# *Teaching Note*

# New Technology Meets an Old Teaching Challenge: Using Digital Video Recordings, Annotation Software, and Deliberate Practice Techniques to Improve Student Negotiation Skills

*Gerald R. Williams, Larry C. Farmer, and Melissa Manwaring*

*There is a world of difference between teaching negotiation theory, which pertains to conceptual understanding, and teaching negotiation skills, which pertain to actual behavior in real-world situations. The principle of reflective practice is widely used for theoretical instruction. Deliberate practice, however, is a more powerful model for skills training. Cognitive scientists have discovered that subjects will learn skills best when they perform well-defined tasks at appropriate levels of difficulty, and when they are given immediate feedback, an opportunity to correct their errors, and an opportunity to practice until the tasks become routine.*

**Gerald R. Williams** is Marion G. Romney Professor of Law Emeritus at J. Reuben Clark Law School, Brigham Young University. His e-mail address is grwill@comcast.net.

**Larry C. Farmer** is a clinical psychologist and the Glen L. Farr Professor of Law at J. Reuben Clark Law School, Brigham Young University. His e-mail address is farmerl@law.byu.edu.

**Melissa Manwaring** is the director of curriculum development at the Program on Negotiation at Harvard Law School and a negotiation instructor at Harvard Extension School and Babson College's F. W. Olin School of Business. Her e-mail address is mmanwar@law.harvard.edu.

10.1111/j.1571-9979.2007.00167.x

*To satisfy the deliberate practice conditions for large graduate-level negotiation courses (some as large as seventy students), students were assigned to use webcams with their laptop computers to video record their negotiation exercises. Before each exercise, students were assigned to prepare for and to concentrate on performing two or three well-defined tasks. Students reviewed these recordings and commented on their performances in a journal before uploading the videos and journals to an assigned network folder. The instructor and teaching assistants then reviewed the journals and specified portions of the videos and provided individual written feedback to the students.*

*The instructors found that student negotiating skills have improved significantly using this new system. In comparison with earlier semesters, students also felt they were involved in a more intense and personal learning experience. A majority of students reported they intend to apply the principles of deliberate practice in their professional lives after graduation. The authors have found this method continues to challenge their ability to identify and describe the skills used by expert negotiators.*

*As an addition to this new methodology, two of the authors have spearheaded the development of video annotation software, known as "MediaNotes," to help students and instructors review, comment upon, and learn from video recordings of negotiations. Based on their experiences using the software to support deliberate practice, the authors expect this tool to initiate a significant advance in our ability to recognize and describe expert negotiation behavior and in students' ability to improve their negotiating skills.*

**Key words:** negotiation, negotiation pedagogy, negotiation curriculum, deliberate practice, reflective practice, behavioral skills, well-defined tasks, microskills, video annotation software, MediaNotes, curriculum design.

## The Problem: Teaching Behavioral Negotiation Skills

As long-time skills teachers, we have the impression that we have advanced far more in our ability to teach theory than in our ability to teach behavioral skills. Negotiation theory (such as the distinction between positions and interests, conceptual frameworks for responding to difficult tactics, or the tension between empathy and assertiveness) can be taught by traditional methods of instruction that have been passed down to us by generations of great teachers. Moreover, traditional assessment methods, such as written

essays and objective questions, may be used for evaluating students' understanding of negotiation theory and for providing feedback on that understanding. These methods also test students' ability to work under the pressure of deadlines, time limits, and gaps in knowledge or understanding. What we assess thus tends to drive what students attempt to learn.

On the other hand, behavioral negotiation skills (such as asking appropriate questions to draw out a counterpart's interests, responding purposively and constructively to a counterpart's difficult tactics, or demonstrating empathy through body language) are taught by nontraditional methods. They are difficult to teach in a traditional classroom. While skills training is now accepted as a legitimate part of the curriculum at many law, business, and other professional schools, we are still learning how to do it most effectively.

Graduate students are impressive in their ability to learn negotiation theory and concepts of negotiation. Their understanding of negotiation principles, however, generally exceeds their ability to fluently apply them in the heat of difficult situations, such as dealing with difficult counterparts. This would be less troublesome if reliable evidence indicated that students will become expert negotiators over time in proportion to their years of experience in the workplace, but the weight of evidence is to the contrary. For example, in an early empirical study of lawyers as negotiators, with one small exception, there was no correlation between negotiators' effectiveness and years in law practice (Williams 1983). (The exception is with attorneys who fall into the "cooperative" and "ineffective" group in ratings by their peers. This group was disproportionately younger in comparison to the eight other groups produced by Q-Factor Analysis.) More importantly, a number of studies specifically examining skills development show that people tend to stop improving while they are far below their potential (see, e.g., the discussion and studies cited in Ericsson, Krampe, and Tesch-Römer 1993; Ericsson et al. 2006). In the professional context, this is known as "the lure of minimal competence" (Givelber et al. 1995: 48).

