

ASSESSING THE LINK BETWEEN LEARNING MODES AND SOCIAL MEDIA USE FOR
LEARNING IN FIRST-YEAR UNDERGRADUATE STUDENTS

A Dissertation

by

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This dissertation meets the standards for scope and quality of
Texas A&M University-Corpus Christi and is hereby approved.

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ABSTRACT

The purpose of the study was to examine the relationship between learning modes and the use of social media for learning in undergraduate college students. Social media use among students has continued to grow for the past 10 years, yet, not many have been exposed to using it in an academic setting. The study was guided by Kolb's (1984) Experiential Learning Model, which categorizes learning mode preferences into a cycle of concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE). The non-probability sample included 143 undergraduate students enrolled at a federally-designated Hispanic-serving institution of higher education in South Texas. The study was correlational and retrospective in nature. A paper-based survey instrument was used to collect the data. The results showed that participants aligned most frequently with the concrete experience mode as a predictor of using social media to support learning. Google and YouTube were the most frequently used social media platforms that were utilized passively to search for information to support learning. Participants were least likely to use social media to collaborate with others or create their own content. While passive use of social media can be helpful in gaining academic information, its social aspect should be further explored. Integrating social media use in the classroom may provide the skills students need to fully realize its use as a collaborative and creative tool.

DEDICATION

This study is dedicated to students and educators. The fate of social media for learning is in their hands. As the distinction between informal and formal learning blurs and learning technologies evolve, let us hope the future will bring about dynamic changes that improve the way we teach, learn, and live.

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CHAPTER I: INTRODUCTION

Background and Setting

Social media (SM) significantly impacts our modern culture. According to a 2018 Pew Research Center survey, 69.00% of American adults use social media, which was 10.00% in 2005, when tracking of social media use began. Among adults between ages 18 and 29, 88.00% reported using at least one social media platform, up from just 7.00% in 2005 (Social Media Fact Sheet, 2018). Considering its growth and widespread use, especially among younger adults, it is logical to conclude that social media will continue to influence the society.

Following the lives of pop culture icons using social media has changed the relationship between the famous and their fans; however, it may become a detriment. Rising star, Christina Grimmie, was a finalist on the *The Voice* (The Voice Season Six, 2014), a televised singing competition allowing home viewers to vote for their favorite contestant, using social media. Grimmie's rise to fame was launched as a YouTube star where she posted videos of her home-recorded performances (Sherman, 2016). Two years later, she was on a tour in Orlando, Florida, where she was gunned down and killed by Kevin Loibl, an obsessed and mentally deranged fan, who, according to one of his work colleagues, spent most of his time watching Grimmie's YouTube channel and monitoring her other social media accounts (McLaughlin, 2016). Although social media feeds the dream of those who seek fame, it stokes fear to consider the potential consequences.

Engaging in social media activities means agreeing to have personal information collected and made available to those who wish to profit through overt and covert persuasion (Rainie, 2018). Over 90.00% of American consumers are strongly concerned about how

businesses are using the personal information that are shared on social media and 86.00% have taken action to conceal their identity online by using pseudonyms (Madden, 2014). Just over half believe that it is impossible to be entirely anonymous online (Rainie, Kiesler, Kang, & Madden, 2013). Nevertheless, social media use continues to rise in spite of public concerns.

Despite negativity associated with social media, the connections it affords has made a positive impact on learning and civic involvement. Political ideologies are shared through social media, creating lively discourse and social action. For example, King (2015) proposed that libraries use social media as a way to connect with patrons and facilitate discussions surrounding community issues and learning needs. Social networking sites (SNS), such as Facebook and Twitter, have considerably influenced engagement in civic and political actions in a positive way (Gil de Zúñiga, 2012).

Social media is defined as websites and applications that enable users to create and share content or to participate in social networking (Social Media Definition, 2017). In recent years, the value of social media as an instructional tool has come to the forefront in academic conversations. For example, to promote awareness of topics that are critical for healthcare professionals but not required in their nursing program curriculum, Twitter has served as an effective forum for discussions related to important issues (Richardson, Grose, Nelmes., Parra, & Linares, 2016), and medical students may use it as a professional development to supplement their traditional medical school experience (Chretien, Tuck, Simon, Singh, & Kind, 2015). In addition, students enrolled in a social work program were given assignments to participate in Twitter Chats, which resulted in the development of professional skills beyond the classroom (Hitchcock & Young, 2016).

Nevertheless, even as social media has been successfully integrated into the learning environment, we must “be mindful of the business paradigms behind certain social media and how these might constrain or prejudice critical learning” (Ravenscroft, Warburton, Hatzipanagos, & Conole, 2012, p. 181). Thoughtful instructional design must be considered, which begins with an understanding of the learners themselves. Balakrishnan (2017) found that students do not tend to use social media for learning but have the intention to do so and educators should take advantage of this eagerness.

Seeking to understand personality as a predictor of social media use, Correa, Hinsley, and Zuniga (2010) found that extroversion and openness to experiences were positively associated with social media use. In relation to personality, Balakrishnan and Lay (2016) investigated students’ learning styles and their intention to use social media for learning, and reported that students were open to the use of social media for learning and those with collaborative and participatory styles were inclined to be extroverted. In the development of online instruction, Lu, Jia, Gong, and Clark (2007) suggested that diverse learning styles should be considered. Seiver, Haddad, and Do (2014) recommended grouping students with divergent learning styles into teams to complement strengths and weaknesses of students’ learning styles. While the use of social media as an educational tool shows promise, further investigation is required to better understand its relation to student learning preferences in an attempt to successfully design instructional interventions that have the potential to be beneficial to all learning styles.

Statement of the Problem

The ubiquitous nature of social media signals the need to examine instructional design and support in this context. Many college students arrive on campus with the knowledge of how to use social media but have not yet been exposed to its use for learning. Research has shown

that understanding learning styles and the inclusion of instructional strategies are beneficial to each style (Lu, Jia, Gong & Clark, 2007). If educators are to fully realize the link between learning modes and the use of social media for learning, it is important to understand the nature of the association.

Furthermore, legislation involving public education and learning outcomes has forced educators to examine instructional design and practices in the context of these new initiatives. The 21st Century Readiness Act was incorporated into the U.S. Department of Education's most recent reauthorization of the Elementary and Secondary Education Act (ESSA) of 1965 (US Department of Education, 2015), which led to the development of the National Education Technology Plan (NETP), a policy document that provides a blueprint for using technology to support learning outcomes and provides examples that align with the Title IV's Part A of the ESEA, namely, Activities to Support the Effective Use of Technology (Office of Educational Technology, 2017). The plan recommends "States, districts, and postsecondary institutions should take inventory of and align all learning technology resources to intended educational outcomes. Using this inventory, they should document all possible learner pathways to expertise, such as combinations of formal and informal learning, blended learning, and distance learning" (p. 25). The communicative and collaborative nature of social media makes it suitable as a learning technology (Conley & Sabo, 2015) that should be considered in the learner's pathway.

Purpose of the Study

The purpose of this study was to assess the relationship between learning modes and social media use among first-year undergraduate college students. Adults ranging in ages from 18 to 29 constitute the largest demographic group using social media at 88.00% (Social Media Fact Sheet, 2018). Therefore, undergraduate college students are more likely to use social media

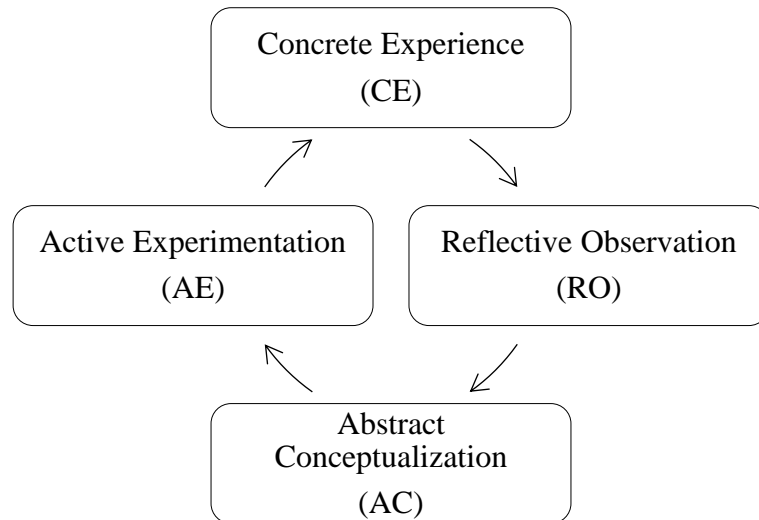
in general. The study sought to discover how students were using social media for learning and how their preferred learning mode might have influenced that use. The following research question guided the study: What is the relationship between learning modes and social media use for learning? Specifically, it was hypothesized that learning modes are predictors of social media use for learning.

Theoretical Framework

The theoretical framework for the study was Kolb's (1984) Experiential Learning Theory (ELT). The ELT suggests a process by which experience influences the way by which a person learns. In other words, learning is impacted by experiences, which in turn, influences preferred learning style. This process is characterized as a learning cycle. The cycle, as shown in Figure 1, occurs and is repeated within the context of what is to be learned within a given situation (Kolb & Kolb, 2013). The four modes within the cycle served as the study's constructs, namely, (1) concrete experience (CE), (2) reflective observation (RO), (3) abstract conceptualization (AC), and (4) active experimentation (AE). An individual goes through this cycle repeatedly through experiencing, reflecting, thinking, and builds upon previous experiences to develop new ones (Kolb, 2005).

Figure 1

Learning Mode Cycle



The cycle begins with concrete experience and is influenced by the feelings and people associated with that experience. For example, the way in which students approach an assignment will be shaped by their life experiences. Drawing from these experiences, learners move to contemplate the meaningfulness of the experience through reflection and observation. Students take what they have learned through experience and reflect on any lessons previously learned. Next, learners move along their path to consider how their experience relates to their current learning situation and analyze ideas and potential conclusions to advance them along their learning path. Finally, learners draw from these ideas and apply selected solutions that will create new experiences that lead them to repeating the cycle again as their learning continues.

Constructivism is a student-centered learning theory and was also considered as a framework for the study. The process of knowledge construction and self-directed learning are the basic tenets of constructivism (Khanal, 2013). Knowledge construction in the context of constructivism affords the opportunity for scaffolding, which can lead to greater responsibility for one's own learning (Fani & Ghaemi, 2011). Self-directed learners know how to set their own

learning goals (Dabbagh & Kitsantas, 2012), which could potentially influence their use of social media for the purpose of learning.

However, due to the interactive nature of social media use, Kolb's ELT was deemed to be the most appropriate theoretical framework for the study. The ELT supported the hypothesis that learning modes may be used to account for variation in the use of social media.

Operational Definitions

Social media use was defined as an access to and interaction with internet applications that allow users to participate in social networking. Social media use for the purpose of learning was defined as interactions initiated by students using social media to support their learning within the context of a college course. For the purpose of the study, social media was measured by respondents responses to survey questions adapted from the Social Media and Science Learning Survey (Moll & Nielsen, 2017). The survey contained items related to performing academic tasks, using social media. Participants indicated the frequency (never, sometimes, regularly) of social media use to support their learning. Learning modes were a student's learning preference based on the individual's distinct thought process and understanding (Kolb, 1984). In the study, learning modes were assessed based on respondents' responses to the Kolb's Learning Style Inventory, a 12-item instrument designed to measure concrete experience, reflective observation, abstract conceptualization, and active experimentation.

Glossary of Terms

Abstract Conceptualization is a mode within the learning cycle in which ideas and theories are used by the individual in their learning process (Kolb, 1984).

Accommodative learning style is characterized by seeking opportunities and adapting to changing situations (Kolb, 1984).

Active Experimentation is a mode within the learning cycle in which hands-on experimentation plays a role in the individual's learning process (Kolb, 1984).

Assimilative learning style is characterized by inductive reasoning and precision (Kolb, 1984).

Constructivism is a student-centered learning theory that focuses on the process of knowledge construction and self-directed learning (Khanal, 2013).

Convergent learning style is characterized by a strong task orientation and problem-solving skills (Kolb, 1984).

Concrete experience is a mode within the learning cycle in which past experience plays a role in the individual's learning process (Kolb, 1984).

Divergent learning style is characterized by seeking to understand many perspectives (Kolb, 1984).

Experiential Learning Theory (ELT) was developed by David Kolb, who advocated that learning is achieved through actively and reflectively transforming experience into knowledge (Kolb, 1984).

Learning Styles refer to preferences for learning in a manner specific to certain attributes present in an individual's disposition (Kolb, 1984).

Reflective observation is a mode within the learning cycle in which an individual employs observation and reflection in their learning process (Kolb, 1984).

