

Applying Media-Richness Concepts for the Optimization of Industrial Negotiations

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Despite increasing involvement in a global market and growing sophistication of salesperson technologies, salespeople feel unprepared to negotiate digitally and student-learning outcomes tied to digital negotiation exercises are unclear. The present study first outlines the digital negotiation role-play exercise and then compares student learning outcomes between digital and face-to-face negotiation role-plays. It answers research questions revolving around middle-range-richness mediums, i.e., digital communication tools relying mostly on text (e.g., SMS texts). The benefits of digital experiential sales negotiation exercises are uniquely important for building real-world industrial sales negotiation skills due to the complexity and quantity of negotiation messages exchanged.

Keywords: media richness theory, negotiations, salesperson, industrial marketing, digital communications

INTRODUCTION

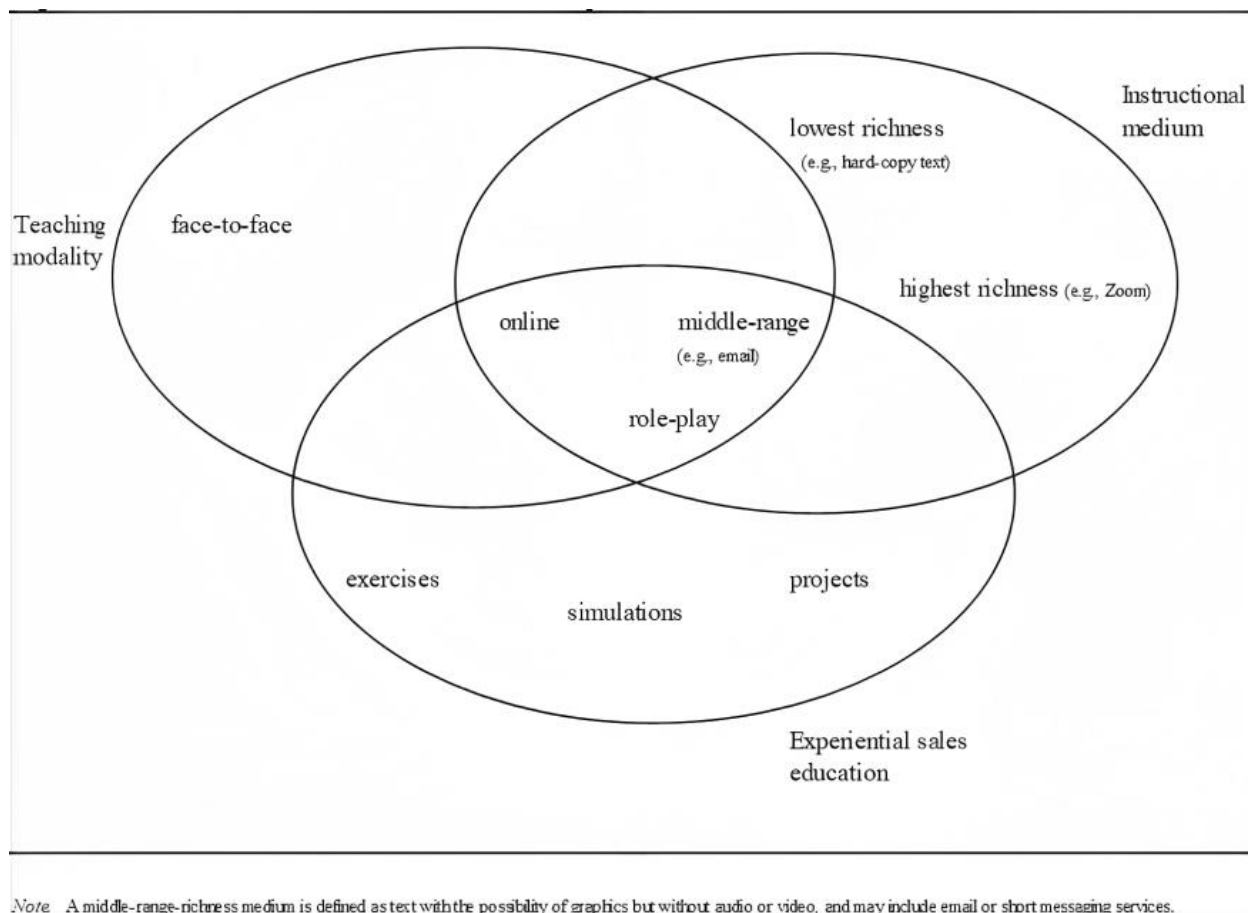
Industrial sales rely heavily on negotiating deals through digital means because such deals often span many issues, involve large risks, require open calculations among parties, and involve sophisticated information. Social media sites (e.g., LinkedIn) allow such sophisticated communications particularly because such digital mediums allow for open calculations shared across negotiating parties. Approximately 80% of negotiations actually take place digitally (Bülow, 2011; Pearl, 2014), with increasing reliance on digital means (e.g., Email or social media; Minsky and Quesenberry, 2016). Yet, while evidence suggests that these changes are profitable (Miller and Waldow, 2013), salespeople are unprepared for digital negotiations (Kovac, 2016).

Meanwhile, online instruction in higher education has been experiencing growth well before the COVID-19 Pandemic altered such instruction. Such growth has led many instructors in higher education to learn new methods for delivering instruction and has created an especially large transition for those teaching application-heavy courses. Instructors of business courses are one such example. Higher education sales courses are most often facilitated through experiential learning, including experiential exercises, simulations, projects, and role-plays (Cummins, et al., 2013). Role-plays – exercises in which students play a sales role in a semi-structured vignette – are especially difficult to transition online because they take place live, often with an assigned peer, and so, may require additional digital mediums outside the online course website. Role-plays to facilitate sales negotiations are also especially difficult to transition online

because they involve live interaction while exchanging great quantities and qualities of information, such as price concessions, exclusivity contingencies, delivery promises, contractual obligations, calculations, etc.

Therefore, the following research illustrates an industrial sales negotiation role-play for either face-to-face (f2f) or online higher education business courses. It targets both the “enlightened” practitioner and “street wise” academic to keep business scholarship relevant (LaPlaca and Johnston, 2006, p. 413). In particular, it outlines how application exercises – such as that of industrial sales negotiations – involving great information processing facilitates optimal learning (i.e., improved grades and topic interest, reduced stage fright) when middle-range-richness (e.g., largely text-based) media is used. It examines the role of media richness in industrial negotiation learning across nine course sections, 27 negotiation role-play assignments, four digital mediums, four industrial sales cases, and both f2f- and online-based course formats. Indeed, prior business literature identifies media richness as essential to formal and informal communication exchanges for the development of industrial relationships (e.g., Bardauskaite, 2014), regardless of education. This research’s objective is to better understand the role of media richness in teaching industrial sales negotiation exercises in higher education. It asks, What is the optimal level of media richness for facilitating student learning with the application of sales negotiation processes? and relies on concepts of media-richness and higher-order learning for answers.