## A Strategy: Deliberate Practice

Assuming, for the sake of argument, that negotiation students should learn behavioral skills as well as theory, what can negotiation teachers do to better support their skills development? Two of the authors, Gerald Williams and Larry Farmer, have been working on this question for the past six years, guided by the work of a group of cognitive psychologists who study world-class experts in chess, musical performance, the visual arts, and the sciences to discover what accounts for their exceptional levels of expertise in their chosen fields.[1] These researchers have identified a set of conditions they consider necessary for "optimal learning and improvement of performance" (Ericsson, Krampe, and Tesch-Römer 1993: 367; see also Bransford, Brown, and Cocking 2000). These conditions are captured by the

term *deliberate practice*, which means that the subjects practice (1) *a well-defined task* that is (2) *challenging but achievable*, the subjects receive (3) *immediate feedback* on their performances and outcomes, (4) they *correct their errors*, and (5) they *repeat the tasks until performance becomes routine* (Ericsson 1996: 20–21).

Under these conditions,"practice improves [the] accuracy and speed of performance on cognitive, perceptual, and motor tasks" at an optimal rate (Ericsson, Krampe, and Tesch-Römer 1993: 367).[2] According to K. Anders Ericsson, an expert on the acquisition of expertise,

> The core assumption of deliberate practice is that expert performance is acquired gradually and that effective improvement of performance requires the opportunity to find suitable training tasks that the performer can master sequentially — typically the design of training tasks and monitoring of the attained performance is done by a teacher or a coach. Deliberate practice presents performers with tasks that are initially outside their current realm of reliable performance, yet can be mastered within hours of practice by concentrating on critical aspects and by gradually refining performance through repetitions after feedback. Hence, the requirement for *concentration* sets deliberate practice apart from both mindless, routine performance and playful engagement, as the latter two types of activities would, if anything, merely strengthen the current mediating cognitive mechanisms, rather than modify them to allow increases in the level of performance (Ericsson 2006: 692; citations omitted).

The research concludes deliberate practice actually does constitute "the road to excellence," meaning it may be considered a formula that will lead a diligent subject to world-class expertise in his or her chosen domain. Lest it sound too easy, there is a slight catch — to achieve such expertise, the subject must deliberately practice several hours per day, virtually every day, for ten years (Ericsson 1996; Ericsson et al. 2006)!

Unfortunately, negotiation teachers in law and business schools work with shorter time frames. In a typical negotiation course, students may spend only four to six hours per *week* on negotiation, not per *day.* The challenge, then, is to maximize the amount of deliberate practice our students can experience within the time available to them.[3] Because deliberate practice is specifically geared toward skills development (as opposed to reflective practice, which is geared toward conceptual understanding), it seemed worth trying, even in necessarily limited amounts.

In considering the five elements of deliberate practice, negotiation teachers will immediately recognize that the most difficult conditions to satisfy are the last three: providing students with *informative feedback on their actual negotiating performance* (as opposed to their written reports of their performance), providing them with *opportunities to correct their*

*errors*, and providing ways for students to *practice the tasks until the tasks become routine*.[4] Two of the authors have focused their efforts over the past several years on finding ways to apply these three elements of deliberate practice in their skills courses.

## The Challenges of Providing Informative Feedback

Typically, instructors provide feedback to students performing simulated negotiations in one of three ways:

1. by personally watching the negotiation and giving feedback during or afterwards,
2. by arranging for video recordings of student negotiations and then personally reviewing the videos with the students, or
3. by assigning students to write reflective journals about their negotiations and then giving them feedback on their reflections.

These methods can also be combined. For example, a student might be assigned to make a video recording of her negotiation, to review the video with the instructor or a teaching assistant, and then to write a reflective journal, which would be reviewed by the instructor or a teaching assistant.

There are advantages and disadvantages to each method. Of the three methods, the most immediate is to personally witness (or have a teaching assistant personally witness) a negotiation and to give feedback during or just after the negotiating session. Without a video recording, however, there is no opportunity to replay significant events to better understand them and to devise alternate ways of handling them. Student and observer memories are inevitably vague and, like everyone else, students have a tendency to recall events from a self-serving perspective (see, e.g., Bazerman and Shonk 2005). Thus, giving feedback on a live, unrecorded performance may be the time-honored method in moot court and trial advocacy, but it is a poor substitute for giving feedback with the observable, replayable data of a video recording.

