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Research Report

Effectiveness of In-Person Versus Online Negotiation Teaching for Practitioners

Patricia Oehlschläger and Michael A. Merz*

Most negotiation courses have been taught in person. However, online education has become more prevalent over the past decade due to its flexibility, cost and time efficiency, and new digital technologies designed to compensate for the lack of personal contact. The global pandemic has accelerated this trend, raising the question of whether negotiation courses taught online are as effective as those taught in person. The few studies that have examined the effect of teaching modality on student performance were limited to undergraduate and graduate student samples and the results have been mixed. To contribute to this discussion, we conducted two studies with practitioners to examine whether online or in-person instruction is more effective for teaching negotiation skills to experienced negotiators.

Keywords: negotiation teaching, distance learning, online education, negotiation pedagogy, teaching modality, virtual teaching, in-person teaching

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Introduction

Time-tracking studies show that managers devote 15 percent to 26 percent of their work hours to negotiations (Schweinsberg, Thau, and Pillutla 2022), and it is widely recognized that negotiation skills are critical to the welfare of both individuals and businesses (see, e.g., Prilepok and Chivukula 2021). Not surprisingly, the World Economic Forum (2020) has ranked negotiation among the top 15 skills required for future jobs.

Traditionally, negotiation courses have been taught face-to-face (i.e., in person) with direct teacher–student interaction to optimize learning. However, virtual education has become more prevalent over the past decade due to its flexibility (Abrami et al. 2011; Parlamis and Mitchell 2014) as well as its cost and time efficiency (Means et al. 2009 Dung 2020). Increasingly, educators and companies are adapting to the widespread use of digital technologies, recognizing that the advantages of virtual training and teaching can offset the lack of personal contact (Geiger 2020). The COVID-19 pandemic has accelerated the adoption of virtual training and teaching (Dwivedi et al. 2020).

Many researchers have examined the effectiveness of virtual teaching (e.g., Machtmes and Asher 2000 (telecourses); Means et al. 2009 (online learning); and Sitzmann et al. 2006 (web-based instructions)), and findings have been mixed. While Means et al. (2009) and Soffer and Nachmias (2018) found the performance of students in online classes to be superior to those learning in person, Spencer and Temple (2021) found the reverse. Lyke and Frank (2012), Cavanaugh and Jacquemin (2015), and Wavle and Ozogul (2019) found no significant differences in effectiveness between teaching modalities.

Of the studies researching the effectiveness of virtual teaching, only a few studies have examined the effect of teaching modality on student performance in negotiation workshops and classes, and the results of such studies also are inconclusive. For example, research by Parlamis and Mitchell (2014) revealed no significant differences between the effectiveness of in-person versus online teaching, whereas Callister and Love's (2016) research revealed that in-person negotiation courses result in better student performance.

Moreover, empirical research examining the effectiveness of different modalities for teaching negotiation and other fields has predominantly used undergraduate or graduate student samples. In the negotiation context, research has not yet examined teaching modality effectiveness using experienced negotiators. This is surprising given that negotiation training is a chief component of companies' professional

training programs (Loewenstein and Thompson 2000; Bereby-Meyer, Moran, and Unger-Aviram 2004; Baber 2022) and negotiation outcomes strongly impact companies' performance.

Following a review of relevant literature, this article examines the effectiveness of in-person versus online courses in developing the negotiation skills of experienced practitioners. Study 1 examines the learning outcomes of experienced negotiators who took an online or in-person negotiation course. To guarantee the comparability of learning outcomes of both teaching modalities, all participants negotiated a case virtually via an online chat tool. We coded the negotiation behavior to gain deeper insights into the negotiation process and analyzed iterations (quantity of chat messages sent during the negotiation), negotiation time, word count, and dropout rate. To explore further the differences between the two training modalities, Study 2 examines practitioners' overall satisfaction with their training and their practical application of it. Lastly, we discuss the implications and limitations of our findings and offer suggestions for future research.

Theoretical Background

Teaching Negotiation

Negotiations are essential to the functioning, adaptability, and management of organizations (Bendersky and McGinn 2010), so it is not surprising that business schools across the globe have developed negotiation classes for their undergraduate, graduate, and executive education students. Such classes teach negotiation principles, skills, and tactics, such as power dynamics, the importance of one's BATNA (best alternative to a negotiated agreement), integrative and distributive negotiation, anchoring, and strategic goal setting.

