Social Media And Critical Thinking: A Hermeneutic, Phenomenological Study Of Business Professors

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ABSTRACT

Studies on social media and critical thinking skills have emphasized students' perspectives. Few researchers have interviewed business professors regarding their perceptions of how students' critical thinking skills have developed through social media. This hermeneutic, phenomenological study interviewed eight business professors for the purpose of describing the educators' perceptions of how social media has affected undergraduates' critical thinking skills and practical job skills. Paul and Elder's (2014) critical thinking development theory served as the conceptual framework. Data were collected from interviews with business professors primarily in several regions of the United States. Five themes emerged: 1) going across contexts; 2) case method teaching; 3) discussing and collaborating; 4) building information literacy; and 5) learning from experts.

The five themes comprise Critical Thinking Development by Social Media (DSM). Business professors perceive social media as having influenced the critical thinking skills of undergraduates through intentional, industrious learning as represented by DSM. Business professors perceive social media as having influenced the practical job skills of undergraduates through intentional, industrious learning as represented by DSM with emphasis on phases 3) discussing and collaborating, and 5) learning from experts. The implications touch on academic institutions, business schools, business deans, other educators, and employers. Future research may offer case studies of social media and critical thinking projects at higher education institutions.

Keywords: Social Media; Critical Thinking Development; Business Professors; Media Literacy; Information Literacy

INTRODUCTION

College graduates who seek employment in the age of digital (or information) literacy need to locate, evaluate, and integrate online information according to their employers' goals (Hosek, 2016; Neville & Heavin, 2013; Sorenson, 2016; Theron, Redmond & Borycki, 2017). Employers also expect graduates to be adept at using social media platforms (Benson, Morgan & Filippaios, 2014). Employers also expect graduates to be adept at using social networking sites (SNSs), according to Benson et al. (2014). Examining specific skills, Hosek (2016) argued digitally-literate employees know how to: (a) identify what information is needed; (b) obtain information in a timely and effective manner; (c) critically analyze the information and its sources; (d) integrate information into existing schemas; (e) use information to accomplish a purpose; (f) comprehend social, legal, and economic implications of information usage; and (g) obtain information legally and ethically.

Students use social media but, in general, do not want to use the various platforms for academic purposes (Ciampa, Thrasher, & Revels, 2016) and do not trust social media for professional use (Merle & Freberg, 2016) or do not know how to use it professionally (McCorkle & Payan, 2017; Vosen Callens, 2014). Although students have adopted social media in mass numbers (Gerlich, Browning & Westermann, 2010), higher education has been underutilizing the technology to improve student engagement (Bharucha, 2018; Gerlich et al., 2010) and to teach course content (Vosen Callens, 2014). Indeed, Thomas and Thomas (2012) said business school professors and deans have resisted the adoption of Web 2.0 technologies. The business discipline especially has noticed an imbalance between plentiful student viewpoints and scarce teacher viewpoints (Blount, Wright, Hall & Biss, 2016; Kwon, Min, Geringer & Lim,

2013; Perez-Carballo & Blaszczynski, 2014). Furthermore, social media literature includes more surveys, case studies, and experimental methods as opposed to phenomenological designs. A decline in the communication skills of business students (Powless & Schafer, 2016) suggests more attention should be paid to appropriate critical thinking instruction.

With many college graduates, the first step to leading change is to seek employment post-graduation (Ahlquist, 2014, 2017). Here also, social media plays an integral role. From information systems (IS) workers (Mitchell & Benyon, 2018; Neville & Heavin, 2013) to healthcare (Chen & DiVall, 2018; Hackman & Pember, 2016; Twynstra & Dworatzek, 2016) and media professionals (Maben, Edwards, & Malone, 2014; McCoy, 2013; Shemberger & Wright, 2014), various industries require professional's adept at using social media technology. Many of today's graduates also require skills in online identity management (Vosen Callens, 2014), social media marketing and personal branding (McCorkle & Payan, 2017), and research (Hosek, 2016; McCoy 2013). Critical thinking with the use of social media is essential to professionals working in the digital age (Benson et al., 2014; Hosek, 2016; McCoy, 2013; Neville & Heavin, 2013; Sorenson, 2016; Theron et al., 2017). The more college students can improve their critical thinking skills, the more efficient they are in achieving positive social and professional change (Ahlquist, 2014, 2017; Paul & Elder, 2014). As such, an exploration of the lived experiences of business professors who teach critical thinking development via social media would make a valuable contribution to existing scholarship in the field.

