.1992.427418>
- Pirolli, P. L., & Anderson, J. R. (1985). The role of learning from examples in the acquisition of recursive programming skills. *Canadian Journal of Psychology*, *39*, 240–272. <https://doi.org/10.1037/h0080061>
- Raiffa, H. (1982). *The art and science of negotiation*. Cambridge, MA: Harvard University Press.
- Reed, S. K. (1987). A structure-mapping model for word problems. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *13*, 124–139. <https://doi.org/10.1037//0278-7393.13.1.124>
- Rittle-Johnson, B., & Star, J. R. (2007). Does comparing solution methods facilitate conceptual and procedural knowledge? An experimental study on learning to solve equations. *Journal of Educational Psychology*, *99*, 561–574. <https://doi.org/10.1037/0022-0663.99.3.561>
- Ross, B. H. (1984). Reminders and their effects in learning a cognitive skill. *Cognitive Psychology*, *16*, 371–416. [https://doi.org/10.1016/0010-0285\(84\)90014-8](https://doi.org/10.1016/0010-0285(84)90014-8)
- Ross, B. H., & Kilbane, M. C. (1997). Effects of principle explanation and superficial similarity on analogical mapping in problem solving. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, *23*, 427–440. <https://doi.org/10.1037//0278-7393.23.2.427>
- Schank, R. C. (1983). *Dynamic memory: A theory of reminding and learning in computers and people*. New York, NY: Cambridge University Press.
- Schimel, J., Arndt, J., Pyszczynski, T., & Greenberg, J. (2001). Being accepted for who we are: Evidence that social validation of the intrinsic self reduces general defensiveness. *Journal of Personality and Social Psychology*, *80*, 35–52. <https://doi.org/10.1037//0022-3514.80.1.35>
- Seo, M. G. (2003). Overcoming emotional barriers, political obstacles, and control imperatives in the action-science approach to individual and organizational learning. *Academy of Management Learning and Education*, *2*, 7–21. <https://doi.org/10.5465/amle.2003.9324011>
- Star, J. R., & Rittle-Johnson, B. (2009). It pays to compare: An experimental study on computational estimation. *Journal of Experimental Child Psychology*, *102*, 408–426. <https://doi.org/10.1016/j.jecp.2008.11.004>
- Thompson, L. (1990). Negotiation behavior and outcomes: Empirical evidence and theoretical issues. *Psychological Bulletin*, *108*, 515–532. <https://doi.org/10.1037//0033-2909.108.3.515>
- Thompson, L. (2019). *The mind and heart of the negotiator* (7th edn). Upper Saddle River, NJ: Prentice Hall.
- Thompson, L., Gentner, D., & Loewenstein, J. (2000). Avoiding missed opportunities in managerial life: Analogical training more powerful than individual case training. *Organizational Behavior and Human Decision Processes*, *82*, 60–75. <https://doi.org/10.1006/obhd.2000.2887>
- Trope, Y. (2012). Construal level theory. In P. K. Van Lange (Ed.), *Handbook of theories of social psychology* (pp. 118–134). Washington, DC: Sage Publications.
- Trope, Y., & Liberman, N. (2010). Construal-level theory of psychological distance. *Psychological Review*, *117*, 440–463. <https://doi.org/10.1037/a0018963>
- Tushman, M. L., & Scanlan, T. J. (1981). Boundary spanning individuals: Their role in information transfer and their antecedents. *Academy of Management Journal*, *24*, 289–305. <https://doi.org/10.2307/255842>
- Whitehead, A. N. (1929). *The aims of education and other essays*. New York, NY: Free Press.
- Whitford, A. B., Bottom, W. P., & Miller, G. J. (2013). The (negligible) benefit of moving first: Efficiency and equity in principal-agent negotiations. *Group Decision and Negotiation*, *22*, 499–518. <https://doi.org/10.1007/s10726-011-9280-4>
- Wood, S. L., & Lynch, J. G., Jr (2002). Prior knowledge and complacency in new product learning. *Journal of Consumer Research*, *29*, 416–426. <https://doi.org/10.1086/344425>
- Zerres, A., Hüffmeier, J., Freund, P. A., Backhaus, K., & Hertel, G. (2013). Does it take two to tango? Longitudinal effects of unilateral and bilateral integrative negotiation training. *Journal of Applied Psychology*, *98*, 478–491. <https://doi.org/10.1037/a0032255>

