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Use of Social Networking Technologies: Effects on College Students' Academic Writing

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USE OF SOCIAL NETWORKING TECHNOLOGIES:

EFFECTS ON COLLEGE STUDENTS' ACADEMIC WRITING

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This study investigated college students' Facebook use pattern, examined the relationship between their Facebook use and academic writing performance, and explored their perceptions about Facebook use and academic writing. Both quantitative and qualitative instruments were used for data collection. Among the 236 participants, 220 (93.2%) of them were Facebook users, of whom 215 responses were kept for the final analysis. It was found that first-year college students were frequent Facebook users.

Although no significant correlation was identified between students' Facebook use pattern and their overall writing performance, significant correlations were identified between several aspects of academic writing performance and of Facebook use pattern as well as students' attitudinal scores of Facebook use. For instance, vocabulary score was positively predicted by students' time spent on Facebook and use of it as a "daily routine" but negatively predicted by the time between Facebook checks and control of its use; using Facebook as a daily routine and using it to communicate with classmates positively predicted students' performances in "ideas support", "organization", and "audience tone" in academic writing; students' control of Facebook use was negatively correlated with the score of "focus thesis" in academic writing.

Analysis of the qualitative data from the individual interviews also presented mixed results. More participants believed that the use of social networking technology affected their academic writing than those who claimed no influence. Different from the results of quantitative

analysis, students' interview responses featured more negative influences on academic writing than positive ones from the use of social networking technology. At least one third of the interview participants, who believed in no interaction between the two activities, claimed that they could maintain a clear line between writing on social networks and for academic purposes. This claim was echoed in the responses of the interviewed instructors, who believed that the negative influence from social networking engagement was not really degrading students' academic writing.

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CHAPTER 1

INTRODUCTION

Background of the Study

Social networking products refer to those Internet services that help people establish social networks. Instead of being a specific technology product, it is more of a public platform like the Windows system, on which various applications can be explored for Internet users. Social networking products focus on establishing the connections among their users. There are generally three major purposes for the users: communication with friends and families, seeking entertainment, and obtaining information.

With the development and application of Web 2.0 technologies, the use of social networking technologies have gained increased popularity around the world. According to research by InSites Consulting (2012), in the United States, eight out of ten Internet users currently make use of social media; Facebook remains by far the most popular site (7 in 10 are active on Facebook), followed by Twitter (25%) and LinkedIn (24%). Social networking technologies are attractive with their unique advantages: they are spontaneous, interactive and they offer instant feed-in and feedback of information; social networks are often closely tied to real life and thus become a recast of social life in cyber space; social networks are also platforms for communication that are free from the constraints of time and distance. Facebook enjoys the most popularity as such a dynamic online application. It is complete with a variety of interactive features, such as the wall, news feed, chat, and games for multiple users. As stated on its official website, Facebook is a social utility that connects people with friends and others who work, study and live around them (Facebook, 2013). In the meantime, using Facebook is itself a

literacy practice in the domain of social networking, where its users communicate by "chatting" and their "talk" takes the form of writing digitally (Reid, 2011).

With the overwhelming and almost ubiquitous influence from digital technology (Reid, 2011), people in general, the younger generations in particular, write increasingly less on traditional media and more on computer keyboards, smart phones or tablets of various types. Hudson (2007) observed that the power of digital media in general, and digital writing in particular, has begun to reinforce the sense of a new social order and bears central importance to those concerned with the welfare and education of children and young people. According to Blankenship (2011), interactive, community-focused online tools—like Facebook, Twitter, Skype, YouTube, blogs, wikis, and the educational software Blackboard—are becoming more prevalent in the college classroom. Among college students, Facebook is also the most popular social network site (Blankenship, 2011; Lenhart, Purcell, Smith, & Zickuhr, 2010). Such new digital applications of social media enable the users to connect and interact with one other in a virtual community (McCarthy, 2009). Such technology innovations are not only changing the users' way of communication but also revolutionizing the conditions of their literacy experiences and developing new practices (Reid, 2011). As a result of the easy accessibility of social networking, new forms of interaction, new forms of language and new types of texts have been produced (Reid, 2011). Therefore, the possible, or rather inevitable, interaction between college students' use of social networking technologies and their academic performances is worthy of increased attention and research.

Statement of the Problem

Living in the 21st century, our way of communication, the language we use, our basic skills of reading and writing, and the way we think are all constantly being challenged and

revolutionized by the latest technology (Crystal, 2011; Gee, 2008; Kress, 2003; Lankshear & Knobel, 2003; Prensky, 2001; Reid, 2011). Younger generations, for example, college students, tend to embrace the novelty and the ease of using the latest technology. The term "digital native" has been applied to describe people who have such an information age mindset, which is different from their parents' pre-information age mindset (Prensky, 2006). Often considered typical of the "tech-savvy generation" (Hudson, 2007), college students are found to be the group who use social networking sites like Facebook the most (Blankenship, 2011; O'Brien, 2011).

Research has found that a large majority of college students have accounts on social network sites and they check them multiple times a day (Salaway & Caruso, 2008; Sheldon, 2008; Stern & Taylor, 2007). With the increasing popularity of "smart" phones, the sum of the world's knowledge can be accessed through the Internet-enabled mobile phones in the pockets of their users (Prensky, 2006). With access to such knowledge through technological convenience, college students enjoy more online writing and they tend to do it more frequently than before. The fact that college students are spending an increasing amount of time daily writing on digital devices or social network sites will inevitably affect their academic writing (Hudson, 2007). Given the stronger interaction between the use of social networking technologies and academics, it becomes an increasingly worthy topic to investigate such technological influence upon college students' writing for academic purposes.

There have been many Internet studies since its birth but there is still a need for more research on how Internet use influences the academic performances of college students (Jones, Johnson-Yale, Pérez, & Schuler, 2007). Such a need is further intensified by the emergence of newer Internet applications such as those social network sites, including Facebook. Most of the previous research about social network technologies has focused on the social impact upon

college students (Boyd & Ellison, 2007). As reviewed in O'Brien's (2011) research, there is still a lack of research on the relationship between social network technology use and students' academic lives (Hargittai & Hsieh, 2010; Kirschner & Karpinski, 2010; Pasek, More, & Hargittai, 2009). The limited amount of research on this relationship also produced different results. Some studies found negative effects from Facebook use upon students' grades (Junco, 2012; Junco & Cotten, 2011; Karpinski & Duberstein, 2009; Karpinski, Kirschner, Ozer, Mellott, & Ochwo, 2012; Kirschner & Karpinski, 2010) while other researchers found positive relationships between students' Facebook use and their grades (Badenhorst, 2010; Capano, Deris, & Desjardins, 2010; Hargittai & Hsieh, 2010). Looking at even earlier research on a broader basis, the relationship between digital writing and students' academic writing has been studied by some researchers but the results are also mixed (Burnett, Dickinson, Merchant, & Myers, 2004; Luke, 2003; Merchant, 2003; Miners, 2008), from which definite pedagogical implications were hard to be derived. It is difficult to identify any trend that offers clear pedagogical direction for students or instructors on how to utilize digital/online writing to improve students' academic writing. Therefore, it becomes necessary for both research and pedagogical purposes to examine the relationship between college students' digital writing, specifically writing with social networking technologies, and their academic writing in order to identify what exact effects the former has on the latter.

Purpose of the Study

The current study focuses attention on the writings of college students who are often considered a typical age group representing the "digital natives" (Prensky, 2006). The overall purpose of this study is to explore how college students' use of social networking technology in daily life affects their writing for academic purposes. The study also investigates students' and

their instructors' perceptions about such influence. Both quantitative and qualitative data about students' use of the social networking technologies and their perceptions about its influences on their academic writing were collected for in-depth analysis.

Methods and Procedures

The study utilized a mixed-method approach. The quantitative data were obtained from the survey distributed among the participating students and the scores of student writing samples. The qualitative data were obtained from the open-ended questions on the survey questionnaire that was given to the students and the individual interviews of some of the students and instructors.

The survey contained a set of questions about what social networking technologies they often use, the frequency of using them and the participants' perception of the possible influence of social media engagement on their academic writing. It was designed and distributed to the students by the researcher with the cooperation from their instructors. The numerical data from the questions were analyzed quantitatively and the responses to open-ended questions were coded for qualitative analysis. Convenience sampling was used in the study as 12 sections of ENGL 101-Composition I were finally selected upon the agreement to participate by the instructors. There were 63 sections of this course provided on the main campus of IUP in fall, 2013. The researcher sent out the invitation letter via email to the instructors of these sections, describing the study and their rights as participants, with copies of the consent forms to take the survey attached. Five instructors agreed to participate in the study, after they received verbal agreement from the twelve sections of students they taught. After the date and time to conduct the survey was negotiated for each section, the researcher came to each section in person and distributed the survey questionnaire to those students who were willing to take the survey.

Through collaborating with their instructors, the participating students' writing samples, as one of their in-class writing assignments, were collected and graded by three selected instructors of ENGL 101, the scores of which became another source of quantitative data. In addition to the writing samples, more qualitative data were obtained from the individual interviews of the selected students and instructors.

Research Questions

The study was guided by the following research questions:

1. How frequently do undergraduate students use social networking technology on a regular basis?
2. How do the frequency and duration of undergraduate students' use of social networking technology correlate with their performance in academic writing?
3. How are different aspects of undergraduate students' academic writing correlated with their use of social networking technology?
4. What are undergraduate students' perceptions about the relations between their online social networking and writing for academic purposes?
5. What are instructors' perceptions about the relations between undergraduate students' online social networking and their writing for academic purposes?
6. What are instructors' perceptions about utilizing the relationship between undergraduate students' online social networking and their academic writing in instruction of writing?

Theoretical Base/Conceptual Framework

Vygotsky's (1978) sociocultural theory of human learning is one of the major supporting theories for the research. The current research examines college students' use of social networking technologies, which they use for communicating and socializing purposes. The

process of writing on social networking technologies is in its nature a process of social interaction, only the interaction between people is not always done on a face-to-face basis. The current research seeks to investigate the relationship between this form of social interaction and its influence on its users' academic writing, which is a significant part of the learning that is supposed to happen in educational settings. At the core of this theoretical framework, learning is described as a social process and the origination of human intelligence in society or culture (Vygotsky, 1978; UNESCO, 2013). Vygotsky concludes that all human learning happens on two levels (UNESCO, 2013). At the first level, learning occurs through the interaction with others; at the second level, learning becomes part of the individual's cognitive structure. Based on Vygotsky's theory, students' social interaction using social networking technology could be an important source of learning that should not be neglected; on the other hand, Vygotsky's theory could also explain the possible link between students' use of social networking technology and their learning of academic writing. With this being said, the application of Vygotsky's sociocultural theory of human learning in the current educational environment would provide educators with inspirations and insights during the integration of social networking technology into the writing classrooms.

Another important set of theories that inform the current research include the Situated Learning and the Low-Road/High-Road Theory. Brown, Collins and Duguid (1989) developed the theory of situated learning and cognition. They believed that, knowledge, similar to language, is acquired from the world through a series of activities and situations where it is produced. According to Brown et al. (1989), learning by doing or "situated learning" often leads to learners' unintentional transfer of skills to problem solve under changing contexts. Based on previous theoretical models, including the theory of situated learning, Salomon and Perkins (1988)

postulated the theoretical model of Low-Road and High-Road Transfer. In a study about college students' use of "textese" and literacy skills, Drouin (2011) employed these two mechanisms to interpret the different practices transferred into students' informal and formal writing. Drouin (2011) observed that low road transfer happens when students unconsciously transfer abbreviations or shorthand into informal writing, which they consider as a similar process to the situation of texting on social networking devices. In contrast, they may consciously try to use spellings of Standard English appropriately in formal writing as a result of the high road transfer. Just as Drouin's research findings were clearly interpreted according to the low-road/high-road theory, these theoretical models could also support and inform the current research, which investigated the use of social networking technology and its influence upon college students' writing.

Since one aim of this research is to find out students' use of social networking technology and their perceptions of its influence on their academic writing, the Technology Acceptance Model (TAM), developed by Davis (1989) and Davis, Bagozzi, & Warshaw (1989), served as another theoretical foundation for this research. TAM posits that two particular beliefs, perceived usefulness and perceived ease of use, are of primary relevance to computer/IT acceptance behaviors. User willingness to use a new technology explains or predicts the acceptance level of the new technology. External variables that affect the acceptance of information technology are subject to perceived ease of use and perceived usefulness. Actual use is determined by attitudes and intention to use. This model will help the researcher better interpret the students' perceptions, attitudes and actual use of digital technologies in social and academic life.

A theoretical model that supports well the integration of technology in writing instruction and learning is mobile learning, or *M-learning*, which includes any sort of learning that happens

when the learner is not at a fixed, predetermined location, or learning that happens when the learner takes advantage of the learning opportunities offered by mobile technologies (Peters, 2007). This theory applies to the target population in this study as college students nowadays overwhelmingly write on smart phones, laptops, tablets and other mobile devices for communicative purposes. Mobile learning refers to the use of mobile or wireless devices for the purpose of learning while on the move (Peters, 2007). Brown (2005) summarized several definitions and terms and identified mobile learning as "an extension of e-learning." Peters (2007) also stated that it was a subset of e-learning, a step toward making the educational process more responsive and personalized. Typical examples of the devices used for mobile learning include cell phones, smart phones, palmtops, handheld computers, tablet PCs, laptops, and personal media players (Kukulska-Hulme & Traxler, 2005). This type of learning stands well as a very likely connection of students' use of mobile technological devices for communicative purposes and their writing for academic purposes.