LITERATURE

Human communication has shifted from a print-based epistemology to an image-based epistemology (Postman, 1985). Although researchers' descriptions vary, an accurate summation of Millennials' critical thinking prowess as developed online may be found in a study by Dhanalakshmi and Subramanian (2017): "The current generation uses special techniques and strategies to form a new style of communication" (p. 427). Rather than a digital divide between economic classes, a digital divide has formed between generations (Brandtzaeg & Chaparro Dominguez, 2018; Hallaq, 2016). The altered communication is immediate, interconnected, interactive, media-saturated, and socially rich. Additionally, mainstream media and social media are working in dialogue with society to produce what Salcudean and Muresan (2017) called "post-tragedy side effects" (p. 109), noting the mix between social and mainstream media had changed the paradigm for mass communication although professional journalists retained a role as information filters.

A new style of communication has altered the corporate, nonprofit, governmental, and educational arenas too (Bahfen & Wake, 2015; Besana & Esposito, 2016; Darwish, 2017; Harshman, 2017). For journalism educators, electronic space has allowed them to network in terms of publications and career opportunities with alumni and students alike in a social web (Bahfen & Wake, 2015). Grant-making foundations have opportunities to build connections between fundraising and grant stakeholders to enable more transparency (Besana & Esposito, 2016). Marketing managers deal with competition in areas of the world they never expected to see competition (Goldsmith, 2004). The global competition has "new products, practices, and ideas" companies must quickly respond to by, for example, entering new markets or forming partnerships (Goldsmith, 2004, p. 11).

The media environment's numerous advantages, however, are offset by some disadvantages. For example, a study by Darwish (2017) discovered stakeholders in the United Arab Emirates (UAE) were not engaging with each other to a considerable degree as they could via social media. Similar findings were uncovered in a study investigating the marketing communications industry (Buchanan-Oliver & Fitzgerald, 2016). The diverse nature of marketing and communications professionals' implementation skills has thwarted employers' efforts to engage stakeholders through dialogic communications (Buchanan-Oliver & Fitzgerald, 2016). In dialogic communication theory, established by Martin Buber in the book *I and Thou*, two parties must accept each other without preconditions. The most effective strategy for an organization's long-term success is to build support among a broad range of stakeholders using dialogic communications (Buchanan-Oliver & Fitzgerald, 2016).

To enhance students' ability to develop a globally-minded, critical-thinking mindset to reach the stakeholder objective, Harshman (2017) explained global educators should teach the six C's: colonialism, capitalism, conflict, citizenship, and conscientious consumerism. Global educators would benefit by interacting with colleagues worldwide to build their students' media literacy in an interconnected society (Harshman, 2017). International graduate students

interacted with peers worldwide in a study finding multimedia tools on SNSs improved students' literacy practices despite their multiple languages and literacies (Solmaz, 2017). Social media not only changed the epistemology of communication but transformed audience analysis (Han, 2018). Following an evaluation of 1,000 Twitter posts with the help of 300 evaluators, Han (2018) found social media communication quality was determined by four factors: author credibility, interpersonal attraction, communication competence, and intent to interact.

Studies have urged business educators to promote the competent use of social media (Blount et al., 2016; Kwon et al., 2013; Perez-Carballo & Blaszczynski, 2014), as few researchers have interviewed business professors regarding their perceptions of how students' critical thinking skills have developed *through* social media. The literature also has shown that, despite the availability of prospective teachers who are well-trained in media literacy, instructors can better convey knowledge to students (Aybek, 2016; Yarkova, Cherkasova, Timofeeva, Cherkasov & Yarkov, 2017). Most studies on social media and critical thinking skills have examined students' perspectives (Ahlquist, 2017; Cho & Byun, 2017; Graham, 2014; Magolis & Briggs, 2016; Nygard, Day, Fricke & Knowlton, 2014). For example, Kelly, Christen, and Gueldenzoph Snyder (2013) analyzed students' perceptions of instruction in online reputation management through social media sites. Although students know to conceal or remove online data potentially damaging to employment, limiting the content impedes their ability to build a personal brand or network (Kelly et al., 2013).

Students require critical thinking skills to navigate the electronic environment for various purposes, including professional networking (Bahfen & Wake, 2015), to help foundations raise money (Besana & Esposito, 2016), crowdsourcing (García de Torres & Hermida, 2017), and to become global citizens (Harshman, 2017).

Research has also suggested social media improves classroom engagement (Chen & DiVall, 2018; Ellahi, 2018; Kim, Wang & Oh, 2016; Staines & Lauchs, 2013; Theron et al., 2017). Accordingly, engagement may enhance the acquisition of critical thinking skills such as establishing goals and objectives (Chen & DiVall, 2018), verifying sources (García de Torres & Hermida, 2017), connecting with audiences (Chen & DiVall, 2018; García de Torres & Hermida, 2017), and recognizing confirmation bias (Petrucco & Ferranti, 2017).