Social Media (SM) is defined as websites and applications that provide the means for users to create and/or share content, or to participate in social networking (Social Media Definition, 2017).

Delimitations, Limitation, and Assumptions

The proposed study was delimited to (1) first-year undergraduate students in an Hispanic Serving Institution (HSI) in south Texas, and (2) the constructs of social media use and learning modes. Due to the non-probability nature of sampling, external validity/generalizability was limited to the study's participants. Due to non-experimental nature of the study, no causal inferences were drawn. It was assumed (1) students provided accurate information relative to their experiences and (2) the researcher remained objective throughout the conduct of the study.

Significance of the Study

Integrating social media into classroom curriculum has emerged as an opportunity to teach critical thinking skills, because students can benefit from collaboration, which can be instrumental in leading to practical applications of decision-making and problem-solving (Pattison, 2012). Underpinned by experiential learning theory, social media, as an educational tool, shifts focus to a learner-centric environment, enabling educators to help students understand and reflect on their own experiences, by providing expert guidance (Altamimi, 2015). Social media will continue to play a role as a viable educational tool. It is important to be cognizant of the potential impact learning modes have on students' use of social media for learning purposes. Examining the link between social media use and learning modes led to a better understanding of instructional strategies required to support student success.

CHAPTER II: REVIEW OF THE LITERATURE

Introduction

A systematic review of the literature was conducted. In reviewing the literature, the following databases, facilities, and search engines were used: EBSCO's Discovery Service, Mary and Jeff Bell library, interlibrary loan, Google Scholar, and Google. The chapter is divided into five sections. The first section presents an overview of Web 2.0 tools and social media platforms examined in this study. The second section focuses on perceptions and perspectives related to social media use in education. The third section addresses the impact of social media in the learning environment and examines the link between informal and formal learning activities with a focus on the development of personal learning environments and communities of practice, using social media. The fourth section highlights research related to instructional considerations for using social media in education. The final section addresses the personal characteristics related to social media use with a focus on experiential learning theory (ELT), developed by Kolb (1984), which provided the theoretical framework for this study.

Web 2.0 Tools and Social Media Platforms

The World Wide Web transformed information exchange in 1991, enabling the use of email, listservs, and weblogs for electronic communication. Ten years later, the World Wide Web evolved to include interactive tools and networked social spaces. This second phase of Internet development became known as Web 2.0 (Van Dijck, 2013), paving the way for the social media revolution.

Van Dijck (2013) identified four emergent categories of social media: (1) Social Network Sites (SNS), characterized by their ability to network groups of people together for information exchange (e.g., Facebook, Twitter, and LinkedIn); (2) User Generated Sites (UGS), characterized

by the ability to allow users to create and share content (e.g., YouTube, Flickr, and Wikipedia); (3) Trading and Marketing Sites (TMSs), characterized by the ability to facilitate purchases as well as to provide product reviews and comments (e.g., Amazon, eBay, and Groupon); and (4) Play and Game Sites (PGS), characterized by the ability for users to participate in game plays (e.g., Angry Birds, Sims Social, and Candy Crush). For the purpose of this study, the first two categories and associated activities were explored.

Perceptions and Perspectives of Social Media Use in Education

Studies that examine perceptions and perspectives of social media for learning have brought to the forefront some of the challenges facing educators. For example, a focus group of prospective teachers was conducted to determine their perspectives on the positive and negative aspects of using social media in higher education (Vural, 2015). Participants were asked how they used social media as well as their perspectives of the positive and negative aspects related to its use in higher education. Results showed that participants used social media mainly as a way to spend their leisure time. They enjoyed the communication aspect of social media, in particular the ability to reach out to a larger group of people who shared similar interests and occupations. On the other hand, they had concerns because they felt social media could be a waste of time and a distraction. They were also concerned with privacy and found that some people using social network sites tended to push their own ideological agendas. When asked how to counter the negative aspects of using social media in higher education, participants suggested using Facebook groups. Because of easy access, they felt it would be the most practical in terms of use and could support a cooperative learning environment. Cao, Ajjan, and Hong (2013) concluded that faculty may know how to use social media but must first ascertain the appropriateness for the subject to be taught before integrating it into their class.

Understanding perceptions provides insight into common themes that can be exploited as well as challenges to be addressed. Sarapin and Morris (2015) studied faculty perceptions of using Facebook to augment their class with non-academic interaction and found students perceived the use of Facebook positively impacting their academic experience. According to Hamid, Waycott, Kurnia, and Chang (2015), students perceived social media use in the classroom as facilitative to faster frequent interactions with their teacher and peers. In addition, students who were more active within their social networks tended to share more information and created their own knowledge more independently. Students also appreciated the added benefit of using social media via their smart phones and other mobile devices. Gikas and Grant (2013) reported that using these devices allowed for quick information access, communication, and content collaboration. They also enjoyed the ability to respond anonymously when using polling applications such as Kahoot, which allows students a safe environment to discuss sensitive topics.

Barriers to social media use in the classroom are also expressed by both faculty and students. Jacquemin, Smelser, and Bernot (2014) assessed social media use in higher education by using Twitter to distribute class information and conduct class discussions. The researchers found that students responded positively but faculty found Twitter “too obtuse for formal interaction” (p. 22). Both faculty and students reported issues with privacy while using social media in the classroom (Balakrishnan, 2017; Seaman & Tinti-Kane, 2013). In a study conducted by Vural (2015), focus groups expressed concerns with privacy and even when social media is used in an educational setting, because personal information is accessible. Faculty expressed concern for the possibility of inappropriate use by students (Balakrishnan, 2017), and academic integrity of student submissions (Seaman & Tinti-Kane, 2013). Furthermore, social media

enables people to communicate without constraint and opposing ideas shared via text may be misunderstood, which could cause disruption in the classroom (Vural, 2015).

Informal and Formal Learning Environments

Social media use for learning provides an intersection between informal and formal learning environments. Costa, Cuzzocrea,,and Nuzzaci (2014) suggested that using technology familiar to students provided increased opportunity for improved educational outcomes, especially in an informal context. When instructors infuse informal learning into their curriculum, Grant and Hsu (2014) found that it allowed a seamless flow of information to and from the formal learning environment.

Learning extends beyond the classroom and into the workplace. In recent years, informal learning at work has become necessary as workers must continuously update their knowledge and skills to perform their job and the workplace may provide a network of experts to learn with and from (Milligan, Littlejohn & Margaryan, 2014). Van Puijenbroek, Poeli, Kroon, and Timmerman (2014) found that workers who used social media more than once a month for information gathering and for participating in media sharing communities felt they learned more compared to those who used it less than once a month. These findings suggest that informal learning environments and communities of practice may have benefits for student learning in the classroom and workplace.

Personal Learning Environments

Further supporting the link between informal and formal learning is the use of personal learning environments (PLEs). Martindale and Dowdy (2010) suggested that the ability to create, curate, and share content via social media provides the tools students need to create personal learning environments. Successful management of a PLE requires self-regulated

learning (SRL) skills. To introduce a framework that supports SRL in the context of personal learning environments, Dabbagh and Kitsantas (2012) proposed three levels: (1) personal information management, which encourages students to create a personal learning space such as a wiki or blog; (2) social interaction and collaboration, which fosters informal learning communities and allows for discussion of course specific topics; and (3) information aggregation and management, which engages students in reflection and self-regulation behaviors that may enable them to make necessary adjustments in the previous levels.

As an element within a personal learning environment, the use of social media to create professional learning networks has also been explored. Donelan (2016) examined faculty use of social media tools for networking opportunities and professional development. He found that motivation to use social media increased as faculty gained more experience and used it more frequently, which in turn increased their perception that social media can contribute to career progression. On the other hand, he noted barriers, such as lack of time and skills, and suggested the provision of practical training and sharing of good practices to overcome the challenges.

Way (2012) provided suggestions to guide teachers in developing a personal learning network. She noted that blogging is effective for reflection on an individual's professional learning and Twitter provides the opportunity to learn professionally as well as connect with like-minded colleagues. Veletsianos (2012) analyzed higher education scholars' practices, using Twitter, and reported (1) information and resource sharing related to professional practice, (2) information sharing related to their students and classroom, (3) request for assistance and providing suggestions to others, (4) engagement in social commentary, (5) digital identity making and impression management, (6) networking and making connections, and (7) discussion of their participation in other online networks. Sie et al., (2013) analyzed the Twitter

connections of participants at a conference that focused on professional learning environments and discovered that 21.00% of the connections were research collaborators, 21.00% were friends, and 18.00% were colleagues at their organizations.

Communities of Practice

The literature shows the use of Twitter as a means to create communities of practice. Cho (2015) found that administrators were enthusiastic about using Twitter but tended to tweet about technology instead of leadership and did not share knowledge related to work in administration. However, administrators did experience a sense of belonging to the group, which reduced feelings of isolation. Lewis and Rush (2013) examined the experience of using Twitter to create a community of practice and concluded that individuals could create a useful community for higher education professional development. An examination of school leaders' use of Twitter (Sauers & Richardson, 2015) revealed discussions focused on educational issues enabled the creation of communities of practice. Pendleton (2017) examined school leaders' use of Twitter and discovered components of a community of practice through activities such as problem-solving, experience-seeking, and knowledge-mapping.

Carpenter and Krukta (2015) sought to learn how higher education professionals used Twitter for professional development and found several themes. Twitter was valued as a quick and easy way to gain knowledge, ideas, and resources. In terms of relationships and community, educators said the use of Twitter connected them with colleagues within and beyond their organization and helped with feelings of isolation. Examining the use of Twitter in the development of a professional development community, Gao and Li (2017) analyzed the hashtag #Edchat, a one hour synchronous discussion about the need for technology adoption, the associated barriers and benefits, and how to integrate technology into teaching and learning.

They concluded that the activity was helpful in gaining insights and perspectives on the topic. In a study examining self-directed professional development in K-12 teachers, using Twitter, respondents reported as benefits the development of meaningful relationships formed with other teachers, using Twitter (Visser, Evering & Barrett, 2014).

Instructional Considerations for Social Media Use in the Classroom

Bridging the link between informal and formal learning requires a framework to develop valid instructional strategies to use social media for learning (Ravenscroft, Warburton, Hatzipanagos, & Conole, 2012). Chung and Paredes (2015) examined the quality of content submitted by students in the context of social networks, including the structures, relationships, and levels of participation. They discovered that students who communicated and participated more within their network showed higher levels of learning. The researchers noted that understanding more fully how networks impact social learning informs curriculum development, using social media. In support of this finding, Bowman and Aksaoglu (2014) studied the use of a Facebook group to augment course discussions in a large lecture class and reported higher final grades for those who used the Facebook group, compared to non-users. Dron and Anderson (2014) sought to understand how social media learning activities can be designed, and suggested that educators, while developing the curriculum, should take into consideration the social aspect of social media, how students learn within groups and networks, and how participatory roles may be influenced by the structure of social media technologies.

The need to develop students' skills in digital literacy and appropriate use of social media are present in the literature. For example, Pattison (2012) stated that students are both producers and consumers of content, and critical thinking is needed to evaluate the credibility of sources in an online social culture. In developing a course designed to teach students how to use social

media professionally, a study conducted by Baim (2016) focused on appropriate language, correct style, context, content within messages, and found students' need for basic sentence and paragraph construction, punctuation, organization of thoughts, and tailoring messages to specific audiences.

In a study examining instructional strategies that aid students in using social media for learning, Bennet, Bishop, Barney, Waycott, and Kennedy (2012) investigated image sharing, writing, and publishing in six different disciplines. Students found photos on Flickr to illustrate chemistry concepts and reported enjoying seeing others' interpretations of the assignment but did not perceive the activity as a learning enhancement. In a biology class, students were asked to take photos of beetles and upload them to the Internet, which was rated positively but some had technical issues performing the assignment. Students in an environmental education course took photos, voted to determine which ones to include in a group presentation, and felt the experience provided them an opportunity to see what others did and gave them ideas to support their future teaching. Blogging was used in a journalism course to create a collection of news stories, students were encouraged to add design elements that depicted their online identity, and found the activity highly successful, had high levels of engagement, and exceeded expectations. Reflective journals and blogs were used in an education course, and although some experienced technical issues, most liked the experience and were inspired by seeing what others were doing. Finally, in a psychology course, students participated in a collaborative writing activity using wikis, tended to do their own work, did not engage with each other as had been anticipated, and reported the need for more instructions related to the activity and more structure within the learning space.

Designing instruction to use social media as an augmentation to instruction encourages engaging instructional experiences and can also help faculty members teach important content to students without using any face-to-face time. Wilson (2013) reported that a community college faculty member used You Tube to create wiring and safety procedures videos for his students and found in doing so, it freed up time in class to concentrate on student questions.