FIGURE 1
VISUAL ILLUSTRATION OF CONTRIBUTION TO BUSINESS PEDAGOGY



Prior business research is also calling for more academic work to approach real problems with which practitioners are concerned (Brennan, et al., 2015). Such calls for more – and more relevant – industry

scholarship should be of no surprise given the nuances involved in industrial sales. Industrial salespeople outperform peers when their experience enhances their ability to understand customers and integrate own with customer goals (Ramendra and Gopal, 2013). Meanwhile, they spend a substantial proportion of time on negotiation activities (e.g., Gulbro. and Herbig, 1995). In other words, experience leads to better performance and a vital part of experience is learning to negotiate with customers. Thus, the present research provides both future (students) and current practitioners relevant tools for enhanced negotiation skills. To reiterate, practitioners are increasingly negotiating through digital mediums, and this research identifies the most effective digital medium for both the learning of industrial negotiations as well as salesperson-customer goal integration for improved performance, i.e., middle-range-richness media.

Several student outcomes are compared across different levels of media richness. The study finds instruction of application exercises in sales negotiations facilitated through middle-range-richness media achieves relatively better student outcomes (i.e., improved grades and topic interest, reduced stage fright) than low-range-richness (i.e., phone) media, even when both are offered through an online course.

Figure One positions the context through which this study examines sales education, and Table One positions the prior literature upon which this study builds. In turn, Table One also details this research's future contributions to business pedagogy. Although Figure One illustrates the role of middle-range-richness media in facilitating sales negotiation role-play applications in an online course, it could also apply to most, if not any, course facilitation of a topic application through digital mediums (e.g., government and politics, Desai and Bedi, 2017). The study reveals that (sales) applications implemented through middle-range-richness media appear to enhance student learning (i.e., improved grades and topic interest, reduced stage fright) when the (role-play) application involves great quantities and qualities of information exchange among students.

In addition, Table One reveals that the study's main contributions to business pedagogy literature are four-fold, i.e., empirically driven recommendations for (1) online instruction (2) of experiential applications (3) that take into account media richness and (4) involve information-heavy exchanges among students. While three prior examinations (Benson and Chau, 2017; Newberry and Collins, 2012; Rippé, 2015) come close to such a contribution, they fall short of providing recommendations for optimal learning that fits such a four-fold scenario. Importantly, the theoretical contributions this research makes to the business domain revolve around taking into account media richness when delivering instruction, whether f2f or online. The study finds the degree to which media richness affects student learning, regardless of teaching modality, is significant.

BACKGROUND

Indeed, the COVID-19 Pandemic has yielded a sea of change in sales practices. For instance, among industrial sales forces, Hartmann and Lussier (2020) document issues:

stemming from greater remote working and physical unavailability, cancellations and postponing of important meetings and events (e.g., tradeshow, conferences, customer meetings), travel restrictions and border shutdowns by different countries, an overwhelming number of COVID-19-related communications (some of which is speculation and/or irrelevant), and greater stakeholder mental (e.g., exhaustion, stress, anxiety) and physical (e.g., stress headaches) health issues. (101)

It is not an exaggeration to say that sales forces have been forced to radically rework customer communication practices, and the importance of digital means for sales negotiations has been heightened (Alexander and Brown, 2020; Khedkar and Brox, 2020; Marley, 2020; Robbins, 2020). While no one can accurately predict the permanence of these changes, it is likely a safe assumption that the sales function will not simply return to its pre-COVID state. Even pre-COVID, practitioners had started ramping up the use of digital means for sales negotiations, with up to 80% of negotiations actually taking place digitally and a corresponding 75% decrease in f2f negotiations (Bülow, 2011; Pearl, 2014). These digital sales

negotiations are predominantly and increasingly taking place through digital means, such as Email or social media (Minsky and Quesenberry, 2016). There is also evidence suggesting these changes are profitable. For instance, Miller and Waldow (2013) report a \$40.56 return for every dollar firms invest in e-communications. However, despite this increase and focus, many salespeople report feeling unprepared for the shift to more digital negotiations (Kovac, 2016).

TABLE ONE
CONTRIBUTIONS TO BUSINESS PEDAGOGY: POSITIONING MEDIA-RICHNESS
EXAMINATIONS ACROSS PRIOR PEDAGOGY LITERATURE

Objective Category	Specific Objective	*Coverage Across Prior Research
1. Negotiation concepts	externally demanded real-world instruction of negotiation procedure and tactics (e.g., Kenworthy, 2010; Page and Mukherjee, 2007)	c
	structured case analysis for task generalization learning (Klebba and Hamilton, 2007)	c
	student-determined win/loss (e.g., BATNA, distributive) allows evaluative learning (Bloom <i>et al.</i> , 1956) and student improvisational (e.g., integrative) for positive negotiation perceptions and reduced stage fear (Kumarappan, 2018)	c
2. Role-play exercise	procedural knowledge as foundation for critical thinking (Bloom <i>et al.</i> , 1956) and bridge to reflection (Celuch and Slama, 2000) and understanding (e.g., Jones, 2018) of learned content, as well as enjoyment, involvement (Scardamalia and Bereiter, 2003;	c
	peer interaction promotes intellectually and socially developed analytical skills (Cherney, 2008; Joyce and Weil, 2000) as well as communication (Aspegren, 1999; O'Brien <i>et al.</i> , 2007) and listening skills (Perry, 2007)	a, b, c
	promotes active participation in learning (Silver and Silver, 1989; Teahan, 1975)	a, b, c
3. Online instruction	relatively (to f2f) greater student performance (Christmann and Badgett, 1999; Timmerman and Kruepke, 2006)	
	simultaneous instructional use of low (e.g., text; i.e., case, submission) and middle-range-richness media (e.g., email, phone texting; i.e., electronic negotiation) enhances reprocessability (Dennis and Valacich, 1999) for relatively greater learning (Timmerman and Kruepke, 2006)	
	instructional use of middle-range-richness media reduces information overload (Robert and Dennis, 2005; Timmerman and Kruepke, 2006) and unnecessary reprocessability effort, distraction towards cues and away from content (Dennis and Valacich, 1999; Trevino <i>et al.</i> , 1987)	
	exposes students to common electronic training in sales careers (Lassk <i>et al.</i> , 2012) and (middle-range-richness) media most likely to facilitate complexity of negotiation communications due to their reprocessability character (Dennis and Valacich, 1999) which may prevent delayed processing, peripheral judgments, or rejection of complex messages (Robert and Dennis, 2005), such as negotiation positions	
	meets Millennial and Y student generations' learning expectations and needs (e.g., Drea <i>et al.</i> , 2005; Morton, 2002; Sojka and Fish, 2008)	

**"a" Rippé (2015). "b" Newberry and Collins (2012). "c" Benson and Chau (2017). Benson and Chau (2017) guides students through a structured negotiation, while the other two studies involve student selling that may have involved some negotiation in closing the sale (no mention of negotiations in published articles). Although some of Newberry and Collins' (2012) student activity took place via email (e.g., student applications to online job postings), none of these three studies involved online or computer-aided negotiation or selling. While additional student negotiation innovations have been published, they were not included in this review for not detailing how the negotiation could take place electronically.*

COVID-19 has provided an unprecedented exogenous shock to sales forces (Hartmann and Lussier, 2020). For instance, in their article “COVID-19 and Pharma’s In-Person Sales Model,” Pratap Khedkar and Daniel Brox of ZS Associates document the need for Pharma sales forces — a predominantly f2f-oriented force historically — to adapt to digital selling (2020). Similarly, in a *Harvard Business Review* article entitled “Virtual Meetings Don’t Have to Be a Bore,” Andy Molinsky (2020) discusses the need to not only

have virtual sales calls, but also to make them memorable and enjoyable. The obvious implication here is that sales forces (and for educators, future members of sales forces) need to be trained in how to effectively achieve these goals. The ability to negotiate effectively in a digital, online setting is a key aspect of this training.