The second method, making video recordings of students' simulations, offers an excellent permanent record of the whole negotiation that can be played, stopped and started, rewound, and replayed so that everyone involved watches and comments upon the same record of events. Such a record is a valuable learning resource. When students (or the instructor, for that matter) draw conclusions about what was more effective or less effective in a negotiation, it can be helpful to track what researchers have called the "ladder of inference" (see Argyris, Putnam, and Smith 1985), such as which data were selected, how that data were interpreted, and what reasoning was used to reach the conclusion. By moving down the ladder of inference to the original data and then back up the ladder through the levels of selection, interpretation, reasoning, and conclusion, one can

identify possible misunderstandings, inaccurate assumptions, or multiple plausible interpretations (see Stone 2000). Having an incontrovertible record of the physical interaction facilitates this analysis. The downside of traditional video recordings, however, has been their inefficiency in terms of the costly video equipment required, the need for trained support staff, and the logistical demands involved; typically, the faculty and students must schedule a time and place to do the recording, make the recording, and schedule a time and place to review the recording (see Peppet 2002). As a result, negotiation teachers usually limit video recordings to once or twice per semester, if they do them at all.

Many negotiation instructors ask students to write reflective journals about their negotiations (Williams and Geis 2000), presumably with the goal of fostering analysis, self-evaluation, and metacognition. When negotiation simulations are not recorded on video, however, and when students know they will write reflective journals about them, students are forced to negotiate with two competing goals in mind. First, they are supposed to concentrate on the process of the negotiation, using all available brainpower to understand and appropriately initiate and respond as the situation unfolds. This is an extremely demanding task; in fact, it challenges the resources and experience of nearly all law and MBA students, particularly during their first few negotiations. At the same time, for purposes of recording their experiences in the reflective journal, students should note their thoughts and feelings at each significant point in the negotiation so they will be able to recall and to reflect on them later when they sit down to write their journals. This, too, is an all-consuming task. If an observer were asked to record all of her thoughts and feelings while watching a negotiation, she would be fully occupied. Obviously, for our students, devoting energy to remembering thoughts and feelings can detract from meeting the demands of the negotiation itself and from intense involvement in the moment. In addition, the absence of a permanent record subjects this method to some of the same limitations (such as self-serving biases) as direct observer feedback on live, unrecorded negotiations.

## Integrating Deliberate Practice into a Negotiation Course

Inspired by the dramatic improvement in skills under conditions of deliberate practice, authors Gerald Williams and Larry Farmer brainstormed ways to give students better feedback on their negotiation-skills exercises. We sought a solution that would integrate the five key elements of deliberate practice by breaking negotiation skills into tasks that

1. *are well-defined*;
2. *are challenging yet achievable*;

3. offer *immediate feedback*;

4. offer an *opportunity to correct errors*; and

5. offer an opportunity to *repeat or practice until the skills become routine*.

We also wanted to avoid the inefficiencies, costs, and cognitive biases that often plague the typical feedback methods described earlier.

The idea we finally hit upon was to identify common, observable, discrete negotiation skills (such as "reframing demands as options" or "demonstrating active listening") that we wanted students to improve, to develop simple negotiation simulations and other exercises that called for these skills, to arrange for students to create video recordings of their own exercises with laptop computers and inexpensive web cameras, and to facilitate feedback on the recordings from multiple sources. The identification of negotiation "microskills" would satisfy the first two deliberate practice conditions (well-defined tasks that were challenging yet achievable), while the feedback on student negotiation videos would constitute the third condition: informative, immediate feedback.[5] This would pave the way for students to satisfy the fourth and fifth elements: correcting errors and practicing until the skills become routine.

The decision to use laptops and web cameras (or "webcams") turned out to be surprisingly simple. Laptops have been required at most law and business schools for years, and inexpensive webcams have been available for years as well. We arranged for the university library to purchase forty-four webcams for approximately $129 apiece, which the students could check out when needed to record their negotiation exercises (one webcam was sufficient to record both members of a negotiation pair). The webcam — a compact, portable, digital video camera roughly the size and shape of a handheld microphone — is an ideal solution because

1. webcam technology is designed to be simple and undemanding in terms of computer resources;

2. webcams are much less expensive than standard video cameras;

3. students conduct all webcam recording themselves, thus avoiding incurring substantial costs for hiring technical personnel to run video equipment;

4. webcam quality is more than adequate to capture video and audio at levels that are satisfactory for these purposes (up to 640 by 480 frames at thirty frames per second); and

5. exercises are recorded in *digital format*, which is far more convenient to review than standard VHS video tape or digital video tape recording.