Benjamin Bloom created a systematic approach to formalizing curriculum and instruction design and development (Guskey, 2001), which can serve as a foundation for designing instruction using social media. Bloom's Taxonomy of Learning, ranging from lower order to higher order skills included knowledge, comprehension, application, analysis, synthesis, and evaluation. Bloom's work was later revised to assist educators with the development of standards-based curriculum (Anderson & Krathwahl, 2001) and changed the levels from nouns to verbs, making them more efficient to use when writing learning objectives. The levels remained in the range from lower to higher order skills, namely, remembering, understanding, applying, analyzing, evaluating, and creating. Bloom's Taxonomy was revised again to take into account information and communication technologies (ICT) (Churches, 2008). Applying Anderson and Krathwahl's revised technology, Churches (2008) linked each level with tasks performed via the Internet. For example, remembering involves listing facts or retrieving materials so searching for information on Google is a task performed at the lower order thinking skills. Conversely, creating a YouTube video to communicate a concept is an activity supporting the higher order thinking skills. These skills are represented in the framework of 21st Readiness Act, a legislative initiative to prepare students with the knowledge and abilities needed to work and live in the information age. The legislation provides support for core academic subject knowledge and higher-order thinking skills (such as critical thinking and problem solving,

communication, collaboration, creativity, and innovation) to ensure that students are prepared for postsecondary education and careers, upon graduation from secondary school (Govtrack, 2013).

Experiential Learning

The study is grounded in the Experiential Learning Theory (ELT), a model developed by Kolb (1984). The theory, presented in the book *Experiential Learning: Experience as the Source of Learning and Development* (Kolb 1984), is comprised of six propositions: (1) Learning is a process, not an outcome. In other words, learning is not always quantifiable based on performance rather it is a construction and reconstruction of experiences driving the learning process. (2) Because learning is influenced by an individual's beliefs and ideas coupled with experience unique to the person, it is constructed based on the intake and processing of the new information from the experiential perspective. (3) Learning requires the process of resolving conflict between opposing modes of adapting to the world. Since the learning process is guided by conflict, the resolution is achieved through a cyclical movement from reflection and action and feeling and thinking. (4) Learning allows adaption that takes into account a holistic process. It integrates thinking, feeling, perceiving and behaving in the context of the learner's environment. (5) The interaction between the learner and the environment results in learning. In experiential learning, the individuals bring existing knowledge and experience into a learning environment which is applied to future experiences. (6) Knowledge creation is the result of the learning process.. Experiential learning is a transaction between social knowledge, and personal knowledge, which are shaped by socio-historical context and the learner's subjective experience.

Experiential Learning Cycle

The ELT involves a cycle of learning characterized by a combination of action/reflection and experience/abstraction. Learning is defined as “the process whereby knowledge is created through the transformation of experience. Knowledge results from the combination of grasping and transforming experience” (Kolb, 1984, p. 41). Grasping experience as depicted in the ELT model consists of two dialectically related modes: (1) Concrete Experience (CE) and Abstract Conceptualization (AC), and (2) Reflective Observation (RO) and Active Experimentation (AE).

Experiential Learning Styles

Kolb (1984) developed a survey to identify an individual’s preferred learning style within the context of the learning cycle. Learning styles include: (1) convergent, (2) divergent, (3) assimilative, and (4) accommodative. The convergent style is characterized by a strong task orientation and problem solving skills with a preference toward learning through a combination of concrete experience (CE) and active experimentation (AE). The divergent style is opposite of convergent and is characterized as imaginative, seeking to understand many perspectives, with a preference for reflective observation (RO) and concrete experience (CE). The assimilative learning style is characterized by inductive reasoning and precision with a preference toward abstract conceptualization (AC) and reflective observation (RO). The accommodative style is opposite of assimilative and is characterized by seeking opportunities and adapting to changing situations with a preference toward concrete experience (CE) and active experimentation (AE).

Summary

In summary, the review of the literature showed that the evolution of the Internet and Web 2.0 tools set the stage for scholarship in the use of social media as a tool for learning. Faculty and student perceptions and perspectives related to social media for learning were

examined as a first step to learn the benefits and barriers. Social media is promising as a link between informal and formal learning activities. Literature focused on the development of personal learning environments and communities of practice using social media. Instructional considerations for using social media in an educational environment addressed the need to explore designs that take advantage of the social learning and collaboration opportunities afforded by social media. Finally, the literature addressed the personal characteristics related to social media use with a focus on experiential learning theory (ELT), developed by Kolb (1984), which provides the theoretical framework for this study.

Understanding social media in the context of learning is a challenge for higher education professionals. Designing instruction to capitalize on the benefits of social media is problematic, because there is little research available in the study of social media for the purpose of learning. Throughout the years, technology advances have influenced the way by which courses are designed and taught. The need for educators to keep pace with these advances through course redesign and delivery makes it essential to examine social media in this setting.

CHAPTER III: METHOD

Introduction

The purpose of the study was to assess the relationship between learning modes and social media use in first year undergraduate college students. The following research question guided the study: What is the relationship between learning modes and students' use of social media for learning? Specifically, it was hypothesized that learning modes are predictors of social media use for learning. This chapter describes the methods used to conduct the study. Sections in this chapter include research design, subject selection, instrumentation, data collection, and data analysis.

Research Design

The study was correlational in nature. Correlational research is a quantitative and non-experimental approach, which allows for the use of statistical data to measure associations between/among variables (Creswell, 2012). Variables are not typically manipulated by the research in correlational studies (Urdan, 2010). Once the variables are measured, a correlation coefficient identifies the extent of the relationship, if any, between the variables (Privitera, 2017).

The study consisted of four variables that measured the learning modes and constituted the independent variables, namely, (1) concrete experience, (2) reflective observation, (3) abstract conceptualization, and (4) active experimentation. The degree to which social media was used for learning was the dependent variable. The nature of the study was non-experimental; therefore, no causal inferences were drawn.

Subject Selection

The participants for the study were selected from a population of undergraduate students enrolled in a program for first year freshmen at a public university in South Texas, hereafter referred to as the University. At the time of conducting the study, the University was an Hispanic Serving Institution (HSI) and received financial assistance through the Title V federal government program for institutions with at least 25.00% of Hispanic undergraduate full-time equivalent (FTE) students (Higher Education Act of 1965), had over 12,000 students, and had a 23 to 1 faculty student ratio (Texas A&M University – Corpus Christi, 2016).

The program enrolled approximately 2,000 freshmen each fall semester and was designed to provide extensive academic and social support to students in an effort to sustain retention. The study's external validity was limited to the participants due to the non-probability nature of the sampling. Permission to conduct the study was obtained from the Institutional Review Board (IRB) at Texas A&M University-Corpus Christi (IRB #54-18, Appendix A). Participants' consents were obtained via the survey questionnaire, which was distributed in person during a scheduled class session.

Instrumentation

A three-part survey questionnaire, Learning Style and Social Media Use Inventory (LSSMUI) was developed by the researcher (Appendix B). Part I was designed to collect data related to the participants' learning modes. Part II measured the degree to which participants used social media for learning. Part III was designed to collect data on the selected demographic characteristics of the respondents.

Part I of the survey was derived from the Kolb's Learning Style Inventory 3.1 (Kolb & Kolb, 2013), which is grounded in Experiential Learning Theory (ELT), and posits that learning

occurs in a cycle and includes concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE). The cycle occurs and is repeated within the context of the subject matter in a given situation (Kolb & Kolb, 2013). The survey contained 12 items and participants were asked to rank the endings for each sentence according to how well they thought it described their learning. The participants could choose a “4” for the sentence ending that best described their learning, down to a “1” for the sentence ending that seemed the least like their learning, specifically, 4 = *most* like me, 3 = *second most* like me, 2 = *third most* like me, 1 = *least* like me. For example:

When I learn:

 2 I like to deal with my feelings.

 1 I like to think about ideas.

 3 I like to be doing things.

 4 I like to watch and listen.

Part II was derived from the Social Media and Science Learning Survey (Moll & Nielsen, 2017) and contained 12 items related to academic tasks performed, using social media.

Participants indicated the frequency (1 = never, 2 = sometimes, 3 = regularly) of social media use to support their learning. For example:

Use Facebook chat, MSN, or texting to contact a friend to get help with a class assignment.

☐ Regularly ☐ Sometimes ☐ Never

Part III collected data on selected characteristics of the participants. Specifically, the following variables were measured: (1) age, (2) gender, (3) ethnicity, (4) college affiliation, (5) classification, (6) hours a day social media was used for academic purposes, (7) hours a day social media was used in general, and (8) the preferred learning style.

Data Collection

After obtaining the IRB approval, the researcher requested permission from the first-year program's External Research Review Committee to survey the students. The program coordinator facilitated the communication and provided a list of first-year seminar professors/instructors to contact. The researcher contacted a political science professor from the list and received permission to survey the students in his class. The data collection was conducted on August 30, 2018. The survey instrument, which included the consent form, was distributed to 172 students. Those who were at least 18 years old and enrolled as a first-year freshman at the University were eligible to participate in the study. Interested students voluntarily completed the survey. A total of 143 provided useable data, which coded and entered into a password-protected computer by the researcher.

Data Analysis

The data were exported into the Statistical Package for the Social Sciences (SPSS), which was used for the purpose of data manipulation and analysis. The data were checked for accuracy. Descriptive statistics (Field, 2018) were used to organize and summarize the data. Specifically, frequency and percentage distribution tables, measures of central tendency, and measures of variability were reported.

Cronbach's Coefficient Alpha (Pedhazur & Schmelkin, 1991) was used to estimate the reliability (internal consistency) of the constructs. Specifically, $\alpha = [k/k-1][1-(\sum \sigma_i^2/\sigma_x^2)]$, where k is the number of items on the test, σ_i^2 is the variance of item i , and σ_x^2 is the total test variance (sum of the variances plus twice the sum of the co-variances of all possible pairs of its components, that is, $\sigma_x^2 = \sum \sigma_i^2 + 2\sum \sigma_{ij}$).

A univariate repeated measures analysis of variance (Stevens, 2009) was used to test the

differences among the four independent variables. The sphericity assumption was tested, using the Huynh-Feldt Epsilon and Greenhouse-Geisser Epsilon. This assumption requires that the variances of differences for all pairs of repeated measures to be equal. If the average of the two Epsilon values is greater than .70, the sphericity assumption is met (Stevens, 2009). Modified Tukey procedure was performed for the purpose of post hoc analysis. The calculation employed the following formula: $HSD = q_{\alpha; k, (n-1)(k-1)} \sqrt{MSRES/n}$, where $(n-1)(k-1)$ is the error degrees of freedom and MSRES is the error term (Stevens, 2009).

To examine the relationship between the independent and dependent variables, simple and multiple correlations, as well as hierarchical multiple regression analysis were employed. A series of Pearson's Product-Moment Correlation Coefficient (Field, 2018) was used to examine the direction and magnitude of simple associations between the four learning modes and the use of social media for learning purposes. A hierarchical multiple regression analysis (HMRA) was performed to examine the unique contribution of each of the four learning modes in explaining the variation in the use of social media for learning purposes. The Variance Inflation Factor (VIF) was examined to determine if multicollinearity existed. Outliers on predictor variables was examined, using the Hat Elements test; $h = 3p/n$, where $p = k + 1$, and k is the number of predictors. Any case with greater than the critical h must be examined to determine if it could bias the results. Cook's Distance was used to locate influential cases, which is identified by the value greater than one. Standardized Residuals were examined to identify outliers on the outcome measure; any case greater than three in absolute value is considered an outlier. Coefficient of determination, r^2 , was used to examine the practical significance of the associations (Pedhazur & Schmelkin, 1991).

Analysis of the data also included t-test for independent samples and one-way analysis of variance. Levene's F was used to test the homogeneity of variances assumption.

Chapter Summary

Permission to conduct the study was obtained from the University's Institutional Review Board (IRB). The data were collected, coded, entered into the computer by the researcher, and were examined for normality and suitability for regression analysis. Descriptive statistics were used to summarize and organize the data. A series of univariate and multivariate statistical techniques were used to analyze the data. No causal inferences were drawn due to the non-experimental nature of the study. The external validity was limited to the study's participants.

CHAPTER IV: RESULTS

Introduction

The purpose of the correlational study was to assess the relationship between learning modes, namely, concrete experience, reflective observation, abstract conceptualization, and active experimentation, and social media use among first-year undergraduate college students. To do so, data on specific learning modes and social media use were collected and analyzed. Demographic data were summarized to describe the participants.

Profile of Subjects

The non-probability sample consisted of 143 freshman students enrolled at a Federally-designated Hispanic Serving Institution (HSI) of higher education in south Texas. The respondents were predominantly Hispanic and female. The College of Science and Engineering was represented the most, followed by Nursing and Health Sciences, Liberal Arts, and Education and Human Development. Based on the medians, a typical participant was 18 years old, used social media for academics and in general for two (2) and five (5) daily hours, respectively. Results are summarized in Tables 1 and 2.