Teaching negotiation is challenging because negotiation students must learn skills as well as theory (Mitchell et al. 2013). Experiential learning (e.g., role plays, simulations) is essential to delivering skills-based education (Kolb and Kolb 2005). David Kolb's experiential learning model suggests that learning requires concrete experience, reflective observation, abstract conceptualization, and active experimentation (Kolb 1984; see also Callister and Love 2016). Experiential forms of instruction boost student confidence, motivation, and memory; they also improve students' concept development and learning outcomes (Chernay 2008; Callister and Love 2016).

According to Mitchell et al. (2013), negotiation teachers rely on methods that support in-person attention and interaction, teacher–student engagement, and personal reflection premised on an experiential learning model. Instructors teaching negotiation are often concerned

that online teaching cannot support such a model and—maybe most importantly—that online teaching challenges the use of role plays and simulations (Mitchell et al. 2013).

Despite the challenges, in recent years more negotiation courses have been taught fully online. This is due at least in part to the emergence of new technologies and the global COVID-19 pandemic. We define "online teaching" or "virtual teaching" as synchronous instruction in which students interact with teachers in live class meetings using a videoconferencing platform such as Zoom.

Online Versus In-Person Learning Outcomes

Advantages of online programs include convenience and flexibility for both students and instructors, cost-effectiveness, the ease with which supplementary content can be provided, opportunities for enhanced student support, and the potential to reach people who are unable to access in-person programs due to distance (Dennis and Ebata 2005; Means et al. 2009; Schramm and McCaulley 2012) or other factors. As noted, research into online versus in-person teaching has produced inconclusive results as to each modality's effectiveness (see Table One).

Table One includes research published between 2015 and 2021. We identified the literature by searching the Web of Science using the following search terms alone and in combination: online, digital, web-based, e-learning, distance, virtual, off-campus, offline, face-to-face, in-person, traditional, on campus, learning, teaching, and training.

Several studies found that in-person teaching is more effective than online teaching. Foo, Cheung, and Chu (2021) found that fourth-year medical students using Zoom or other videoconferencing platforms performed less favorably than students learning in person. Kim et al. (2020) also found that students in the medical field who attended in-person classes performed better than those in online classes. Spencer and Temple (2021) found that the undergraduate student success rate in face-to-face classes was higher than in online classes. Finally, Sanford's (2017) work substantiates the finding that undergraduate students perform better in in-person classes versus online classes. However, Sanford found that academic performance constituted a moderating variable—online students with high overall academic performance learned just as well as in-person students.

In contrast, Wu et al. (2021) found that in the oral health field, students in an e-learning course performed better in some areas than those in a traditional course. Soltanimehr et al. (2019) similarly found that in the oral health context, virtual learning was superior to in-person learning when teaching radiographic interpretations

Table One

Analysis of Interdisciplinary Literature on In-Person and Online/Virtual Teaching

Year	Authors	Context	Sample size	Sample group	Teaching modality effectiveness		
					In-person	Online/Virtual	Indifferent
2015	Cavanaugh and Jacquemin	Various	140,444	Students			✓
2015	Johnson and Palmer	Linguistics	317	Students	✓		
2015	Jayakumar et al.	Medicine	1551*	Students		✓	
2015	Alnabelsi et al.	Medicine	50	Students			✓
2015	Phillips	Medicine	164	Students		✓	
2016	Van Lancker et al.	Nursing	411	Students	✓		
2016	Burch et al.	Business	180	Students			✓
2016	Callister and Love	Negotiation	134	Students	✓		
2017	Buchanan and Palmer	History	138	Students			✓
2017	Heppen et al.	Algebra	1224	High school students			✓
2017	Sanford	International business	269	Students	✓		
2018	Soffer and Nachmias	Various	968	Students		✓	
2018	Vaona et al.	Medicine	5679*	Health professionals			✓

(Continues)

Table One   (Continued)

Year	Authors	Context	Sample size	Sample group	Teaching modality effectiveness		
					In-person	Online/Virtual	Indifferent
2018	Fadol et al.	Management	122	Students		✓	
2018	Yen et al.	Child development	85	Students			✓
2019	Aksoy et al.	Medicine	177	Students		✓	
2019	Kyaw et al.	Medicine	2101*	Students			✓
2019	Wavle and Ozogul	Various	12840	Students			✓
2019	Lucky et al.	Entomology	182	Students			✓
2019	Pei and Wu	Medicine	1789*	Students			✓
2019	Soltanimehr et al.	Dental	39	Students		✓	
2020	Thai et al.	Physiology	106	Students			✓
2020	Kim et al.	Medicine	456	Students	✓		
2020	Nennig et al.	Chemistry	105	Students			✓
2021	Iglesias-Pradas et al.	Telecommunication engineering	43 courses	Students		✓	
2021	Walker et al.	Teaching	36	Students			✓
2021	Peterson	Linguistics	76	Students			✓
2021	Spencer and Temple	Various	270,939	Students	✓		