Webcams can capture video in a variety of black and white, and color compressed formats. They operate from the power supplied through a universal serial bus (USB) connection and have virtually no external switches and adjustments. Students can control the webcam operation quite simply, using the screen of the laptop computer to which it is attached.

In many respects, implementing the technology was easy in comparison to the more demanding task of redesigning our courses to take advantage of the deliberate practice learning model. Here is the plan we developed for the negotiation course:

1. *Design simple exercises that permit students to deliberately practice microskills* (with webcam video recordings, review, and journaling) *before* they begin doing fuller negotiation simulations. The reason for this is obvious. In a full simulation, students are expected to have a complete repertory of negotiation skills at their command, meaning the ability to perform the tasks needed for each of the stages of the negotiation process and for various types of counterparts. The exercises must include clearly defined learning objectives; well-defined tasks that, if performed knowledgeably and well, will satisfy the learning objectives; and instruments or methods for assessing performance that will help students identify their errors, correct them, and polish their skills.

2. *Align the course content and the role simulations more closely*, so that course content lays a better foundation for development of specific skills and the role simulations offer concrete opportunities to practice those skills.

3. *Replace some of the more complex negotiation simulations with simpler ones*. This allows students to focus on just a few well-defined tasks in each negotiation rather than on several. It also reduces the demands on student time before and during the role simulations, so that students can spend more time afterward reviewing, analyzing, and critiquing their own performances.

4. *Redesign and restructure the format for reflective journals*. In the past, our students learned primarily by writing weekly reflective journals based solely on their memories of their negotiation simulations and by receiving individualized feedback on those journals. Now, students have the benefit of a *video recording on their own laptop computers* of each negotiation. They review their performances, paying particular attention to the well-defined tasks assigned as part of each simulation. Using an instructor-provided outline, students record the time code at the beginning and end of each segment in the negotiation in which they undertook those tasks. They then comment in their reflective journals on what they perceive to be the strengths and weaknesses of their performances

of those specific tasks and upload their negotiation videos and reflective journals to an assigned, password-protected folder on the law school network. The instructors and their teaching assistants then review the journals and the specified portions of the video recordings and give individual written feedback to each student.

5. *Integrate follow-up assignments to support students in the fourth and fifth elements of deliberate practice*:"*correcting errors" and "practicing until routine*." In order to more thoroughly implement deliberate practice methods in his interviewing and counseling course, one of the authors has significantly increased the number of in-class practice opportunities and has designed the in-class exercises to maximize the number of times students practice and receive feedback on specific skills. To accommodate this shift, he has reduced the theory component of the course to cover only the material necessary to prepare students for practice exercises. This creates a more immediate link between theory and practice while freeing up the time to practice in class. His students devote more than 50 percent of their class time to recorded practice exercises. They also complete at least three one-hour out-of-class exercises.

The authors have been using this approach to support deliberate practice for several years, and they have found that student skills improved significantly.[6] In comparison with earlier semesters, students also reported in their reflective journals that they believed that, through this course, they had been involved in a more intense and personal learning experience. A majority of students reported they intend to apply the principles of deliberate practice in their professional lives after graduation.

## Additional Scaffolding for Deliberate Practice: Video Annotation Software

As our students began to use webcams, laptop computers, and network servers to record, analyze, distribute, and critique their skills exercises, we found that software developers had not anticipated these particular uses of these valuable digital tools. We wanted not only to capture video recordings of student negotiation exercises but to facilitate the students' and instructors' analysis of those recordings. Accordingly, we collaborated with colleagues at Brigham Young University's College of Health and Human Performance and the Center for Instruction Design, and later with an organization called Blue Mango Learning Systems (www.bluemangolearning.com), to develop a solution to the challenge of analyzing the video recordings effectively. The result — after several years of testing and revising a prototype — is a video recording and annotation software program called MediaNotes.[7]

The MediaNotes application facilitates written, customizable annotation of events within a digital video recording. If a student sees a video segment on which she wants to comment (such as a segment in which the student performs a previously identified "well-defined task"), she can mark the beginning of the segment with the click of a button or key. She then can either label the segment with a preexisting "tag" (if supplied by the instructor) or create her own tag, and she can add commentary onto the event segment and/or the tags. Any tags or commentary are saved in a separate file and do not alter — although they remain associated with — the corresponding video segment. This file can be saved and sent, along with the video file, to the instructor or any other user.