Definition of Terms

Digital Literacy

In his book *Digital Literacy*, Glister (1997) introduced the concept of digital literacy as follows: "Digital literacy is the ability to understand and use information in multiple formats from a wide range of sources when it is presented via computers and, particularly, through the medium of internet" (pp. 1-2). Extending this understanding of literacy as part of social practice to the domain of new media, digital literacy, according to Lankshear and Knobel (2008), then becomes "a shorthand for the myriad social practices and conceptions of engaging in meaning making mediated by texts that are produced, received, distributed, exchanged, etc., via digital codification" (p. 5). Its primary concern is the production and consumption of the verbal and

symbolic aspect of screen-based texts and this is its initial point of departure from print literacy (Merchant, 2007). The work of Lankshear and Knobel (2003) has been implemental in identifying this "new literacy" as the new practices that are mediated by "post-typographic" forms of texts—a newness that is related to the "changing ways of producing, distributing, exchanging and receiving texts by electronic means" (p. 25). In fact, even the study of changing literacy itself has been redefined as "new literacy" (Lankshear & Knobel, 2003).

Digital Writing

Digital writing in this study refers to the writing college students do on the most popular social networking technologies, such as email, Facebook, MySpace, LinkedIn, Skype, Twitter, blog, ichat, etc. In this study, college students' digital writing and their writing with social networking technology both refer to their writing on social networking sites, Facebook in particular. So the two terms will be used interchangeably in most contexts unless specifically stated. Academic writing generally refers to the writing that students produce for various academic purposes (Hyland, 2000), either inside or outside the classrooms, including essays, compositions, research papers, theses or dissertations, or any other genre of writing which is done for academic purposes. In this study, it will be typically represented by the writing students do as the assignments for the course ENGL 101-Composition I.

Social Networking

Social networking can be defined as "the practice of expanding knowledge by making connections with individuals of similar interests" (Gunawardena, Hermans, Sanchez, Richmond, Bohley, & Tuttle, 2009, p. 4). The concept of social networking is commonly linked to and supported by applications of social media that are designed for social interaction and information exchange (e.g. MySpace, Facebook, and Flickr) (Hung & Yuen, 2010).

Social Networking Site

Social networking site, as defined by the Pew Internet and American Life Project (Lenhart, Arafeh, Smith, & Macgill, 2008),

> refers to an online site where a user can create a profile and build a personal network that connects a subscriber or user to other subscribers or users. Social networking site subscribers use these media to share opinions, insights, experiences, photos and videos. It is important to remember that this sharing is often unedited, instantaneous, and worldwide. (p. 27)

Significance of the Study

In spite of the increased interest in Facebook and learning, the research previously conducted does not offer a single perspective (Reid, 2011). As stated previously, the research findings about the relationship between digital writing and academic writing of college students also point in different directions (Burnett et al., 2004; Luke, 2003; Merchant, 2003; Miners, 2008). In addition, many people in academia still hold different attitudes about connecting digital technology with learning and teaching. There has been a resistance on the part of many educators to include digital writing in the curriculum, despite the ubiquity of multimedia and the growing potential of multimodal communication (Kress, 2003). Much of the creativity in using digital technology, which often derives from the playful interaction with written words (Herring, 2004), is also dismissed as being unworthy of serious attention (Merchant, 2005). Therefore, it is not surprising to find that the playful engagement with the social networking technologies associated with digital writing has not been so readily incorporated into classroom practice (Labbo & Reinking, 2003).

While various educators and researchers have identified an increasing separation between everyday meaning making by the new technology and the current literacy practices in classrooms (Gee, 2003; Lankshear & Knobel, 2003), many scholars have recognized that students have been writing blogs, emails, and text messages long before they go to college classrooms; students then bring these experiences with them into the college writing classroom (Gee, 2008; Lindemann, 2001; Takayoshi & Selfe, 2007). Although the new literacy experience can transform students' writing into unique expressions of their ideas, thoughts, critiques, and responses to literature and other curricular subjects (Sweeny, 2010), most students do not consider this type of communication as writing for academic purposes. In fact, they tend to see it as entirely different from the "academic" writing they do at school or for school work. Nevertheless, research suggested that they do recognize writing as an important communication skill and wish that technology were integrated into more of their writing instruction (Lenhart et al., 2008). There is also research evidence that suggested that students cherish opportunities to use social networking technologies for academic purposes (Birch & Volkov, 2007; Moore & Iida, 2010) and the use of social networking technology as Facebook brings educational benefits (Reid, 2011).

The relationship between literacy skills and new technology continues to provide a rich context for educational discrepancies and debate (Dixon, 2012). Therefore, this study aims to reduce the discrepancies in the existing literature by focusing on the influence of college students' use of social networking technology upon their academic writing and aiming to identify specific trends of the influence, thus clarifying the academic and pedagogical significance for students as well as instructors. In addition, by investigating students' and instructors' perceptions of the influence, the study is also expected to increase students' and instructors' awareness of using

social networking technology to promote students' academic writing and the integration of such technology in writing learning and instruction in college classrooms.

CHAPTER 2

LITERATURE REVIEW

In this chapter, the researcher will review two major supporting theories of the research — the Sociocultural Theory of Human Learning and the Situated Learning and the Low-Road/High-Road Theory; two theoretical models — Technology Acceptance Model and M-Learning; and the extant research about social networking technology and academics, Facebook and academics, and Facebook and writing. The author also reflects on how the previous research findings inform the current research with their significance and limitations.

Vygotsky's Sociocultural Theory of Human Learning

One of the foci of the current research is on college students' use of social networking technologies, which they mostly use for communicating and socializing purposes. The process of writing on social networking technologies is still basically a process of social interaction, only the interaction between people is not always done on a face-to-face basis, but often with a lag in the exchange of "conversations." One obvious advantage of using such technologies is that social interaction is no longer constrained by time and location since the message, image, voice or even recorded video clips can be received and responded to almost anywhere and anytime. In this sense, technologies make it possible for human social interaction to happen in a great variety of forms. This research aims to investigate the relationship between the digital form of social interaction and its influence on its users' academic writing, which is a significant part of the learning that is supposed to happen especially in educational settings. With this being said, the major theoretical basis of this research can be built upon the framework of Lev Vygotsky's (1978) sociocultural theory of human learning. At the core of this theoretical framework, learning is described as a social process and the origination of human intelligence in society or culture (Vygotsky, 1978; UNESCO, 2013). Vygotsky posits social interaction as the foundation

of people's cognitive development (UNESCO, 2013). He clearly states his views about the essential role of social interaction in initiating learning in *Mind in Society* (1978): "... that is, learning awakens a variety of internal developmental processes that are able to operate only when the child is interacting with people in his environment and in cooperation with his peers" (p. 90).

Examining the social environment and the process of knowledge construction, Vygotsky concluded that all human learning happens on two levels (UNESCO, 2013). At the first level, learning occurs through the interaction with others; at the second level, learning becomes part of the individual's cognitive structure. As Vygotsky (1978) noted:

> Every function in the child's cultural development appears twice: first, on the social level, and later, on the individual level; first, between people (*interpsychological*) and then inside the child (*intrapsychological*). This applies equally to voluntary attention, to logical memory, and to the formation of concepts. All the higher functions originate as actual relationships between individuals. (p. 57)

In other words, Vygotsky (1978) believes that an individual's development proceeds first from the "social plane," i.e. the interpersonal level, then to the "individual plane," i.e. the intrapersonal level, which is better known as Vygotsky's (1997) "genetic law of development."

While trying to identify the important themes in Vygotsky's works that explain the nature of the interdependence between individual and social processes in learning and development, Wertsch (1991) proposed three major ones, with the "genetic law of development" being the first one. The third theme proposed by Wertsch (1991) is that genetic, or developmental, analysis is the best way to examine the first two themes. These two themes will not be elaborated on here as they are not immediately relevant to the current research. The second major theme that Wertsch

(1991) has identified is that human action is mediated by tools and signs— semiotics, on both the individual and social processes. According to Vygotsky (1981), these semiotic means include language, systems of counting, works of art, writing; schemes, mechanical drawings, and all sorts of conventional signs, etc. Computers, calculators, and the like can be included as additional semiotic means. All these tools, signs and media included in the semiotic means do not only facilitate the co-construction of knowledge but also are internalized by individuals to foster independent problem solving abilities (Scott & Palincsar, 2013). In the current society, social interaction is increasingly conducted with information and communication technology (ICT) and the category of the semiotic means is enlarged to a whole new level. The greater variety and more versatile features of the modern semiotic means might facilitate the construction of knowledge and learners' problem solving abilities in fancier and more efficient ways. Writing, either as a conventional semiotic means or as an important literacy skill itself, is likely to benefit from the social or interpersonal communication that is often conducted on the platform supported by information technology; in the meantime, the process of writing, especially writing for social interactions, may promote learning and problem solving abilities. In a similar sense, writing for communicative purposes, such as writing with social networking technologies in the modern society, is also likely to facilitate learners' construction of knowledge and cognitive skills, which may boost their academic performances.

Vygotsky's perceptions of the social nature of human development determine his firm belief in education as the driving force of individual development due to the support adults ─ teachers in particular ─ can give to children (Eun, 2010). Vygotsky (1962) investigated how the social environment in educational settings influences the learning process and proposed that students' learning takes place through the social interactions with the more knowledgeable others

(MKO), such as their peers, teachers, and other experts (Neff, n.d.). In fact, a lot of contemporary research supports Vygotsky's sociocultural proposition that interpersonal relationships constitute a basis for cognitive and linguistic mastery (John-Steiner & Mahn, 1996). Therefore, it is quite obvious that Vygotsky's views about the relationship between social interaction and meaning making in human communication still inspire pedagogical insights into improving the current literacy learning and instruction. Just as Scott and Palincsar (2013) pointed out, looking at the current literacy instruction through the lens of sociocultural theory enables educators to better understand the variant specific situations of literacy practice. In order to create an effective learning environment for literacy acquisition, Vygotsky advocated that writing be organized for a meaningful purpose and writing instruction should preferably be conducted naturalistically. Vygotsky (1978) wrote, "But the teaching should be organized in such a way that reading and writing are necessary for something... A second conclusion, then, is that writing should be meaningful for children ... The third point that we are trying to advance as a practical conclusion is that writing be *taught* naturally...and that writing should be 'cultivated' rather than 'imposed.'" (pp. 117-118). Such observations have significant influence upon recent sociocultural approaches to literacy instruction for children and adults in school, at workplaces, and in after-school, home, and day-care settings (Clay & Cazden, 1990; John-Steiner, Panofsky, & Smith, 1994; McNamee, 1990; Scribner & Cole, 1981; Zebroski, 1994, cited in John-Steiner & Mahn, 1996).

In Vygotsky's view, language is considered as the main tool that promotes thinking, develops reasoning, and supports cultural activities such as reading and writing (Vygotsky, 1978). Reading and writing are the fundamental literacy skills for gaining and spreading knowledge. As a result, teaching strategies that promote literacy across the curriculum play a significant role in knowledge construction as well as independent learning (Neff, n.d.). Moreover, informed by a

sociocultural perspective, learning is thought to occur through interaction, negotiation, and collaboration (Scott & Palincsar, 2013), which often takes the form of collaborative learning. Therefore, it is advisable for teachers to encourage students to have group discussion and interactions about their learning both in class and after class. It would be reasonable to suggest that teachers who adhere to sociocultural theories of development are more likely to encourage dialogic interactions in the classrooms and are more likely to support and use diverse learning activities. Similarly, students who identify themselves with the sociocultural theories of learning would participate in the learning process as active constructors of knowledge rather than as passive receptors of pre-made knowledge (Eun, 2010). In the current society, the variety of social networking technologies and their versatile features make it unprecedentedly easy for students to interact with one another without having to be in the same place and at the same time. Teachers, at all levels, could also utilize the convenience and advantages brought by social networking technologies in interaction with students and integrating the benefit from the social interaction with new technological tools into classroom instruction. Social networking technologies also make it easier for teachers and students to establish communication and collaboration for common objectives so that learning could become more interactive than with the conventional media and within the traditional classrooms. As Eun (2010) observed, “the interactive nature of the teaching and learning process is realized as teachers and students engage in collaborative activities with shared goals and purposes that are constantly negotiated through dialogues” (p. 404). In consequence, teachers can create a learning environment that maximizes the learner’s ability to interact with each other through group discussion, peer collaboration and feedback (Neff, n.d.).

In recent decades, the sociocultural theory has often been recommended for improving educational practice that is aimed to remedy the discrepancies in the current educational system (Scott & Palincsar, 2013). Some researchers (Gutiérrez, Baque-dano-Lopez, & Tejeda, 1999; Moje, McIntosh-Ciechanowski, Kramer, Ellis, Carrillo, & Collazo, 2004; Soja, 1996, cited in Scott & Palincsar, 2013) have suggested the idea that educators should try to create a *third space* in which students' primary discourses and students' secondary discourses intersect. It is in this "third space" where the primary and secondary discourses are blended together. The primary discourses here refer to those used in students' home, community, and informal social interactions; the secondary discourses refer to those accepted as proper in school and other formal institutions. If educators paid more attention to the creation of "the third space" in school, greater attention could be paid to incorporating students' prior knowledge and experience, as well as current literacy practices in the school curriculum (Scott & Palincsar, 2013). Looking at the primary discourse and secondary discourse in higher education, we may easily find that a significant portion of these discourses is conducted in digital forms or with social networking technologies, being especially true with the primary discourse. College students' literacy practices, writing in particular, are often realized in digital forms, either for communicative purposes or for academic purposes. It seems very likely for the two types of discourses to intersect or influence each other in this proposed "third space." Therefore, it might be of special pedagogical value if instructors of writing in college could identify the relations between the two discourses in this area and apply the findings to advancing writing instruction with a better understanding of students' current writing characteristics and promoting students' academic writing with more specific goals and strategies.

Situated Learning and Low-Road/High-Road Theory

Brown et al. (1989), in a speculative article "Situated Cognition and the Culture of Learning," developed the theory of situated learning and cognition. They believed that activity and learning are essential to cognition and learning. Based on this theory of situated learning, knowledge, similar to language, is acquired from the world through a series of activities and situations where it is produced. A learner's formation and understanding of a concept will continually evolve in different activities and changing contexts. According to Brown et al. (1989), learning by doing or "situated learning" often leads to learners' unintentional transfer of skills to problem solve under changing contexts.