(Continues)

Table One (Continued)

Year	Authors	Context	Sample size	Sample group	Teaching modality effectiveness		
					In-person	Online/Virtual	Indifferent
2021	Bergeler and Read	Physics	116	Students			✓
2021	Wu et al.	Dental	420	Students		✓	
2021	Rocha et al.	Medicine	72	Students			✓
2021	Bock et al.	Medicine	37	Students			✓
2021	Foo et al.	Medicine	490	Students	✓		
2021	Darr et al.	Medicine	160	Students			✓
Total					7	8	19

*Multiple Studies/Meta Analysis.

of jawbone lesions. Iglesias-Pradas et al.'s (2021) research in Spain found that undergraduate telecommunication engineering students' academic performance during the pandemic increased through remote teaching. Fadol, Aldamen, and Saadullah's (2018) research on students' performance in a management course in the Middle East substantiates this finding.

Still others have found no significant difference in learning outcomes between the two teaching modalities in health-care courses (Bock et al. 2021; Rocha et al. 2021), as well as in physics courses (Bergeler and Read 2021), Japanese language courses (Peterson 2021), teacher preparation courses (Walker, Mahon, and Dray 2021), and chemistry courses (Nennig et al. 2020).

All these studies examined the effectiveness of teaching modality for undergraduate or graduate students using grades and exam scores to assess learning outcomes. Thus, they have limited application to negotiation classes, which teach skills as well as theory and for which outcomes typically are assessed using negotiation exercises (see Callister and Love 2016). A comparison of the effectiveness of such negotiation exercises across modalities (i.e., online and in-person) can function as a proxy for determining whether online or in-person teaching is more effective for practitioners, as practitioners typically are not graded in professional development trainings.

Learning Outcomes in Online Versus In-Person Negotiation Courses

One of the few studies comparing the effectiveness of online versus in-person negotiation courses was conducted by Parlamis and Mitchell (2014). They found no significant differences in knowledge acquisition between the two teaching methods in a study of 37 students in two master-level negotiation courses—one taught in-person and another taught completely online—as measured by grades and performance in a scored negotiation. Notwithstanding such data, students in the online course reported significantly lower levels of learning, less collaboration in the learning environment, and less opportunities to get to know their instructor and fellow students (Parlamis and Mitchell 2014). Callister and Love (2016), however, found that in-person learners negotiated higher outcomes in a negotiation exercise than online learners even when using the same technology (Google Chat).

The Community of Inquiry Model

The Community of Inquiry (COI) theoretical model may be used to formulate hypotheses regarding the effectiveness of online and in-person teaching modalities for a skills-based course (Garrison, Anderson, and

Archer 1999). The COI model considers three interaction dimensions in both types of teaching modalities: cognitive presence, social presence, and teaching presence. We also consider a fourth dimension, learner presence (Shea and Bidjerano 2010). Each "presence" of the model frames an aspect of the learning environment (Parrish et al. 2021) within the specific communication medium.

The *communication medium* provides the framework for the theoretical model. It identifies where interaction, knowledge application, and participation take place. The most common distinction is between in-person and virtual learning, although a hybrid of both modalities is often used in teaching (Yen et al. 2018; Thai, De Wever, and Valcke 2020). According to media richness theory (Daft and Lengel 1984, 1986), learning is facilitated by richer media, such as in-person communication and teaching (Hillman, Willis, and Gunawardena 1994; Sanford 2017). The cognitive effort required to handle a rich medium like in-person teaching is lower than that required for online instruction (Geiger 2020). Thus, one's cognitive capacities can be used for other learning processes. In virtual trainings, the cognitive effort required to use digital media is dependent on the individual's technical skills and confidence with the medium. This suggests that teaching negotiation with a digital medium is less effective than teaching negotiation in person.