For instance, suppose the instructor defines one task (or "microskill") as "responding to positional statements or demands by probing for interests." A student reviewing his video might see a brief exchange in which his counterpart states "I can't accept any less than $40,000," and to which the original student responds, "Can you tell me why getting at least $40,000 is important to you?" If the student is viewing the video within MediaNotes, he can easily identify this exchange as a discrete segment by clicking on the beginning and end of the exchange, dragging a preexisting tag such as "probing for interests" onto the segment, and adding any comments he wishes (e.g., "I think this was a good question, though my body language — leaning back with crossed arms — doesn't convey a genuinely curious/interested impression"). If the instructor has not previously defined an appropriate tag for this event, the student may create a customized tag. This allows the student to identify significant events in the video beyond any predefined microskills that were the subject of deliberate practice.

The MediaNotes application facilitates the video review process for the instructor as well. For instance, rather than reviewing student videos chronologically, the instructor can click on a tag category of interest (such as "probing for interests") and instantly be shown all video clips in that category, along with the student commentary associated with that tag. Moreover, the instructor can tag additional events in the video (e.g., events the students ought to have tagged); append his or her own comments, criticisms, and suggestions (which appear in a different font color); and send the revised feedback file to the student. The instructor can customize this feedback or add "boilerplate" comments regarding common errors — comments that she might otherwise repeat a dozen times if she were conducting live, in-person video review sessions. Just as a legal writing instructor might repeat certain feedback in response to the same mistakes that students make (e.g., "use active voice" or "state your conclusion in the first paragraph"), a negotiation instructor might find herself repeatedly suggesting behaviors such as "ask open-ended questions" or "listen to what your counterpart is saying rather than preparing your next statement." The MediaNotes software allows the instructor to create such standard

comments and to simply drag and drop them into the appropriate video segments, making the written review process more efficient.

As part of the feedback, the instructor can also attach video examples of the desired behavior. For instance, if the instructor wishes to critique a student's quick acceptance of an unjustified lowball offer, the instructor can not only tag and attach comments to the event but also attach one or more clips from other students' videos (or from previously prepared videos) that demonstrate exemplary responses to the lowball tactic. Such examples not only offer guidance in the deliberate practice process by demonstrating ways in which students might correct errors but are powerful learning tools in their own right. Recent research suggests that students' negotiation performance improves more with the addition of observational learning than through learning by experience alone (Nadler, Thompson, and van Boven 2003).

The capacity to annotate students' digital video recordings is not limited to the instructor. Students may benefit by giving and receiving feedback to and from each other. Two negotiation counterparts can independently annotate the video of their negotiation, exchange their annotations, and analyze where and why their perceptions of events converge or differ. This would highlight, for instance, disconnects between one student's intent in making a statement and the other student's interpretation of the statement — paving the way for deeper understanding of communication skills in negotiation. As another possibility, students or outside volunteers might review and comment upon negotiation exercises in which they had no involvement, thus adding a more objective third-party perspective.[8] (One of us used "virual reviewers" for this purpose.[9])

Given our students' time constraints, one of the most challenging aspects of deliberate practice has been to give students the opportunity to correct errors and to practice until their performance of miscroskills becomes routine. One solution is to prepare a series of video clips of difficult negotiation tactics (stonewalling, ignoring, threatening, insulting, lying, etc.). In preparation for the exercise, students are given a list of the difficult tactics and are assigned to prepare their responses. Students then record themselves with a webcam as they respond in real time to the various tactics. Experience shows that student responses in the first two or three times through the series of tactics are flustered and unconvincing, but beginning with the third or fourth repetition, students begin to show good composure, presence of mind, and more effective responses.[10]

## Maximizing the Learning Potential of Video Recording and Annotation

Based on our experience, the use of digital video in a negotiations course, with or without specialized annotation software, will help students improve their negotiation skills. Given the limited time students and

instructors are able to devote to their courses, video recording is the most important single ingredient in implementing deliberate practice to teach negotiation skills. Its use may require revisions in course design — for instance, by cutting back on theoretical content, reducing and simplifying the number of negotiation exercises, and building in extra time for deliberate practice of specified skills.

Assessment methods that focus on skills development, in contrast to those that focus on theoretical knowledge, also help students to learn from the process of reviewing and receiving feedback on video recordings of their own negotiations. One method is to have students create an electronic portfolio as a final assignment, in lieu of a final paper or final journal, in which they compile a series of annotated video clips from the semester's exercises, with the goal of illustrating such things as their performance level at the beginning of the course, the degree to which they improved their skills, their current proficiency, and their ability to meaningfully evaluate their own performances. Teachers who wish to reward effort or improvement rather than pure skill level can of course tailor their assessment rubrics accordingly. Currently, we assess students by reading and critiquing their tagged comments in the MediaNotes software — which puts more focus on their abilities to identify and comment upon their own behaviors than upon their level of skills.