Given that most marketing graduates will start out in a sales position (Carnevale, et al., 2011) and that negotiation skills are at the core of effective leadership (Lax and Sebenius, 1986; Munduate, et al., 1999) and career success (Melamed, 1996), there should be little doubt that sales students need digital and/or online sales training. There is also evidence that students desire that training (Morton, 2002; Sojka and Fish, 2008) and find great utility (Heinze and Fortune, 2018) and enjoyment (Dingus and Milovic, 2015) in sales role-play practices.

To help spur this instruction, we focus specifically on industrial negotiation role-play exercises. These exercises – the most common instructional format for sales content (Cummins, et al., 2013; Deeter-Schmelz and Kennedy, 2011) – optimize student learning when performed digitally, due to concepts related to media richness theory (Timmerman and Kruepke, 2006) and higher order learning (Bloom, et al., 1956), as are outline next. After reviewing these two streams of literature, the authors outline a digital experiential negotiation role-play exercise facilitated through middle-range-richness media (delivered in either f2f or online course modalities) to uniquely focus on the two key components of negotiations, whether among practitioners or students: (1) facilitating reprocessability (Dennis and Valacich, 1999; Robert and Dennis, 2005) and (2) preventing (or alleviating) information overload (Robert and Dennis, 2005). Further, the benefits of digital experiential exercises are not only uniquely important for building real-world negotiation skills due to the complexity and quantity of negotiation messages exchanged, but also are tied to the higher order learning concepts of *application* and *analysis* (Bloom, et al., 1956).

THEORETICAL FOUNDATION

Negotiation Skill Nuances

Whether through competitive or collaborative orientations, the message complexity and length of real-world negotiations require that students develop critical thinking skills key to higher order learning. Bargainers in an integrative negotiation, concerned for both their outcomes and that of the other party, follow a collaborative orientation. Conversely, bargainers in a distributive negotiation are concerned for their own outcome and follow a competitive orientation. Successful integrative negotiators pursue alternatives valuable to both parties, requiring increased information exchange to explain and persuade each alternative. When a distributive negotiator sticks relentlessly to their position, and only offers more information to justify their stance, agreement becomes less likely. Thus, distributive negotiation also requires increased information exchange for the other party who works to unstick the relentlessly stubborn negotiator.

Both types of negotiations – integrative and distributive – generally involve a large quantity of message exchanges of complex content (Weber, et al., 2006). A negotiation position is the expressed stance on a negotiation term (e.g., offer to purchase only a small order quantity). Negotiation positions that do not exactly match the underlying interest (e.g., underdeveloped trust for new seller versus small purchasing budget versus ending peak manufacturing season) can also bring complexity to negotiations and require negotiators to be skilled in sifting through message content so as to separate position and interest information. The next section describes role-plays and their pronounced benefits when facilitated through digital media.

Experiential Learning Through Role-Plays

As Table One details, the skills acquired through negotiation activity are optimized when taking place through a role-play exercise digitally. Experiential learning is an active, participatory, and collaborative effort (Tanner and Roberts, 1996). Role-plays are a type of experiential pedagogy often used in personal selling settings (Chapman, 1992; Dingus and Milovic, 2015; Heinze and Fortune, 2018). They likely activate students into deep learning due to active participation (Silver and Silver, 1989; Teahan, 1975),

among other pedagogical features (see Table One). Importantly, role-plays facilitate procedural knowledge and skill (Jackson, 2012), two outcomes vital to preparing students for negotiation practice. When students practice distributive (e.g., ‘BATNA,’ trip-wire, concessions) and integrative (e.g., brainstorming, bridging, nonspecific compensation) negotiation concepts, they transition from learned content to reflection upon (Celuch and Slama, 2000) and understanding (e.g., Jackson, 2012; Jones, 2018) of such content. In doing so, they not only actively practice negotiation content previously (prior class meeting) learned, but also are forced to practice negotiation skill likely to result in real favorable negotiation outcomes, i.e., communication skills.

A negotiating practitioner is likely to be successful when able to discern interests from positions across a great quantity of messages. Role-play activity offers active participation in learned negotiation procedure. Additionally, such experiential activity enhances the communication and listening skills important to higher order learning (e.g., Aspegren, 1999; O’Brien, et al., 2007; Perry, 2007) and necessary for achieving such success in message discernment across many messages. Such a sequence reflects concept-first theories in which conceptual knowledge must be gained before procedural skills can be developed (Gallistel and Gelman, 1978; Gelman and Meck, 1983; Jackson, 2012). The sequence also mirrors the “*application*” and “*analysis*” taxonomy categories of Bloom and colleagues’ (1956) process for the development of higher order intellectual skills. After receiving the instructor’s negotiation content and gaining such knowledge and content comprehension, students are offered the opportunity to (1) apply, using the learned concept in a new situation, and then (2) analyze – separating situational material so as to discern facts from inferences – such negotiation concepts and procedure. Put another way, actually experiencing negotiations through experiential role-plays allows students to practice negotiation procedure while developing the listening skills necessary to sift out underlying interests of the other party across a multitude of messages communicating offers and even more messages justifying such offers. Yet, experiential role-plays in and of themselves do not optimize student learning of negotiation procedure and skill if information overload is present. However, as discussed next, digital mediums can reduce information overload while optimizing opportunities for message review and message richness.

Media Richness Concepts

In a negotiation, it can be difficult to simultaneously parse out complex underlying interest hidden amongst expressed positions while not becoming overloaded with quantity and complexity of information (Weber, et al., 2006). Once accomplished, however, refining the manner in which we acquire information reduces the cognitive load on our memory (processing system), which is limited in its ability to store information (Lohse, 1997). One focus that sales instructors must decide on is how rich a medium to set a sales exercise.

Media richness theories posit an information-medium matching process that works to resolve information equivocality and uncertainty through a medium that (1) appropriately conveys information and (2) converges on a shared meaning (e.g., Dennis and Valacich, 1999). In this case, “bigger” is not “better.” While many intuitively believe that the richest medium, such as Skype-branded video conferencing, always conveys a shared meaning, when such perceptions are tested it is, instead, found that a mere adequate medium is optimal (Dennis and Valacich, 1999). Importantly, Timmerman and Kruepke’s (2006) meta-analysis of computer aided instruction finds that a middle-range-richness medium – text with the possibility of graphics but without audio or video (e.g., social media messaging, Emailing, cellular phone short messaging service (SMS) texting) – improves student learning compared to traditional f2f, live instruction.