Cognitive presence is the extent to which students can construct meaning through sustained communication (Parrish et al. 2021). The COI model suggests that students experience unease or dissonance through a triggering event (e.g., an issue or a problem). They then search for information, knowledge, or a solution to make sense of the experience; integrate information and knowledge to develop a concept or idea; and eventually reach resolution of the unease or dissonance by applying the new concept or idea to the original task or challenge (Garrison, Anderson, and Archer 1999; Parrish et al. 2021). In line with Pelz (2004), it seems that both in-person and online training courses for practitioners can be equally effective at establishing cognitive presence. Students and instructors in both types of modalities similarly interact with the content, construct meaning, and engage their minds.

Social presence is the ability of students to project themselves socially and emotionally. Collaboration among students and between students and instructors is essential for social presence (Garrison, Anderson, and Archer 1999), as it supports cognitive presence and provides students with the opportunity to express feelings related to the educational experience (Parrish et al. 2021). It is critical to create a classroom environment in which there is trust and respect, community

building, and open conversation. While to a certain extent social presence can be established in online negotiation courses, it is easier to do so in in-person instruction, given that negotiation classes are both knowledge- and skills-based.

Teaching presence is the planning and implementation of educational experiences (e.g., course design and assessment methods) and the facilitation of educational experiences (e.g., focusing discussions, presenting content, facilitating discourse, responding to students, and actively intervening; Parrish et al. 2021). Through in-person negotiation courses, teachers can more easily acknowledge and reinforce individual student contributions, draw in students who are less active, guide discussions, and facilitate learning experiences in which students interact with each other (Garrison, Anderson, and Archer 1999; Parrish et al. 2021). This is so because students in virtual classrooms often do not show their faces and make fewer contributions to a course than do in-person students. Based on the foregoing, we make the following hypothesis:

> **H1:** In-person negotiation teaching will be more effective than online negotiation teaching in that individual results of a negotiation exercise (i.e., negotiating the price of a car) will be better (i.e., buyers negotiate a lower price) for in-person versus online teaching.

Learner presence is the self-regulation of students. It represents the individual determinants that guide students' behavior and perceptions. It is strongly related to cognitive effort and self-efficacy (Shea and Bidjerano 2010). The individual attributes of learners can interact with and moderate relationships in the COI model with its communication medium and cognitive, social, and teaching presences (Shea and Bidjerano 2010, 2012). Thus, learners' individual characteristics can influence the effectiveness of the teaching as well as the learning outcome (e.g., Cronbach and Snow 1977; Swan 2004; Shea and Bidjerano 2010). Similarly, research suggests that students' behavior and perceptions—and hence their training experiences—are driven by the organizational environment (Salas and Cannon-Bowers 2001).

Given this, it is possible that individual (e.g., individual hierarchy level) or organizational (e.g., culture) moderators can explain the link between teaching modality and performance in the communication medium dimension. On the individual level, negotiators on higher hierarchy levels, such as top-level managers, tend to have stronger cognitive abilities (Kirkpatrick and Locke 1991) and are likely to

outperform negotiators on lower hierarchy levels (i.e., mid-level managers) in the more demanding environment of online instruction. We expect no difference in performance between these groups when they are taught in person, as negotiators on lower hierarchy levels can handle the rich medium equally as well as those on higher hierarchy levels.

Potential organizational moderators include organizational culture, which can be determined, in part, by learners' job functions (Bunch 2007). Negotiation trainings are particularly common for employees in sales and purchasing positions, whose personality traits tend to differ from each other (Barrick and Mount 1991; Klézl et al. 2018). In online modalities, certain personality traits—such as conscientiousness and openness—tend to influence learning outcomes positively (Abe 2020). The personality research is based mainly on the Big Five model (Costa and McCrae 1992; Oshio et al. 2018), which defines extraversion, agreeableness, conscientiousness, neuroticism, and openness as the five main personality traits. Whereas conscientiousness is important for individuals in both sales and purchasing, sales employees are also characterized by high levels of extraversion and dominance (e.g., Barrick and Mount 1991; Dion, Easterling, and Miller 1995; Loveland et al. 2015). Purchasers are characterized by openness (Klézl et al. 2018). Therefore, in the online teaching modality, individuals performing the purchasing function are likely to outperform those in sales, as openness (as well as conscientiousness) fosters learning success (Abe 2020).

> **H2:** The relationship between teaching modality and the negotiated individual outcome of a negotiation exercise will be moderated by participants' professional background characteristics, specifically by hierarchy level and function:
>
> (a) In the online teaching modality, individuals on higher hierarchy levels achieve more favorable outcomes than individuals on lower hierarchy levels.
> (b) Purchasers achieve higher individual outcomes in the online teaching modality than sales representatives.