Of course, "skills" and "theory" are not always clearly distinguishable categories. Negotiation skills range from at-the-table interpersonal skills (such as asking open-ended questions to flesh out interests or demonstrating active listening), to process awareness and analytical skills (such as the ability to recognize and evaluate one's own or a counterpart's moves), to away-from-the-table, "back-channel" moves that influence the very architecture of the negotiation (such as building advance coalitions, improving one's alternatives to agreement, or influencing the issues that will be on the negotiating agenda) (see, e.g., Lax and Sebenius 2006; Watkins 2006). Although video recordings and deliberate practice techniques work most naturally with observable, at-the-table, behavioral skills, video recordings, with or without annotation software, also might be harnessed to help students develop less readily observable skills. Another assessment approach, for instance, might be to ask students to annotate videos that portray professionals negotiating. Depending on the analytical skills the instructor wishes to target, students might analyze the videos at the structural (macro)level or at the more interpersonal (micro)level — and the students might do so with previously defined tags (e.g., identify all of the places in which a negotiator makes an explicit move to influence the agenda) or they might do it "cold," using their own words to analyze and evaluate what they observe.

Finally, it is worth noting that the combination of webcams and annotation software preserves not only the negotiation itself but also the

comments that the participants (or others) append to the video. Students might use this technology to track their analytical progress as well as their behavioral progress. A student might annotate a recorded negotiation performance early in the semester, and – just as she might do with a written journal — look back later in the semester at her early annotations and reflect on whether her evaluation of that performance has changed. For instance, a student who has learned about the anchoring principle early in the semester might favorably evaluate her aggressive first offer in a negotiation. A few weeks later, she might reflect on that evaluation by saying "At the time, I thought I was taking advantage of the anchoring principle by making an aggressive first offer. Looking back at the video clip, I now realize that I didn't have a good sense of what the item was worth, so I might have underestimated how much they'd be willing to pay." Even later in the course, she might adjust her evaluation yet again: "Now that I better understand the value of a good working relationship, I realize — looking at the video clip and my comments for a third time — that I didn't do anything in that first negotiation to establish a good relationship with my counterpart, prior to making that first offer — and because of that, we may have missed opportunities to create additional value for both of us." This sort of "metacognitive" reflection would be difficult to conduct without a record of both the negotiation itself and the earlier analyses of that negotiation.

## Questions, Difficulties, and Limitations

Although there are numerous benefits to video recording and annotation software in implementing deliberate practice, the approach is not without its challenges — both logistical and pedagogical. On the logistical side, there are some initial expenses involved in obtaining the necessary equipment: webcams, network server space for storing the video files, and the annotation software (which is available essentially at cost). (Another storage option is to store video files on CD-ROMs or DVDs, although it requires purchase of CDs or DVDs and the capability to record on them.) Given the potential for webcams to be used in all courses with performance elements, such as theater, dance, trial advocacy, university departments might pool their resources or a university library might see fit to make that investment. It usually takes students more time to do a thorough review of a video recording and comment upon it than to write a reflective journal. Additional time is required if students critique each other's comments to the negotiation. Finally, the demands upon instructor time are particularly daunting. In our experience, employing teaching assistants to give feedback has worked well, as has using virtual reviewers as described earlier in this article.

On the pedagogical side, we should ask whether students who develop the ability to effectively perform a rich variety of well-defined tasks will

automatically become effective negotiators in a larger sense. To cite just one example, we know that context matters: it makes a difference when, and how, and with whom one deploys a particular behavior. An open-ended question that might have been extremely effective in one negotiation might be utterly ineffective in another.[11] One could argue that this is true for musical and artistic skills as well: a jazz musician might rehearse a particular riff until she can perform it automatically, and yet the riff will only "work" in an improvisation session if the musician understands when, and how, and with which partners she should incorporate it. More research is needed on this topic. It is worth exploring how deliberate practice techniques can be harnessed most effectively for teaching "*micro*skills" and whether deliberate practice or other techniques will be required to teach such "*macro*skills" as strategizing to build coalitions, managing emotions, or improvising in response to the unexpected.

## Conclusion

To the extent that negotiation instructors seek to help students improve their skills and not just their theoretical understanding, the use of skill development methodologies is warranted. A set of conditions termed deliberate practice — that is, identifying *a well-defined task* that is *challenging but achievable*, in which students receive *immediate feedback*, have an opportunity to *correct their errors* and to *repeat the task until performance becomes routine* — has been shown to facilitate expert performance on cognitive, perceptual, and motor tasks in certain arenas such as the performing arts and the sciences. While most negotiation instructors do not have sufficient time (even if they have the inclination) to coach students to an expert level of negotiation skill, they might at least help students improve certain negotiation microskills through deliberate practice techniques.