The instructive power of middle-range-richness media lies in the potential for reprocessability, the degree to which a medium allows the recipient to review information, with appropriate cognitive load (Robert and Dennis, 2005). Timmerman and Kruepke’s (2006) meta-analysis finds that very rich media for routine communications may distract the recipient from the intended message and erroneously encourage interpretation of unnecessary cues (Trevino, Lengel, and Daft, 1987). Such additional effort delays processing, encourages judgments based on mere peripheral information, or leads to the rejection of a message (Robert and Dennis, 2005). Not only is reprocessability and shared meaning of central information important for instruction that optimizes student learning, but it is also vital for negotiators in justifying

distributive offers and parsing underlying integrative interests from expressed positions. Therefore, the following research questions (RQ) are posed to help guide the reader in the stimuli examined as well as the manner in which learning in reaction to such stimuli is assessed:

RQ1: Which modality features – f2f versus digital medium performance – of a student negotiation application enhances positive student outcomes the most?

RQ2: Which medium features – low- versus middle-range-richness – of a digital student negotiation application enhances positive student outcomes the most?

STUDY

Application Background

To reiterate, prior research finds that student instruction through middle-range-richness media optimizes learning (Timmerman and Kruepke, 2006). Such media is also ideal for instruction of negotiation concepts and procedure since message content complexity and exchange quantity (e.g., Weber, et al., 2006) necessitates negotiator reprocessability while reducing cognitive overload and related distracting characteristics of peripheral information of very rich media. Such reprocessability and cognitive load qualities of middle-range-richness medium instruction facilitates Bloom and colleagues' (1956) *application* and *analysis* higher-order learning process steps, respectively, due to application content review and peripheral cue sifting abilities.

As outlined next, this negotiation role-play instructs students to choose among three middle-range-richness mediums (i.e., SMS texting, social media direct messaging, or emailing) to perform their assigned buyer or seller role of a structured industrial sales negotiation case.

In terms of instruction, moving role-plays away from f2f and towards digital instruction is rare, but especially important and appropriate when the role-plays are negotiations. Since negotiations represent the final stages of a sales process, they involve finite possibilities for which to discuss and so often do not require live, f2f communication. In facilitating such finite possibilities, negotiation role-play cases also facilitate task generalization. Such independent practice represents student-determined win/loss negotiation outcomes in a way that enables the additional higher order learning process step of *evaluation* (Bloom, et al., 1956), *student improvisation*, and enhanced middle-range-richness media instruction through its low range case text (see Table One).

Further, practitioners are actually using these mediums, with particularly high usage of social media to engage in the buying process and make final purchase decisions (Minsky and Quesenberry, 2016). Yet, delivery of such sales education concepts digitally (online) represents only 7-18% of total delivery (Deeter-Schmelz and Kennedy, 2011). The application-education mismatch may represent education's slow response to real-world technical capabilities available in sales practice (Cummins, et al., 2013).

Prior examinations either illustrate the benefits of a live negotiation exercise (Benson and Chau, 2017; Heinze and Fortune, 2018) or allow students to utilize online middle-range-richness media when practicing the sales process, which may or may not have involved negotiations (Newberry and Collins, 2012; Rippé 2015). Rippé (2015) offers students a real-world selling experience with chocolate bar sales quotas, but without explicit description of negotiation activity and only suggestions for online revisions of the experiential activity. In contrast, Newberry and Collins' (2012) job posting and candidate interview experience mimics real-world selling and includes some online activity, but not digital negotiation activity. Finally, Benson and Chau (2017) guide students through a structured f2f negotiation role-play, but merely suggests it could be adapted for an online, digital format.

The world, business, and education is increasingly digitizing, bringing with it pedagogical concepts related to connectivism (e.g., Foroughi, 2015). Thus, the present study represents the first examination of the potential benefits of a negotiation role-play per various media richness levels. It not only satisfies what Millennial and Y generations are requesting in education, as well as what real negotiation practitioners are requesting in training, but also saves valuable time and provides valuable flexibility. This approach frees

up the Professor's facilitation and grading of role-play experiential activity while providing adaptability in extraordinary times such as the manner in which COVID-19 began disrupting education in the Spring season of 2020.

TABLE TWO
MIDDLE-RANGE-RICHNESS MEDIA ROLE-PLAY STEPS ALIGNED WITH
LEARNING OBJECTIVES

	Step One: Negotiation concepts education format: pdf	Step Two: Negotiation case, instructions format: pdf	Step Three: Distributive negotiation role-play format: digital	Step Four: Integrative negotiation role-play format: digital
PROFESSOR	<p>1a. Present general sales concepts (e.g., dual concerns model, functional v. psychological buyer needs, benefit v. feature, example v. anecdote, basis of bargain)</p> <p>1b. Present key *negotiation concepts (e.g., distributive v. integrative bargaining)</p>	<p>2a. Select structured negotiation case 1) describing previous meetings between key actors, with 2) specific options per several terms yet to be resolved that offer 3) inherent real-world consequences (e.g., pricing term with low options inherently bad for the seller) across 4) two different (i.e., confidential) cases for the buyer and seller</p> <p>2b. Assign students 1) into groups of two (with two sellers in groups of three when odd number of students), 2) as well as roles (i.e., buyer, seller) in F2F class meeting with hard-copy text cases</p> <p>2c. Instruct students to 1) not share confidential case, 2) strictly negotiate electronically by replying within one thread, 3) utilize conversationally two high-level course concepts throughout communications after offering examples of low-level concepts (e.g., dependability, proposal), and **4) email .pdf of conversation thread to the Professor by due date</p> <p>2d. Explain grading rubric so that **100% is earned if score across term options earns the student the distributive win, 90% if the loss but alongside two high-level course concepts, 80% if the loss but alongside one high-level course concept, < 80% for incomplete or wrong participation</p> <p>2e. Explain each term by illustrating which option anchors are inherently good for buyers as well as the seller</p>	<p>3a. Manage unresponsive students (e.g., instruct the student never receiving paired student communication to communicate desired term options alongside justification and two high-level terms, reassign student to other pair for a group of three)</p>	<p>4a. Repeat Steps Two and Three for an integrative negotiation role-play (i.e., same negotiation case, ^{***} allowed to add invent options within existing range, do not reveal distributive negotiation scores until after Step 4 is complete)</p> <p>4b. Assign students a new negotiating partner, but keep roles from Steps Two and Three</p> <p>4c. Require students to rely on an electronic medium different from that used by at least one student in this new negotiation pair relative to that used in Steps Two and Three</p> <p>4d. 100% earned if score disparity between students is smaller than distributive disparity without either student earning a lower relative individual score, 90% if disparity smaller but earned an equal or higher relative individual score, 80% if disparity larger and earned an equal or higher relative individual score, < 80% for incomplete or wrong participation</p>
STUDENT	<p>1. Receive professor's presentation of general sales concepts and key negotiation concepts.</p>	<p>2a. Review confidential case</p> <p>2b. Decide within pair medium of choice: cellular service short messaging, social media direct messaging, or email</p> <p>2c. Decide within pair who will initiate contact</p>	<p>3a. Initiate contact to begin negotiation</p> <p>3b. Negotiate each term</p> <p>3c. End negotiation with clear agreement on option chosen for each term across two messages, one listing such agreement and another by the other party confirming this list</p> <p>3d. Work to integrate two high-level course concepts</p>	<p>4a. Initiate contact to begin negotiation</p> <p>4b. Negotiate each term</p> <p>4c. End negotiation with clear agreement on option chosen invented for each term across two messages, one listing such agreement and another by the other party confirming this list</p>
OBJECTIVES		<p>task generalization (2b; i.e., case)</p> <p>enhanced processability (2c; i.e., low- → middle-range media)</p> <p>Bloom and colleagues' (1956) evaluation (2d; i.e., win/loss)</p>	<p>peer-facilitated communication (3a-d) and listening (3d; i.e., responding with course)</p> <p>procedural knowledge (3b, c; distributive negotiation role-play)</p> <p>procedural skill (3b; i.e., middle range media and reduced peripheral distraction)</p>	<p>peer-facilitated communication (4a-c) skills</p> <p>procedural knowledge (4b, c; integrative negotiation role-play)</p> <p>improvisational (4d; i.e., independent student evaluation)</p> <p>procedural skill (4b; i.e., middle range media and reduced information overload)</p>