Synthesizing previous research findings and theoretical establishments, including the theory of situated learning, Salomon and Perkins (1988) postulated the theoretical model of Low-Road and High-Road Transfer, two distinct but related mechanisms of the transfer of learning. According to Salomon and Perkins' definitions, "low road transfer reflects the automatic triggering of well-practiced routines in circumstances where there is considerable perceptual similarity to the original learning context," while "high road transfer depends on deliberate mindful abstraction of skill or knowledge from one context for application for another" (1988, p. 25). In a study about college students' use of textese and literacy skills, Drouin (2011) interpreted how the different practices transferred into students' informal and formal writing based upon these two mechanisms. According to Drouin (2011), low road transfer happens when students unconsciously transfer abbreviations or shorthand into informal writing, which they consider as a similar process to the situation of texting on social networking devices. In contrast, they may consciously try to use spellings of Standard English appropriately in formal writing as a result of the high road transfer. However, as suggested by the situated learning theory, the use

of shorthand or textese might transfer into more genres of writing than the informal writing because of the subconscious nature of low road transfer. Therefore, while Drouin's (2011) research findings supported both the low road and high road mechanisms it was also found that students' formal writing was significantly and negatively affected by the use of textese.

In addition to using the dual model to explain failure of transfer, according to Salomon and Perkins (1988), instructors could also design instruction to approximate the ideal situations needed to foster transfer. They proposed and nicknamed two techniques for facilitating transfer as "hugging" and "bridging," which respectively means "teaching in order to better meet the resemblance conditions for low road transfer ('hugging') and high road transfer ('bridging')" (p. 28). If the instructors were aware of the often negative impacts from low road transfer on cognitively demanding tasks like formal writing, they could design in-class and after-class tasks that stimulate students' higher order thinking and create scenarios that resemble various situations in life, where students need to consciously muster their cognitive strengths to tackle the problems.

The current research studies the correlation between students' writing in different situations. Their writing on social networking sites for daily communication purposes is considered done in informal situations while the context for their writing for academic purposes is considered formal. From the writing samples completed by the participants, if some obvious features of informal writing, such as abbreviations, shorthand, and omission of punctuation, were found in their writing, the Low-Road Theory could be used to explain the transfer, which indicates the influence of informal writing upon formal writing. If no significant amount of such features were found in the formal genre of writing, it would indicate either the dominance of High-Road Transfer or little occurrence of the Low-Road Transfer. In that case, the

interpretations based on these theoretical models would still hold value in examining the relationship between informal writing on social networking sites and formal writing because although the exact extent of positive influence from informal writing into formal writing cannot be identified using these models they could help explain the negative transfer of informal writing features into formal writing.

Technology Acceptance Model

As the current research is aimed to find out students' use of social networking technology and their perceptions of its influence on their academic writing, the Technology Acceptance Model (TAM, see Figure 1), proposed by Davis (1989) and Davis, Bagozzi, and Warshaw (1989), serves as a solid theoretical support for this research. A major purpose of TAM is to provide a basis for tracing the impact of external variables on internal beliefs, attitudes, and intentions of technology users (Legris & Collerette, 2003, cited in Raman, 2011). TAM is composed of two particular theoretical constructs, perceived usefulness (PU) and perceived ease of use (PEOU), which are of primary relevance to computer/IT acceptance behaviors. Davis (1989) defined perceived usefulness as "the degree to which a person believes that using a particular system would enhance his or her job performance" (p. 320). He also observed, "a system high in perceived usefulness, in turn, is one for which a user believes in the existence of a positive use-performance relationship" (p. 320). According to Davis (1989), perceived ease of use, in contrast, refers to "the degree to which a person believes that using a particular system would be free of error" (p. 320). He also added, "All else being equal, we claim, an application perceived to be easier to use than another is more likely to be accepted by users" (p. 320).

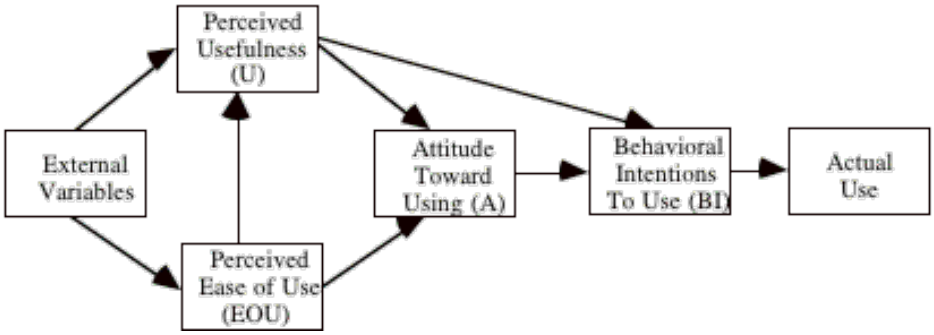

Figure 1. Technology acceptance model (Davis et al., 1989, p. 985).

Examining the Technology Acceptance Model against the design of the current research, perceived usefulness would refer to the social networking technology users' perception about the effectiveness of such technology in improving their performance, in communication in particular, while perceived ease of use would mean how easy or effortless they perceive it is to use these technologies. Therefore, the conceptual framework of this model underlies the major objectives of this study which are to explore whether university students' use of social networking technologies boost their performance in academic writing and how they perceive their technology use and its relationship with their learning of academic writing.

Davis (1989) and Davis et al. (1989) developed TAM to explain why users accept or reject information technology. This model was actually adapted from the theory of reasoned action (TRA, see Figure 2), which was developed by Fishbein and Ajzen (1975) to explain and predict people's behavior under certain circumstances (Legris & Collerette, 2003). TAM and TRA both suggest that external variables exert indirect influence on attitude, subjective norms, or their relative weight in the case of TRA, and influence PU and PEOU in the case of TAM (Legris & Collerette, 2003). As both models include attitude towards using (AT) and behavioral intention to use (BI), Davis was able to apply Fishbein and Ajzen's approach to measure these variables.

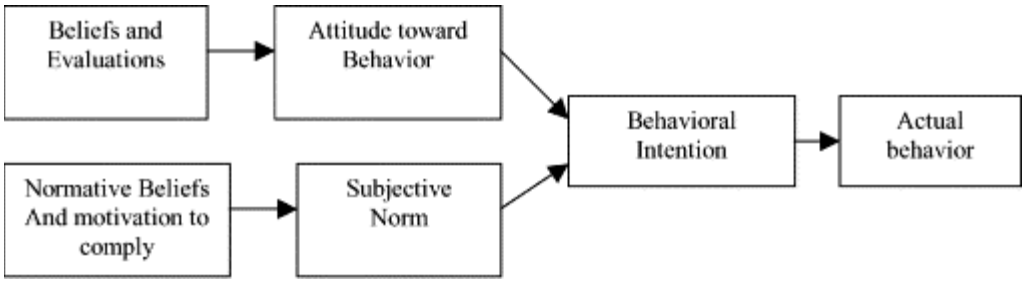

Figure 2. Theory of reasoned action (Fishbein & Ajzen, 1975).

Based on TAM, the acceptance level of a new technology can be explained or predicted by the user's willingness to use it. As illustrated in Figure 1, external variables that affect the acceptance of information technology are determined by PEOU and PU. Actual use is subject to technology user's attitudes and intention to use. A number of studies in the existing literature have found significant positive relationships between perceived ease of use and perceived enjoyment (Moon & Kim, 2001), perceived enjoyment and attitude of using Internet-related technologies (Bruner & Kumar, 2005; Novak, Hoffman, & Yung, 2000), and perceived usefulness and perceived ease of use (Gao & Wu, 2011).

Although the two major components of the TAM, PU and PEOU, will not be exactly measured according to the objectives of this research, students' perceptions about how often they use social networking technologies and its relationship with their academic writing, and their attitudes and intentions about using these technologies will all be explored. In addition, the guiding principles of this model will help the researcher better interpret the popularity of these social networking technologies and gain deeper insights into the students' perceptions and attitudes about using these digital technologies in social and academic life. The proposed relationship between the variables in these models, along with the previous research findings based on them, will also help the researcher, as well as the readers of the current research better interpret the results from the investigation.

The Model of M-Learning

Another conceptual model that supports the integration of technology in writing instruction and learning is mobile learning, or *M-learning*, which includes any type of learning that happens when the learner is not at a fixed, predetermined location, or learning that happens when the learner takes advantage of the learning opportunities offered by mobile technologies (Peters, 2007). Mobile learning, by means of mobile technology, allows all the people in the world to access information from anywhere and at any time (Zawacki-Richter, 2009). No matter when and where it is (as long as there is a service available), people can learn what they want, as they are free from the constraints of time and location (Zawacki-Richter, 2009).

There have been different definitions of mobile learning given by many scholars and researchers who are enthusiastic about integrating mobile technology and learning. The most commonly recognized presupposition of defining mobile learning was drawn by Traxler (2009), who considered mobile learning to be essentially personal, contextual and situated. These unique features determined the informal nature of mobile learning, which must be emphasized in any of its definitions (Traxler, 2009).

According to Peters (2007), mobile learning refers to the use of mobile or wireless devices for the purpose of learning while the user is on the move. Brown (2005) defined mobile learning as “an extension of e-learning” after reviewing and summarizing the concepts and terms by many other scholars. Peters (2007) also recognized it as a subset of e-learning, which makes the learning process more interactive and individualized (p. 3). The devices typically used for mobile learning include cell phones, smart phones, palmtops, handheld computers, tablet PCs, laptops, and personal media players (Kukulska-Hulme & Traxler, 2005, cited in Park, 2011). M-learning can be defined as “any educational provision where the sole or dominant technologies

are handheld or palmtop devices" (Park, Nam & Cha, 2012, p. 592). In recent years, many of such mobile devices were given a new name, PDA, which means "Personal Digital Assistance." Kitchiner (2006) defined PDA as "a term for any small mobile hand-held device that provides computing and information storage and retrieval capabilities for personal or business use" (p. 119). Smart phones with PDA, for instance, gained great popularity due to its wireless connection to Internet and various apps (applications) for different purposes.

The wireless network connections available on most college campuses make it possible for students to connect to Internet anywhere with their mobile devices, including their laptops, and palmtop devices such as different types of tablets and smart phones, and so on. Such technology advantages make it convenient for college students to work on academic tasks at any location they prefer or they even could attend to some academic tasks on their smart phones while they are traveling off campus, thanks to the networking features offered by most mobile phone services. Research has found that college students held very positive attitudes towards PDAs, which indicated that the majority of the students were satisfied with using PDAs for learning purposes (Alzaidiyeen, Abdullah, Al-Shabatat, & Seedee, 2011).

The fact that college students nowadays overwhelmingly write on smart phones, laptops, tablets and other mobile devices for communicative purposes offers many potential pedagogical inspirations. It is already evidenced in research that significant proportions of students welcome the idea of using some of their mobile devices for academic purposes (Alzaidiyeen et al., 2011; Roblyer, McDaniel, Webb, Herman, & Witty, 2010). Therefore, this concept of mobile learning applies well to the current research as a meaningful link that could be established between college students' writing on mobile social networking devices for communicative purposes and their writing for academic purposes. Given more attention by teachers and educators, mobile

technologies used for academic purposes would greatly enrich the curriculum, especially outside the classroom, and enlarge the platforms of independent and collaborative learning among students. In addition, with increased channels for teacher-student communication, it would be easier for students to seek more timely feedback from their teachers and the functions of the traditional classroom would be changed and expanded by the technology-enhanced teacher-student interaction.

As a potential element that could complement the current teaching practices, learning on mobile technologies provides many pedagogical advantages with its unique technological characteristics (Park, 2011). With its comparable capacity to desktop computers, most mobile learning devices are capable of transmitting and delivering rich multimedia content. More often than not, they also allow their users to have online discourse and discussion, real-time, synchronous and asynchronous, using voice, text and multimedia (Zawacki-Richter, 2009).

According to Traxler (2007), the application of mobile technologies for educational purposes has developed from small-scale and short-term trials into blended and sustained development projects (cited in Park, 2011). One of the relevant issues concerning students' learning with mobile technologies is not so much about the way of technology application in education and learning as about the students' willingness to engage themselves in learning with these technologies independently and spontaneously. Effective learning does not happen as an inevitable result of the provision of technological support or mobile devices (Sha, Looi, Chen, & Zhang, 2012; Vogel, Kennedy, & Kwok, 2009). Students need to be able to self-regulate and organize their extra-curricular activities and become motivated learners using the available technologies. Therefore, the concept of mobile learning deserves attention from both the students and their instructors so that they can increase students' awareness and motivation of utilizing

mobile technology for learning metacognitively. It takes the common efforts of researchers and educators to advance the theory and practice in this field so as to develop our students as self-organizing and self-proactive learners in this technology-rich environment.

Social Networking Technology/Sites and Academic Performance

Although most social networking sites (SNS) have been popular for no more than a decade, their prevalence and popularity among college students make it a very interesting topic for researchers to investigate the impact of using them upon students' academic performance. In fact, many researchers reported expansive use of social networking sites/technologies among young adults (Ellison, Steinfield, & Lampe, 2007; Gemmill, & Peterson, 2006; Pempek, Yermolayeva, & Calvert, 2009; Reardon, 2008; Visco, 2008). In this section, extant research about college students' use of social networking technologies/sites and its impact upon different aspects of their academic performance will be reviewed and critiqued.