The use of video recordings and, if desired, video annotation software, to analyze digital videos of student performances in the experience of two of this article's authors supports the creation of deliberate practice conditions in the negotiation classroom. The combination of the videos and the software allows students to hone in on well-defined microskills and to receive immediate feedback from the instructor and/or fellow students on their performance of these skills. A thoughtfully designed curriculum can also provide opportunities for the students to correct any errors and to repeat their performances until they can perform the skills reliably well, if not routinely.

Deliberate practice techniques have their limits with regard to improving negotiation skills: most notably, their intensive time requirements and their possible applicability only to certain types of skills. Even extensive deliberate practice of a range of negotiation microskills is not likely to make one an expert negotiator, as expertise also requires the ability to synthesize

those skills and to understand when and how to employ them. At the same time, observations of student performances, student course evaluations, and empirical analysis of student results all suggest that deliberate practice techniques can be effective in meeting a more modest goal of helping students improve certain types of discrete, observable, well-defined skills. When used in combination with other teaching techniques, deliberate practice supported by video recordings of simulations is a useful teaching tool.

## NOTES

The authors would like to thank Professor Christopher Dede of the Harvard Graduate School of Education for his helpful insights.

**1.** The collaboration between authors Williams and Farmer began in 2001, when they had occasion to compare notes about their mutual sense that they needed to become more effective in teaching essential skills. What followed was a period of fairly constant experimentation from which the methods described in this article emerged. A separate article describing Farmer's application of deliberate practice methods to teach interviewing and counseling skills is in process. The impetus for Farmer's interest in what we now call the Deliberate Practice Project began in the 1990s when he had occasion to observe several hundred counseling sessions between lawyers and clients. The lawyers in some of these counseling sessions included law school graduates who had previously taken Farmer's interviewing and counseling course. As a result of these observations, he concluded that most of the lawyers, including his former students, had achieved only rudimentary levels of competence with this essential skill. This led him to begin a quest in the late 1990s to learn more about the nature of skills acquisition and to seek more powerful methods of teaching interviewing and counseling skills.

**2.** The classic reformulation of these conditions can be paraphrased in these terms: optimal learning takes place when a highly motivated student with good concentration performs (1) a well-defined task, (2) at an appropriate level of difficultly, (3) receives informative feedback, and (4) is given opportunities for repetition and correction of errors (Ericsson 1996).

**3.** Jeffrey Loewenstein and Leigh Thompson (2000) have correctly pointed out that most managers (and presumably most managerial and other students) do not have thousands of hours to devote to deliberate practice. They conclude that negotiation instructors should seek alternate methods for helping their students develop negotiation expertise. While we agree that students are unlikely to acquire true negotiation expertise with limited deliberate practice, and that alternate pedagogical methods can certainly help facilitate skills development, we suggest here that some deliberate practice is better than none, and that it can help support measurable improvement in negotiation skills, if not true expertise.

**4.** K. Anders Ericsson and his colleagues conclude that without sufficient feedback, "efficient learning is impossible and improvement only minimal even for highly motivated subjects" (Ericsson, Krampe, and Tesch-Römer 1993).

**5.** As part of our solution, we also obtained and installed a Microsoft SharePoint Server on the law school network with five hundred gigabytes of disk space. This made it easier to manage, store, and access student video recordings and journals. The network disk space also gave us space to store an archive of prior exercises so students did not need to keep large video files on their laptop hard drives.

**6.** See Hoagland (2007). This research compared performance outcomes for a specific interviewing skill (framing) in capstone interviewing exercises in two deliberate practice courses that were taught in different years. One course employed "reflection only" (no video feedback) and the other "video feedback plus reflection" instructional methods. Except for the different performance evaluation methods employed in each course, the nonvideo feedback and video feedback courses exposed students to a virtually identical set of deliberate practice exercises. Students in the video feedback course video recorded all practice exercises, used MediaNotes to analyze their performances, and received feedback on their evaluations from the instructor and other reviewers; students in the nonvideo feedback course wrote reflective performance evaluations immediately after completing each exercise. The primary finding of the study was that students in the video

feedback course significantly surpassed the performance of students in the nonvideo feedback course in their capstone interviews in that they used framing techniques more frequently and used a greater variety of framing techniques.

**7.** Brigham Young University has arranged with the Center for Computer-Assisted Legal Instructions (CALI) to make MediaNotes available on a nonprofit basis within legal education (see www.cali.org). Blue Mango Multimedia has MediaNotes distribution rights outside of legal education. Academic pricing is available. Additional information on MediaNotes is available at the Blue Mango Learning site (see www.bluemangolearning.com/products/medianotes).