In addition to engaging students, social media has been found to build trust among prospective college students for purposes of recruitment and retention by higher education institutions (Sandlin & Vallejo Peña, 2014). Despite the development of business communication and technology skills being identified for career success, employers have noted a decline in such skills among interns and new employees (Powless & Schafer, 2016). Institutional obstacles such as weak information technology policies and skeptical faculty may obstruct forceful social media instruction (O'Brien & Freund, 2018). A study by Cao and Hong (2011) urged colleges to address faculty concerns by giving them examples and positive consequences of utilizing social media in class.

Blount et al. (2016) and Chalupa (2015) were two of the few studies offering instructional guidance for business professors interested in creating social media assignments. A third inquiry, Chen and Bryer (2012), interviewed public administration faculty about social media. Social media instruction is necessary, Blount et al. (2016) noted, because most employers use social media in hiring and recruiting. Chalupa (2015) said business communications courses are the appropriate arena to teach students about digital tools. Chen and Bryer (2012) interviewed professors about the social media they use, their instructional strategies for integrating communication platforms into formal learning, and their concerns regarding social media in education. Facebook (for personal use) and LinkedIn (for professional use) were the most popular platforms, and the most common instructional activities were discussions and collaboration (Chen & Bryer, 2012). No other known studies have attempted to describe the lived experiences of business professors focused on using social media to develop critical thinking skills in undergraduates.

In Critical Thinking Development: A Stage Theory, Paul and Elder (2014) define critical thinking as the habit of assessing thinking to improve one's problem-solving ability. Critical thinkers must practice critical thinking in all dimensions of life, not merely one or two areas, to see improvements in the quality of their lives. The theory contains six developmental stages, as outlined by Paul and Elder (2014):

- Stage One: The unreflective thinker
- Stage Two: The challenged thinker
- Stage Three: The beginning thinker
- Stage Four: The practicing thinker
- Stage Five: The advanced thinker
- Stage Six: The accomplished thinker

The unreflective thinker is the most common stage, where such thinkers are unaware of problems in their thinking. In contrast, challenged thinkers realize significant problems disrupt their thinking process; beginning thinkers attempt to improve but do not practice regularly; practicing thinkers make practice a habit and develop willpower; advanced thinkers commit to lifelong practice and begin to internalize intellectual virtues; and, finally, accomplished thinkers use their skills as acquired behavior throughout their lives (Paul & Elder, 2014).

METHODOLOGY

Data Collection

As a qualitative inquiry, the current study examined the meaning-making of interview participants by collecting personal stories regarding their lived experiences. Meaning-making is described as the desire to make sense of experiences and may occur after reading a stimulating book, watching a fascinating movie, or viewing the behavior of a toddler (van Manen, 1990). Among qualitative designs, the hermeneutic, phenomenological approach was appropriate for the study as it attempts to reveal the essence of a human experience through interpretation (Moran, 2000; Moustakas, 1994; Sokolowski, 2000; van Manen, 2014, 1990). Important to this investigation are the ways in which professors have adapted their teaching methods and curriculum to accommodate the presence of social media. A hermeneutic, phenomenological approach is appropriate in affording a comprehensive way of understanding a phenomenon as expressed in language (Rudestam & Newton, 2007).

Purposive sampling is a technique used to select study participants from a specialized population which meets the needs of the study (Neuman, 2006; Sommer, Ward & Scofield, 2010). Through purposive sampling, professors with doctorates and at least three years' experience teaching in the business discipline were selected to share their perceptions and lived experiences related to two research questions:

RQ1: How do business professors perceive social media as having influenced the critical thinking skills of undergraduates?

RQ2: How do business professors perceive social media as having influenced the practical job skills of undergraduates?

The population of the current study was comprised of professors of business who teach social media and have at least three years' professorial experience. The study's cohort of eight business professors included six instructors interviewed by cell phone and two instructors interviewed in person. Only one interview participant was not employed in the United States. Most participants were recruited through the study's research or the author's professional networking. The semi-structured, recorded interviews occurred in fall 2019 until data saturation was reached. The interviews lasted from 20 minutes to 50 minutes. Participants reviewed transcripts of the interviews and filled in missing information, corrected words, and/or verified the data was correct.

The 11 interview questions (Appendix A) were structured to understand the participants' experiences and perceptions and the meaning they gained from the phenomenon (Seidman, 2013). The questions aligned with the theoretical framework of critical thinking development theory. The instrument was field-tested with three professors at the University of the Southwest (USW) in Hobbs, NM, before the granting of IRB approval. The researcher developed the second set of nine interview questions (Appendix B) for two participants who did not intentionally focus on undergraduates' critical thinking skills during social media instruction.