The respondents were asked to identify their preferred learning style, namely, (1) accommodative – preference toward learning through a combination of concrete experience (CE) and active experimentation (AE); (2) assimilative – preference toward learning through a combination of abstract conceptualization (AC) and reflective observation (RO); (3) convergent – preference toward learning through a combination of abstract conceptualization (AC) and active experimentation (AE); and (4) divergent - preference toward learning through a combination of reflective observation (RO) and concrete experience (CE) (Kolb & Kolb, 2013).

Accommodator was the learning style endorsed the most, followed by Diverger, Assimilator, and Converger.

Table 1

Profile of Subjects, Categorical Variables, n=143

| Variable | | F | % |
|----------------|---------------------------------|----|-------|
| Gender | Female | 86 | 60.10 |
| | Male | 57 | 39.90 |
| Ethnicity | Asian | 4 | 2.80 |
| | Black | 12 | 8.40 |
| | Hispanic | 65 | 45.50 |
| | White | 54 | 37.80 |
| | Other | 8 | 5.60 |
| | Not disclosed | 4 | 2.80 |
| College | Business | 10 | 7.00 |
| | Education and Human Development | 10 | 7.00 |
| | Science and Engineering | 56 | 39.20 |
| | Liberal Arts | 20 | 14.00 |
| | Nursing and Health Sciences | 43 | 30.10 |
| | Not disclosed | 4 | 2.80 |
| Learning Style | Assimilator | 21 | 14.70 |
| | Converger | 9 | 6.30 |
| | Accommodator | 78 | 54.50 |
| | Diverger | 34 | 23.80 |
| | Not disclosed | 1 | 0.70 |

Table 2

Profile of Subject, Continuous Variables, n=143

| Variable | Minimum | Maximum | Median |
|---|---------|---------|--------|
| Age in years | 18.00 | 21.00 | 18.00 |
| Daily hours of social media use for academics | 0.00 | 22.00 | 2.00 |
| Daily hours of social media use in general | 0.00 | 24.00 | 5.00 |

Learning Mode Item Scores

Participants were asked to complete a 12-item survey, each with four (4) sentence endings. Participants ranked the sentence ending that described their learning mode the best, as follows: 4 = most like me, 3 = second most like me, 2 = third most like me, and 1 = least like me.

Each sentence ending was numerically associated with each of the scale scores, which were concrete experience (CE), reflective observation (RO), abstract conceptualization (AC), and active experimentation (AE). Results are summarized in Tables 3 - 6.

Table 3

Concrete Experience (CE) Learning Mode Items, n = 143

| Item | Mean* |
|---|-------|
| When I learn, I like to deal with my feelings. | 1.42 |
| I learn best when, I trust my hunches and feelings. | 1.54 |
| When I am learning, I have strong feelings and reactions. | 1.92 |
| I learn by feeling. | 1.27 |
| When I learn I am open to new experiences. | 2.42 |
| When I am learning I am an intuitive person. | 1.92 |
| I learn best from personal relationships. | 2.08 |
| When I learn I feel personally involved in things. | 1.93 |
| I learn best when I rely on my feelings. | 1.37 |
| When I am learning I am an accepting person. | 2.58 |
| When I learn I get involved. | 2.44 |
| I learn best when I am receptive and open-minded. | 2.97 |

*4 = most like me, 3 = second most like me, 2 = third most like me, and 1 = least like me

Table 4

Reflective Observation (RO) Learning Mode Items, n = 143

| Item | Mean* |
|--|-------|
| When I learn, I like to watch and listen. | 2.97 |
| I learn best when, I listen and watch carefully. | 3.26 |
| When I am learning, I am quiet and reserved. | 2.77 |
| I learn by watching. | 3.01 |
| When I learn I look at all sides of issues. | 2.34 |
| When I am learning I am an observing person. | 3.27 |
| I learn best from observation. | 3.13 |
| When I learn I take my time before acting. | 2.36 |
| I learn best when I rely on my observations. | 3.13 |
| When I am learning I am a reserved person. | 2.47 |
| When I learn I like to observe. | 2.91 |
| I learn best when I am careful. | 2.08 |

*4 = most like me, 3 = second most like me, 2 = third most like me, and 1 = least like me

Table 5

Abstract Conceptualization (AC) Learning Mode Items, n = 143

| Item | Mean* |
|--|-------|
| When I learn, I like to think about ideas. | 2.57 |
| I learn best when, I rely on logical thinking. | 2.35 |
| When I am learning, I tend to reason things out. | 2.62 |
| I learn by thinking. | 2.32 |
| When I learn I like to analyze things, break them down into their parts. | 2.92 |
| When I am learning I am a logical person. | 2.34 |
| I learn best from rational theories. | 1.92 |
| When I learn I like ideas and theories. | 2.23 |
| I learn best when I rely on my ideas. ^{AC} | 2.28 |
| When I am learning I am a rational person. | 2.28 |
| When I learn I evaluate things. | 2.42 |
| I learn best when I analyze ideas. | 2.75 |

*4 = most like me, 3 = second most like me, 2 = third most like me, and 1 = least like me

Table 6

Active Experimentation (AE) Learning Mode Items, n = 143

| Item | Mean* |
|---|-------|
| When I learn, I like to be doing things. | 3.04 |
| I learn best when, I work hard to get things done. | 2.85 |
| When I am learning, I am responsible about things. | 2.70 |
| I learn by doing. | 3.38 |
| When I learn I like to try things out. | 2.34 |
| When I am learning I am an active person. | 2.45 |
| I learn best from a change to try out and practice. | 2.87 |
| When I learn I like to see results from my work. | 3.48 |
| I learn best when I can try things out for myself. | 3.20 |
| When I am learning I am a responsible person. | 2.68 |
| When I learn I like to be active. | 2.22 |
| I learn best when I am practical. | 2.21 |

*4 = most like me, 3 = second most like me, 2 = third most like me, and 1 = least like me.

Social Media Use for Academics

Participants completed a 12-item questionnaire, derived from the Social Media and Science Learning Survey (Moll & Nielsen, 2017). The items were related to the use of social

media for academic purposes. A 3-point Likert-type scaling of 3 = regularly, 2 = sometimes, and 1 = never was employed. Results are summarized in Table 7.

Table 7

Social Media Activities for Academics, n = 143

| Activity | Mean* |
|--|-------|
| Use Facebook chat, MSN, or texting to contact a friend to get help with a class assignment. | 2.14 |
| Use WebEx, Skype, or other web meeting services to connect with a friend or a group to work on a class assignment. | 1.55 |
| Search Google to answer a question for a class-related assignment. | 2.65 |
| Collaborate with a classmate on an online document, using Google docs or something similar. | 2.08 |
| Create or join a Facebook group with classmates to share homework, links, and to discuss class content. | 1.40 |
| Search YouTube, Vimeo or other video service for a video to learn about a topic you are studying. | 2.35 |
| Access Wikipedia to read about a topic you are studying. | 1.81 |
| Read a blog or news items about the topic you are studying. | 1.90 |
| Follow course or topic-related hashtags or experts on Twitter. | 1.29 |
| Post course or topic-related content on a blog. | 1.11 |
| Store apps on my smartphone that are useful for academic learning. | 2.28 |
| Share and/or post videos on YouTube, Vimeo or other video service related to my academic learning. | 1.11 |

*3 = regularly, 2 = sometimes, and 1 = never

Scale Scores

The 24-item Learning Style and Social Media Use Inventory (LSSMUI) measured participants' perceived learning mode and frequency of social media use. The sum of the respondents' responses was used to compute a scale score for each of the four learning modes, which could range from 12 (least like me) to 48 (most like me). Reflective observation was endorsed the most, followed by active experimentation, abstract conceptualization, and concrete experience.

The social media use was computed by the mean of the respondents' responses to the 12 social media activities for academic items, which could range from 1.00 (never) to 3.00 (regularly). There were no statistically significant differences among the preferred learning styles on the basis of the social media use, which were 1.78 ± 0.24 , 1.87 ± 0.36 , 1.82 ± 0.23 , and 1.76 ± 0.24 for Assimilator, Converger, Accommodator, and Diverger, respectively. Cronbach's Coefficient Alpha was used to estimate the internal consistency of the scale scores. Results are summarized in Table 8.

Table 8

Descriptive Statistics and Reliability Coefficient for Scale Scores, n = 143

| Scale | # of items | Reliability | | |
|---------------------------------|------------|-------------|--------|------|
| | | Coefficient | M | SD |
| Concrete experience (CE) | 12 | 0.67 | 23.82* | 5.40 |
| Abstract conceptualization (AC) | 12 | 0.75 | 28.98* | 5.98 |
| Active experimentation (AE) | 12 | 0.69 | 33.40* | 5.73 |
| Reflective observation (RO) | 12 | 0.73 | 33.64* | 6.13 |
| Social media use | 12 | 0.54 | 1.80** | 0.25 |

*Theoretical Range: 12 (least like me) – 48 (most like me)

**3 = regularly, 2 = sometimes, and 1 = never

Generalizability of the Scale Scores

For this portion of data analysis, the level of significance was set, a priori, at 0.01 to reduce the probability of making Type I errors due to performing multiple statistical tests. None of the bivariate associations between the scale scores and demographic variables of age, daily use of social media for academics, and daily use of social media in general was statistically significant. Results are summarized in Table 9. None of the differences between females and males based on the scale scores was statistically significant. Results are summarized in Table 10. The ethnicity was categorized as Hispanic, White, or Other; none of the group differences on the outcome measures was statistically significant. Results are summarized in Table 11.

Table 9

Correlation Matrix, Scale Scores by Selected Demographic Variables, n = 143^a

| Scale | Age | Daily hrs. of social media use for academics | Daily hrs. of social media use in general |
|---------------------------------|-------|--|---|
| Concrete experience (CE) | 0.05 | 0.05 | 0.09 |
| Abstract conceptualization (AC) | 0.01 | 0.03 | -0.12 |
| Active experimentation (AE) | -0.01 | 0.04 | 0.06 |
| Reflective observation (RO) | 0.05 | 0.03 | -0.09 |
| Social media use | 0.03 | 0.16 | 0.22 |

^a None of the associations was statistically significant.

Table 10

The Scale Scores by Gender, n = 143^a

| Scale | Female (n=86) | | Male (n=57) | |
|---------------------------------|---------------|------|-------------|------|
| | M | SD | M | SD |
| Concrete experience (CE) | 23.44* | 5.05 | 24.40* | 5.89 |
| Abstract conceptualization (AC) | 28.13* | 5.82 | 30.24* | 6.03 |
| Active experimentation (AE) | 34.29* | 5.33 | 32.05* | 6.09 |
| Reflective observation (RO) | 33.88* | 5.72 | 33.28* | 6.73 |
| Social media use | 1.80** | 0.24 | 1.80** | 0.27 |

^a None of the differences was statistically significant.

*Theoretical Range: 12 (least like me) – 48 (most like me)

**3 = regularly, 2 = sometimes, and 1 = never

Table 11

The Scale Scores by Ethnicity, n = 143^a

| Scale | Hispanic (n=65) | | White (n=54) | | Other (n=24) | |
|---------------------------------|-----------------|------|--------------|------|--------------|------|
| | M | SD | M | SD | M | SD |
| Concrete experience (CE) | 24.21* | 4.86 | 23.31* | 6.20 | 23.91* | 4.95 |
| Abstract conceptualization (AC) | 28.73* | 5.75 | 29.67* | 5.86 | 28.08* | 6.86 |
| Active experimentation (AE) | 33.27* | 6.24 | 33.62* | 5.58 | 33.20* | 4.75 |
| Reflective observation (RO) | 33.75* | 6.20 | 33.39* | 6.73 | 33.87* | 4.48 |
| Social media use | 1.84** | 0.25 | 1.77** | 0.24 | 1.78** | 0.28 |

^a None of the differences was statistically significant.

*Theoretical Range: 12 (least like me) – 48 (most like me)

**3 = regularly, 2 = sometimes, and 1 = never

The college affiliation differences based on the five scale scores of interest were not statistically significant. Results are summarized in Table 12.