Use of Social Networking Sites in Higher Education and Student Academic Performance

Pempek et al. (2009) conducted a study to investigate and describe college students' use of social networking sites by using a week-long diary-like measure and a follow-up survey among the participants ($N = 92$), who were asked about their use of Facebook. On average, students were found to spend approximately 30 minutes on Facebook everyday, regardless of how busy they were with their studies. The majority of students (85%) reported using Facebook to maintain or facilitate social relationships, with only 9% of them reported using it to make new friends. The major reasons for using Facebook were to communicate with friends and express their identities by posting photos (more popular among female participants), browsing friends' profiles and activities, and posting on friends' "walls." Although the sample population (in a private university) of this research is not large and typical enough to represent most of the

college population in America, the data about college students' use of social networking sites, e.g. Facebook, informs the current research with some preliminary knowledge and vision of at least the tip of the iceberg.

Of course, students are not the only population who use social networking technologies in colleges and universities. In order to better understand the impacts of using social networking tools upon academics in college and the potential of integrating these technologies in college education, we also need to look at the use and perceptions of them among college instructors. Roblyer et al. (2010) did a comparative study of college faculty's and students' use and perceptions of social networking sites for personal or educational purposes. The research sought to find out, between college faculty and college students, who use social networking sites more, who tend to use Facebook more or use more of the traditional technologies, e.g. email, in teacher-student communication, and who tend to use social networking sites more for educational purposes. From the results of the online survey taken by 120 students and 62 faculty members, Roblyer et al. found that college students gave almost the same attention to both Facebook and email while college faculty checked much less frequently their Facebook accounts. In terms of the use of social networking sites, neither students nor faculty members used them much for educational purposes (6.5% of faculty and 4.2% of students), while students tended to use them more to communicate with their friends (62.9% of faculty and 92.5% of students). In terms of the perspectives about using Facebook for learning and instructional purposes, both groups didn't show much enthusiasm. However, students showed significantly more acceptance than college faculty of such possibilities. Forty-six point seven percent of students agreed to the convenience of using Facebook in education while 21% of faculty did so; about using Facebook for teacher-student communication, 32% of students agreed, compared to, again, 21% of faculty.

Such results indicated that college faculty lagged behind their students in seeing the potential of utilizing social networking sites in educational settings.

Although the limited sample size of the faculty may not convincingly represent the entire faculty population in American higher education, their obvious reluctance in utilizing the potential of SNS in education found in this research would probably be typical among a significant proportion of college faculty nationwide. Therefore, the findings from this research call college faculty's greater attention to such prospects and more in-depth research into their perceptions about such technology use and integration so that the potential advantages of technology integration could be better harnessed and the drawbacks be effectively avoided.

To explore the relationship between use of social networking technologies and academic performance, research has also been done into the social and cognitive aspects of student learning or academic performance (Paul, Baker, & Cochran, 2012; Yu, Tian, Vogel, & Kwok, 2010). Yu et al. (2010) investigated the impacts of individual online social networking engagement on college students' learning from a pedagogical perspective. After conducting a focus group study (N = 14), the researchers did an online survey among university students across disciplines and grade levels (N = 187). The results indicated that individuals' engagement in online networking positively impacted their socialization with peers and helped them gain social acceptance, which was found to have greater influence on students' cognitive and skill-based learning. The outcomes of this research shed light on the positive impacts of online social networking on, in particular, the social dimension of individual learning. Such findings helped to bridge the gap in the extant literature between networking for leisure and networking for learning. Nevertheless, the researchers also cautioned students of the possible negative influence from online social networking such as distraction.

In more recent research, Paul et al. (2012) examined the impact of college students' (N = 340) time spent on online social networking (OSN) upon their academic performance, while trying to develop a model to identify the key drivers of students' academic performance. The survey results indicated a significant negative relationship (p = -.048) between students' time spent on OSN and their academic performance, which was measured by students' accumulative GPA and recent grades. A statistically significant relationship was also found between students' time spent on OSN and their attention deficit. The increased level of attention deficit also negatively, though indirectly, impacted academic performance. Specifically, attention deficit was negatively correlated with time management, which was positively correlated with students' academic competence. The latter indirectly yet positively affected students' academic performance. Moreover, an equal number of students believed they were capable enough to manage OSN as a study tool but more students than not (49% vs. 29%) did not perceive OSN as a good study tool currently. Forty-one percent of students reported that they did not intend to use OSN as a study tool to improve academic performance in the future, while those who had such intentions accounted for only 27%.

Both examining the impacts of online social networking, Yu et al.'s (2010) research investigated the social aspects of learning, while Paul et al.'s (2012) focused on the cognitive factors and academic performance. Yet, the two studies produced very different results. Just as Yu et al. (2010) reflected at the conclusion of their research, the causality and process of social networking usage impacting upon learning must be more complex and dynamic than identified in the extant research. It is also challenging to collect sufficient and accurate data about students' use of different kinds of online social networking technologies in a single study. Therefore, more

extensive and in-depth research needs to be conducted and more research methods to triangulate the data need to be employed to help researchers and educators reach more convincing results.

Multitasking With SNS and Academic Performance

"Multitasking is the simultaneous execution of two or more processing activities at the same time" (Kirschner & Karpinski, 2010, p. 1238). Several studies have explored the influence of multitasking caused by using social networking technology upon academics. Some researchers (Karpinski et al., 2012) in America and the Netherlands conducted a joint study exploring the impact of multitasking upon the relationship between university students' use of social networking sites and their academic performances. Both quantitative and qualitative data were gathered about the frequency and how students use social networking sites, in particular, their instant messaging on Facebook. A comparison was made between American students' (N = 451) and their European counterparts' (N = 406) perceptions of multitasking and social networking site use. Both groups of students admitted to multitasking with a computer, with 85.9% of US students doing so and 72.5% of the European students. Significant differences were found between the two groups of students having SNSs active during their study time. US students reported having them active for 61.7% of their study time compared to 49.3% of European students' study time. Although the results showed that the negative relationship between using SNSs and GPA was moderated by multitasking only among American students, the overall results suggested an obvious negative relationship between using SNS and GPA among all students, and multitasking was also found to negatively affect students' GPA. It was also found that different styles of using SNS, such as non-disruptive and disruptive, impacted students' academic performance differently. The researchers proposed against the implementation of SNS for educational purposes because of the results of the current research, along with some previous

research (Quan-Haase, 2010; Rouis, Limayem, & Salehi-Sangari, 2011), which revealed the downsides of using social media or mobile technologies for educational purposes. The findings in this research are representative due to its expansive sample size and the fact that it was conducted across national borders though the results may not be representative of all countries or cultures. An element that might affect the reliability of the result is that cultural differences, which may affect the use of SNS and the perceptions about it, were not measured.

Bowman, Levine, Waite, and Gendron (2010) did a study concerning multitasking and academic performance among American college students. Similar results were achieved although the sample size was much smaller (N = 89). Specifically, the researchers investigated the effects of instant messaging (IM) on students' reading of a textbook. It was found that students who IMed during reading took significantly longer (22-59% longer) to finish reading the passage than those who either IMed before reading or didn't IM at all. Although no difference by condition was found in the test performance after the reading, students who multitasked needed longer time to achieve the same level of academic performance, which was different from their own perceptions about multitasking.

Similar to the focus on IM in Bowman et al.'s (2010) study, Junco and Cotten (2011) did a more extensive survey study about the impact of IM upon academic performance among college students (N = 4,491). The researchers went a step further in interpreting the impacts from multitasking. It was found that multitasking like IM during the learning process increased students' cognitive demands, which resulted in students having less cognitive resources to engage in deep learning. Therefore, students who multitasked at higher rates would gain less educational benefits though with more mental effort.

Based on the research reviewed above, it can be tentatively yet reasonably concluded that multitasking due to the use of social networking technology during academic endeavors does produce detrimental effects to the accomplishment of the task, instead of facilitating it.

Text messaging and instant messaging, as major technological tools for social networking, also attracted much attention from other researchers (Drouin, 2011; Rosen, Chang, Erwin, Carrier, & Cheever, 2010) who focused research interest more specifically on their impacts upon college students' literacy skills, writing, in particular.

Text Messaging and Literacy Skills

In two almost identical studies, Rosen et al. (2010) investigated the relationship between textisms in daily life and the quality of writing. The researchers surveyed altogether 718 young adults (aged 18 to 25) and asked them to produce samples of both informal writing and formal writing, and then interviewed them about the use of textism in daily electronic communication. In terms of gender differences, it was found that young female adults claimed using more linguistic and contextual textisms than their male counterparts. About the relationship of instant messaging and the quality of writing, IM was found to be negatively related to the quality of formal writing and positively related to informal writing. Educational level also played a role in shaping the results. Regarding formal writing of those who had a college degree, the only significant relationship was found between having more simultaneous IMs and worse formal writing. As to informal writing, sending more text messages led to better writing. However, from receiving no college degree to having a complete college education, the significance of the effect of text messaging on informal writing dramatically declined. In other words, the higher educational level one has, the less likely he/she would be affected by text messaging while writing informally. From the overall results of this research, it can be concluded that textism

affects formal and informal writing differently and the influence also varies based on people's different educational backgrounds.

As found in Rosen et al.'s (2010) research, text messaging seems to negatively affect the quality of formal writing. Drouin (2011) experimented with 152 American college students, trying to identify the hypothesized negative relationships between the frequency of text messaging and literacy, and between the use of textese under different contexts and literacy. The researcher also used a combination of research methods by administering a series of literacy tasks, such as reading, reading fluency and spelling, and then a survey. Analysis of the correlations between variables suggested that text messaging frequency was significantly and positively related to spelling and reading fluency. A significant correlation was also found between the access of social networking sites (SNS) and the use of textese in text messaging, on SNS, and in emails to friends and professors but the correlation between the access of SNS and reading accuracy, spelling or reading fluency was not significant. Interestingly, the frequency of use of textese on SNS and in emails to professors was found to be significantly but negatively correlated with measures of literacy. Specifically, participants who reported using more textese on SNS and those who reported using more textese in emails to professors both scored significantly lower in reading accuracy. Participants reported using textese more in text messages to friends but rarely on SNS or in emails to professors. It seemed that most participants used textese thoughtfully, and often in "appropriate" contexts. Based on these results and previous research findings, the researcher suggested that American college students with greater reading and spelling skills might be using text messaging more frequently than those with poorer literacy skills.

A couple of limitations with the research methods might be worth noting. The measures of the literacy skills were all experimental, not longitudinal, which to some extent affected the accuracy of the actual literacy levels of the students. The survey results were entirely based on students' self-report, which might not reliably reflect the real situation and was also subject to students' individual interpretation of the survey questions. Nevertheless, the findings from Drouin's (2011) research were still intriguing and enlightening to future research. Compared with most previous research, finer distinctions were made into the variables of SNS use and their relations to different literacy skills which were analyzed at a more in-depth level. For instance, it was clearly specified that the use of textese under different contexts impacted literacy skills, such as reading accuracy, spelling and reading fluency, in different ways.

Online Social Networking (OSN) and Writing

During an extensive review of the extant literature, the researcher has found that many scholars have inquired about the relationship between college students' use of social networking technologies and different aspects of their academic performance. However, there are not many research inquiries into the relationship between OSN and writing. Moreover, it is even harder to find original research about the integration of OSN into the college writing classroom. One of the insightful studies in this area was conducted by Vie (2008), who explored the pedagogical feasibility and implications of integrating Generation M's use of OSN sites into the composition classroom. Briefly, the "Generation M" students could be defined as those "tech-savvy and multitasking students" (Roberts, Foehr, & Rideout, 2005, p. 39).

Results from both the survey and the interview suggested a divide between undergraduates and instructors with regard to the use of OSN sites. Sixty-five percent of the students (N = 354) had MySpace accounts and 61% had Facebook accounts, while 43% of them

had accounts on both sites. In contrast, of the 127 college-level writing instructors surveyed, 60% did not use MySpace and 74% did not use Facebook, although most of them reported being familiar with the sites themselves. In spite of the awareness of these sites, most instructors chose not to use them. Apart from the concerns of privacy and time issues, instructors did not participate in these sites due to the teacher identity, which interestingly coincided with a common perspective among students: these sites were "student spaces" and instructors were not expected to encroach on them. Such responses from the instructors could at least partially explain the faculty's reluctance to engage in OSN for either social or educational purposes in Roblyer et al.'s study (2010), which was reviewed earlier in this section.

Given the increasingly expanding networking environment, Vie (2008) predicted that the literacy practices in virtual spaces like on online networking sites would become increasingly influential to composition learning and pedagogies. Instructors' reluctance to use OSN and the fact that they are left so far behind by the students undoubtedly pose big challenges to them in terms of the prospect of technology infiltration and integration in composition classrooms. Therefore, one of the major objectives of the current research is to draw writing instructors' attention to this trend, motivate them to get out of the "technology lag" and initiate positive changes in writing classrooms using popular technologies.

The successful, or rather, encouraging outcomes of technology integration in younger students' writing probably will also bring eye-opening inspirations to educators and scholars at college level. Clark (2009) conducted an extensive survey among 3,001 British primary and secondary school students about the role of social networking technology in their writing. The findings suggested that young people who wrote on a blog and those who had a profile on a social networking site, compared to their counterparts, were more likely to enjoy writing in

general and writing for fun, display confidence in writing, and be creative in producing a variety of texts. It was also found that texting on mobile phones and instant messaging did not negatively impact young people's literacy practice, which was in line with some previous studies (Pew Internet, 2008; Plester, Wood, & Joshi, 2009; Tagliamonte & Denis, 2008).

So far, it becomes obvious that there are contradictory voices about the integration of social networking technology into education as well as into college writing instruction and practice. In a research review article, "Paradox and Promise: MySpace, Facebook, and the Sociopolitics of Social Networking in the Writing Classroom, " Maranto and Barton (2010) extensively reviewed the literature and explored theoretical, rhetorical, and ethical issues of social networking sites and the implications of utilizing (or not utilizing) these web sites in the composition classroom. Analyzing the pros and cons of students' use of social networking sites, the researchers cautioned teachers and students of the privacy concerns, impacts on identity formation, and the potential threats from the abuse of social networking tools. Although teachers collectively could impact students' behavior in virtual spaces, teachers were not expected to "colonize" these sites, which echoes with the common recognition (these sites were "student spaces") found from the responses of both teachers and students in Vie's research (2008); instead, they should develop pedagogical practices and theoretical models about using these sites reasonably to help students correctly construct personal identity and use social networking in life and learning.