Data Analysis

After recording the interviews, the researcher transcribed the audio files and identified the respondents by number. The researcher analyzed the interview data manually using a technique called process coding (Saldaña, 2016). Process codes are gerunds ("-ing" verbs). To code the transcripts, the researcher isolated gerunds and verbs, converting non-gerund verbs to gerund form, resulting in 263 codes and 28 categories. The iterative coding process included reflection, re-reading the transcripts, and journaling as the codes and categories developed. The researcher organized the 28 categories into multiple themes, and narrowed, adjusted, and consolidated the themes in alignment with the research questions.

The five major themes related to both research questions are as follows:

- Theme 1: Going across contexts.
- Theme 2: Case method teaching.
- Theme 3: Discussing and collaborating.
- Theme 4: Building information literacy.
- Theme 5: Learning from experts.

DISCUSSION

Participant number 2 and Participant number 8 were the only business professors among the total of eight who stated they addressed all six phases of critical thinking development in undergraduates' use of social media. Participant number 1 addressed critical thinking up to stage 5. Upon reflection, Participant number 3 said the first three phases of critical thinking development occurred in class but not the other stages. Participant number 4 stated undergraduates in the courses moved into the second stage. Participant number 5 targeted stages 4–6 of critical thinking development because the students were third and fourth year. Participant number 6 said phases 1–2 were addressed in class, and Participant number 7 said critical thinking was not part of the pedagogy in the course from 10 years ago. The interview participants also named 13 social media platforms in the interviews, only some of which they used in class. The most common platforms mentioned by interview participants were Twitter, Facebook, LinkedIn, and Instagram. The most common technical terms used by participants were social media (187 mentions), post/s (37), platform/s (27), and hashtag/s (7).

Table 1. Categories of Coded Data

Difficult	Evaluation	Involved	Strive
Transformation	Milestone	Organization	Approval
Sensory	Helper	Commerce	Utility
Satisfy	Unite	Drawings	Curiosity
Strategy	Conscious	Inquiry	
Act	Rote	Invention	
Intellect	Failure	Master	
Equip	Selection	Connection	

Table 2. Five Themes Corresponding to Categories

Theme	Categories
Going across Contexts	Difficult, Transformation, Strategy, Act, Unite, Selection, Organization, Commerce, Inquiry, Connection
Case Method Teaching	Transformation, Sensory, Act, Intellect, Evaluation, Involved, Organization, Invention, Master, Strive, Curiosity
Discussing and Collaborating	Sensory, Satisfy, Act, Intellect, Unite, Conscious, Involved, Commerce, Connection, Invention, Approval, Curiosity
Building Information Literacy	Difficult, Strategy, Intellect, Equip, Evaluation, Conscious, Selection, Organization, Master, Utility
Learning from Experts	Transformation, Satisfy, Equip, Milestone, Helper, Involved, Commerce, Connection, Approval, Curiosity

Table 3. Social Media Platforms Mentioned by Participants

Platform	Number of times mentioned
Twitter or tweets	31
Facebook	22
LinkedIn	17
Instagram	11
Google or Googling	5
YouTube	4
Hootsuite Academy	3
TikTok	3
Blackboard	1
Facebook Messenger	1
Pornhub	1
Snapchat	1
Viber	1

Table 4. Phases of critical thinking ability targeted

Business professors	Critical thinking development by social media
Participant 1	Phases 1-5, Unreflective Thinker to Advanced Thinker
Participant 2	Phases 1-6, Unreflective Thinker to Accomplished Thinker
Participant 3	Phases 1-3, Unreflective Thinker to Beginning Thinker
Participant 4	Phases 1-2, Unreflective Thinker to Challenged Thinker
Participant 5	Phases 4-6, Practicing Thinker to Advanced Thinker
Participant 6	Phases 1-2, Unreflective Thinker to Challenged Thinker
Participant 7	Did not target critical thinking in the course 10 years ago
Participant 8	Phases 1-6, Unreflective Thinker to Accomplished Thinker

Theme 1: Going Across Contexts

Going across contexts is the first theme in the study. Multiple participants referred to the teaching practice of having students move from one context to another in building critical thinking skills. For example, Participant number 7 said the social media class reviewed different source types including edited sources students can find in the library. Participant number 2 stated, "So, for the Accomplished Thinker, it's mostly about taking content outside of class where they can engage in formal scholarly review and insights for participating in consulting work." Participant number 3 said many undergraduates struggle with going across contexts; they begin the class "almost across-the-board the Unreflective Thinker. They make all of their posts in terms of thinking, 'Oh, I'm great at social media, I've been posing my whole life, and there's nothing really to learn in regard to social media.'"