Appendix A Case Study Examples

Computer/High-Tech Industry Example

The Original Equipment Manufacturer

Pat is an OEM rep for a midsize technology firm that makes software, primarily used by companies to run under their other platforms. Pat's key customers are companies that buy the software—usually on a licensing basis.

The key issues are price and payment terms. In this particular negotiation, Pat offered the customer 30 units for \$45,000, with a one-year term, and payment up front. The client balked at this price. First, the client claimed he could get a similar product using freeware. After arguing for some time, the client finally offered to buy 20 units for \$20,000 and pay-as-you-go, with no up-front payment.

Pat stood firm and it seemed like the negotiations were at an impasse. The client claimed that he did not want to pay for a product that might not streamline their data management. Pat tried to assure the client that the software would have significant benefits in terms of improving their data management. The client was unconvinced.

Pat then made a proposal to the firm that involved a *contingency contract*. Pat's team would do an initial evaluation of the client's IT capabilities and then examine their effectiveness after a 2-month period. If the software drivers significantly streamlined the client's IT systems, then the client would pay the full price—\$45,000 for 30 units. If, however, the software was not as effective as Pat claimed, then the client would pay his price—that is, \$20,000 for 20 units.

Pharmaceutical Industry Example

The Pharmaceutical Firm

Pat, a strategic business unit representative in a large pharmaceutical firm, is responsible for constructing joint ventures with other firms. In this case, the target firm, ISOcare, was a small drug delivery company. Pat and his business development team made an offer to the target (ISOcare) of an up-front payment of \$1M, with an ultimate purchase price of \$15M and royalties of 5%.

The target—ISOcare—balked at this offer. They countered by making a demand of \$5M, with an ultimate purchase price of \$30M and royalties of 12%.

After several weeks of getting nowhere, it seemed that parties were entrenched: What it came down to was that Pat's firm was skeptical about the ultimate profitability of ISOcare's products. In contrast, ISOcare was convinced that its products would revolutionize medication delivery.

Pat then made a proposal to the firm that involved a *contingency contract*. Pat propose that the pharmaceutical company pay an up-front payment of \$3M—halfway in between their demands, but that both parties evaluate the success of ISOcare's products 12 months from this day. If the product was as successful as ISOcare believed it would be, the large pharmaceutical company would pay \$30M and 12% royalties. However, if the ISOcare products fell short of expectations, the pharmaceutical company would only pay \$15M and 5% royalties.

Consulting Industry Example

The Consulting Engagement

Pat, a partner in a major consulting firm, was working on the terms of an engagement with a client—a small packaged foods company called Ivar's. Pat's background and experience in the areas of packaged foods made Pat a particularly valuable resource for the client, who wished to improve their operations and streamline their value chain. After several meetings with the client, Pat developed a multifaceted

proposal that involved several initiatives, each carrying a \$250,000 price tag. There were approximately 4 initiatives in the project for a grand total of about \$1M.

The client balked at the price. Pat felt that the proposed costs were reasonable given the value that the changes would make on Ivar's bottom line. However, the client was not convinced that the initiative would work and at one point threatened to secure the services of another consulting firm.

Pat then made a proposal to the client that involved a *contingency contract*. Pat proposed that the consulting firm work on the key initiatives in the project for an 18-month period. At that time, the effectiveness of the initiatives could be assessed. If profits increased by a prespecified amount, as Pat predicted they would, the client would pay the full amount of the consulting proposal—that is, \$1M. However, if the profits were down, then the client would only pay a small fraction of the original proposal.