Why Facebook?

Naturally, the great popularity of Facebook among young adults, especially among college students, attracts a lot of research interest from scholars in different fields. Before exploring the use of Facebook and its relation to students' academic performance and writing, it

will be helpful to understand why college students use Facebook by reviewing some research in this field.

One of the earliest studies about college students' use of Facebook (FB use) was conducted by Ellison et al. (2007), who surveyed 286 college students about formation and maintenance of social capital and FB use. The researchers found a significant and positive connection between the frequency of FB use and the maintenance and accumulation of social relationships. The frequency of FB use was also positively related to students' satisfaction of university life and mental well-being. Social networking sites like Facebook were widely used by college students to maintain high school connections, keeping their social ties as they moved from one community to another. The researchers observed that such connections strengthened by SNSs would bring payoffs to students' future life and career. Although the findings from this research could not directly explain the possible impacts of FB use upon academics, these findings clarified the primary reasons for students' FB use, which will help later researchers better interpret students' certain behavior of using Facebook. In fact, these findings were also evidenced a few years later in Hew's research (2011).

Hew (2011) did an extensive and in-depth review of the hitherto published research concerning teachers' and students' FB use. The overall findings from the review of 36 empirical studies suggest that (a) Facebook is seldom used for educational purposes by either group; (b) students use Facebook mainly for keeping touch with existing friends instead of creating new contacts; and (c) students tend to disclose more personal information on the site than offline, thus causing more privacy risks.

In another quantitative study, Cheung, Chiu, and Lee (2011) explored why college students (N = 182) use online social networks and they also chose to study their FB use. The

results indicated that social presence had the greatest impact on students' use of Facebook, by which they mostly communicate and connect with their friends. Group norms also facilitated their use of Facebook if they found their peers were using it. Surprisingly, social identity was not found to be significantly related to student's FB use, probably due to the multiple online communities students joined, which hindered the identification with a specific group.

In one of the most recent research reviews, Nadkarni and Hofmann (2012) tried to identify the reasons why people use social networking sites like Facebook. They concluded with a two-factor model of Facebook use, which was driven by two basic social needs: the need to belong and the need for self-presentation. The need to belong is closely tied with self-esteem and self-worth; while by self-presentation FB users aspire to present their online profiles ideally as socially desirable identities. The finding of the need to belong as a driving force of student's FB use was discrepant with the results from Cheung et al.'s study (2011), which was conducted in Hong Kong. Cultural differences between students in Hong Kong and America may lead to the different results, besides the possible differences in the social networking technologies students use. Anyway, this study sheds light on some important factors that motivate people's FB use from a psychological perspective, which are certainly related to students' academic performance.

Facebook and Academics

Although there have been multiple studies about student Facebook use and academic performance before and after Kirschner and Karpinski's (2010) research, theirs was by far the most recognized and frequently cited one (cited 456 times at the time of writing). Kirschner and Karpinski conducted a descriptive and exploratory study into college students' FB use and its relationship to their academic performance. The participants included 102 undergraduates and 107 graduate students at a large mid-western university while most of the extant research

investigated only undergraduate students. The overall results indicated a significant negative correlation between FB use and academic performance. FB users (N = 141) reported a lower mean GPA than FB nonusers (N = 68). As to hours spent studying each week, FB users also reported studying fewer hours each week than FB nonusers. There was also a difference in the time spent studying. FB users reported studying for 1 - 5 hours/week and the nonusers for 11 - 15 hours/week. Although FB users reported a lower mean GPA and fewer hours spent on studying each week than FB nonusers, the two groups did not differ in the amount of time spent on the Internet. Therefore, the different academic performances were very likely to be the results of different study strategies of FB users and nonusers. In addition, most FB users reported that their FB use was not frequent enough to impact their academic performance, while among those FB users who reported such an impact, the majority of them suggested procrastination behavior as the most obvious negative impact.

As reviewed earlier, the findings from Bowman et al.'s (2010) and Paul et al.'s (2012) research suggested that the engagement in online social networking had negative impacts upon student engagement in academic tasks. Such findings were further evidenced in Junco's research (2012) about FB use. Junco (2012) examined the relationship between FB use and student engagement by surveying a large sample of college students (N = 2,368). On average, participants spent 101.09 minutes on Facebook every day and checked the site 5.75 times per day. The results showed that both students' time spent on Facebook (FBTime) and the frequency they checked the site (FBCheck) were significantly and negatively related to their scores on the engagement scale. FBTime was positively related to the participation of co-curricular activities while FBCheck was not related to it. The researcher called on educators and administrators to

pay attention to develop educational practices that use Facebook in ways that maximize students' engagement and learning outcomes.

In another study, Junco (2012) also used a large sample of college students (N = 1,839) and investigated the frequency of FB use and participation in Facebook activities, and their relationship to time spent on preparing for class and actual overall GPA. The findings suggested that the time spent on Facebook was a strong negative predictor of overall GPA, while the frequency of FBCheck was only weakly and negatively related to GPA, although no causal relationship between FB time and grades could be confirmed. The frequency of FBCheck and GPA was negatively related but the relationship was so weak that the impact was not strong enough to actually affect students' grades. Interestingly, although FBTime was a strong negative predictor of students' GPA, it was only a weak negative predictor of time spent on studying. Plus, some activities on Facebook were positively related to time preparing for class, which indicated that certain activities on social networking sites may result in positive academic outcomes. For instance, using Facebook for collecting and sharing information is more likely to bring positive academic outcomes than using Facebook for socializing purposes, such as updating one's own status and chatting.

Although FBTime was found to be negatively related to GPA, it was also found that some activities on Facebook may lead to positive academic outcomes. Clarifying these activities provided pedagogical inspirations for the integration of social networking technology into classroom instruction and meaningful extracurricular activities. The welcoming attitude to such integration among significant proportions of students (46.7% in Roblyer et al.'s research, 2010; 27% in Paul et al.'s research, 2012; Shih, 2011) becomes a positive precondition for the educational use of social networking technology to occur. Such attitudes were again proved in

one of the latest overseas studies. Magogwe and Ntereke (2013) investigated the perceptions of 209 students in the University of Botswana about using Facebook and found that more than 60% of the students held positive attitudes about using Facebook to teach communication and academic literacy skills. These students' enthusiasm in using technology and their acceptance of technology for educational purposes seem to be discrepant with the research findings about the negative relationship between social networking technology use and GPA (Karpinski et al., 2012; Paul et al., 2012). However, GPA alone might not represent the overall academic performance of students. Therefore, other aspects of students' academic life await to be measured so that we can further clarify the dynamics between use of social networking technology and overall academic growth. Moreover, the limitation in reliability of a single research method seems inevitable, though it could be minimized from many perspectives. For instance, the results of Junco's research (2012) were largely based on self-reporting to the survey questions, thus subject to students' accuracy in reporting the real situation. To increase the reliability of the survey results, either longitudinal research or mixed-method research, or a combination of these approaches, can be done in future research, where data of more comprehensive variables of academics and social networking engagement can be obtained, analyzed and interpreted.

Facebook and Writing

In this section, research about the relationship between Facebook and writing will be reviewed. Most of the studies in this field were done fairly recently, within five years at the time of writing. A common theme among several studies is more easily identified than others, i.e. using Facebook for peer assessment or peer editing in writing, which first and foremost utilizes the nature of Facebook as a social networking platform. Another common feature among some

studies in this period is that they are conducted in many ESL/EFL environments, where English is learned as a second/foreign language.

In a longitudinal and mixed-method study, Shih (2011) experimented with integrating Facebook and peer assessment into college English writing class instruction among 23 university students in Taiwan. Facebook platforms for peer assessment of students' writing were used for two thirds of the semester. The post-test showed that students' overall writing scores increased significantly. The survey results showed that students were positive about implementation of Web 2.0 technology in the blended learning course and they highly appreciated the FB use and peer assessment in the learning of English writing. Results from the individual interviews also indicated students' favorable attitude about using Facebook and peer assessment in learning writing. An interesting detail from the results was that the feature of the "like" icon on Facebook moderately stimulated students' motivation for learning English writing. Although no direct causal relationship between Facebook use and improvement of students' writing level could be confirmed, at least it could be concluded that the convenience and popularity of Facebook facilitated the peer interaction, made the learning process more enjoyable and increased students' motivation in learning writing.

In a study done in Malaysia, Yusof, Manan and Alias (2012) explored the potential of using Facebook as a platform for peer feedback during the academic writing process. The study focused on using Facebook during the first stage of process writing, the planning stage, when the students (N = 20) produced their outlines and gave feedback on others' outlines. The results showed that most of the students scored higher in their outlines after giving feedback to others' writing, including those students who did not receive feedback on their own writing. These students reflected that, even though they did not receive feedback from their peers, they

benefited from giving feedback to others' writing by fine-tuning their pre-writing skills and improving their self-editing skills. The online discussions on Facebook made it very clear to them what to do and how to do it. Students were generally enthusiastic about peer editing on Facebook although the majority (more than 80%) of their comments were not very useful. Many students provided feedback that was neither constructive nor closely relevant, after receiving only a short period of training for giving feedback. Nevertheless, the effect of the commenting process was fairly obvious in that the feedback receivers' final outlines were still greatly influenced by the feedback from their peers. The researcher believed that, given more training about giving feedback on Facebook, students would be more proficient in peer editing in academic writing.

The results from both of these experimental studies certainly look promising, regarding students' inflated motivation and improved performance in writing. While revealing the promising prospects of using Facebook in writing instruction, more research with larger sample sizes is still needed to enrich the literature in this field, as the sample populations in both studies were not large ($N = 23$; $N = 20$), which somewhat limited the generalizability of the results. Moreover, both groups of students were EFL (English as a Foreign Language; in Taiwan) and ESL (English as a Second Language; in Malaysia) learners, who might behave differently from native speakers of English while experimenting with Facebook in writing. On the other hand, however, the results of these studies added to the potential of using Facebook for writing instruction among a greater diversity of population.

Some American researchers, Kaufer, Gunawardena, Tan, and Cheek (2011) made a pioneering step in bringing social media into writing instruction in universities. They introduced a new IText technology, Classroom Salon, which resembled Facebook in its many features. Used

as a platform for peer editing and teacher feedback, Class Salon changed the dynamics of the writing classroom. Students preferred annotating on each other's writing drafts because reading drafts became a social activity. Teachers also welcomed it since peer editing was made accountable on this platform. The researchers predicted the wide application of social media in the future writing classroom but also reasoned that the best approach at present is to continue with the best values of the traditional writing instruction and use social media as significant enhancements without sacrificing the focus on texts in traditional classrooms.

This program was designed and used mainly for writing instruction and learning. Considering such a purpose, the other features of the regular social networking technologies might be "trimmed" on this platform by the designers. That might explain why this platform, descending from the social networking technology family, manifested more promise than downsides than those conventional ones while being applied to writing or academic purposes. In fact, no drawbacks or limitations were mentioned in the research report. Another possible reason for the positive feedback from the experimental group might be that all the teachers and students were already well trained in using the software before the survey. The students, in particular, might focus on using the software for writing and peer editing, instead of being distracted by the features in other social networking environments. Although the efficiency and effectiveness of this software in improving students' writing still needs to be further proved in larger populations and over longer periods of time, without a doubt, it is a groundbreaking step in integrating social networking technology into writing in academic settings.

In another study about Facebook and English learning in higher education in Malaysia, Kabilan, Ahmad, and Abidin (2010) surveyed 300 students about their perceptions of using Facebook in their learning of English. Over ninety percent of the participants expressed positive

attitudes about using Facebook as an online environment for learning English. In terms of English writing, 71.6% of the students believed that Facebook offered a good platform for them to practice writing; 69.2% of the students believed that using Facebook could enhance their confidence in English writing; and 67.3% of the students agreed that using Facebook increased their motivation to write in English. Only a small percentage of students did not think Facebook could be an effective online environment for facilitating their English writing. A few students expressed concerns about the distractions from learning online and they believed that students could focus more on the learning aspects instead of the socialization aspects if there were pre-established structures for learning and predetermined learning outcomes to keep them on track.

Such reflections from the students undoubtedly provided very meaningful pedagogical implications for instructors and administrators regarding the design of the writing curriculum and of writing classes. A set of reasonable goals built upon a clear framework for writing instruction may effectively take the best from the integration of social networking technology in students' learning of writing. In the sense of technology innovation in this aspect, Classroom Salon, developed by Kaufer et al. (2011), was indeed an exploratory step in the right direction.

In a more recent study, similar results to Kabilan et al.'s (2010) research were obtained. Yunus, Salehi and Chenzi (2012) conducted a qualitative research about the advantages and disadvantages of integrating social networking services (SNSs) into ESL writing classrooms. On a discussion board set up on Facebook, 15 Malaysian university students were encouraged to give open-ended opinions on integration of SNSs into ESL writing classroom and comment on others' posts. Most respondents believed that using SNSs in writing instruction would bring a lot of benefits. The advantages included enhanced interaction between teachers and students, increased motivation and confidence in English writing, training in thinking and writing skills,

and providing teachers a platform to prepare lessons more efficiently, e.g. planning pre-writing activities. Students also considered the potential drawbacks: students might be distracted more often; features of informal writing like shorthand might affect formal writing; functions of online writing like self-correction might lead to decreased capacity in spelling. Overall, the researchers found that, if combined with teachers' proper guidance and timely feedback, integrating SNSs into writing instruction might better facilitate the creation of a student-centered writing environment and develop students as more motivated and active writers than in the traditional teacher-centered writing classrooms.