Table 12

The Scale Scores by College Affiliation, $n = 143^a$

| Scale ^b | COB ^c ($n=10$) | | COEHD ^c ($n=10$) | | COES ^c ($n=56$) | | COLA ^c ($n=20$) | | CONHS ^c ($n=43$) | |
|--------------------|--------------------------------|------|----------------------------------|------|---------------------------------|------|---------------------------------|------|----------------------------------|------|
| | M | SD | M | SD | M | SD | M | SD | M | SD |
| CE | 26.50* | 6.04 | 26.40* | 5.19 | 23.26* | 6.18 | 23.55* | 4.77 | 24.00* | 4.16 |
| AC | 29.50* | 5.06 | 26.10* | 5.78 | 29.00* | 5.92 | 31.45* | 6.72 | 28.11* | 5.80 |
| AE | 34.30* | 5.29 | 33.70* | 5.57 | 32.94* | 5.78 | 30.75* | 5.87 | 35.02* | 5.67 |
| RO | 29.70* | 6.29 | 33.80* | 6.49 | 34.39* | 5.96 | 34.25* | 6.79 | 32.83* | 5.65 |
| SM | 1.76** | 0.36 | 1.91** | 0.27 | 1.80** | 0.25 | 1.83** | 0.21 | 1.77** | 0.22 |

^a None of the differences was statistically significant.

^b CE = Concrete Experience, AC = Abstract Conceptualization, AE = Active Experimentation, RO = Reflective Observation, SM = Social Media Use

^c COB = College of Business, COEHD College of Education and Human Development, (COEHP), COES = College of Engineering and Science, COLA = College of Liberal Arts, CONHS = College of Nursing and Health Sciences

*Theoretical Range: 12 (least like me) – 48 (most like me)

**3 = regularly, 2 = sometimes, and 1 = never

These results showed that the study's five major variables were not related to subjects' age, daily use of social media for academics, daily use of social media in general, gender, ethnicity, and college affiliation. Therefore, these demographic characteristics were ruled out as potential confounding variables and results were generalized to all study participants.

Within Group Differences

A univariate repeated measures analysis of variance was performed to examine the difference among the learning modes of reflective observation ($M = 33.64$, $SD = 6.13$), which was observed the most, followed by active experimentation ($M = 33.40$, $SD = 5.74$), abstract conceptualization ($M = 28.98$, $SD = 5.97$), and concrete experience ($M = 23.82$, $SD = 5.40$). The sphericity assumption was met, as both the *Greenhouse-Geisser-Epsilon* (0.88) and *Hunh-Feldt*

Epsilon (0.90) were greater than 0.70. The mean differences were statistically significant, $F(3, 426) = 68.00, p < 0.01$. Results are summarized in Table 13.

Table 13

Repeated Measure ANOVA Results, $n = 143$

| Source | SS | df | MS | F |
|-----------|----------|-----|---------|--------|
| Construct | 9143.14 | 3 | 3047.71 | 68.00* |
| Block | 120.32 | 142 | 0.85 | |
| Residual | 19094.61 | 426 | 44.82 | |

* $p < 0.01$

A modified Tukey procedure was performed for the purpose of post hoc analysis.

Results showed that all pairwise comparisons, with the exception of active experimentation vs. reflective observation, were statistically significant. Results are summarized in Table 14.

Table 14

Post Hoc Comparisons of Learning Modes, $n = 143$

| Pairwise Comparison | Significance* |
|---|---------------|
| Concrete experience – abstract conceptualization | S |
| Concrete experience – active experimentation | S |
| Concrete experience – reflective observation | S |
| Abstract conceptualization – active experimentation | S |
| Abstract conceptualization – reflective observation | S |
| Active experimentation – reflective observation | NS |

* S = statistically significant, NS = not statistically significant,

Correlational and Regression Analyses

Due to exploratory nature of the study, the level of significance was set, a priori, at 0.05.

A series of Pearson's Product-Moment Correlation coefficients was used to examine the direction and magnitude of the simple associations between the four learning modes and the use of social media for academic purposes. Results are summarized in Table 15.

Table 15

Simple Associations between Learning Modes Scale Scores and Social Media Use for Academic Purposes, $n = 143$

| Learning Mode | r | p |
|----------------------------|-------|--------|
| Concrete experience | 0.18 | < 0.05 |
| Abstract conceptualization | -0.09 | 0.24 |
| Active experimentation | 0.11 | 0.18 |
| Reflective observation | -0.13 | 0.12 |

A hierarchal multiple regression analysis (HMRA) was performed to examine the unique contribution of each of the four learning modes in explaining the variation in the use of social media for academic purposes. An analysis of variance inflation factor (VIF) showed that multicollinearity existed. The critical hat element, h , was calculated to be $h = 3p/n = (3)(5)/143 = 0.10$, where p was the number of predictor variables plus one ($4 + 1 = 5$). The centered leverage values ranged from 0.01 to 0.99, indicating that there were outliers on predictors; specifically, there was one outlier. Standard residuals ranged from -2.83 to 2.34, which showed there were no outliers on the dependent variable. The Cook's Distance ranged from 0.00 to 0.21; thus, there were no influential data points.

The concrete experience learning mode, which had the highest correlation with the outcome measure, was entered into the regression equation first and account for a 3.30% of the variation, which was statistically significant, $F(1,141) = 4.76, p < 0.05$. The unique contributions of the abstract conceptualization (1.60%), active experimentation (0.08%), and reflective observation (0.02%) learning modes in explaining the outcome measure were not statistically significant. The prediction equation was Social Media Use for Academic Purposes = $1.61 + 0.01$ (concrete experimentation).

Chapter Summary

The study's five major variables were not related to subjects' age, daily use of social media for academics, daily use of social media in general, gender, ethnicity, and college affiliation; thus, all were ruled out as potential confounding variables and results were generalized to all study participants, which showed that learning modes had the potential to predict the use of social media for academic purposes in the study's non-probability sample of freshman students. Together, the four predictor variables accounted for 5.00% of the variation in the outcome measure, which was statistically significant at the 0.05 level. Specifically, concrete experience was the best predictor of the use of social media for the purpose of learning and accounted for 3.30% of the variation that was statistically significant. The unique contributions of the other independent variables, name, abstract conceptualization, active experimentation, and reflective observation were not statistically significant.

CHAPTER V: SUMMARY, CONCLUSIONS, AND DISCUSSION

Introduction

The study assessed the relationship between learning modes and social media use for learning among college students. Preferred learning styles and modes identified by the participants were examined as part of this study. Data on specific learning styles, modes, and social media use for learning were collected and analyzed from a non-probability sample of 143 first-year undergraduate students enrolled at a federally-designated Hispanic Serving Institution (HIS) of higher education in South Texas. The following research question guided the study: What is the relationship between learning modes and the use of social media for learning?

The study was significant because nearly 90.00% of adults between the ages of 18 and 29 use social media (Social Media Fact Sheet, 2018), and college students are receptive to using social media to support learning (Balakrishnan, 2017). However, the paucity of instructional strategies to incorporate social media into the classroom is a barrier to its implementation (Conley & Sabo, 2015). By studying the ways in which college students use social media for learning, and by correlating it with preferred learning modes, the study's findings offered insight on challenges and opportunities to incorporate instructional strategies that capitalize on the use of social media for learning.

Summary of the Results

Analysis of the quantitative data revealed that participants were most likely to identify with the accommodative learning style, which is a combination of the abstract conceptualization (AC) and reflective observation (RO) learning modes; and least likely to endorse the convergent learning style, which is a combination of the abstract conceptualization (AC) and active experimentation (AE) learning modes. Results showed that the concrete experience (CE) mode

was a statistically significant predictor of social media use for the purpose of learning. The abstract conceptualization (AC), reflective observation (RO), and active experimentation (AE) learning modes did not account for any statistically significant variation in the outcome measure.

The quantitative data measured the participants' frequency of social media use for learning, utilizing 12 academic-related tasks. Results showed that searching Google to answer a question for a class-related assignment was performed the most, followed by searching YouTube, Vimeo or other video services to learn about a specific topic, and storing apps on smartphones that are useful for academic learning. The tasks that were performed the least often were posting course or topic-related content on a blog, sharing and/or posting videos on YouTube, Vimeo, or other video service related to their academic learning, even though they were being used for searching, and using WebEx, Skype, or other web meeting services to connect with a friend or group to work on a class assignment. The most frequently performed tasks were the ones requiring an independent use of social media without any collaborations with other students. Alternatively, the tasks that were performed the least do require of students to actively create content to share with others.

Conclusions

The study's results supported the a priori hypothesis that there is a link between learning modes and the use of social media for learning among first-year college students. Specifically, it was concluded that concrete experience mode positively influences the extent of social media use for learning, employing independently accomplished tasks. These findings align with the literature, showing that while students appreciate seeing the work of their peers posted on social media, they do not favor collaborative efforts in completing assignments, using social media (Bennet, Bishop, Barney, Waycott, & Kennedy, 2012). Additionally, participating students

stored useful apps on their mobile phones to support learning, which aligns with the literature that students appreciated using mobile devices for quick information access (Gikas & Grant, 2013).

Discussion

Responses of the 143 first-year undergraduate students at a South Texas institution of higher education who participated in this study indicated that searching Google and YouTube to support learning were performed most frequently. Storing useful apps on smartphones to support learning was indicated frequently as well. Since 94.00% of 18- to 24-year-old adults own smartphones (Mobile Fact Sheet, 2018), it is likely that Google and YouTube apps are used for searching. Although YouTube was used most often, it was also used the least to support learning, indicating the significance of the task performed as central to its use. Since YouTube is used by 94.00% of adults (Smith & Anderson, 2018), integrating it into classroom assignments would probably be well accepted by younger college students.

The study's first-year college students mostly identified with accommodative learning style, marked by an action orientation to solve problems, which aligns with the frequency of tasks performed, using social media that involves searching for information to support learning. Individuals with accommodating learning styles tend to seek out information from people rather than relying on their own analysis (Kolb & Kolb, 2005), which also aligns with the participants' choice to search for information authored by various contributors available on the Internet.

Results showed that the concrete experience (CE) mode was a statistically significant predictor of social media use for the purpose of learning. The concrete mode is an orientation that focuses on experiences which involve interaction with people in situations and emphasizes a feeling rather than thinking perspective (Kolb, 1984). Since social media provides the means

to find information to solve problems as well as interact with people, this finding is relevant to academic assignments requiring 21st century skills, such as critical thinking, communication and collaboration.

Experiential Learning Theory (ELT), the study's theoretical framework, suggests a recursive process of experiencing, reflecting, thinking, and acting in response to learning situations and the learned content (Kolb, 2005). The study participants' preferences within this process focused primarily on experiencing and acting over reflecting and thinking. From an instructional perspective, the data support the critical need to examine social media activities as journaling or blogging to teach reflection and critical thinking.

The researcher has several years of experience in assisting higher education faculty members to develop and execute online classes by offering workshops that focus on various social media platforms for professional development and academic instruction. Usually, most of the workshop participants have experience with social media but know little about the possibilities of using it to develop personal and professional learning networks as well as communities of practice. Few tend to use social media to support instruction in their classes. However, they are mostly familiar with the Blackboard learning management system, which has social media tools, such as discussion boards, blogs, and wikis for use within the course shell. The researcher has noted that faculty members' perceptions of social media are often mixed. For example, one faculty member said he preferred to communicate with his students via text messages, because it was convenient to handle questions as they arrived rather than waiting to respond via emails. On the other hand, another faculty member said he thought social media was "an abomination." While diversity may result in interesting conversation, little progress could be made to establish clear goals for incorporating social media into the curriculum.

The researcher has also conducted video production workshops for faculty members in an attempt to assist them in creating orientation video for students enrolled in online courses. The project involves recording voice over PowerPoint slides with content that emulates the traditional “first day” orientation in face- to-face classes. Most participants tend to be surprised by how simple it is to do, which gives them the confidence to move onto the next step, that is, creating a video to show the Blackboard course and demonstrate how to navigate different sections (e.g., content, assignments, discussion board, and examinations) while recording the screen and their voice explaining each section, followed by editing the video, uploading it onto YouTube, applying closed captioning, and embedding it in the Blackboard course. While many faculty members enjoy the experience of creating a video tutorial for their online classes, few may show the interest in creating video projects beyond the scope of the workshop. And there are a few who may take advantage of the opportunity to use this knowledge to develop assignments that require of the students to create videos to post in Blackboard.

Implications

The college students who participated in this study identified mainly with the concrete experience mode, which involves communicating and collaborating with other people that can be facilitated by social media. However, the tasks most frequently performed using social media to support learning were independent in nature, providing an opportunity to integrate social media into the curriculum to foster these skills. Alternatively, creating communities of learners will further provide skills appropriate in the social media environment. Hathaway (2018) suggested that students need to be taught about communities and that global and digital communities were relevant to developing future-ready students. In addition, legislative mandates provide motivation to integrate social skills instruction into the curriculum. The 21st Century Readiness

Act requires K-12 schools to prepare students for postsecondary education and careers through academic programs that support critical thinking and problem solving, communication, collaboration, creativity, and innovation (Govtrack, 2013). In a 2015 survey by Common Sense Media (Rideout, 2015), it was found that teens between 13 and 18 years old used digital media for passive consumption such as watching TV or listening to music for more than two (2) hours a day. On the other hand, they reported spending less than 10 minutes per day on creating content such as writing. These data underscore the need to create academic assignments that support 21st Century skills and shift students' social media activities from passive consumption to content creation.