Insurance Industry Example

The Branch Manager

Pat is a branch manager in a large insurance firm that serves both commercial and private lines. Pat negotiates insurance rates—premiums and coverage—via a broker, also known as an agent. The insured in this case was a large bank. Moreover, this client was a renewal, meaning that they had previously had coverage with the company and were negotiating the terms of their renewal.

Pat proposed that the bank retain the same coverage and quoted a price increase of 20%—standard in the industry. The bank balked. They suggested a 10% increase for the same coverage. Pat remained firm and the broker informed Pat that the client was threatening to take his business to a competitor.

The bank argued that they should only have a 10% price increase because, as a large bank, they were responsible for bringing a lot of additional business—via their customers and clients—to the insurance company. Pat, however, was skeptical about the bank's promises of additional customers.

Pat then made a proposal to the firm that involved a *contingency contract*. If the bank could bring in a minimum of 3 more commercial accounts within a 12-month period, the insurance coverage would be offered at only a 10% increase. If however, as Pat believed, the bank made no referrals during that time, the insurance premium would increase by the standard 20%.

Appendix B Training Materials in a Narrowing-Question Condition

Instructions

To help you prepare for the “Cartoon” case that you will negotiate in class, please read the mini-case below. This “warm-up” case provides a way of thinking about key negotiation strategies. When reading the mini-case, think about the key negotiation principle involved.

[A Case Study Example of Participant's Choice Depending on the Assigned Condition Provided Here]

Negotiation Principle

This example illustrates a commonly overlooked opportunity in negotiations—making contracts contingent upon the outcome of future events. Clearly Pat thought the customer's counteroffer was extreme, but rather than simply disagree, Pat used their different beliefs about the success of the software to restructure the terms of the agreement based on how well it fared. Instead of being an obstacle and a threat to making a deal, disagreements about the future can be made into an opportunity to control risk and adjust payments.

Thought questions: (*write your responses briefly below and give to instructor at beginning of class*)

1. How *familiar* are you with such negotiations?

	1	2	3	4	5	6	7
(circle)	Not familiar						Very familiar

2. How *similar* is this negotiation to those that might occur in your own industry?

	1	2	3	4	5	6	7
(circle)	Not similar						Very similar

3. Consider the proposal that Pat made to the client. Is this an effective negotiation strategy?

4. How might the contingency contract strategy be improved upon in this negotiation? Or applied to negotiations that you do?

Appendix C Training Materials in a Broadening-Question Condition

Instructions

To help you prepare for the “Cartoon” case that you will negotiate in class, please read the mini-case below. This “warm-up” case provides a way of thinking about key negotiation strategies and we give it to you because previous classes have found it useful.

[A Case Study Example of Participant’s Choice Depending on the Assigned Condition Provided Here]

Negotiation Principle

This example illustrates a commonly overlooked opportunity in negotiations—making contracts contingent upon the outcome of future events. Clearly Pat thought the customer’s counteroffer was extreme, but rather than simply disagree, Pat used their different beliefs about the success of the software to restructure the terms of the agreement based on how well it fared. Instead of being an obstacle and a threat to making a deal, disagreements about the future can be made into an opportunity to control risk and adjust payments.

Thought questions: (*write your responses briefly below then return this to the instructor at the beginning of class*)

1. How *familiar* are you with such negotiations?

	1	2	3	4	5	6	7
(circle)	Not familiar						Very familiar

2. How *similar* is this negotiation to those that might occur in your own industry?

	1	2	3	4	5	6	7
(circle)	Not similar						Very similar

3. Consider the proposal that Pat made to the client. Is this a good example of the negotiation principle?

	1	2	3	4	5	6	7
(circle)	Not a good example						A very good example

4. Would you use this negotiation principle? How broadly applicable do you think it is?

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