In addition, Participant number 3's students prefer to use whatever computer-mediated communication (CMC) in which they are enmeshed. As the participant explained, "And what that means is they can never remember where they sent anything, where documents are hidden, and they just waste so much time hunting." Furthermore, Participant 3 said the concept *electronic propinquity* helps students understand their social media use requires forethought:

> *So, when we talk about electronic propinquity and having the same sorts of messaging and the same sites of social media, they extrapolate that, and they start using one CMC channel for all their group work. I think that trains them to learn that when they go to work, if they will designate a channel for a certain project, or for certain people, they will know where those messages are always going to live and spend a lot less time just searching for old messages.*

Theme 2: Case Method Teaching

Case method teaching is the second theme. Social media supports the development of critical thinking skills via instruction through case studies. The case method utilizes real-world examples to illustrate theories and concepts.

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Participant number 2, for example, explained that case studies are used for review and quizzing to target the second stage of critical thinking development, the Challenged Thinker. Participant number 3 said the course, computer-mediated communication for business, is enrolled in Hootsuite Academy, which "allows a company to have a social media director organize and manage all [the company's] social media accounts on one screen."

Although Participant number 4 did not intentionally use social media to develop critical thinking skills, the professor's marketing course examines marketing blunders by corporations to suggest critical thinking is underdeveloped among some executives. Participant number 5's college uses case method as the standard to teach critical thinking, with the participant noting the institution's small class size helps professors coach students. As Participant 5 explained:

> *It's more of implicit teaching process than an explicit teaching process. We ask them to classically identify the cause of a particular problem, 'So what's the problem, what are the root causes, what are their alternatives, and built within this is analysis, synthesis, and problem-solving.'*

Participant number 6, who did not target critical thinking through social media, explained the university's marketing courses offer case studies and case summaries. As the participant stated:

> *[These case studies and summaries] involve various organizations that have moved from a certain point in time to where they are now through the use of marketing using social media. So, there are various examples that require the students to think about how people are being reached in the new marketing world in terms of social media.*

Theme 3: Discussing and Collaborating

Discussing and collaborating is the third theme. Participant number 3 takes students through the Hootsuite Academy certification process in a marketing course. The certification shows expertise in social media. Businesses often require employees handling social media to receive the certification. Participant 3 said the marketing class requires posting along with discussions about the posts:

I try to set the course up similar to an art seminar I had to take once where everybody talks about their reactions to the piece, whatever was posted, 'Did they like it? Did they dislike it? What were their feelings? Where did they think the person was coming from? What might they do differently?' And at first students are really hesitant to give criticism, and they don't respond well to it if they get any.

Participant number 7 said students communicate on platforms such as Viber and Facebook Messenger outside of class. These discussions mimic how students will act as professionals in the workplace, noted Participant 7:

They bring that into the group work they do in the class. So, one important skill is how to work in a team that's virtually located. So, I think that because I give them some flexibility for what to use to do that, they're able to see if the skills they have on social media will transfer into a different setting and they can use it to bond with a team.

One participant noted the undergraduates, as avid social media users themselves, are the metaphorical elephant in the room: "It's a case study that students are experiencing every day. And so, you can draw from that and show them how important it is to be critical thinkers and aware users of platforms."

Theme 4: Building Information Literacy

Building information literacy is the fourth theme in the study. Social media is influential in critical thinking development because the medium is engaging to students, leading to information literacy as students concentrate on learning and manipulating the platform's tools. Still, three participants in this study noted the process of building information literacy in undergraduates takes time, from most of a semester to an undergraduate career. Participant number 3 suggested critical thinking progress is not instantaneous or elegant:

> *They notice that [Stage 2] Challenged Thinker phase where they're starting to become aware of that fact that, 'You know what? It might have actually been me, something I did that was the reason things were not responded to well.' And then, throughout the semester I see them move through the Beginning Thinker phase, which is where they start trying to pull the suggestions and the theories we talked about in class into the way they interact online. I think their posts are much, much less open to interpretation. They're very clear in their communication, and I think that's about as far as I get them throughout the semester, but I definitely see those first three stages in class.*

Participant 3 also said digital literacy entails both thinking through scenarios and applying content:

> *My students are the business information technology majors, and many of them have graduated and gotten jobs just because they have the [Hootsuite Academy] certification, and that leads to the realization that taking exams in the real world is not rote memorization, it's actually thinking through scenarios and being able to apply the content. That's pretty shocking for a lot of them, and I think it helps them see the value in trying to think through what they're doing rather than just memorize things for the sake of passing quizzes.*

Participant number 8 described information literacy as "the ability to evaluate online content to understand its validity." Participant 8 also said the class using social media spends "a bit of time talking about hoaxes and determining bias that they see a lot." Participant 7, who taught social media 10 years ago, said the class did not focus on the critical thinking aspects of social media but rather its experiential aspects:

> *I think if I taught it today I would definitely be more cognizant of the implications of non-critical use of social media and also try to push my students to be more aware of how they can be manipulated by their nation states, bots and other players wishing to push propaganda and other insidious programs via social media.*