In another study in Malaysia, Alias, Manan, Yusof, and Pandian (2012) investigated whether training college students ($N = 40$) to use Facebook Notes as an indirect language learning strategy (LLS) had any effects on the students' LLS use and their academic writing performance. Results from the pre and post tests on the experimental group showed an increase in the use of indirect strategies ($p = .000 < .05$). In other words, the training of using Facebook Notes did facilitate students' use of indirect LLS in writing. However, both the experiment and control groups improved academic writing performance in the post-test and the difference between the two groups' performances was not statistically significant, which indicated that there was no significant relationship between the use of Facebook Notes as a training tool and the improvement of students' academic writing. It can be concluded that Facebook Notes may have the potential to be used as a useful technology tool to train LLS, but how effective it would be in improving students' academic writing performance still needs to be proven in further research and larger sample populations.

In the United States, there has also been research about integrating social networking tools into the writing of students younger than university populations. Pennay (2009) and Teng

(2012) experimented with using online social networking tools, such as blogging and Facebook, to complement classroom writing instruction in middle schools. Both of them found that young teenagers became enthusiastic writers, who produced more dynamic work with clearer purposes. Being aware of the audience and appreciating good models online, students tried to improve their writing by being more elaborate and creative.

Summary

This chapter elucidates the supporting theories and theoretical models of the research and reviews extensively the research that has been done in closely related fields. It is obvious that most of the studies were conducted in recent years and they investigated students' use of social networking technologies and its influence upon their academic performances from multiple perspectives. Most studies produced revealing results, from which both commonalities and differences could be identified.

It was found that teachers and students in higher education hold different attitudes about using social networking technologies for educational purposes, with students having more open and acceptable attitudes than the faculty (Roblyer et al., 2010; Vie, 2008). Many studies explored the relationship between the use of social networking technologies/sites and different aspects of academics and they produced different results. After an in-depth and extensive review of these studies, it was found that the findings of negative influence of using social networking technology/sites upon academics (Bowman et al., 2010; Drouin, 2011; Junco, 2012; Junco & Cotten, 2011; Karpinski et al., 2012; Kirschner & Karpinski, 2010; Paul et al., 2012; Quan-Haase, 2010; Rosen et al., 2010; Rouis et al., 2011) slightly outnumbered the findings of positive influence (Clark, 2009; Kabilan et al., 2010; Kaufer et al., 2011; Magogwe & Ntereke, 2013; Shih, 2011; Yu et al., 2010; Yunus et al., 2012; Yusof et al., 2012). Among those studies that

yielded positive results, several of them were about using Facebook for peer-editing in writing and they were conducted in an ESL/EFL environment (Kabilan et al., 2010; Shih, 2011; Yusof et al., 2012), where English was not spoken as the first language. Facebook was often chosen as a representative for social networking technologies/sites to be investigated but there were much fewer studies about the relationship between Facebook use and academic writing compared with those exploring the relationship between Facebook use and academics. Even less empirical research was done about Facebook use and academic writing at college level in America. The integration of social networking technologies/sites in college writing instruction and learning just started to be discussed and experimented in collegial academia, especially in America. There is still a lack of research literature in this field to provide evident pedagogical guidance for technology integration. In addition, the limited number of studies done in this field were also limited in the reliability and generalizability of their results in American higher education, due to the small size of the sample population, lack of a comprehensive use of data collection methods, or linguistically and culturally different research backgrounds.

Therefore, by focusing on the relationship between Facebook use and academic writing, the current research will inform educators and students with better knowledge about the possible influence from using social networking technology upon academic writing. Such knowledge will no doubt prepare them better for the integration of social networking technology in teaching and learning. In addition, the current research adopts a comprehensive set of data collection methods and uses a substantial size of sample population in a large public American university. These strengths will significantly boost the reliability of the research outcomes, which was often limited by methodological and demographic factors in many of the previous studies. Research methodology will be discussed in greater detail in the next chapter.

CHAPTER 3

METHODOLOGY

As stated in Chapter One, the overall purpose of this study was to investigate how the college students' use of social networking technology affects their writing for academic purposes as well as the students' and their instructors' perceptions about such influence. Both quantitative and qualitative methods were used to collect data during this study. The first set of quantitative data was obtained from the survey about students' use of social networking sites, typically represented by Facebook in this study. The results from the grading and analysis of the academic writing samples of the participating students became another source of quantitative data. The qualitative data were also collected from two sources. One was from the students' responses to the open-ended questions on the survey questionnaire; and the other was from the individual interviews of the participating instructors and some of the students.

Research Setting

In the fall semester of 2013, the researcher conducted the study among 12 sections of first-year students who were taking ENGL 101-Composition I at Indiana University of Pennsylvania (IUP), which is a large public university in the western part of the Commonwealth of Pennsylvania. The researcher also interviewed four of their instructors. The study was conducted on the IUP campus either in classrooms or at locations convenient to the participants. Specifically, the survey was conducted in the classrooms of ENGL 101 and the interviews took place in the library and the researcher's office. The privacy of the participants was effectively protected regardless of the location of the survey or interview.

ENGL 101-Composition I is a compulsory writing course for all first-year students. In the fall semester of 2013, there are 63 sections of ENGL 101 available to first year students of IUP. The course description is as follows:

> Students use a variety of resources to create projects in a variety of writing genres. Resources for writing include but are not limited to memory, observation, critical reading and viewing, analysis, and reflection. Students will use writing processes to draft, peer review, revise and edit their projects. Prerequisites: ENGL 100 where required by placement testing. (IUP-URSA, 2013)

Participants

The participating students came from different majors and different socioeconomic backgrounds, but they were all enrolled in ENGL 101 in fall, 2013. There were altogether 63 sections of ENGL 101 available for the fall semester of 2013. With the help from the English Department, the researcher was able to email all the instructors of the 63 sections, with the description of the study and the invitation letter. Among the instructors who expressed interest in participating in the study, the research finally selected five instructors and the twelve sections they were teaching as participants for the study. The researcher then visited each section in person, introduced the study design to the students, and invited them to participate in the study. As the maximum of enrollment for each section was twenty-two, twelve sections included no more than 264 students. The actual sample population was smaller due to the uneven section size and presence rate on the data collection dates. The researcher distributed the questionnaire in the ENGL 101 classroom of these sections and students had the freedom to participate in the study or choose not to participate. Students who were willing to complete the questionnaire were considered participants and the instructors of the twelve sections were invited to join the individual interview upon their willingness to participate. Four of the instructors actually participated in the individual interview.

It was expected that all participants would be adults between 18 and 65 years, including the undergraduate students and their instructors. The student participants were all first year college students who were willing to join the study and the participating instructors were those who were willing to be interviewed. The participants included both male and female students while the interviewed instructors happened to be all female. Gender distribution was subject to course registration and might not be balanced. Students who were not taking ENGL 101 and who were in higher grades taking the same course were excluded from the study. Students younger than 18 years old were also declined from joining the study. They were provided with appropriate reading materials while other students were completing the survey questionnaire in class. No vulnerable subjects were included in this study. All participants were adults and volunteers who might withdraw at any point in the study by informing the principal investigator via email or in person. If a participant chose to withdraw during the interview process, they stated their decision to withdraw directly to the researcher. All data collected to that point would be destroyed. By the completion of the data collection process, no participants withdrew after they chose to participate.

Survey Instrument

The quantitative part of the study consists of a questionnaire survey (see Appendix A). Since the researcher planned to bring the printed questionnaire to class and distribute them to the students in person, no online tools were needed to design and distribute the questionnaire. The questionnaire was initially designed and used by Shannon O'Brien in her research for her doctoral dissertation, which was conducted at Temple University in 2011. The purpose of her study was to investigate the influence of using Facebook and Internet upon college students' academics, which was similar to the goal of the current research but a bit broader in terms of

students' academic performances. Before distributing the survey among the targeted sample population, O'Brien administered two rounds of pilot studies, first to six undergraduates and then to 43 undergraduates in two separate classes. Modifications were made to the questionnaire after each pilot study. The second version of the survey took students approximately ten minutes to finish. The parts adopted in the current research would take less time because the questions about Internet use were not included. From the feedback of the students who participated in the pilot studies, it seemed that students had no difficulty in understanding the questions and they knew how to answer them (O'Brien, 2011). Upon the permission from the original author (O'Brien, 2011), the researcher of the current study adopted the parts of the survey that investigated students' use of Facebook and its influence upon their academics. The parts used to investigate Facebook use and Internet use in the original survey were separated and independent of each other. Therefore, selection of the part of the survey on Facebook use alone will not affect the validity of the survey instrument. The researcher did not make any modifications to the original survey questions.

In addition, the researcher examined the reliability of the selected survey scale by measuring its internal consistency, which shows the degree to which the items in the scale all measure the same construct (Palant, 2013). One of the most commonly used indicators of internal consistency is Cronbach's alpha coefficient (Pallant, 2013). After properly reverse-scoring one negatively worded question in each part of the survey (e.g. "try to cut down use" in the "FBUseAttitude" scale and "self-control" in the "FBUseImpact" scale), the Cronbach's Alpha value for each scale was .716 and .799 respectively. Values above .7 are considered acceptable and values above .8 are preferable (DeVellis, 2012; Pallant, 2013). Therefore, the reliability of the survey instrument was fully validated.

At the very beginning of the questionnaire, there are six questions about the demographic information of the participants, such as their IUP banner ID, age, gender, race, country of origin and academic major(s) at IUP. This remainder of the survey consists of three subsections. The first section is about Facebook use, in which the participants are first asked whether they have a Facebook account. If they do, they are asked to proceed to more questions (starting from Question 9) about how frequently they use it, how much time they spend on it daily, what activities they do most on Facebook and the frequency of doing it. There are also two open-ended questions about what they like and dislike about using Facebook. If the participants don't have a Facebook account, they will be asked why they don't have one or have deleted it previously.

The second and third sections of this part of the survey include altogether 18 statements with 5-point Likert scale items (1 = strongly disagree to 5 = strongly agree). The second section includes eight statements (Statements 15 to 22) which focus on the participants' intensity of Facebook use in school and daily life (e.g. "I log on Facebook and check it regularly whenever I am on the computer."). The third section, containing ten statements (Statements 23 to 32), focuses on students' perceptions about the influence of Facebook use upon their academics (e.g. "Facebook distracts me from studying/doing schoolwork.").

Topic of Writing Assignment

In addition to the survey, the researcher planned to give the participants an in-class writing assignment, after they completed the survey questionnaire. Instructors of the participating students were not involved in this process so that students would not develop any concern with their final grade of the course while completing this writing assignment. After careful discussions with two instructors in the English Department and one professor in the

Department of Professional Studies, the researcher finally decided on the following topic for the writing assignment:

Issue: Are We Too Dependent on Modern Technology?

As it was intended to be an in-class writing task, the researcher chose a topic that students might be familiar with and be interested in writing about. All three instructors agreed that this topic would be appropriate for an argumentative essay. One English instructor also helped the researcher revise the writing prompt. All the instructors thought it was feasible for students to complete such a short and coherent essay within a class period (50 minutes). The final version of the prompt is attached in Appendix D. The researcher provided each student with two pieces of regular lined notebook paper. Students were told that they were expected to write from one to two pages. No minimum word limit was required for the students. They were told to put only their IUP banner ID on top of the paper upon completion of writing.

Scoring Rubric

To grade the writing samples, the researcher adopted the "College-Level Writing Rubric" developed and used in St. Mary's College (see Appendix E). The researcher contacted the author of the rubric, Melanie Booth, and obtained her permission to use it in the current study (The letter of permission is attached in Appendix F.). Based on the rubric, the writing samples are evaluated based on seven categories: 1) focus, purpose, thesis; 2) ideas, support and development; 3) structure and organization; 4) audience, tone and point-of-view; 5) sentence structure (grammar); 6) mechanics and presentation; 7) vocabulary and word use. Six scales are used to evaluate the writing in each of the categories. Arranged from the best to the worst, they are "masterful," "skilled," "able," "developing," "novice," and "way off." To quantify the scales, the researcher also sought the author's permission and matched numerical values to them

accordingly, 5 to 0, ranging from the best to the worst. The researcher made no changes to the standards in each category and there were no deleted or added items to either the categories or the columns of scales.

From the instructors of ENGL 101, the researcher selected three of them who agreed to be the evaluators of the writing samples. The selected instructors had good experience in evaluating freshman composition writing because all of them had taught ENGL 101 at least twice. Nevertheless, before grading the samples, the researcher gave the instructors "training" in order to ensure the utmost inter-rater reliability. The researcher met together with these three instructors and familiarized them with the scoring rubric. Then the researcher randomly selected fifteen samples of writing from all those collected and asked the instructors to grade five of them at each round of meeting. The researcher himself also participated in the pilot grading. After grading each writing sample, the researcher collected the scores of the overall writing and calculated the mean values of them. The researcher then announced the mean score and asked the instructors to examine how their scores varied from the mean. Upon completion of the three rounds of pilot grading, the researcher examined the correlations among all the scores of the four raters using the Statistical Package for the Social Sciences (SPSS). The results are reported in Table 1 and Figure 3 below.

Table 1

Correlations Among Raters' Pilot Grading Scores

		Rater1	Rater2	Rater3	Rater4
Rater1	Pearson Correlation	1	.884**	.973**	.933**
	Sig. (2-tailed)		.000	.000	.000
	N	15	15	15	15
Rater2	Pearson Correlation	.884**	1	.856**	.904**
	Sig. (2-tailed)	.000		.000	.000
	N	15	15	15	15
Rater3	Pearson Correlation	.973**	.856**	1	.899**
	Sig. (2-tailed)	.000	.000		.000
	N	15	15	15	15
Rater4	Pearson Correlation	.933**	.904**	.899**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	15	15	15	15

Note. **. Correlation is significant at the 0.01 level (2-tailed).