Methodology

To test the proposed hypotheses, we conducted two studies between 2017 and 2022 with negotiation practitioners. Study 1 focuses on examining teaching modalities and possible moderators. Study 2 focuses on gaining additional insights into the Study 1 findings.

Study 1

Design. In the first study, we compared the outcome of negotiation courses for experienced negotiators using individual results of a negotiation case. All courses were consistent in content, process, and method. They differed only in the type of modality (online vs. in person). Lewicki's (1997) experiential learning model was applied to both modalities, in line with Weiss's (2005) and Parlamis and Mitchell's (2014) research. Based on this framework, both teaching modalities consisted of different learning levels, including theory and concepts (lectures), the application of theory to practice, concrete experiences through role plays and simulations, and debriefings and reflections. All of the negotiation courses were two full days. Interactions between the instructor and practitioners happened frequently by communicating openly and allowing for questions and comments. Theoretical foundations necessary to gain a proper understanding of negotiation principles were taught and applied through interactive exercises, such as role plays and discussions of fictitious and real-life cases.

Sample. 901 experienced negotiation practitioners participated in Study 1 in groups of 8 to 12 people. 539 practitioners participated in the in-person modality (28.6 percent female, 71.4 percent male) and 362 practitioners participated in the online modality via Zoom or Microsoft Teams (32.9 percent female, 67.1 percent male). We examined two main factors—hierarchy level and function. As to participants' hierarchy level, most practitioners (66.0 percent) worked in the operative, lower, and middle levels of management. Fifty-three percent were assigned to the sales function and 26.5 percent to the purchasing function. All took part in the two-day negotiation training through their companies' professional development programs.

Procedure. First, participants learned the main negotiation theories and concepts. These theories and concepts provided the knowledge base for developing and improving negotiation performance and skills. The training included content such as integrative negotiation behavior, initial power assessments in negotiations, identification of BATNAs, anchoring, use of concessions, concrete goal setting, and the assessment of negotiator traits and characteristics. Participants also discussed a use case with associated debriefing and the transfer of theoretical content to practice in small groups in person or, for the online teaching modality, in breakout sessions. Next, both online and in-person participants were introduced to the same virtual negotiation case of buying a used car.

Participants received extensive descriptions of their roles as buyers, and were asked to negotiate a case with multiple monetized negotiations issues, which had a distributive or integrative nature. Participants were evaluated based on the price of the car that they bought and could solely focus on the distributive issue (i.e., price of the car) or include additional integrative issues (i.e., winter tires). To ensure a standardized design, the negotiations in both teaching modalities took place virtually via an online chat tool during a 30-minute time window. Sellers were represented by trained agents to guarantee consistent behavior and comparability of results. To gain a deeper understanding of the results of Study 1, we also coded and analyzed participants' negotiation behavior in both teaching modalities with a representative sample of 189 chat protocols (93 in person, 96 online) out of the overall sample of 901 participants.

Study 2

Design. To better understand the acceptance and barriers of the two teaching modalities within the COI theoretical model, we conducted a follow-up study. The objective of Study 2 was to examine practitioners' satisfaction with the in-person and online negotiation training formats.

Sample. 78 practitioners, all of whom participated in Study 1 (8.7 percent response rate), evaluated the negotiation training in a follow-up survey two months later. 52 had participated online (61.5 percent male), and 26 had attended in-person classes (76.9 percent male). The two-month period provided time for participants to reflect on their training and its application in their daily work environment (e.g., Saks and Burke 2012).

Procedure. The questionnaire consisted of open and closed questions. It asked for feedback on the teaching modality, degree of satisfaction with the training (according to each dimension of the COI model), and sociodemographic data. The satisfaction ratings were measured on a Likert scale ranging from 1=do not agree at all to 7=fully agree.

Results

Study 1
We conducted a one-way ANOVA to test the relationship between teaching modality and negotiation outcome. In-person instruction (M=14,412.06, SD=301.56) resulted in significantly better negotiation outcomes compared to online instruction (M=14,455.85, SD=253.06; Welch's $F[1,650.63]=4.149$, $p<0.05$, Cohen's d=0.16). As a result, H1 is supported.