**8.** Feedback from multiple sources can be a powerful tool for enhancing understanding of concepts or skills (see, e.g., Wiske 1998; Wiske, Sick, and Wirsig 2002).

**9.** In Larry Farmer's interviewing and counseling course, student self-evaluations, and instructor feedback are all handled outside of class. To manage the feedback load, he has established a network of adjunct faculty whose only responsibility is to review student evaluations. These "virtual reviewers" are practitioners living in such places as California, Arizona, Utah, and Texas who have previously taken the course and performed well in it. The virtual reviewers access simulation evaluations and videos through a specially designed website. The use of a stable group of adjunct faculty to provide feedback to students not only ensures that students get timely, knowledgeable feedback, but it also has the advantages of being scalable and relatively inexpensive, and helps to link practicing alumni with the law school in a meaningful relationship.

**10.** We are grateful to David Lax for this suggestion. Students found this method challenging and enjoyable when we used it in an advanced negotiation seminar. It should be equally valuable in negotiation courses at any level.

**11.** This suggests that, even though deliberate practice techniques might support the development of discrete negotiation skills, the ability to integrate those skills and to understand when, how, and why to deploy them might require additional learning techniques. In other words, it is not enough to only master the building blocks of negotiation skill; students must also know how to organize and sequence these building blocks (Dede Forthcoming).

## REFERENCES


Argyris, C., R. Putnam, and D. Smith. 1985. *Action science*. San Francisco: Jossey-Bass.

Bazerman, M. and K. Shonk. 2005. The decision perspective to negotiation. In *The handbook of dispute resolution*, edited by M. Moffitt and R. Bordone. San Francisco: Jossey-Bass.

Bransford, J. D., A. L. Brown, and R. R. Cocking (eds). 2000. *How people learn: Brain, mind, experience, and school*. A report of the Commission on Behavioral and Social Sciences and Education, National Research Council. Washington, DC: National Academy Press.

Dede, C. Forthcoming. Theoretical perspectives influencing the use of information technology in teaching and learning. In *International handbook of information in primary and secondary education*, edited by J. Voogt and G. Knezek. New York: Springer.

Ericsson, K. A. 1996. The acquisition of expert performance: An Introduction to some of the issues. In *The road to excellence: The acquisition of expert performance in the arts and sciences, sports and games*, edited by K. A. Ericsson. Mahwah, NJ: Lawrence Erlbaum Associates.

Ericsson, K. A., N. Charness, P. J. Feltovich, and R. R. Hoffman (eds.). 2006. *The Cambridge handbook of expertise and expert performance*. New York: Cambridge University Press.

Ericsson, K. A., R. T. Krampe, and C. Tesch-Römer. 1993. The role of deliberate practice in the acquisition of expert performance. *Psychological Review* 100: 363–406.

Givelber, D. J., B. K. Baker, J. McDevitt, and R. Miliano. 1995. Learning through work: an empirical study of legal internship. *Journal of Legal Education* 45: 1–48.

Hoagland, M. 2007. The impact of deliberate practice teaching methods on skill acquisition in a law school interviewing and counseling course. Doctoral Dissertation, Brigham Young University.

Lax, D. and J. Sebenius. 2006. *3D negotiation: Powerful tools to change the game in your most important deals*. Boston, MA: Harvard Business School Press.

Loewenstein, J. and L. Thompson. 2000. The challenge of learning. *Negotiation Journal* 16(4): 399–408.

Nadler, J., L. Thompson, and L. van Boven. 2003. Learning negotiation skills: Four models of knowledge creation and transfer. *Management Science* 49: 529–540.

Peppet, S. 2002. Teaching negotiation using web-based streaming video. *Negotiation Journal* 18(3): 271–282.

Stone, D. 2000. Facilitating discussion about negotiation. In *Teaching negotiation: Ideas and innovations*, edited by M. Wheeler. Cambridge, MA: PON Books.
Watkins, M. 2006. *Shaping the game: The new leader's guide to effective negotiating*. Boston, MA: Harvard Business School Press.
Williams, G. R. 1983. *Legal negotiation and settlement*. St. Paul, MN: West Publishing Co.
Williams, G. R. and J. M. Geis. 2000. Negotiation skills training in the law school curriculum. In *Teaching negotiation: Ideas and innovations*, edited by M. Wheeler. Cambridge, MA: PON Books.
Wiske, M. S. (ed). 1998. *Teaching for understanding: Linking research with practice*. San Francisco: Jossey-Bass.
Wiske, M. S., M. Sick, and S. Wirsig. 2002. New technologies to support teaching for understanding. International. *Journal of Educational Research* 35(5): 483–501.