As seen in Table 1, all the *p* values (.000) are obviously much smaller than .01, which indicates significant correlation between each pair of raters' scores. The *r* values, ranging from .856 to .973, are close to 1, which indicates a close to perfect positive correlation between each pair of raters' scores. In other words, the four raters' grading criteria have been highly consistent.

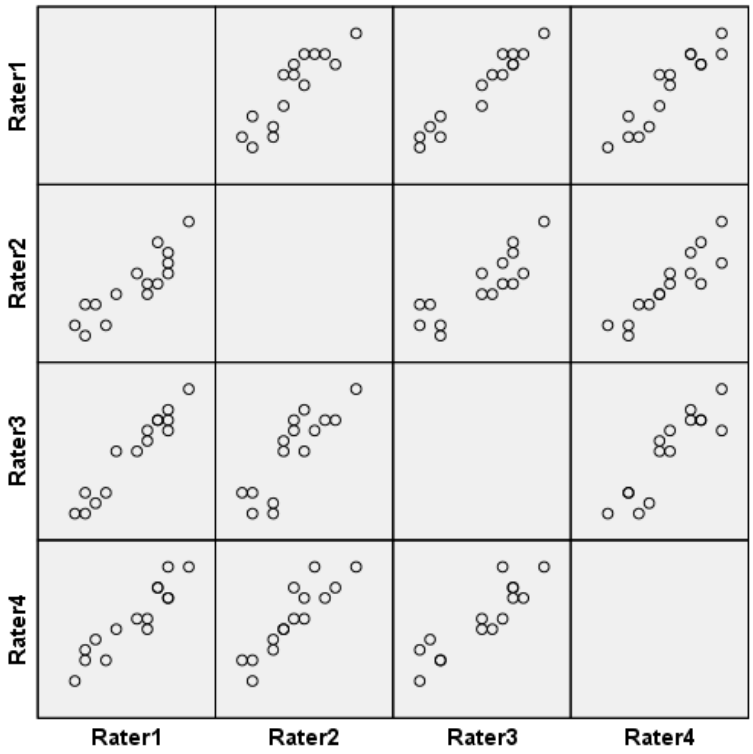

Figure 3. Graph-correlations among raters' pilot grading scores.

Figure 3 provides a graphical presentation of the strong positive correlation between each pair of raters' scores. In the matrix, the scatter plots representing the correlation strength are all tightly distributed along the upward diagonal lines. This also indicates the high consistency of grading among the raters, which, to a great extent, ensured the reliability of the measure of students' writing performance as an important variable.

When that was done, the researcher split the collected writing samples evenly among the three instructors for grading. To minimize bias in the grading process, the researcher purposefully avoided assigning the instructors the writing samples from the sections they were teaching. Therefore, it was almost impossible for them to know the identity of the students who wrote the essays.

Interview Questions for Students

After analyzing the survey results and gathering all the scores of the graded writing samples, the researcher matched the survey results with the students' writing scores by their banner ID. The researcher selected fourteen students from the respondents who scored highest on the survey questions about Facebook check frequency and time of Facebook use (Questions 9 and 10). With such a method of selection, the researcher hoped to interview those students who were more "authentic" Facebook users than those who used it less. The interview questions focused on their perceptions about the influence of using social networking technology (typically Facebook) upon their academic writing and the integration of social networking technology in writing instruction. There were also questions about students' educational background, using Facebook for what purposes, and their goals for writing classes, etc. For example, the student was asked, "Does your writing on social networking tools, such as Facebook, affect your academic writing? If yes, what are the positive and/or negative influences of digital writing on your academic writing? What aspects of academic writing are affected? "

Interview Questions for Instructors

The five interview questions for the participating instructors seek to find out about the instructors' use of social networking technologies with students, their perception about students' use of social networking technologies and its influence upon their academic writing, and the instructors' thoughts on integrating these technologies into the instruction of writing classes. For example, the instructors will be asked, "Do you think students' use of social networking technologies affect their academic writing? If yes, in what aspect(s)?" or "Do you incorporate social networking technologies into your instruction of writing classes in any way? If so, please describe the frequency and how you do it."

Procedure (Quantitative & Qualitative)

With the help of the administrators of the English Department, the researcher contacted the instructors of ENGL 101 in fall 2013. The researcher sent them emails with a brief description of the study and the invitation letter to participate in the study. Among the instructors who were willing to participate, the researcher randomly selected those of twelve sections of ENGL 101. The researcher then arranged personal meetings (or exchanged emails) with these instructors to discuss in detail how they were going to collaborate with the researcher in the research. This included arrangement of the time for the in-class survey, assigning the writing task in class, and the date of personal interview. The researcher also invited three instructors of ENGL 101 to be the evaluators of the writing samples.

Upon start of the study, the researcher came to each section of ENGL 101 on the negotiated date to administer the survey. The researcher briefly explained the purpose, significance and the procedure to the students and invited them to participate in the study. The researcher then distributed the questionnaire to the whole class and announced that by choosing to complete the survey, students voluntarily agreed to participate in the study (Yu, 2011). If anyone chose not to participate or they were below 18 years of age, they were provided with reading materials to work on. Answering all the survey questions might take the participants 10 to 15 minutes, during which the instructor were prepared to give those students who didn't take the survey or quitted it halfway a reading task to work on. When every participating student finished the survey, the researcher collected all the questionnaires, which was marked by the students' IUP banner ID instead of their names. The researcher came to twelve sections of ENGL 101 to administer the survey and collected the questionnaires in person.

After taking the survey, each of the participating sections was given the same writing task by the researcher. Again, the students were asked to mark their writing with their IUP banner ID instead of their names before turning it in. After collecting the writing samples, the researcher had the three invited instructors grade them with the same scoring rubric. The researcher then matched their grades with their survey responses according to their banner ID.

Upon analyzing the responses from the survey and gathering all the writing scores, the researcher selected 14 participating students for further investigation, the personal interview. These students scored high on Facebook use questions (Questions 9 and 10) on the survey and they were all willing to be interviewed personally. The researcher then sent out an invitation letter for the individual interview to these students. When they confirmed agreement to join the interview, the location and date for the interview were determined at their convenience. The participants were informed in the invitation email that the interview would be audio-recorded. An interview protocol was used and the interviews averagely took 25 to 30 minutes. Afterwards, all the interview responses were transcribed by the researcher for analysis.

Four of the instructors of the twelve participating sections of ENGL 101 were also individually interviewed. The participants were informed in the invitation email that the interview would be audio-recorded. An interview protocol was used and each interview took about 30 minutes. The interviews were conducted in the interviewees' offices where their privacy was effectively protected. The interview responses were later transcribed by the researcher for analysis. All the procedures and methods of data collection were approved by the Institutional Review Board prior to the start of the study (Appendix H).

Data Analysis

Both quantitative and qualitative data were collected and analyzed in this study. The quantitative data were obtained from two sources: the survey responses and the scores from the writing samples. Upon finishing the class visits to twelve sections of ENGL 101, the survey was completed and writing examples were collected. Survey responses were uploaded into an SPSS database. The writing samples were graded by three instructors from the English Department. When the grading was finished all the writing scores were uploaded into the same SPSS database. In the meantime, the participants' writing scores were matched up with their survey responses based on their IUP banner ID. The individual interviews were conducted soon after the start of the survey investigation and weren't concluded until two weeks after the survey was finished. All the interview responses were transcribed and reviewed by the researcher.

All the quantitative data collected through the questionnaire survey were analyzed using SPSS. Specifically, SPSS software was used to analyze the data to answer Research Questions 1, 2 and 3, which are as follows:

1. How frequently do undergraduate students use social networking technologies on a regular basis?
2. How do the frequency and duration of undergraduate students' use of social networking technology correlate with their performance in academic writing?
3. How are different aspects of undergraduate students' academic writing correlated with their use of social networking technology?

To answer Question 1, descriptive statistics, including the means and standard deviation, were calculated and used to describe the frequency of participants' use of Facebook, as an example of social networking technologies. To answer Questions 2 and 3, Pearson correlation

coefficient was calculated. Because of the uncertain nature of the data and normal distribution before the data analysis, both parametric and non-parametric tests were conducted to investigate the correlation between participants' Facebook use (numerical data about frequency) and their performance in academic writing (overall writing scores and scores in each category of the rubric). Pearson Product-Moment Correlation Coefficient was run for the parametric test and Spearman's rank correlation coefficient was run for the non-parametric test. Considering the reliability and efficiency of the research methods used, the results from only one of these tests were adopted and interpreted since the results of both tests turned out to be similar.

The qualitative data were obtained from the open-ended questions from the survey and the individual interviews of the selected students and the participating instructors. Both common themes and differences among the responses were identified and discussed. Qualitative data from the interviews provided answers to Research Questions 4 to 6.

CHAPTER 4

RESULTS

Introduction

This chapter is organized into two sections. The first section introduces participants' characteristics, including their age, major, and race distributions. The second section presents the results addressing each of the research questions.

Altogether the researcher visited and investigated twelve sections of ENGL 101. The researcher handed out 237 survey questionnaires in total and collected 236 completed copies in return (The response rate was 99.6%). The high response rate was most likely due to the onsite distribution and administration by the researcher in person. The one student who did not participate was under the age of eighteen. Twenty-one responses were excluded in the final analysis because four of them were incomplete; sixteen of them (6.7% among all 236 participants) claimed having no Facebook account; and one of them was ruled out as an outlier, with reported times to check Facebook as 100 times daily and time spent on it as 20 hours daily. Among the remaining 215 responses, eight of them (3.7%) could not be used for the correlation analysis between Facebook use and writing performance because these participants did not complete the essay although they filled out the survey questionnaire.

Participant Characteristics

After filtering out the invalid responses, 215 responses were kept for the final analysis. They were from a sample population which included 138 female students (64%) and 77 male students (36%). As they were all taking ENGL 101 at the time of the research, they were all freshmen at IUP in the fall semester of 2013. The majority of them, 202 students (94%) were

from the IUP main campus and 13 (6%) were from a branch campus in Punxsutawney, PA.

Participants' age characteristics are presented in Table 2.

Table 2

Age Distribution of the Participants

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-20	187	87.0	87.0	87.0
	21-23	23	10.7	10.7	97.7
	24-26	2	.9	.9	98.6
	30-40	1	.5	.5	99.1
	41+	2	.9	.9	100.0
	Total	215	100.0	100.0	

It is obvious that most (87%) of the participants were between 18 to 20 years old.

The participants included students of different majors from all the six colleges in IUP. The distribution of the participants' colleges is presented in Table 3.

Table 3

Distribution of Colleges Among the Participants

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	College of Health and Human Services	78	36.3	36.3	36.3
	College of Natural Sciences and Mathematics	44	20.5	20.5	56.7
	Eberly College of Business and Information Technology	38	17.7	17.7	74.4
	College of Education and Educational Technology	22	10.2	10.2	84.7
	College of Fine Arts	15	7.0	7.0	91.6
	College of Humanities and Social Sciences	13	6.0	6.0	97.7
	Undecided Business	5	2.3	2.3	100.0
	Total	215	100.0	100.0	

Participants' race characteristics are presented in Table 4.

Table 4

Race Distribution Among the Participants

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	American Indian or Alaska Native	2	.9	.9	.9
	African American	26	12.1	12.1	13.0
	Asian or Pacific Islanders	2	.9	.9	14.0
	White or Caucasian	182	84.7	84.7	98.6
	Other	3	1.4	1.4	100.0
	Total	215	100.0	100.0	

Research Questions

Research Question 1

The first research question is "How frequently do undergraduate students use social networking technology on a regular basis?" To answer this question, descriptive statistics were computed to report participants' frequency of Facebook use per day, time spent on Facebook per day, the intervals between their Facebook checks per day, and the most common activities they did on Facebook on daily basis.

Participants' frequency of using Facebook is presented in Table 5.

Table 5

Facebook Use Frequency

	N	Minimum	Maximum	Mean	Std. Deviation
times per day	214	.00	40.00	3.9957	4.98873
Valid *N* (listwise)	214				

It is evident that the participants, on average, used Facebook almost four (3.9957) times per day. The distribution of the differences in the frequency of use is reported in Table 6 below.

Table 6

Distribution of Facebook Use Frequency

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<= 1.00	62	28.8	29.0	29.0
	1.01 - 2.00	37	17.2	17.3	46.3
	2.01 - 3.00	37	17.2	17.3	63.6
	3.01 - 5.00	41	19.1	19.2	82.7
	5.01+	37	17.2	17.3	100.0
	Total	214	99.5	100.0	
Missing	System	1	.5		
Total		215	100.0		

Participants' time spent on Facebook per day is presented in Table 7.

Table 7

Time Spent on Facebook

	N	Minimum	Maximum	Mean	Std. Deviation
minutes per day	209	0	360	53.38	60.279
Valid *N* (listwise)	209				

On average, the participants spent almost an hour (53.38 minutes) per day on Facebook. The detailed distribution of the differences in terms of Facebook engagement per day is presented in Table 8 below.

Table 8

Distribution of Time Spent on Facebook

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<= 10	50	23.3	23.9	23.9
	11 - 15	13	6.0	6.2	30.1
	16 - 30	61	28.4	29.2	59.3
	31 - 60	36	16.7	17.2	76.6
	61 - 120	31	14.4	14.8	91.4
	121+	18	8.4	8.6	100.0
	Total	209	97.2	100.0	
Missing	System	6	2.8		
Total		215	100.0		

Table 9 reports the intervals between participants' Facebook checks while they are studying or doing schoolwork.

Table 9

Time Between Facebook Checks

	N	Minimum	Maximum	Mean	Std. Deviation
time between FB checks (minutes)	193	0	1440	149.73	211.374
Valid *N* (listwise)	193				

The mean value is 149.73 minutes, which suggests that, on average, participants averagely checked Facebook every two and a half hours while they were doing academic work. The detailed distribution of their "delay" in checking Facebook is reported in Table 10 as follows.