*BATNA (better alternative to a negotiated agreement) is also a key negotiation term but often leads students to "game" the grading rubric because it would be scored as a win across both/all students. Instructors should consider reserving such a concept for negotiation topic sales courses or graduate business courses

**Text message negotiations can be printed to a pdf after applying screen-shots to a document. Due dates between the distributive and integrative negotiation thread emails to the Professor are ideal when within the same week so as to reflect across both the following week.

***This grading rubric can serve as a more guide, but is considered effective given the authors' experience with this project. Discretion is encouraged, such as 100% despite losing so long as two high-level course terms are applied or bonus points above and beyond a 100% grade for a relatively smaller score disparity alongside an equal or higher relative individual score.

[†]Because an individual student cannot assume a winning score, both/all must work to integrate course concepts.

^{††}Listening skills are enhanced by conversational integration of course concepts because they typically require confirming what is heard (e.g., "I heard your explanation of product bundling features, but I do not understand their benefits" with "features" and "benefits" representing course concepts; "Would I be correct in assuming that in addition to your functional need of quick shipping you also have psychological needs involving quick sales representative responsiveness?" with "functional" and "psychological needs" representing course concepts).

^{†††}For example, negotiators could add "90 days" to "30 days, 6 months" pay-in-full schedule term options. For negotiation topic sales or graduate business courses, students could practice higher-order negotiation integrative concepts that encompass collaborative negotiation by inventing terms (e.g., lower quality substitute part not originally considered by the buyer to satisfy buyer budget needs as well as seller peak manufacturing seasons).

Application Design

Table Two outlines the digital industrial negotiation role-play approach by categorizing it into four steps and then highlighting some of the key learning objectives for students the approach offers (as documented in Table One). Step One centers around teaching students concepts and procedure. This approach challenges students to apply both sales and negotiation concepts in a given role-play. Therefore, it is likely most effective in general undergraduate sales courses that present to students a variety of sales

concepts (e.g., prospecting, sales pitch, adaptive selling, customer orientation) with minimal inclusion of negotiation concepts (e.g., trip wire, 'BATNA', integration, negative bargaining range). This approach is designed to move traditional f2f courses to an electronic space to reap the benefits of rich media (Dennis and Valacich, 1999; Robert and Dennis, 2005) and device-aided instruction (Timmerman and Kruepke, 2006), as well as provide course (e.g., COVID-19) and instruction time flexibility. For these reasons, presenting negotiation-specific after general sales concepts to students is optimal. Doing so will also aid student integration of course concepts conversationally throughout the distributive negotiation (see professor-level 2c.3 and student-level 3d of Step Three, Table Two)

Step Two revolves around instructing students regarding the distributive negotiation role-play and facilitates at least three key learning objectives, i.e., task generalization, reprocessability, and higher-order learning (with achievement of additional objectives as seen in Table One). Distributive negotiations occur when the actor's orientation is toward their own favorable outcome, such as each striving to earn the relatively higher profit level. Table Two outlines this step. The Professor assigns students to the negotiation case's buyer and seller roles in pairs. Then, the Professor instructs students to strictly negotiate using their choice of one middle-range-richness medium (i.e., SMS texting messaging, social media direct messaging, or emailing), and explains grading by explaining anchors of each term that are favorable to each role, all after first selecting an appropriate negotiation case.

In terms of designing a short case for the negotiation, we endorse one that describes ongoing communications between the two parties so that all that remains are firm decisions on the terms in question (e.g., final price, product quantity, delivery date). This allows a digital submission with objective grading and a reasonable time investment because it is possible to tie scores to options of each term per buyer and seller role (e.g., relatively higher score for a seller negotiating a relatively later product delivery date). Such case structure facilitates task generalization (Klebba and Hamilton, 2007) because it allows students to independently practice the concepts learned in Step One (Table Two).

Additionally, when the case and terms are real-world, relatively less professor involvement and instruction are needed because term options and anchors are intuitive for a business student (e.g., relatively smaller commitment to an order quantity size by the buyer is relatively better). Negotiation cases often facilitate such sense-making by offering other important information in confidential role-play cases (e.g., the seller's peak manufacturing season, which is not ideal for delivery commitments). Lewicki and colleagues' (2002) engine piston negotiation case or Volkema and Rivers' (2008) campground bar-b-que negotiation case are examples of negotiation cases that meets Step Two's 2a (Table Two) goals. Role benefits inherent in real-world terms not only prevents students gaming a grading rubric because the explicit scoring key becomes unnecessary, but also facilitate higher-order learning due to independent win/loss evaluation. When students' grades are tied to their ability to protect and raise their own deal outcomes (e.g., profit, offloading fresh goods), they must evaluate their negotiation strategies (e.g., pretending an important term is unimportant to encourage the other party's concession) as well as those of the other party. Such evaluation of negotiation concepts during application – especially through connectivism concepts facilitated by many digital mediums (e.g., Foroughi, 2015) – helps students transition from the actual content learned to critical thinking (i.e., higher-order learning) about such content (e.g., Bloom, et al., 1956; Celuch and Slama, 2000).

Finally, this digital negotiation role-play approach optimizes the reprocessability of the content presented in Step One as well as (in)effectiveness of negotiation strategies undertaken by students throughout the role-play experience. Optimal student reprocessing occurs when *instruction* spans both low- (i.e., hard-copy text case dispersed and reviewed in a f2f class meeting, .pdf text submission of negotiation conversation thread) and middle-range (i.e., digital text, text with graphics) -richness mediums, thereby increasing learning potential (Dennis and Valacich, 1999).

Step Three implements the actual distributive negotiation role-play and facilitates at least three key learning objectives, i.e., communication skills, procedural knowledge, and procedural skill (with achievement of additional objectives as seen in Table One). Requiring students to integrate course concepts conversationally into the negotiation not only helps to alleviate student 'stage' fear and grade anxiety, but also facilitates communication skills through peer interaction (e.g., Aspegren, 1999; Perry, 2007; O'Brien,

et al., 2007). In short, role-play of real-world material helps students acquire and retain the relevant skills for career readiness (Jackson, 2012).