Theme 5: Learning from Experts

Learning from experts is the fifth theme. Social media's connection to mentoring was cited by study participants as the medium's strongest link to building the critical thinking necessary for practical job skills. Most participants referred to the power of learning from experts. In most cases, the participants clarified "experts" as guest speakers, but for Participant number 1 the expert was scholarship. Participant 1 mentioned research six times during the interview, including in response to the general question (i.e., number 10) about experience:

> *The assignments we've been able to integrate with the research, being able to research what other companies are doing, have enabled the students to think outside, to think critically of how to accomplish their goals. And the application of that into their own work.*

Participant number 2 explained learning from experts is key to a professor's targeting of Stage 6 (i.e., the Accomplished Thinker) in critical thinking development theory. As the professor explained:

> *So, for the Accomplished Thinker, it's mostly about taking content outside of class where they can engage in formal scholarly review and insights for participating in consulting work ... Students can use my practitioner work in their shadow learning experience and leverage that into their interviews or their career building.*

Participant 2 said the business courses also offer "guest lectures in industry to validate the coursework, so students understand their experience of social media should go beyond a low-to-medium literacy of just consuming but rather factoring out to enterprise with the tools at their disposal regarding social media." Participant 2, Participant 7, and Participant 8 emphasized learning from experts more than other participants. Participant number 7 mentioned LinkedIn 12 times during the interview, and Participant 8 cited LinkedIn five times. Some participants suggested lectures or discussions about the students' online brand may not have an impact until they hear from an expert, including someone local viewed as a potential employer. Participant number 7 noted students at the institution do not receive instruction from the professor on their online brand, but the students do receive online brand instruction through extracurricular offerings.

Facebook, Twitter, Instagram, YouTube, Snapchat, and LinkedIn were all cited by business professors in this study for real or hypothetical use as critical thinking development tools. Six educators are using (or may use) a total of six social media platforms among the 13 existing platforms discussed in the study's literature review. Not mentioned were Myspace, Google+, Tumblr, Pinterest, Flickr, Skype, and Wikipedia. Two platforms, Hootsuite Academy and TikTok, were mentioned by business professors but not covered in the literature review. The information provided by the Hootsuite Academy professor was vivid and helpful to researchers unfamiliar with the platform. Two other business professors offered illuminating instructional advice regarding Twitter, and at least two educators seemed to have prowess with LinkedIn. As one professor said, the personal touch gives instructors an edge in leading others to think critically: "I think for me it's my own personal use of social media that has influenced how I teach it."

CONCLUSION

The five themes in this study of business professors are contained in Critical Thinking Development by Social Media (DSM). Generated using the process coding technique as outlined by Saldaña (2016), the five themes were ordered in a logical progression. Each phase of DSM serves as a scaffold for the next step; each phase also overlaps and/or interacts with other phases not directly following it. Business professors have perceived intentional, industrious learning through social media as having influenced the critical thinking skills of undergraduates as represented in DSM. Business professors also have perceived intentional, industrious learning through social media as having influenced the practical job skills of undergraduates through DSM with an emphasis on phases 3) discussing and collaborating, and 5) learning from experts.

Figure 1. Critical Thinking Development by Social Media (DSM**)**
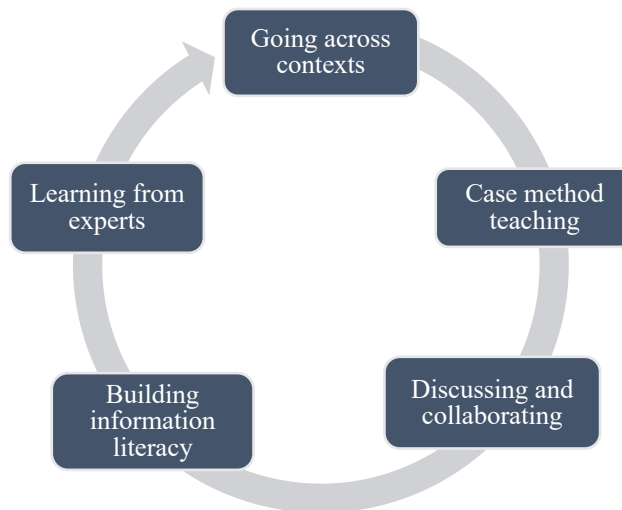
The DSM process is iterative, meaning one social media assignment in a business course may cover all the phases but lead to a greater content understanding of the next social media project. In other words, undergraduates who cycle through the five phases lay the groundwork for a more efficient learning process in later work. Most interview participants in this study did not comment about every phase of the circle. Still, in a response to a question regarding the six stages of critical thinking, by sheer coincidence one participant came close to summarizing DSM: "I think that other activities, not social media, is what I use to push students beyond Stage 1 [the Unreflective Thinker], such as giving them more challenging work that forces them to think logically about patterns that I'm teaching them about."