To test the moderating relationships, we performed a moderation analysis using Hayes PROCESS macro, which uses ordinary least squares regression yielding unstandardized coefficients for all effects. Bootstrapping together with heteroscedasticity consistent standard errors (HC3) (Davidson and MacKinnon 1993) was employed to compute the confidence intervals. First, we examined whether the relationship between teaching modality and negotiation outcome is moderated by participants' hierarchy level. The overall model was significant (F[5,664]=2.33, $p<0.05$), predicting 1.8 percent of the variance. The moderation analysis revealed that hierarchy level significantly moderated the effect of teaching modality on negotiation outcome (ΔR^2=1.14 percent, F[2,664]=3.73, $p<0.05$). In the online modality, the top-level managers outperformed the operative-, lower-, and middle-level managers (operative, lower, and middle level of management (n=116): M_{online}=14,500.28, SD_{online}=274.70; top level of management (n=163): M_{online}=14,424.23, SD_{online}=232.19, p=0.013). Thus, H2a is supported.

Second, we examined whether the relationship between teaching modality and negotiation outcome is moderated by the participants' job function. The overall model was significant (F[3,517]=3.08, $p<0.05$), predicting 1.7 percent of the variance. The moderation analysis revealed that function moderated the relationship between teaching modality and negotiation outcome significantly (ΔR^2=0.73 percent, F[1,517]=3.88, $p<0.05$, 95% CI [−0.870, 205.244]). Further analysis revealed, as expected, that the results in the online modality were significant such that purchasers achieved better negotiation outcomes than sales participants (purchasing (n=155): M_{online}=14,407.92, SD_{online}=233.86; sales (n=62): M_{online}=14,521.16, SD_{online}=272.29, p=0.002). As a result, H2b is supported.

We used established communication codes (O'Connor and Adams 1999; Adair and Loewenstein 2013) for behavior coding of a representative sample of 189 chat protocols of the overall 901 participants of Study 1, to analyze the use and frequency of negotiation content. The codes included the number of offer requests, questions, threats, rejections, negative reactions, lies, references to BATNA or reservation price, promises, willingness to compromise, positive relation messages, compliments, small talk, statements of facts, positive emotions, and negative emotions. The chat protocols were double-coded. Unitizing reliability was good (U=0.05) (Guetzkow 1950; Pavitt 2017). Overall reliability was satisfactory (Holsti 1969). With only marginal variance, we were able to assume satisfactory inter-rater and inter-coder reliabilities.

Findings revealed that practitioners in the in-person modality used significantly ($p<0.01$) more threats, negative reactions, and lies. They also asked significantly ($p<0.01$) more questions and summarized more facts during the negotiation, resulting in higher cognitive effort. Findings further

revealed that the quantity of iterations, referring to how many chat messages the buyers sent, was significantly ($p<0.01$) higher in the in-person (M=24.47, SD=13.02) than the online modality (M=19.97, SD=8.70).

In contrast, participants in the online modality used significantly more positive messages about their relation to their negotiating partners and had worse negotiation performances overall. These findings further support H1. Table Two provides the main results of the behavior coding.

The behavior coding also provided support for our H2(b) hypothesis. Practitioners in the purchasing function had better negotiation outcomes in the online modality than practitioners in the sales function. We found no differences for the in-person modality. This aligns with the communicational categories' comparison of the two teaching modalities. There was no significant difference for hierarchy level. Neither were there significant differences concerning negotiation time ($M_{\text{in-person}}$=30.10, $SD_{\text{in-person}}$=4.00; M_{online}=31.15, SD_{online}=5.20, p=0.123), word count ($M_{\text{in-person}}$=319.39, $SD_{\text{in-person}}$=103.98; M_{online}=312.07, SD_{online}=105.74, p=0.632), and dropout rate ($n_{\text{in-person}}$=391 (74.5 percent contract conclusions), n_{online}=279 (77.1 percent contract conclusions), Fisher's test, one-sided, p=0.211).

Study 2

The satisfaction ratings were overall good to very good. However, there were no significant differences between the two teaching modalities for the proposed main and moderating effects (see Table Three).

Table Two
Behavior Coding of Communicational Categories

Variables	Communication medium	
	In-person (*n*=93)	Online (*n*=96)
	M (SD)	M (SD)
Questions*	4.94 (3.30)	3.43 (2.35)
Threats*	0.68 (0.91)	0.30 (0.55)
Negative reactions*	0.68 (0.87)	0.27 (0.55)
Lies*	1.09 (1.52)	0.49 (0.71)
Statement of facts*	3.22 (2.30)	1.46 (1.24)
Positive relation messages*	1.10 (1.08)	1.59 (1.14)

M represents the mean number of counts for each chat protocol. *N*=189.
*$p <0.01$.