Communication skills are particularly important to negotiations because it allows a negotiator to hear the other party's underlying issue (e.g., limited budget) rather than listening to their stated position (e.g., concern for high price). In addition, Step Three activates media richness concepts (Dennis and Valacich, 1999; Robert and Dennis, 2005) by instructing students to negotiate through digital means. To reiterate, prior research finds that media relying on text that allows graphics, at most, provides an optimal level of richness so that students have opportunities to reprocess information for greater learning (Dennis and Valacich, 1999; Robert and Dennis, 2005) while also reducing information overload (Robert and Dennis, 2005). Both medium benefits are particularly important because distributive negotiations largely rely on parties trading term concessions and calculating net benefits across term decisions before completing the final deal. While such trading and calculations are distributive procedural skills that rely on reviewing earlier negotiation message content, too much content can distract from key content or issues underlying stated positions.

Such practice of distributive negotiation procedure (e.g., trading concessions, 'win' calculations) in Step Three facilitates the distributive procedure learned (knowledge) in Step One and is further enhanced in Step Four. This final Step fulfills full negotiation procedural knowledge and skill because it allows students to experience and practice integrative negotiations in addition to distributive (of Step Three). Although Step Four requires slightly more of the Professor's grading time, this is due to the collaborative nature of integrative bargaining and important procedural insight and skills.

While distributive negotiations are marked by their concern for a given negotiator's own outcome (e.g., net win across profit and cost terms), integrative negotiations are marked by their concern for the best overall negotiated deal. A good integrative deal revolves around great collaboration among the involved parties so that new benefits emerge that could not be possible without the given parties (e.g., co-branding, entering new product markets). Creating new terms (e.g., exclusive rights, renting rather than purchasing) or term options (e.g., 90-day payment schedule not previously offered) is an improvisational act with great potential in enabling such integrative collaboration because it makes room for the creative and critical thinking necessary for the creation of new wealth. New wealth requires thinking beyond the case or term options typical across most prior negotiations in real practice. When student real-time evaluation of tactics most likely to earn an integrative win is independent from direct instructor involvement (e.g., absent of detailed integrative win grading rubric), student improvisation becomes especially pronounced and produces greater student satisfaction with less 'stage' fear in the negotiation activity (Kumarappan, 2018).

So as to not require too much of the Professor's grading time, it is recommended that grading revolve around comparing the score disparity between integrative parties to that between distributive parties (Step Three) after assigning students to a new negotiating pair and before revealing distributive scores. This likely will prevent students from only focusing on disparity calculations (gaming grades) rather than procedural knowledge and skill.

Findings

Assessment of student outcomes occurs in four ways, i.e., student grade, engagement, and interest improvement, as well as stage fright reduction, across three data tools, i.e., instructor grading, assignment submission content, and student surveys. Most RQs are addressed across student data of nine course sections spanning Fall 2018 to Spring 2020 (n = 234). The course examined focuses only on industrial sales. Thus, negotiation role-play cases utilized also focus on industrial sales scenarios. Each of the four semesters relied on a different industrial marketing case (4 cases in total).

Four sections across two semesters (Fall 2018, Spring 2019) of undergraduate students (n = 127) enrolled in an introductory sales course (i.e., Professional Selling) completed two f2f role-plays before their interim grade was calculated. Interim and final grades after a phone (i.e., low-range-richness medium) negotiation (third role-play) is completed and compared to grades among five sections (n = 107) across two later semesters (Fall 2019, Spring 2020) of the same course (5 sections in total) in which students instead completed their third role-play (i.e., negotiation) through their choice of SMS texting, social media

messaging, or Emailing (i.e., middle-range-richness media). In other words, all students, regardless of the semester, completed three negotiation role-plays in the following order: f2f negotiation, f2f negotiation, and digital medium negotiation (i.e., phone call among students enrolled Fall 2018-Spring 2019; text, social media, or Email among Fall 2019-Spring 2020 students). Due to restrictions caused by the COVID-19 Pandemic, the two course sections enrolled in the final semester this dataset examines (Spring 2020) completed their third (middle-range-richness medium-based) negotiation online. All other students were enrolled in a traditional, f2f course but were instructed to complete this third negotiation through digital means, which resulted in some choosing online mediums (e.g., Email).

Thus, examining student grades allows assessment of learning. In addition, video assignment submissions in which students were instructed to reflect upon two role-play strengths and two role-play weaknesses across any of the three role-plays (2 f2f, 1 media) were analyzed to assess student engagement and interest in sales. Forty-one ($n = 41$) such video submissions were still publicly available via YouTube (the social media site on which students uploaded their submissions) as of February 2022 of two course sections spanning Fall 2020 to Spring 2021. All data are sourced from the same introductory sales course taught by the same instructor. Table Three details all findings.

RQ1: F2F v. Medium Role-Play

Student learning outcomes are examined by assessing grades. Some evidence justifies a future research proposition (RP) proposing student grades among role-plays performed through a digital medium will be higher than those among f2f-based role-plays. Digital medium grades are significantly ($p < .001$) higher than f2f grades (see RPa of Table Three).

Moreover, such a finding does not appear to be confounded by time, case, or student quality. Grades across the second f2f role-play are not significantly ($p > .05$) higher than grades across the first f2f-based grade, rejecting a potential confound that medium-based role-play grades are relatively higher due to learning over time (see confound 1 of Table Three). Also, grades across each of four different cases (differing across each of the four semesters) for the first (f2f) of three role-plays are not significantly ($p > .05$) different, rejecting a potential confound that case material caused f2f-based grades to be lower than medium-based grades. Such findings are consistent when examining grades for the second (f2f) of three role-plays across case assignment variation (see c2 of Table Three). Finally, medium-based role-play grades among high quality students (i.e., those earning at least an A letter grade for the course) are not significantly ($p > .05$) higher than medium-based role-play grades among those earning lower grades (i.e., those earning at most an A- letter grade for the course), rejecting a potential confound that high medium-based grades are due to a large proportion of high-quality students enrolled in the course. Additionally, such findings are consistent when comparing grades between those earning at least a B- letter grade for the course and those earning at most a C+ (see c3 of Table Three).

Student engagement with and interest in professional selling outcomes are examined by assessing content of the video assignment submission students used to reflect upon their role-play performances. Some evidence justifies a future RP proposing a higher proportion of medium-based role-play mentions in the video relative to f2f-based role-plays. Approximately 42% (17/41) of students submitted a video with self-reflections revolving entirely around the medium-based role-play, whereas only approximately 10% (4/41) of students submitted a video self-reflecting entirely upon one or both of the f2f-based role-plays (see RPb of Table Three). Such a finding suggests that a medium-based role-play improves student engagement with professional selling relatively greater than a f2f-based role-play.

In addition, some evidence justifies a future RP proposing a higher proportion of medium-based role-play *strength* mentions in the video relative to f2f-based role-plays. Even when students chose to reflect upon both f2f- and medium-based role-plays (“partially” revolve around medium-based), approximately 60% (6/10) of students submitted a video with self-reflection *strengths* revolving entirely around the medium-based role-play. This finding suggests that a medium-based role-play improves student interest in professional selling relatively greater than a f2f-based role-play (see RPe of Table Three). Moreover, these engagement and interest findings do not appear to be an artifact of case assignment. The average number of role-play performance strengths mentioned across videos in which students voluntarily chose to base

reflections entirely around f2f role-plays were not significantly ($p > .05$) different across case variations (Fall 2020 = case 1, Spring 2021 = case 2). This finding suggests that the relatively low average strengths mentioned among f2f reflections are not an artifact of case assignment (see c4 of Table Three).