This study provides testimony from eight business professors showing how college students were challenged by social media rather than simply using it as an Unreflective Thinker, the most common stage of critical thinking development (Paul & Elder, 2014). A couple of participants used tweets to enable learning in class through reflection and summary.

Another participant served as a mentor in a 13-week certification process to become a professional social media influencer. From sharing ideas in class about corporate issues to designing a social media policy as a mock athletic director, business students examined patterns in logical ways. An undergraduate who masters hashtags or who assigns specific platforms for distinct purposes in a marketing course may become a valuable manager in the corporate world.

Three of the eight participants addressed every phase of critical thinking development with students. Question 4 in the set of questions to most participants asked, "Looking at the six stages of critical thinking development, how do your assignments in the class that implements social media target some of the stages?" During the interview, Participant number 8 (who targeted all six stages) did not have a document showing the phases of critical thinking development; thus, the participant later emailed a response to question number 4. The emailed response, which offers a helpful illustration of DSM, follows:

Stage 1: An assignment for this stage is purely mechanical. Post a tweet about what you accomplished, what you did. Students learn the process of HOW TO without necessarily grasping the impact or why to use social media.

Stage 2: Follow someone you don't know on an online social network who has a similar personal or professional interest as you. This requires attention to finding information, hashtags, consequence, at the most basic level.

Stage 3: Use Twitter as a search engine. The volume of tweets makes twitter a viable tool for seeing what people are saying about a given topic.

Stage 4: Build your network on social media. What's the purpose of your contacts/followers? How might you use them in personal or professional contexts?

Stage 5: In a python programming course I gave an assignment to analyze six months' worth of tweets, to find the most popular hashtags or mentions. Students then created a visualization (chart) to summarize their findings. The critical thinking piece here was in understanding the impact of social media and in developing an algorithmic process to analyze the data.

Stage 6: See assignment from Stage 3, but this time, compare with Google or other search engines to see which results might be more useful.

Most participants did not receive impromptu questions. Participant number 6 was one of the exceptions. Question number 9 in the second set of interview questions (Appendix B) asked, "How does this generation of students compare to previous generations in terms of critical thinking?" Participant number 6 responded by noting the current generation is bombarded with information. The researcher's impromptu questions are in italics:

And not only information, but I don't know if you want to call them fear tactics or whatever media wants to portray as far as what is important.'

Fake news?

That or anything else. Marketing. It could be, there are people on Instagram promoting health products that look a certain way but they're not really telling you the extent of what they're going through. They're saying, 'I drink this tea and this is how I look.' So, you're talking about in terms of critical thinking, right? [Brief pause, researcher nods]. How they differ back then and now? Eeeh, I think now they have to be more aware of what's happening to kind of weed through.

It sounds like you're saying they're more skeptical.

> Umm, maybe, they could be more skeptical. Umm, they could be more skeptical, but they also could be, in terms of the Stages of Critical Thinking, if they're unreflective they're probably more… if they're not aware of what's happening then they're just being fed whatever is coming towards them.

As the findings of this study suggest, higher education administrators need to prioritize professional development and hiring. The utility value of social media should be a concern for presidents, provosts, and business deans. These administrators should look for expertise in social media instruction and critical thinking instruction while reviewing job applications. Among faculty, administrators should also encourage conference attendance, on-campus presentations, and publication in technology and media literacy journals. Some final suggestions for higher education administrators are to discourage the lecture style of teaching and resistance to change among faculty; to give precedence to faculty resumés showing technology and social media experience in the classroom or online; and to understand the professional and pedagogical habits of business professors will imitate their passions. Twitter, Instagram, and LinkedIn devotees become passionate Twitter, Instagram, and LinkedIn instructors.

Business faculty are equally accountable. A fear of technology is no longer an option. Business professors should learn as much as possible through experimenting with different social media platforms, reading and contributing to journals, and interacting daily with students, the experts in the field. Professors can ask students questions about Tumblr, Flickr, Snapchat, or the next big thing to hit campus. Moreover, business professors who self-identify as social media experts should research critical thinking so they can appropriately instruct their colleagues inside and outside the business department. Techies need to share their knowledge in professional or social encounters.

Employers are vital players in the system. Some interview participants were not shy about mentioning their ties to regional businesses where some graduates found a job in social media. At least one participant had worked in business for 20 years before joining academia. A participant who consults for a company with national-scale clients noted some university students shadow the professor's work. If employers are dissatisfied with the critical thinking abilities of young college graduates, the wise option is to partner with area schools to begin internships, mentoring programs, guest speaking engagements, and job fairs.