Table Three
Teaching Satisfaction for Each Dimension of the COI Model

Satisfaction dimensions	M (SD)	M (SD)
	Communication medium	
	In-person (_n_=52)	**Online (_n_=26)**
Cognitive presence	4.42 (0.64)	4.18 (0.66)
Social presence	4.52 (0.57)	4.51 (0.57)
Teaching presence	4.37 (0.60)	4.22 (0.62)
Learner presence		
Hierarchy	Top level of management (_n_=12)	Lower and middle level of management (_n_=66)
	4.43 (0.64)	4.30 (0.58)
Function	Purchasing (_n_=41)	Sales (_n_=24)
	4.28 (0.60)	4.48 (0.45)

Satisfaction scale from 1 (strongly disagree) to 5 (strongly agree). _N_=78.
*_p_ <0.05.

Discussion

Our findings suggest that in-person negotiation training—which allows for face-to-face student-teacher interactions—benefits practitioners more than online trainings. Our findings further suggest that the relationship between training modality and negotiation outcome is moderated by hierarchy level and function. As such, our findings support Callister and Love's (2016) research in the negotiation context, as well as the works of Sanford (2017), Kim et al. (2020), Foo, Cheung, and Chu (2021), and others in the non-negotiation teaching context.

We have contributed to this stream of research by examining the effectiveness of teaching modalities using a practitioner sample (instead of a student sample) and a knowledge and skills-based course (i.e., negotiations). We also examined several moderating variables, shedding light on potential drivers of the ambiguous results of prior studies.

Our findings also suggest that practitioners performed better in the in-person (vs. online) training modality because they had more frequent interactions and used more strategic and tactical negotiation behavior. This is attributed to the less complex and cognitively challenging in-person teaching medium (Hillman, Willis, and Gunawardena 1994; Sanford 2017). The in-person modality allowed practitioners to use a higher cognitive capacity to prepare the negotiation case and apply the knowledge and skills learned in the training. For both teaching modalities, it is important to consider all interactive dimensions of the COI theoretical model and master the weaknesses of the teaching modalities to improve training success.

Moreover, our findings suggest that teaching modality and individual learner characteristics do not affect practitioners' overall training satisfaction. Even though our results show that in-person negotiation training is more effective than online negotiation training, previous research suggests that online trainings or blended learning experiences (e.g., online/in-person training; Melzer 2019) might benefit from the modality's flexibility (Abrami et al. 2011; Parlamis and Mitchell 2014) and cost and time efficiency (Means et al. 2009; Dung 2020), and thus should not be underestimated. Additionally, the integration of digital negotiation simulations might enrich the learning journey (Kim et al. 2009; Gratch, DeVault, and Lucas 2016).

The moderating effects of organizational variables, such as hierarchy level and function, suggest that to maximize learning, trainings should be tailored to target audiences (e.g., managers at the same hierarchy level). Interestingly, while not hypothesized, we did find an additional moderating effect. The industry of the participants significantly moderated the relationship between teaching modality and negotiation outcome, $\Delta R^2 = 2.41$ percent, $F(5,530) = 2.77$, $p < 0.05$, where 56.6 percent of the participants represented the industrial sector and 32.5 percent the service sector. For the online modality, practitioners from the industrial sector achieved better negotiation outcomes than practitioners from the service sector. The overall model was significant $F(11,530) = 3.19$, $p < 0.001$, predicting 5.74 percent of the variance. There was no significant difference in the in-person condition. For online teaching, the moderating effect of industry is stronger than that of hierarchy level and function.

To gain deeper insights into the long-term effects of negotiation training and applications of the training content in practice, regular pre- and post-training questionnaires could disclose valuable information. If complemented by follow-up trainings, they can facilitate lasting training success, motivate practitioners to apply what they learned by functioning as a reminder and refresher, and improve practitioners' negotiation skills. Companies would benefit by measuring their negotiators' performance before and after the negotiation

training (Tesoro 2008) to assess the direct link between training success and negotiation performance on the job.

Limitations and Future Research

This study provides important insights into the effectiveness of teaching modality for training negotiation practitioners. However, it has limitations that future research should address. First, we examined one in-person and one online negotiation training for practitioners. Future research should examine a series of negotiation trainings in both modalities and taught by different trainers.