RQ2: Low- v. Middle-Range-Richness Media

To assess RQ2, examining grades allows for assessment of student learning outcomes. Some evidence justifies a future RP (RPd) proposing average student grade (percentage) improvement from interim to final course grades will be higher among those who chose to complete their medium-based role-play with a middle- relative to low-range-richness medium. Percentage improvement between interim and final course grades is significantly ($p < .01$) higher among students choosing to complete their role-play through digital medium messaging (middle-range-richness media) relative to those choosing a phone call (low-range-richness) medium (48.52% v. 18.84% improvement, see RPd of Table Three). Similarly, some evidence justifies a future RP (RPe) proposing average student grades among those who chose to complete their medium-based role-play with middle- will be relatively higher than those choosing a low-range-richness medium. Middle- grades are significantly ($p < .001$) higher than grades among students choosing to complete their medium-based role-play through the low-range-richness medium (phone call) (see RPe of Table Three).

Moreover, such grade differences do not appear to be an artifact of student quality. Middle-range-richness medium role-play grades among high quality students (i.e., those earning at least an A letter grade for the course) are not significantly ($p > .05$) higher than middle-range-richness medium role-play grades among students earning relatively lower grades (i.e., those earning at most an A- letter grade for the course). This finding rejects a potential confound that high middle-range-richness medium role-play grades are due to a large proportion of high-quality students enrolled in the course. Additionally, such findings are consistent when comparing grades between those earning at least a B- letter grade for the course and those earning at most a C+ (see c5 of Table Three).

Finally, the two Spring 2020 course sections were surveyed after the semester ended inquiring their experience with the digital role-play to assess a variety of outcomes, including stage fright (reflected through RPf of Table Three). Although only $n = 9$ students responded, qualitative comments appear to indicate increased interest in selling and reduced 'stage fear' as a result of performing a selling role-play through middle-range-richness media. As examples, the comments "I liked the activity we did in class to make it fun!" and "I did enjoy the partner selling exercises because they prepare me for a real life sale and what steps I need to take to be successful" suggest the digital role-play may have increased selling interest. Moreover, as examples, the comments "I am not the outgoing type, but I actually thought the sales presentations weren't that bad. We had an engaging class..." and "I think this class strengthened my skills in professional sales and it was so much less intimidating having taken the class [this way] ... I know it will help me later in my career" suggest that digital role-plays may have reduced the 'stage fright' common with live, f2f role-plays in sales courses.

**TABLE THREE
FINDINGS**

Research questions	Research propositions	Decision	Statistical findings	Data	Implication	Objective
RQ1 f2f v. media	RPa f2f grades < media grades	supported	78.46% (.204) v. 92.97% (.116), $t(213) = -9.149, p = .000$	Fall 2018-Spring 2020 (9 sections), role-play grades	media-based role-plays had relatively higher impact on student success	learning
	confound 1 (RPa): 2nd f2f grade > 1st	rejected	82.30% (.277) v. 84.44% (.193), $t(189) = -.812, p = .418$	Fall 2018-Spring 2020 (9 sections), role-play grades	relatively higher media-based role-play grades do not appear to be an artifact of role-play grade improvement over time	
	c2 (RPa): avg. f2f practice 1 grade dependent on case [practice 2]	rejected	$F(1,201) = 1.012, p = .316$ [$F(3,197) = 1.583, p = .195$]	Fall 2018-Spring 2020 (9 sections), role-play grades	relatively lower f2f role-play grades do not appear to be an artifact of f2f role-play case	
	c3 (RPa): media grade among those earning A interim grades > among <A- [A* to B- > C+ to F]	rejected	90.78% (.136) v. 93.59% (.110), $t(1,212) = -1.467, p = .144$ [$92.25% (.127) v. 94.00% (.098), t(1,212) = -1.088, p = .278$]	Fall 2018-Spring 2020 (9 sections), role-play grades	relatively higher media-based role-play grades do not appear to be an artifact of student quality	
	RPb f2f mentions < media mentions	supported	17, 10, 4, and 4 of 41 student reflections revolved completely, partially, or not at all, respectively, around the media-based role-play case	Fall 2020-Spring 2021 (2 sections), publicly available submissions	students dedicated relatively more of their reflection assignment to the media-based role-play	engagement
	RPc f2f strengths < media strengths	supported	among the 10 student reflections revolving partially around the media-based role-play case, 6 and 1 reflections mentioned 1 and 2 media case strengths, respectively	Fall 2020-Spring 2021 (2 sections), publicly available submissions	students dedicated relatively more of their role-play strengths to the media-based application in their reflection assignment	interest
RQ2 low- v. middle-range-richness media	c4 (RPc): avg. num. strengths across 2 f2f for case 1 ≠ case 2	rejected	66.67% (.907) v. 80.00% (.862), $t(31) = .430, p = .670$	Fall 2020-Spring 2021 (2 sections), publicly available submissions	relatively lower dedication of role-play strengths to f2f application in reflection assignment does not appear to be an artifact of f2f case	
	RPd interim to final course grade percentage change with low- < middle-range-richness media	supported	18.84% (.397) v. 48.52% (.853), $F(1,212) = 11.178, p = .001$	Fall 2018-Spring 2020 (9 sections), role-play grades	middle-range-richness media-based role-plays had relatively higher impact on student success	learning
	RPe role-play grade of low- < middle-range-richness media role-play	supported	.07% (.177) v. 11.38% (.173), $F(1,232) = 21.229, p = .000$	Fall 2018-Spring 2020 (9 sections), role-play grades	middle-range-richness media-based role-plays had relatively higher impact on student success	learning
	c5 (RPc): middle- grade among those earning A course grades > among <A-	rejected	93.86% (.135) v. 96.48% (.078), $t(1,96) = -1.196, p = .235$ [$94.94% (.118) v. 96.53% (.061), t(1,96) = -.594, p = .554$]	Fall 2018-Spring 2020 (9 sections), role-play grades	role-play grades did not improve more with a middle-range-richness media application among those 'A-level' students [nor did it among B-level]	
RPf middle-range-richness media reduced stage fright	supported	qualitative comments indicate reduced stage fright, increased interest	Fall 2018-Spring 2020 (9 sections), survey	middle-range-richness media-based role-plays appear to reduce stage fright, increase interest	engagement	

DISCUSSION

The objective of this research was to better understand the role of media richness in preparing future industrial salespeople for digital negotiations. The study entailed finds that the level of media richness used to facilitate learning through hands-on application significantly effects student learning per grade change and students’ engagement. It examined the role of media richness in industrial negotiation learning across nine course sections, 27 negotiation role-play assignments, four digital mediums, four industrial sales cases, and both f2f- and online-based course formats. The research asks, What is the optimal level of media richness for facilitating student learning with the application of sales concepts? Through the lens of media richness concepts, the study finds that the optimal level of media richness for facilitating positive student outcomes of industrial sales negotiation role-plays is middle-range-richness media.