Future research may offer case studies of social media and critical thinking projects at higher education institutions. Partnerships between colleges and universities to build social media proficiency in business students is an area that could yield new insights about critical thinking. Research focusing on social media platforms such as Twitter, Facebook, LinkedIn, Snapchat, Instagram, and Hootsuite Academy (HSA) is needed. Case studies on college graduates who received the HSA certification would inform the curricula of business professors. Studies on recently hired social media directors, marketing managers, public relations specialists, and market research analysts would offer potential in expanding the sparse data on positions requiring social media expertise.

Participants 4 and 6, who answered questions for professors who did not intentionally address critical thinking in students (Appendix B), gave similar responses as the professors who targeted critical thinking (Appendix A). In response to a query on students' weak-sense critical thinking, Participant number 4 cited "marketing blunders" made at the corporate level. This response was not much different from Participant number 2's evaluation of brand crises in class to develop critical thinkers using social media. Some participants who responded to Appendix A questions simply appeared to teach critical thinking more directly. Participant number 2's answer to the question on the stages of critical thinking development showed the intention might simply be a little more technical or a little more aggressive: "So for the [Practicing Thinker] I have an assignment where I have students actually designing social media content for an event for an active course client."

Accountability emerged as a background theme after the interview with Participant number 2, who implied the wording of a query may have been unfair to students. As the business professor suggested, the question was condescending toward students, the implication being students are weak critical thinkers. Specifically, any weakness a student might have in critical thinking should not be reinforced by teachers or emphasized through a study. The inquiry about weak-sense critical thinking was not meant to suggest most students are weak thinkers. Academia and society should be grateful to all professors who strive to ignite the highest ambitions in undergraduates. This study

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offers clear evidence of exceptional teaching. At times, some participants spoke like proud parents, noting their students are career-focused, self-assured, "and have a strong sense of critical thinking."

Critical thinkers must practice critical thinking in all dimensions of life, not merely one or two areas, to see improvement in the quality of their lives (Paul & Elder, 2014). If guided by pedagogical expertise from responsive instructors, social media platforms appear to offer a bountiful environment for developing critical thinking skills. As Paul and Elder (2014) advised, these skills must be refined and expanded through continual practice. Indeed, the word "practice" is in the title of Level 4, The Practicing Thinker, when the individual has developed willpower after thinking critically by habit.

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APPENDIX A

Interview Questions 1

The 11 interview questions follow. Question No. 10 and No. 11 were added at the recommendation of the IRB committee. Moustakas (1994) in his phenomenological systematic methodology suggested the two broad questions lead to structural and textural descriptions of experiences.

Research questions	Interview questions
How do business professors perceive social media as having influenced the critical thinking skills of undergraduates?	1) How have you challenged undergraduate students to change their assumptions about the purpose of social media? How do students' interaction with social media in your class make them think about their thinking? 2) In what ways did students make the realization they were not functioning as accomplished thinkers during your class that implements social media into course objectives? 3) How do you respond to students who cling to weak-sense critical thinking? In what ways have the students reacted to your attention to their weak-sense critical thinking? 4) Looking at the six stages of critical thinking development, how do your assignments in the class that implements social media target some of the stages? 5) How does your use of social media in the classroom help undergraduate students understand their critical thinking skills are part of both informal and formal learning environments? 6) How does your course that implements social media help students to better evaluate online content, including the content that may affect their personal brand?
How do business professors perceive social media as having influenced the practical job skills of undergraduates?	7) In what ways has your class that implements social media enhanced the practical skills of students to meet business needs? 8) Researchers say the marketing skills of business students are inadequate for personal branding in a professional environment, undergraduates' ability to conduct online identity management is weak, and public relations students do not trust social media as used in a professional environment. How does your class that implements social media address some of these criticisms? 9) In what ways have current undergraduate students, including business students, become better critical thinkers with marketable job skills compared to previous generations in the eyes of prospective employers? 10) What have you experienced in terms of social media instruction to develop critical thinking in the undergraduate classroom? 11) What contexts or situations have typically influenced or affected your experiences of social media instruction to develop critical thinking in the undergraduate classroom?

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APPENDIX B

Interview Questions 2

Research Questions	Interview Questions
How do business professors perceive social media as having influenced the critical thinking skills of undergraduates?	1) How do you use social media to help undergraduates learn? 2) At what levels or level [of the Stages of Critical Thinking Development] do you perceive your students to be at? 3) Why don't you use social media for more than just marketing instruction purposes, such as for critical thinking development? 4) How do you think most business professors view the instructional value of social media? 5) In what ways do you help students become better critical thinkers?
How do business professors perceive social media as having influenced the practical job skills of undergraduates?	6) What are some ways undergraduates are unprepared to use social media for marketing purposes? 7) How are undergraduate students critical thinking skills underdeveloped in the marketing area? How do undergraduates display weak-sense critical thinking in the marketing area? 8) How does this generation of students compare to previous generations in terms of critical thinking?

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