Further complicating the endeavor to incorporate social media into the curriculum is that faculty members primarily participate in passive activities using social media (Mejia, 2016); consequently, professional development to teach them to use social media is necessary. Dr. William J. Ward, a professor at Syracuse University, shared his experience using social media for the first time in a recent TedTalk (Ward, 2013). He had taken a group of his students to study abroad in 2007 and had been asked by administrators to create a blog and journal the activities of the trip. While learning to write a blog, he was simultaneously teaching his students to do the same. Alumni and parents had begun to notice the blog posts and followed the activities. Eventually, prospective employers began seeing the posts and some students even received job offers based on the work they had documented in their blogs. Once back from the trip, Dr. Ward reflected on the success of the project and faculty resistance in using social media in their classroom. He noted that the adoption of social media was increasing for most businesses and began to wonder why it was not being incorporated in classroom teaching/learning activities. Dr. Ward serendipitously took advantage of an opportunity to learn and use social media in his

classes; however, creating situations in which faculty can be taught how to use it prior to integrating it into their class would be optimal.

Encouraging the use of social media for learning and teaching faculty how to use it are the first steps toward adoption. Understanding the relevance of social media in preparing students for lifelong learning and the workforce is an important factor in addressing the resistance faculty members may experience. Digital Sociologist, Harry T. Dyer, addressed these concerns in his March 2016 TedTalk (Dyer, 2016). He spoke about the challenges that must be managed while trying to make changes in the way we communicate and pointed that, historically, new ways to communicate have met resistance. He noted the printing press and telephone were originally not widely accepted, but later were found to be useful in solving problems; for example, quicker communication through telephone can save lives. He discussed several ways by which social media can be beneficial in the classroom. For example, showing the work of artists posted on Instagram provides an opportunity to teach the nuances of the work and to discuss the work critically in the classroom. He also noted that social media enables students to interact with their peers and share their works. Students can express their ideas through a 60-second video they create, or by a series of images that tell a story or expresses how they feel.

Finally, opportunities such as the social media for learning and video production workshops mentioned earlier provide an opportunity for faculty members to learn with their students. Social media is still in its nascent phase and collaborating with students to learn how to use it creates a cooperative bond between the teacher and student.

Recommendation for further research

While the nature of this study was quantitative, its limitations and delimitations suggest the need to investigate further via mixed methods investigations; incorporating a qualitative aspect to capture participants' experiences and perspectives. Some of the answers given were hyperbolic, yet, may offer insight into the way students view their social media use. For example, three participants indicated that they used social media 24 hours a day, suggesting the level of importance given to social media use, which could be harnessed in the academic setting to teach how social media can be used to support learning.

The study was delimited to first-year university students; it is recommended to replicate the study with older students and faculty members to document their perceptions and perspectives of the use of social media for teaching/learning purposes. To further explore the role of the teacher in using social media for learning, it may be beneficial to examine the observational learning construct, a tenet of social learning theory (Bandura, 1977) which posits that a person learns by observing and replicating behavior is an indication of learning. If faculty members demonstrate the use of social media for learning, will students be more likely to use it for that purpose?

The study's four learning modes accounted for only 5.00% of the variation in the use of social media for learning. Therefore, there ought to be other constructs that may explain the outcome measure. For example, faculty members' use of social media, learners' experience with social media, and availability of social media may be instrumental in affecting its use for the purpose of learning, deserving of further investigation.

Finally, the study focused on the learning process rather than the learning environment. Connectivism suggests that learning is more than an individual activity, that is, it involves the

learner connecting with human and non-human sources of information within the ever-changing digital landscape (Siemens, 2005). Investigating social media use for learning through the framework of connectivism may shed light on how students view the utility of social network sites. Understanding how to connect information sources relevant to support learning may lay the groundwork for lifelong learning practices.

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- Wilson, C.D., (2013). Making connections: Higher education meets social media, *Change: The Magazine of Higher Learning*, 45(4), 51-57.

Appendix A

IRB Approval and Application

| | | |
|---|--|--|
|  | TEXAS A&M UNIVERSITY CORPUS CHRISTI | OFFICE OF RESEARCH COMPLIANCE Division of Research, Commercialization and Outreach 6300 OCEAN DRIVE, UNIT 5844 CORPUS CHRISTI, TEXAS 78412 O 361.825.2497 • F 361.825.2 |
| Human Subjects Protection Program | | Institutional Review Board |
| DATE: | April 30, 2018 | |
| TO: | Jan Brott, Graduate Student College of Education and Human Development | |
| CC: | Dr. Kamiar Kouzekanani, Faculty Professor, College of Education and Human Development | |
| FROM: | Office of Research Compliance | |
| SUBJECT: | Exempt Determination | |

Human Subject Research Activities that do not meet one or more exempt categories are subject to IRB review.

On April 30, 2018, the Texas A&M University-Corpus Christi Office of Research Compliance reviewed the following submission:

| | |
|---------------------|--|
| Type of Review: | Exempt Determination |
| Title: | Assessing the Link Between Learning Styles Scale Scores and Social Media Use for Learning in First Year Undergraduate Students |
| Investigator: | Jan Brott |
| IRB ID: | 54-18 |
| Funding Source: | None |
| Documents Reviewed: | IRB_54-18_Brott_4.30.18 Brott_IRB Protocol Attachments_54-18_Revised_4.30.18 |

Based on the information provided, the Office of Research Compliance has determined the research meets exempt category: 45 CFR 46.101(b)(2) (Research involving use of educational tests, survey procedures, interview procedures or observation of public behavior).

Therefore, this project has been determined to be exempt from IRB review. You may proceed with this project.

Reminder of Investigator Responsibilities: As principal investigator, you must ensure:

1. **Informed Consent:** Ensure informed consent processes, if applicable, are followed and information presented enables individuals to voluntarily decide whether or not to participate in the research project.
2. **Amendments:** This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. Any planned changes that would impact the criteria in which the exempt determination was made, requires submission by the investigator to the IRB to ensure that the research continues to meet criteria for exemption. Changes to the protocol must be requested by submitting an Amendment Application to the Research Compliance Office for review. The Amendment must be approved before being implemented.
3. **Completion Report:** Upon completion of the research project (including data analysis and final written papers), a Completion Report must be submitted to the Research Compliance Office.



OFFICE OF RESEARCH COMPLIANCE
Division of Research, Commercialization and Outreach
6300 OCEAN DRIVE, UNIT 5844
CORPUS CHRISTI, TEXAS 78412
O 361.825-2497 • F 361.825-2

Human Subjects Protection Program

Institutional Review Board

4. Adverse Events: Adverse events must be reported to the Research Compliance Office immediately.

Please do not hesitate to contact me with any questions at irb@tamucc.edu or 361-825-2497.

Respectfully,

Rebecca Ballard, JD, MA, CIP
JD, MA, CIP

Digitally signed by Rebecca
Ballard, JD, MA, CIP
Date: 2018.04.30 16:09:11
-05'00'

Rebecca Ballard, JD, MA, CIP
Director, Research Compliance and Export Control Officer
Division of Research, Commercialization and Outreach

| | |
|----------------|-----------|
| ORC USE ONLY | |
| HSRP #: | 54-18 |
| Date Received: | 4/25/2018 |

Human Subjects Research Protocol for Exempt, Expedited, or Full Board Review



Instructions and Researcher Certifications (Failure to follow may result in a delay in processing)

Complete this form if "research" will be conducted.

Do not complete this form for:

1. non-research activities; or
2. to fulfill TAMUCC coursework only without a research activity or element.

By signing this Human Subjects Research Protocol for Exempt, Expedited, or Full Board Review (HSRP), all Principal Investigators (PIs), co-PIs, and personnel (collectively, "Researchers") certify the following:

1. CITI Training "Social & Behavioral Research - Basic/Refresher" course has been completed and is current for any research activity regardless of source of funding or whether unfunded (expires after three years);
2. CITI Training "Responsible Conduct of Research Course" has been completed in addition to the "Basic/Refresher" and is current only if the source of funding is the National Institutes of Health (NIH) or the National Science Foundation (NSF) (expires after three years);
3. Have read and understood the responsibilities set forth in TAMUCC Rule 15.99.01.C1.01;
4. If the research is in conjunction with the Corpus Christi Independent School District (CCISD), have followed CCISD processes and requirements for external research (e.g., consent or assent templates, translation or interpretation requirements, etc); will seek a second, independent approval from CCISD per its requirements - this approval may be sought simultaneously with and independently of TAMUCC IRB approval (see <http://ccisd.us/DEPARTMENTS/District-Support/External-Research>); for questions, contact Dr. Toni Moynihan-McCoy: toni.moynihan-mccoy@ccisd.us.
5. If the HSRP is submitted for a doctoral dissertation, have coordinated with the College of Graduate Studies (CGS) to meet its requirements;
6. Have read and reviewed this HSRP; any applicable supporting documentation or third-party approval has been obtained from the appropriate authority and has been included as an attachment to the HSRP (e.g., recruitment script, informed consent, parental consent, child assent, school permission, facility use permission, grant/proposal, Translator Certification, Interpreter Certification, etc); have signed the HSRP electronically;
7. Will immediately report any adverse event to the Institutional Review Board (IRB) or the Office of Research Compliance (ORC);
8. Have submitted the HSRP a minimum of thirty (30) days in advance of the anticipated start date (additional time is required for review at full board); will communicate whether there is a firm start date or other deadline associated with the HSRP; and
9. Will submit a Completion Report at the conclusion of research under this HSRP.

After completing the foregoing, submit the HSRP with supporting documentation via email to the IRB Mailbox: irb@tamucc.edu

For questions, email:

Dr. Edward Orona, Research Compliance Coordinator, edward.orona@tamucc.edu
Caroline Lutz, JD, Research Compliance and Export Control Officer, caroline.lutz@tamucc.edu

Researchers

| | Name | Email (use TAMUCC email) | College | Category | Category (Other) |
|-----------|--------------------|-------------------------------|-----------|------------------|---------------------|
| PI | Jan Brott | jbrott@islander.tamucc.edu | Education | Graduate Student | |
| Co-PI (1) | Kamiar Kouzekanani | kamiar.kouzekanani@tamucc.edu | Education | Faculty Adviser | |
| Co-PI (2) | | | | | |
| Co-PI (3) | | | | | |
| Co-PI (4) | | | | | |
| Co-PI (5) | | | | | |

Overview

A. Research Classification: Doctoral Dissertation Other:

ORC and/or the IRB will ultimately be responsible for making the Research Classification and Level of Review. For guidance, see content at the end of the HSRP.

B. Anticipated Level of Review: Exempt (2)

C. Externally funded: No Award Start Date: Maestro #:

D. Title: Assessing the Link Between Learning Styles Scale Scores and Social Media Use for Learning in First Year Undergraduate Students

E. Anticipated Start Date: Upon IRB & Proposal Approval F. Estimated Completion Date: August 2019

Purpose and Objective

A. Describe the purpose of the research in layman's terms.

The proposed study seeks to examine the relationship between learning styles scale scores and social media use among first year undergraduate college students. It is important to be cognizant of the potential impact learning styles has on students' use of social media for learning purposes. Examining the link between social media use and learning styles scale scores will lead to a greater understanding of instructional strategies required to support student success.

B. Describe the objective(s) and/or research questions in layman's terms.

The study will answer the following question:
What is the relationship between learning styles scale scores and social media use for learning?

Participants; Recruitment

Participants

A. Indicate whether any of the following populations will be specifically targeted for inclusion in the research. Each category must be answered. *Additional protections for participants may be required.*

| | | | | | |
|---|---|--|---|------------------------------|--|
| Adults over the age of 18 (<u>able</u> to legally consent) | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Prisoners (adults or minors) | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| Minors under the age of 18 | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | Persons whose first language is <u>not</u> English (adults or minors) | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| Persons with mental disabilities (adults or minors) | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | Students enrolled in a researcher's course (adults or minors) | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |

| | | | | | |
|--|------------------------------|--|---|------------------------------|--|
| Persons with economical disadvantages (adults or minors) | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | Employees under the direct supervision of a researcher | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| Persons with educational disadvantages (adults or minors) | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | Persons who are sick or ill (physical or mental) | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| Persons with AIDS or HIV (adults or minors) | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | Other potentially vulnerable populations depending on the circumstances of the research (describe in "B") | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| Pregnant women, fetuses, and/or neonates <small>Note: Research including this vulnerable population is generally health care/medical studies specifically targeting research of pregnant women, fetuses, and/or neonates. Pregnant women can be included in research if all inclusion criteria is met and a specific exclusion is not part of the project design. Select "No," unless the research specifically involves the inclusion of pregnant women, fetuses, and/or neonates.</small> | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> | | | |

B. Describe the criteria to determine who is included or excluded in the final participant population (e.g., minimum age, grade range, physical characteristics, learning characteristics, professional criteria, etc).