Second, we assessed the effectiveness of both teaching modalities using a case that was negotiated online via chat. Future studies might include additional variables and measures, such as more cases for participants to negotiate; different media for negotiating; and pre/post questionnaires that collect information regarding attitudes toward in-person and online teaching; motives for using each modality; goals of, and barriers to, each modality; and how each modality effected participants' practical application of the knowledge and skills that they learned in the training. Future studies might also examine how different teaching methods (e.g., gaming) affect mediating mechanisms (e.g., enthusiasm) and negotiation knowledge and skills transfer when different teaching modalities are used.

Third, as our work is the first study to examine trainings of negotiation practitioners, it should be replicated. Researching different industries and corporate functions other than sales and purchasing might result in additional insights. Examining other moderating variables, such as sociodemographic characteristics (e.g., age and gender) (Fournier and Ineson 2014; Fadol, Aldamen, and Saadullah 2018), culture, previous training experience (Neale and Northcraft 1986; Kim, Thompson, and Loewenstein 2019), skills versus knowledge, and mindset (Ade et al. 2018) in practitioner samples might prove valuable. Although we did not find significant variation in in-person and online groups with regard to gender and age, the industry, function, and hierarchy comparisons were significantly different. Yet the regression model shows some variance that is not accounted for and our ANOVA to test the first hypothesis does not hold constant other variables.

Fourth, practitioners' satisfaction with the in-person and online negotiation training formats was examined in the follow-up Study 2 with a relatively low response rate. This might be an indication for a potential biased sample; thus, future research should further investigate satisfaction with different training formats.

Fifth, we focused on the Big Five personality characteristics model in our study due to its relative simplicity and the fact that we did not deem the honesty–humility dimension of the HEXACO model as decisive. However, given our results and the increasing importance of the HEXACO model, future research might use the six HEXACO personality characteristics instead of the Big Five model to replicate and extend our findings.

Sixth, we measured the effectiveness of the two teaching modalities by assessing how well participants did during a virtual negotiation case, in line with past research that mainly focused on exam or class grades. Specifically, we used participants' overall cost for the car as the determining measure and assessed emotional aspects by analyzing chat protocols (see Table Two). Future research should look at additional dependent variables to assess the effectiveness of teaching modality (e.g., by including relational and other emotional aspects, and focusing on distributive and integrative negotiating) to explain a negotiator's ability and the quality of their performance. Further, collecting data from trainees' coworkers and superiors might yield additional insights.

Seventh, while our research reveals that hierarchy level and function affect the relationship between teaching modality and the negotiated individual outcome of a negotiation exercise, it does not show any significant differences in participants' satisfaction ratings for the two teaching modalities and across participants' professional background characteristics (i.e., hierarchy level and function). Given our limited sample size in some of the categories, we were not able to examine or unpack this further but encourage future researchers to do so.

Eighth, we did not make a distinction between knowledge and skills when we assessed the success of both negotiation course modalities. Future research might examine the extent to which a knowledge and skills gap exists, and whether a "knowledge" or "skills" component is easier to design for online teaching. This would require a way to assess knowledge and skills separately. Future research might also examine specific topics within negotiation courses that are better suited for online versus in-person instruction.

As noted, we found that top-level managers outperformed operative-, lower-, and middle- level managers in the online teaching modality (but not in the in-person teaching modality). This finding might be due to top-level managers' ability to perform better when social presence and teaching presence are limited. However, future research is necessary to better understand the reasons for this outcome. Future research should also explore why there was no significant difference in

the in-person modality for negotiation outcomes between practitioners from the industrial sector and practitioners from the service sector, despite a significant difference between industrial sector and service sector practitioners in the online modality.

Finally, future research should investigate practitioners' technology acceptance. Making the technology acceptance model (TAM) (Davis 1989) or the e-learning acceptance measure (ElAM) (Teo 2010) part of our framework might help answer questions such as whether digital trainings can better prepare practitioners for tasks in digital work environments. Related research might examine the impact of the COVID-19 pandemic on online negotiation trainings, and how adjustments made during the pandemic can be integrated permanently.

Conclusion

This study on the effectiveness of in-person versus online teaching modalities for practitioners indicates that in-person training is more beneficial than online or virtual negotiation training. Moreover, the moderator's *hierarchy level* and *function* influence learning outcomes. Thus, consideration of organizational and personal variables might assist in tailoring negotiation trainings to specific target audiences and increase training success. Our results highlight the importance of considering different interaction dimensions within both teaching modalities.

Acknowledgment

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