Both classroom and real-world negotiations require presentation, exchange, and analysis of great quantities and qualities of information. Therefore, it was posited that a medium with richness to facilitate information properties allows for repeat processing of such information (i.e., reprocessability). Meanwhile, it was also posited that a medium with less than full richness allows information processing (i.e., information load) time in between exchanges. Such two qualities – information reprocessability and load – requires middle-range-richness media, such as the text-focused digital medium of social media messaging allows greater learning than that facilitated through low-range media (i.e., hard-copy text in a f2f setting) and works to lessen the risk of information overload involved in high-range-richness media (e.g., video conference calling).

The need for negotiation skills spans across government and private sectors. Improving negotiation decision-making skills has an impact on employees’ careers in all levels of government agencies and business, and even in the medical (Zuriguél-Pérez, et al., 2017) and political professions (Desai and Bedi, 2017). Negotiation skills go beyond simply succeeding in achieving sales goals. Good negotiators can

adjust more effectively to their new jobs (Davey and Arnold, 2000) and are better at achieving a work-family balance (Buzzanell and Meina, 2007).

Currently, most real-world negotiations take place through digital mediums (Bülow, 2011; Pearl, 2014), yet professionals report feel unprepared to perform digital negotiations (Kovac, 2016). This should not seem surprising given the rarity of student negotiation role-plays through digital mediums. Instead, prior pedagogical approaches either rely on digital mediums without role-playing negotiations specifically (Newberry and Collins, 2012; Rippé, 2015) or negotiations without reliance on digital mediums (Benson and Chau, 2017). Students should be assigned negotiation role-plays through digital mediums, such as social media messaging, because such activity reflects real practice. More importantly, students should perform negotiation role-plays through middle-range (i.e., digital text, text with graphics) -richness mediums because such mediums increase learning potential (Dennis and Valacich, 1999). Specifically, middle-range-richness media contributes to negotiation learning because it allows reprocessability, the degree to which a medium allows the student or professional negotiator to review information, without creating cognitive load (Robert and Dennis, 2005) damaging to class or negotiation meeting learning.

The approach asked students to perform negotiation role-plays across three mediums, i.e., f2f, phone call, middle-range-richness medium. For example, direct messaging (a middle-range-richness medium) provides enough richness to participants to allow for reprocessability without so much richness that live review of information is limited, such as video conferencing mediums, to preventing cognitive overload. As theorized, student outcomes improved from f2f to the middle-range-richness medium. The student outcomes of change in grades, interest, and stage fright from the f2f to the middle-range-richness medium negotiation role-play across instructor grading, survey, and student submission data tools revealed improvement.

In particular, role-play grade improvement was significantly ($p < .001$) greater when students' final (third) negotiation role-plays were performed through a middle-range-richness medium relative to phone calling mediums. Moreover, qualitative comments appear to indicate increased interest in selling and reduced 'stage fear' as a result of performing a selling role-play through middle-range-richness media. Such results illustrate better grades and content interest combined with lower stage freight common with class role-play assignments when students perform negotiations through digital means – especially through middle-range-richness digital mediums. In turn, results imply greater learning and career preparedness when class negotiations take place digitally.

Pedagogical Implications

Because negotiations involve a great quantity of information exchange that requires careful examination of information type, negotiators must be skilled at analyzing such information in real-time. The present work empirically links student involvement in negotiation role-play exercises to such critical skill development as Bloom and colleagues' (1956) *analysis* and *application* constructs. We believe that negotiation exercises need to be a key focus in any sales education program. Role-plays in and of themselves lead to relatively greater skill acquisition and maintenance as well as applying such skills to real-world situations (Jackson, 2012). There is evidence that negotiation role-plays significantly improve student critical thinking skills (Page and Mukherjee, 2006; 2007; 2009) and specifically student inference, assumption recognition, deduction, interpretation, and argument evaluation critical thinking skills (Jones, 2018).

We believe that a key aspect of this approach, as earlier described, is the use of one or more middle-range-richness medium/media. It may be tempting for a sales professor to simply attempt to replicate a f2f sales negotiation as closely as possible in a digital setting—for instance, assign a digital, but live, f2f sales case. While applications like Zoom, WebEx, and Skype could allow an online “sales lab” opportunity – live negotiations with videotaping and coaching – they do not allow for reprocessability and reduced cognitive load, key features of middle-range-richness mediums. Our student feedback on the middle-range-richness medium employed suggests that this might be a better choice. Students performed better in the class, seemed to enjoy it more, and we believe key concepts like task generalization, reprocessability, and higher-order learning were achieved.

As sales courses increasingly move online, we encourage professors not to abandon a role-play negotiation exercise simply because the f2f option is not available. Rather, we believe this represents an approach that any professor can implement effectively in a fully online course, and give students a timely, real-world learning experience. It has been noted in the literature that the biggest peril in distance learning is the lack of interaction (e.g., Wood, et al., 2008) and yet a strength of digitized education is connectivism (Foroughi, 2015). This approach, by its nature, offers both synchronous and asynchronous online courses interaction both between students and with the Professor.

Limitations

Like any course extension, this is by no means one that has no room for improvement. First and foremost, our study was not able to examine student outcomes among high-range-richness media, such as Zoom conference call negotiations. Media richness concepts indicate outcomes would be lower relative to middle-range-richness media. Nonetheless, future research should empirically tease out student outcome levels per low-, middle-, and high-range-richness mediums.

Second, while we employed fictitious companies in our actual class exercises, utilizing a real-world client/case would provide a unique research comparison and learning opportunity (e.g., Jackson, 2012). For instance, we contacted a senior sales executive acquaintance at Bridgestone Americas (who personally has responsibility directing sales staff across the United States and Canada) and asked if having entry-level salespeople receive digital negotiations training would be of benefit. He replied, “The answer is yes! We face that gap even more in the new [COVID] environment.” We shared the approach and he said he could easily see being a guest negotiator in a class, while setting it in his real-world business (K.C. Iwinski, personal conversation, 16 June 2020). A client like this might offer not only the opportunity to perhaps make the approach even more beneficial with realism, but also give students a relatively more engaging and memorable experiential exercise. The success of a role-play relies on interactions with students who may not have the expertise to provide responses representative of an actual prospect (Feinstein, et al., 2002). Yet, using a real-world client could help overcome such an obstacle. This would also potentially allay concerns of extant literature that suggests a possible limitation is that a negotiation process between students may go beyond the provided material and conditions (Benson and Chau, 2017). A real-world expert on that side of the equation would largely mitigate this concern.

Third and finally, an important limitation is that we only analyzed the success of learning facilitated through middle-range-richness media based on the class performance and reaction as a whole. We did not consider how this specific application might differentially impact students with demographic, educational, psychological, or personality differences. Future research might seek to gauge the replicability of the application itself with probing potential differential reactions of students along these lines. Exercises could be designed based on these differences that might be better tailored to improving individuals’ needed skills. Ultimately, however, we believe this to be a solid first step in exploring this approach, which potentially prepares students to succeed in industrial sales practices that enable cost savings and benefits to the firm. Importantly, these cannot materialize if most customers and salespeople are unable or unwilling to use the new technologies (Marinova, et al., 2017), so this and further applications along digital sales lines can serve both the micro- (e.g., improving individual student outcomes) and macro- (e.g., increasing profitability for an industry thereby enabling investment in further application) level considerations.

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