The study will target first-year undergraduate students, 18 years of age and older at TAMUCC.

C. Target number of participants (use a minimum target if a specific target is not appropriate for the research design).

The study will target a minimum of 100 participants.

D. Non-TAMUCC Participants or Facility

Complete this section **only if** the research will be conducted at a third-party facility **or** participants will be recruited from a third-party site (non-TAMUCC).

Provide the non-TAMUCC location or non-TAMUCC participants to be recruited here (include any permission as an attachment).

Not Applicable

Recruitment

E(1). Method. Describe methods that will be used to identify the potential participants.

The participants for the study will be selected from the population of freshman students enrolled in TAMUCC's First-Year Islanders Program, hereafter referred to as the Program, in fall semester of 2018.

E(2). Materials. Describe how potential participants will be recruited, what materials will be used (include as an attachment), and how they will be distributed (i.e., who, what, when, where, and how).

After obtaining the IRB approval, the researcher will contact the Program faculty members and ask for their permission to personally collect the data during the required seminar classes that they teach and freshman students must take. The PI will explain the study, distribute the survey questionnaires, and will leave the classroom. The students, who are at least 18 years old and volunteer to participate in the study, read and check the consent form that is embedded in the survey instrument, complete the questionnaire, and leave it in a box. It will be up to the instructor whether this will take place at the beginning or end of the class session and whether or not s/he will be present during data collection. The data collection will take place in fall 2018.

E(3). Incentives. If applicable, provide the amount, type, and time of distribution of any payment/incentive to participants.

Participants will not receive any incentives or payments for participation in the study.

Identification of Participants; Data Collection and Storage; Equipment; Records Retention and Destruction

A. Identification of Participants. Indicate whether the data collected may contain individual identifiers (need for "confidentiality"), or whether the data will be collected anonymously.

Confidential

B. Data Collection. Describe the method(s) or procedure(s) for data collection in step-by-step, layman's terms (include collecting party, frequency, duration, location, etc.).

The use of audio or video recording must be justified by the research purpose/objective or future research.

For the purpose of the study, a 3-part survey instrument will be used to collect data (Appendix A). Part I will be used to collect the data on the participant's learning style. Part II will be used to collect the data on the degree to which participants use social media for the purpose of learning. Part III will be used to collect background and demographic information to describe the participants. The data will be analyzed by the PI, under the supervision of the co-PI, Dr. Kamiar Kouzekanani. As noted earlier, the researcher will contact the Program faculty members and ask for their permission to personally collect the data during the seminar sessions that they teach. The researcher will distribute the surveys to the students. The students, who are at least 18 years old and volunteer to participate in the study, indicate their agreement with the consent form that is embedded in the survey instrument, complete the questionnaire, and leave it in a box that the PI will provide. Those who wish not to participate in the study will leave the blank survey forms in the box. The researcher will leave the room while students complete the survey. The researcher will remain on site until the class is complete and enter the room after class is dismissed to collect box with surveys inside. It will be up to the instructor whether this will take place at the beginning or end of the class session and whether or not s/he will be present during data collection. The data collection will take place in fall 2018. The study will not include the use of audio or video recording.

C. Equipment. Describe any equipment to be used (e.g., audio, visual), ownership (e.g., TAMUCC, personal), and methods of storage (e.g., password, location).

The PI's personal computer will be used to store the collected data and perform data analysis. The computer will be kept locked and password-protected when not in use. Dr. Kouzekanani will also have access to the raw data, which will be stored in his password-protected TAMUCC office computer.

D. Data Storage. Describe how the data collected will be stored, location(s), how the confidentiality of individually identifiable information will be maintained (if applicable), and who will have access. (For audio and video recordings, address recordings and transcripts).

The printed copies of the survey questionnaire will be stored in the PI's home-office locked cabinet. The coded data will be stored electronically in the PI's and co-PI's password-protected computers for a minimum of three years beyond the completion of the doctoral dissertation. Only the PI and co-PI will have access to the raw data.

E. Records Retention and Destruction. For data collected, describe how records will be maintained, duration (justified by research design and/or future research), destruction mechanism, and responsible party for each. (Include audio and video recordings and applicable transcripts).

The data will be stored electronically in the password-protected database and survey questionnaires will be stored in the PI's home-office locked cabinet for a minimum of three years beyond the completion of the doctoral dissertation, at which time, the questionnaires will be shredded and the electronic copy of the data will be deleted.

Risk to Participants; Mechanism of Protection; Outside Assistance

A. Risk to Participants. Indicate the level of risk to participants.

| | | |
|---|---|--|
| No risk | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |
| Minimal risk Definition: the probability and magnitude of harm or discomfort anticipated in the research are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests. | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> |
| Greater than minimal risk | Yes <input type="checkbox"/> | No <input checked="" type="checkbox"/> |

B. Mechanism of Protection. Describe every potential risk to human subjects that may result from participation in the research ("Risk"), and indicate the method or procedure to be used to mitigate the potential risk ("Protection Mechanism"). Consider physical, psychological, social, legal, and economic risks (e.g., breach of confidentiality, injury, psychological distress, pressure to conform, pressure to participate, etc.).

| Risk | Protection Mechanism |
|------|----------------------|
|------|----------------------|

| | Risk | Protection Mechanism |
|----|---|---|
| 1. | Breach of confidentiality | Only the PI & the dissertation committee chair will have access to the returned survey data, which include the participant's learning styles scale scores, social media use for learning, and generic demographic data (e.g., age & ethnicity); no personal identifiers will be collected. Data will be collected via a paper copy of the survey and kept confidential. Specifically, the electronic version of all data will be stored in the PI's personal computer. Backup copies will be stored on the Microsoft OneDrive cloud-based storage system, which is password-protected with 2-factor authentication. Microsoft provides ransomware and other protections against hackers to OneDrive users. The Co-PI will also have a copy of the data, which will be stored in his TAMUCC computer. Both computers are kept locked and password-protected when not in use. All data will be kept confidential. |
| 2. | Possibility of pressure to participate/coercion | To avoid the perception of coercion or pressure to participate, the researcher will leave the room while the students complete the survey. The survey introduction and consent form specifically highlights the voluntary nature of the study, that the participants can stop completing the questionnaire at any time, and that the questionnaire responses will be kept confidential. |
| 3. | | |
| 4. | | |
| 5. | | |

C. Outside Assistance. If applicable, describe any outside assistance available to participants to mitigate the Risks stated above and how it will be provided (e.g., medical care, counseling, etc.).

Not Applicable

Benefits to Participants; Benefits to Society

A. Benefits to Participants. If applicable, describe the potential benefits to participants as a result of taking part in the research (exclude payments/incentives). If there are no benefits, then state so.

The study is of no direct benefits to the participants.

B. Benefits to Society. Describe the potential benefits to society or contribution to generalizable knowledge as a result of the research.

The findings of the study will contribute to the body of research on learning styles and social media use for learning, which may generate further interest in social media for learning that may help teachers design instructional experiences and in turn students will benefit from using social media through these instructional experiences.

Waiver of Informed Consent; Waiver of Signed Informed Consent; Informed Consent Process

| | | | |
|--|---|--|---|
| A(1). Is a <u>waiver</u> of informed consent requested? (i.e., entire process) <i>See Criteria for Waiver of Informed Consent at the end of the HSRP for guidance.</i> If "yes," go to C. If "no," go to A(2). | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> | A(2). If "no," is a waiver of <u>signed</u> informed consent requested? (i.e., informed consent will be obtained without participants' signatures) <i>See Criteria for Waiver of Signed Informed Consent at the end of the HSRP for guidance.</i> If "yes," go to C. If "no," go to B. | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
|--|---|--|---|

B. Informed Consent Process. If "no" to both A(1) and A(2), describe below step-by-step how informed consent will be obtained from participants (*i.e. who, what, where, when, how*). See Informed Consent Documentation at the end of the HSRP for guidance.

Note:

- 1) Participants must be given time to review the informed consent and supporting documents and ask questions.
- 2) For minor participants, researchers must obtain both parental informed consent and a separate child assent written at an appropriate reading level.
- 3) For participants whose first language is not English, informed consent may be required in English and non-English. In addition, submission of a Translator Certification or Interpreter Certification form may be required.
- 4) For research conducted in conjunction with CCISD, follow those requirements, as applicable. ORC and the IRB cannot advise on CCISD requirements.

C. Waiver of Informed Consent; Waiver of Signed Informed Consent. If "yes" to either A(1) or A(2), describe below why a waiver of informed consent or a waiver of signed informed consent is requested and how the applicable criteria are met based on the circumstances of the research (see Criteria for Waiver of Informed Consent or Criteria for Waiver of Signed Informed Consent at the end of the HSRP for guidance).

No signature will be requested. After reading the consent that is embedded in the questionnaire, those who wish to complete the survey place a check mark, indicating their consent. The questions asked are not of a sensitive nature and research presents no more than the minimal risks.

Researcher Qualifications



A. Describe qualifications or attach CVs/resumes for **all personnel listed** on the HSRP.

Jan Brott is a doctoral student in the Educational Leadership program at TAMUCC. She has completed the required coursework in research methods and the CITI training in research involving human subjects. Dr. Kamiar Kouzekanani, the co-PI, is professor of quantitative methods in the College of Education and Human Development at TAMUCC and will be supervising the dissertation research.

Researcher Signatures

By signing this HSRP, the Researcher(s) certifies that he/she has read and understood the requirements and responsibilities set forth in the section entitled "Instructions and Researcher Certifications" in relation to the research. In addition, the Researcher (s) certifies that he/she will abide by any and all applicable federal, state, and/or institutional regulations, including any requirements from the Institutional Review Board (IRB) and/or the Office of Research Compliance (ORC).

| | Name | Conflict of Interest (select one) | Date |
|------------|---|---|------|
| PI | Jan Brott | No conflict of interest with this project | |
| Signature: | Jan Brott Digitally signed by Jan Brott Date: 2018.03.29 09:33:47 -05'00' | | |
| Co-PI (1) | Kamiar Kouzekanani | | |
| Signature: | Kamiar Kouzekanani Digitally signed by Kamiar Kouzekanani Date: 2018.03.29 12:24:21 -05'00' | | |
| Co-PI (2) | | | |
| Signature: | | | |
| Co-PI (3) | | | |
| Signature: | | | |

| | Name | Conflict of Interest (select one) | Date |
|-----------|--|--------------------------------------|------|
| Co-PI (4) | | | |
| | Signature:  | | |
| Co-PI (5) | | | |
| | Signature:  | | |

Determination of Level of Review

Studies involving audiotaping and/or videotaping **do not qualify** for exempt review and will be reviewed at the level of expedited or full board.

Minimal risk means that the probability and magnitude of harm or discomfort anticipated in the research are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or tests.

Additional protections for participants may apply to research involving: pregnant women, human fetuses, and neonates; prisoners; children; and/or other vulnerable populations.

Exempt Review

- (1) Research conducted in established or commonly accepted educational settings, involving normal education practices, such as (i.) research on regular and special education instructional strategies, or (ii.) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.
- (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless (i.) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii.) any disclosure of human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.
- (3) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under the previous paragraph, if (i.) the human subjects are elected or appointed public officials or candidates for public office; or (ii.) federal statute(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.
- (4) Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.
- (5) Research and demonstration projects that are conducted by or subject to the approval of federal department or agency heads, and that are designed to study, evaluate, or otherwise examine (i.) public benefit or service programs (ii.) procedures for obtaining benefits or services under these programs (iii.) possible changes in or alternatives to those programs or procedures; or (iv.) possible changes in methods or levels of payment for benefits or services under those programs.
- (6) Taste and food quality evaluation and consumer acceptance studies (i.) if wholesome foods without additives are consumed or (ii.) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.

Expedited Review

- (1) Clinical studies of drugs and medical devices only when condition (a) or (b) is met.
 - a. Research on drugs for which an investigational new drug application (21 CFR Part 312) is not required. (Note: Research on marketed drugs that significantly increases the risks or decreases the acceptability of the risks associated with the use of the product is not eligible for expedited review).
 - b. Research on medical devices for which (i) an investigational device exemption application (21 CFR Part 812) is not required; or (ii) the medical device is cleared/approved for marketing and the medical device is being used in accordance with its cleared/approved labeling.
- (2) Collection of blood samples by finger stick, heel stick, ear stick, or venipuncture as follows:
 - a. from healthy, nonpregnant adults who weigh at least 110 pounds. For these subjects, the amounts drawn may not exceed 550 ml in an 8 week period and collection may not occur more frequently than 2 times per week; or
 - b. from other adults and children, considering the age, weight, and health of the subjects, the collection amount of blood to be collected, and the frequency with which it will be collected. For these subjects, the amount drawn may not exceed the lesser of 50 ml or 3 ml per kg in an 8 week period and collection may not occur more frequently than 2 times per week.
- (3) Prospective collection of biological specimens for research purposes by noninvasive means.

Examples: (a) hair and nail clippings in a nondisfiguring manner; (b) deciduous teeth at time of exfoliation or if routine patient care indicates a need for extraction; (c) permanent teeth if routine patient care indicates a need for extraction; (d) excreta and external secretions (including sweat); (e) uncannulated saliva collected either in an unstimulated fashion or stimulated by chewing gumbase or wax or by applying a dilute citric solution to the tongue; (f) placenta removed at delivery; (g) amniotic fluid obtained at the time of rupture of the membrane prior to or during labor; (h) supra- and subgingival dental plaque and calculus, provided the collection procedure is not more invasive than routine prophylactic scaling of the teeth and the process is accomplished in accordance with accepted prophylactic techniques; (i) mucosal and skin cells collected by buccal scraping or swab, skin swab, or mouth washings; (j) sputum collected after saline mist nebulization.
- (4) Collection of data through noninvasive procedures (not involving general anesthesia or sedation) routinely employed in clinical practice, excluding procedures involving x-rays or microwaves. Where medical devices are employed, they must be cleared/approved for marketing. (Studies intended to evaluate the safety and effectiveness of the medical device are not generally eligible for expedited review, including studies of cleared medical devices for new indications).
- Examples: (a) physical sensors that are applied either to the surface of the body or at a distance and do not involve input of significant amounts of energy into the subject or an invasion of the subject's privacy; (b) weighing or testing sensory acuity; (c) magnetic resonance imaging; (d) electrocardiography, electroencephalography, thermography, detection of naturally occurring radioactivity, electroretinography, ultrasound, diagnostic infrared imaging, doppler blood flow, and echocardiography; (e) moderate exercise, muscular strength testing, body composition assessment, and flexibility testing where appropriate given the age, weight, and health of the individual.
- (5) Research involving materials (data, documents, records, or specimens) that have been collected, or will be collected solely for nonresearch purposes (such as medical treatment or diagnosis).
- (6) Collection of data from voice, video, digital, or image recordings made for research purposes.
- (7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies. (NOTE: Some research in this category may be exempt from the HHS regulations for the protection of human subjects. 45 CFR 46.101(b)(2) and (b)(3). This listing refers only to research that is not exempt).
- (8) Continuing review of research previously approved by the convened IRB as follows:
 - a. where (i) the research is permanently closed to the enrollment of new subjects; (ii) all subjects have completed all research-related interventions; and (iii) the research remains active only for long-term follow-up of subjects; or
 - b. where no subjects have been enrolled and no additional risks have been identified; or
 - c. where the remaining research activities are limited to data analysis.
- (9) Continuing review of research, not conducted under an investigational new drug application or investigational device exemption where categories two (2) through eight (8) do not apply but the IRB has determined and documented at a convened meeting that the research involves no greater than minimal risk and no additional risks have been identified.

Criteria for Waiver of Informed Consent

- (c) An IRB may approve a consent procedure which does not include, or which alters, some or all of the elements of informed consent set forth above, or waive the requirement to obtain informed consent provided the IRB finds and documents that:
 - (1) The research or demonstration project is to be conducted by or subject to the approval of state or local government officials and is designed to study, evaluate, or otherwise examine: (i) public benefit or service programs; (ii) procedures for obtaining benefits or services under those programs; (iii) possible changes in or alternatives to those programs or procedures; or (iv) possible changes in methods or levels of payment for benefits or services under those programs; and
 - (2) The research could not practicably be carried out without the waiver or alteration.

Criteria for Waiver of Signed Informed Consent

- (c) An IRB may waive the requirement for the investigator to obtain a signed consent form for some or all subjects if it finds either:
- (1) That the only record linking the subject and the research would be the consent document and the principal risk would be potential harm resulting from a breach of confidentiality. Each subject will be asked whether the subject wants documentation linking the subject with the research, and the subject's wishes will govern; or
 - (2) That the research presents no more than minimal risk of harm to subjects and involves no procedures for which written consent is normally required outside of the research context.

In cases in which the documentation requirement is waived, the IRB may require the investigator to provide subjects with a written statement regarding the research.

Informed Consent Documentation

(a) Except as provided in paragraph (c) of this section, informed consent shall be documented by the use of a written consent form approved by the IRB and signed by the subject or the subject's legally authorized representative. A copy shall be given to the person signing the form.

(b) Except as provided in paragraph (c) of this section, the consent form may be either of the following:

(1) A written consent document that embodies the elements of informed consent required by §46.116. This form may be read to the subject or the subject's legally authorized representative, but in any event, the investigator shall give either the subject or the representative adequate opportunity to read it before it is signed; or

(2) A short form written consent document stating that the elements of informed consent required by §46.116 have been presented orally to the subject or the subject's legally authorized representative. When this method is used, there shall be a witness to the oral presentation. Also, the IRB shall approve a written summary of what is to be said to the subject or the representative. Only the short form itself is to be signed by the subject or the representative. However, the witness shall sign both the short form and a copy of the summary, and the person actually obtaining consent shall sign a copy of the summary. A copy of the summary shall be given to the subject or the representative, in addition to a copy of the short form.



Appendix B

Learning Style and Social Media Use Inventory (LSSMUI)

The survey is organized as a three-part instrument and your responses will be kept confidential.

Before completing the survey, you must indicate your consent. Part I is designed to measure your learning style. Part II is designed to measure the frequency of using social media for the purpose of learning. In Part III, you are asked to provide some demographic information.

CONSENT FORM

Introduction:

The purpose of this form is to provide you information that may affect your decision as to whether or not to participate in this research study, entitled, *Assessing the Link Between Learning Styles Scale Scores and Social Media Use for Learning in First-Year Undergraduate College Students*. The study focuses on learning styles and how social media is used for learning. For the purpose of the study, learning styles are the way by which an individual prefers to learn through a cycle that includes modes of concrete experience, reflective observation, abstract conceptualization, and active experimentation. Social media for learning includes tasks performed to support learning. The study is conducted at Texas A&M University-Corpus Christi. If you decide to participate in the study, this form will also be used to record your consent.

What will I be asked to do?

If you agree to participate in the study, you will be asked to complete the following survey, which takes 15-20 minutes to complete.

What are the risks involved?

The risks are minimal and not greater than risks ordinarily encountered in daily life.

What are the possible benefits?

You will receive no direct benefit from participating in the study; however, the study's findings are of practical and theoretical implications in the field of higher education leadership.

Do I have to participate?

No, your participation is voluntary and you may decide to drop out at any time with no penalties.

Who will know about my participation in this research study?

No one, and no identifiers linking you to this study will be included in any report that may be published. Your name will not be collected.

Who do I contact with questions about the research?

You may contact the researcher, Jan Brott at jbrott@islander.tamucc.edu or 361-522-8432.

Who do I contact about my rights as a research participant?

The research study has been reviewed by the Research Compliance Office and the Institutional Review Board at Texas A&M University-Corpus Christi. For research-related problems or questions regarding your rights as a research participant, you can email irb@tamucc.edu or call 361.825.2497.

Agreement to Participate

I am at least 18 years old and voluntarily agree to complete the following survey instrument.
Please check here _____

Part I - The Learning-Style Inventory describes how you learn. Below are 12 sentences with four (4) choices of ending for each. Rank the endings for each sentence according to how well you think it fits you. Use “4” for the sentence ending that describes your learning the *best*, down to a “1” for the sentence ending that seems the *least* like your preferred learning style. No ties, please.

Example of completed sentence set:

1. When I learn:

 2 I like to deal with my feelings.

 7 I like to think about ideas.

 3 I like to be doing things.

 4 I like to watch and listen.

Remember:

4 = *most* like me **3** = *second most* like me **2** = *third most* like me **1** = *least* like me

1. When I learn:

_____ I like to deal with my feelings.

_____ I like to think about ideas.

_____ I like to be doing things.

_____ I like to watch and listen.

2. I learn best when:

_____ I listen and watch carefully.

_____ I rely on logical thinking.

_____ I trust my hunches and feelings.

_____ I work hard to get things done.

3. When I am learning:

- _____ I tend to reason things out.
- _____ I am responsible about things.
- _____ I am quiet and reserved.
- _____ I have strong feelings and reactions.

4. I learn by:

- _____ feeling.
- _____ doing.
- _____ watching.
- _____ thinking.

5. When I learn:

- _____ I am open to new experiences.
- _____ I look at all sides of issues.
- _____ I like to analyze things, break them down into their parts.
- _____ I like to try things out.

6. When I am learning:

- _____ I am an observing person.
- _____ I am an active person.
- _____ I am an intuitive person.
- _____ I am a logical person.

7. I learn best from:

- _____ observation.
- _____ personal relationships.
- _____ rational theories.
- _____ a change to try out and practice.

8. When I learn:

_____ I like to see results from my work.

_____ I like ideas and theories.

_____ I take my time before acting.

_____ I feel personally involved in things.

9. I learn best when:

_____ I rely on my observations.

_____ I rely on my feelings.

_____ I can try things out for myself.

_____ I rely on my ideas.

10. When I am learning:

_____ I am a reserved person.

_____ I am an accepting person.

_____ I am a responsible person.

_____ I am a rational person.

11. When I learn:

_____ I get involved.

_____ I like to observe.

_____ I evaluate things.

_____ I like to be active.

12. I learn best when:

_____ I analyze ideas.

_____ I am receptive and open-minded.

_____ I am careful.

_____ I am practical.

Part II - Please indicate how frequently you use social media to support your learning by the following ways:

1. Use Facebook chat, MSN, or texting to contact a friend to get help with a class assignment.
☐ Regularly ☐ Sometimes ☐ Never
2. Use WebEx, Skype, or other web meeting services to connect with a friend or a group to work on a class assignment.
☐ Regularly ☐ Sometimes ☐ Never
3. Search Google to answer a question for a class-related assignment.
☐ Regularly ☐ Sometimes ☐ Never
4. Collaborate with a classmate on an online document, using Google docs or something similar.
☐ Regularly ☐ Sometimes ☐ Never
5. Create or join a Facebook group with classmates to share homework, links, and to discuss class content.
☐ Regularly ☐ Sometimes ☐ Never
6. Search YouTube, Vimeo or other video service for a video to learn about a topic you are studying.
☐ Regularly ☐ Sometimes ☐ Never
7. Access Wikipedia to read about a topic you are studying.
☐ Regularly ☐ Sometimes ☐ Never
8. Read a blog or news items about the topic you are studying.
☐ Regularly ☐ Sometimes ☐ Never
9. Follow course or topic-related hashtags or experts on Twitter.
☐ Regularly ☐ Sometimes ☐ Never
10. Post course or topic-related content on a blog.
☐ Regularly ☐ Sometimes ☐ Never
11. Store apps on my smartphone that are useful for academic learning.
☐ Regularly ☐ Sometimes ☐ Never
12. Share and/or post videos on YouTube, Vimeo or other video service related to my academic learning.
☐ Regularly ☐ Sometimes ☐ Never

Part III. Demographic Information

1. What is your age? _____
2. What is your gender?
☐ Female ☐ Male
3. What category best describes your ethnicity?
☐ Asian ☐ Black ☐ Hispanic or Latino/a ☐ White ☐ Other
4. What is your college affiliation? (select one)
☐ College of Business ☐ College of Education & Human Performance
☐ College of Engineering ☐ College of Liberal Arts
☐ College of Nursing & Health Sciences
5. What is your classification?
☐ Freshman ☐ Junior
☐ Sophomore ☐ Senior
6. How many hours a day do you use social media for academic purposes? _____
7. How many hours a day do you use social media in general? _____
8. Which of the following describes your learning style the best (select one)?
____ Assmilator: Preferring sound logical theories to consider; focusing less on people and more interested in ideas and abstract concepts.
____ Converger: Preferring practical applications of concepts and theories; preferring to experiment with new ideas, simulations, laboratory assignments, and practical applications.
____ Accommodator: Preferring hands-on experiences; preferring to work with others to get assignments done, to do field work, and to test out different ways to complete a project.
____ Diverger: Preferring to observe and collect a wide range of information; preferring to work in groups, to listen with an open mind, and to receive personalized feedback.

Many thanks for completing the survey!