Table 10

Distribution of Time Between Facebook Checks (Minutes)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<= 30	48	22.3	24.9	24.9
	31 - 60	42	19.5	21.8	46.6
	61 - 120	40	18.6	20.7	67.4
	121 - 240	41	19.1	21.2	88.6
	241+	22	10.2	11.4	100.0
	Total	193	89.8	100.0	
Missing	System	22	10.2		
Total		215	100.0[a]		

[a] *Note.* There are 22 missing values, which indicate no valid information. So only the valid percent will be looked at. Among the category of "241+", three participants report 1440 minutes, which indicates they don't check Facebook at all on the day of study.

Participants' most common Facebook activities are presented in Table 11 below.

Table 11

Favorite Facebook Activities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Check news feed	80	37.2	37.2	37.2
	View statuses	23	10.7	10.7	47.9
	Check and answer messages	16	7.4	7.4	55.3
	Check notifications	14	6.5	6.5	61.9
	Look at pictures	13	6.0	6.0	67.9
	Other activities	13	6.0	6.0	74.0
	Read posts	12	5.6	5.6	79.5
	Do English assignment	10	4.7	4.7	84.2
	Talk to friends	8	3.7	3.7	87.9
	Look at my time line	7	3.3	3.3	91.2
	Keep in touch with family	6	2.8	2.8	94.0
	Post pictures/ status updates	6	2.8	2.8	96.7
	Check groups' homepage	4	1.9	1.9	98.6
	Play games	3	1.4	1.4	100.0
	Total	215	100.0	100.0	

Research Question 2

The second research question is “How do the frequency and duration of undergraduate students’ use of social networking technology correlate with their performance in academic writing?” To answer this question, Pearson Correlation Coefficients were run to examine the correlation between participants’ use of Facebook per day and their total writing score. There were seven aspects in the rubric for grading the writing samples. The target score for each aspect was five points so the full score for a writing sample was 35 points.

Table 12 presents the descriptive statistics of the participants’ total writing score.

Table 12

Total Writing Score

	N	Minimum	Maximum	Mean	Std. Deviation
Total Score	207	13	35	27.92	3.820
Valid *N* (listwise)	207				

Correlations between participants' total writing score and Facebook Use Frequency and Time were calculated and are reported in Table 13.

Table 13

Correlations Between Total Score and Facebook Use Pattern

		Total Score
Total Score	Pearson Correlation	1
	Sig. (2-tailed)	
	N	207
times per day	Pearson Correlation	-.054
	Sig. (2-tailed)	.440
	N	206
minutes per day	Pearson Correlation	.101
	Sig. (2-tailed)	.154
	N	201
time between FB checks (minutes)	Pearson Correlation	-.127
	Sig. (2-tailed)	.083
	N	186

Note. **. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

From the output presented above, the significance of relationship between Total Score and times (to use FB) per day was $p = .440$; the correlation between Total Score and minutes (on FB) per day was $p = .154$; the correlation between Total Score and time between FB checks was $p = .083$.

All the *p* values obtained were above 0.05, which indicated that no statistically significant relationship could be identified between these groups of correlation coefficients.

Since no significant correlations were found between participants' Facebook use and their total writing score, the researcher went further to examine the correlation between their total writing scores and their perceptions of Facebook use. The Likert questionnaire items on the survey contained two scales: Questions 15 to 22 examined participants' attitude about their own Facebook use; Questions 23 to 32 examined participants' perception of how Facebook use impacted them academically. Before running the correlation tests, the researcher computed the participants' responses to each item under the two categories mentioned above.

Participants' attitude about their Facebook use is reported in Table 14 as follows.

Table 14

Attitudes about Facebook Use

Survey Question	*N*	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean
Facebook has become part of my daily routine.	215	19 8.8%	25 11.6%	44 20.5%	76 35.3%	51 23.7%	3.53
I log on to Facebook and check it regularly whenever I am on the computer.	215	21 9.8%	40 18.6%	48 22.3%	67 31.2%	39 18.1%	3.29
I lose track of time when I am on Facebook.	215	29 13.5%	89 41.4%	47 21.9%	37 17.2%	13 6.0%	2.61
I have tried to cut down on my Facebook use.	215	18 8.4%	36 16.7%	80 37.2%	55 25.6%	26 12.1%	3.16
I would be upset if I were no longer able to use Facebook.	215	35 16.3%	66 30.7%	59 27.4%	48 22.3%	7 3.3%	2.66
Sometimes I go on Facebook while I am in class.	214	67 31.2%	58 27.0%	21 9.8%	60 27.9%	8 3.7%	2.46
When I am not on Facebook I find myself wondering what I am missing.	215	95 44.2%	87 40.5%	19 8.8%	12 5.6%	2 .9%	1.79
I think I might be addicted to Facebook.	215	129 60.0%	56 26.0%	25 11.6%	4 1.9%	1 .5%	1.57

Note. N = number of respondents. Percentages of responses to survey questions were computed with a total of 215.

Participants' perception of the impact from Facebook use upon academics is reported in Table 15 below.

Table 15

Perceptions of Impact From Facebook Use

Survey Question	*N*	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean
Facebook distracts me from studying/doing schoolwork.	215	43 20.0%	59 27.4%	53 24.7%	46 21.4%	14 6.5%	2.67
I use Facebook to procrastinate when I should be studying/doing schoolwork.	215	32 14.9%	40 18.6%	44 20.5%	78 36.3%	21 9.8%	3.07
The time I spend on Facebook takes away from studying/schoolwork time.	214	43 20.0%	55 25.6%	44 20.5%	60 27.9%	12 5.6%	2.73
If Facebook did not exist, I would get a lot more studying and schoolwork done.	214	31 14.4%	67 31.2%	73 34.0%	31 14.4%	12 5.6%	2.65
I have missed a class because I was on Facebook.	214	198 92.1%	15 7.0%	1 .5%	0 .0%	0 .0%	1.08
I would be getting better grades if I spent less time on Facebook.	214	110 51.2%	62 28.8%	30 14.0%	9 4.2%	3 1.4%	1.36
My grades are suffering because of my Facebook use.	214	149 69.3%	55 25.6%	9 4.2%	1 .5%	0 .0%	1.79
I am able to control my use of Facebook so that it does not interfere with studying/doing schoolwork.	214	3 1.4%	6 2.8%	34 15.8%	84 39.1%	87 40.5%	4.15
I have had to wait for a computer at the Tech Center or library because other students were on Facebook.	214	83 38.6%	58 27.0%	41 19.1%	24 11.2%	8 3.7%	2.14
I use Facebook to communicate with classmates about course related issues.	214	23 10.7%	29 13.5%	41 19.1%	96 44.7%	25 11.6%	3.33

Note. *N* = number of respondents. Percentages of responses to survey questions were computed with a total of 215.

The researcher then computed the mean value of each participant's responses to the items in each scale. After that, correlation tests were run between the total writing score and Facebook use attitude, and between total writing score and perceived Facebook use impact upon academics. The results are reported in Table 16.

Table 16

Correlations Between Total Score and Perceptions of Facebook Use

		Total Score	FBUSEATT	FBUSEIMPACT
Total Score	Pearson Correlation	1	.127	.110
	Sig. (2-tailed)		.070	.115
	N	207	206	206
FBUSEATT	Pearson Correlation	.127	1	.649**
	Sig. (2-tailed)	.070		.000
	N	206	214	213
FBUSEIMPACT	Pearson Correlation	.110	.649**	1
	Sig. (2-tailed)	.115	.000	
	N	206	213	214

Note. **. Correlation is significant at the 0.01 level (2-tailed).

With the *p* value at .070 and .115 (above .01) respectively, no significant correlation was identified between the total writing score and the mean value of either of the two scales.

The researcher then ran a correlation test between Total Score and each questionnaire item in the Facebook Use scale. The results are presented as follows.

Table 17

Correlations Between Total Score and Facebook Use Attitudes

		Total Score
Total Score	Pearson Correlation	1
	Sig. (2-tailed)	
	N	207
daily routine	Pearson Correlation	.207**
	Sig. (2-tailed)	.003
	N	207
check regularly	Pearson Correlation	.125
	Sig. (2-tailed)	.073
	N	207
lose track of time	Pearson Correlation	.132
	Sig. (2-tailed)	.059
	N	207
cut down use	Pearson Correlation	.020
	Sig. (2-tailed)	.769
	N	207
upset if no use	Pearson Correlation	.134
	Sig. (2-tailed)	.054
	N	207
class use	Pearson Correlation	-.011
	Sig. (2-tailed)	.877
	N	206
missing if not on FB	Pearson Correlation	-.043
	Sig. (2-tailed)	.537
	N	207
addiction	Pearson Correlation	-.036
	Sig. (2-tailed)	.604
	N	207

Note. **. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

It was obvious that only one significant correlation (p = .003) was found, which was between Total Score and “daily routine” (“Facebook has become part of my daily routine”). Based on Cohen’s (1988) guidelines to interpret the strength of correlation values, r value between .10

to .29 indicates “small” correlation. Therefore, the strength of the correlation between these two coefficients was “small” (r = .207).

The researcher continued to run a correlation test between Total Score and each questionnaire item in the Facebook Use Impact scale. The results are presented in Table 18.

Table 18

Correlations Between Total Score and Perceived Facebook Use Impact

		Total Score
Total Score	Pearson Correlation	1
	Sig. (2-tailed)	
	N	207
distraction from study	Pearson Correlation	.102
	Sig. (2-tailed)	.144
	N	207
procrastination	Pearson Correlation	.102
	Sig. (2-tailed)	.144
	N	207
distraction from study2	Pearson Correlation	.094
	Sig. (2-tailed)	.178
	N	206
distraction from study3	Pearson Correlation	.079
	Sig. (2-tailed)	.260
	N	206
missed class	Pearson Correlation	-.029
	Sig. (2-tailed)	.679
	N	206
better grades	Pearson Correlation	.016
	Sig. (2-tailed)	.818
	N	206
better grades	Pearson Correlation	.024
	Sig. (2-tailed)	.737
	N	206
self-control	Pearson Correlation	-.129
	Sig. (2-tailed)	.064
	N	206
external impact	Pearson Correlation	.064
	Sig. (2-tailed)	.360
	N	206
communication with classmates	Pearson Correlation	.149*
	Sig. (2-tailed)	.033
	N	206

Note. *. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Again, only one significant correlation (p = .033) was found, which was between Total Score and "communication with classmates" ("I use Facebook to communicate with classmates about course related issues"). The r value was .149, which suggested even weaker strength of the correlation (Cohen, 1988).

Research Question 3

The third research question is "How are different aspects of undergraduate students' academic writing correlated with their use of social networking technology?" As seen in the grading rubric for writing (Appendix E), the writing samples were evaluated based on seven aspects, each of which was given a score by the raters. To answer Question 3, the researcher first examined the correlation between the variables of participants' Facebook use and the scores of the different aspects in their writing. The results are reported in Table 19 as follows.

Table 19

Correlations Between Scores of Different Writing Aspects and Facebook Use Pattern

		times per day	minutes per day	time between FB checks (minutes)
FocusThesis	Pearson Correlation	-.058	.096	-.078
	Sig. (2-tailed)	.406	.177	.292
	N	206	201	186
IdeasSupport	Pearson Correlation	-.022	.086	-.127
	Sig. (2-tailed)	.753	.222	.085
	N	206	201	186
Organization	Pearson Correlation	.003	.112	-.096
	Sig. (2-tailed)	.970	.114	.193
	N	206	201	186
AudienceTone	Pearson Correlation	-.070	.058	-.033
	Sig. (2-tailed)	.320	.417	.656
	N	206	201	186
Grammar	Pearson Correlation	-.121	-.014	-.102
	Sig. (2-tailed)	.082	.847	.167
	N	206	201	186
Mechanics	Pearson Correlation	-.020	.005	-.042
	Sig. (2-tailed)	.775	.943	.569
	N	206	201	186
Vocabulary	Pearson Correlation	-.017	.203**	-.215**
	Sig. (2-tailed)	.807	.004	.003
	N	206	201	186

Note. **. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Highlighted by the asterisks in the table, significant correlation was observed between vocabulary and minutes per day, as well as between vocabulary and time between FB checks. The relationship was positive between the first pair and negative in the second pair. The *p* values of .004 and .003, both less than .01, indicated significant correlation between the correlation coefficients.

To dig deeper into the relationship between participants' academic writing performance and their use of social networking technology, the researcher examined the correlation between

participants' writing performances in different aspects and the mean value of their Facebook use attitude scale. Table 20 is a presentation of the results.

Table 20

Correlations Between Scores of Different Writing Aspects and Mean Value of Facebook Use Attitude

		FBUSEATT
FocusThesis	Pearson Correlation	.043
	Sig. (2-tailed)	.540
	N	206
IdeasSupport	Pearson Correlation	.129
	Sig. (2-tailed)	.064
	N	206
Organization	Pearson Correlation	.188**
	Sig. (2-tailed)	.007
	N	206
AudienceTone	Pearson Correlation	.078
	Sig. (2-tailed)	.268
	N	206
Grammar	Pearson Correlation	.060
	Sig. (2-tailed)	.393
	N	206
Mechanics	Pearson Correlation	.045
	Sig. (2-tailed)	.517
	N	206
Vocabulary	Pearson Correlation	.118
	Sig. (2-tailed)	.092
	N	206

Note. **. Correlation is significant at the 0.01 level (2-tailed).

As shown in Table 20, a significant correlation was found between participant's score on Organization and their FBUSEATT (Facebook use attitude), with $p = .007$ and $r = .188$.

Since a significant correlation was identified between an aspect of writing and the mean value of the Facebook use attitude scale, the researcher deemed it necessary to run a correlation test between the scores of all writing aspects and all the questionnaire items in the Facebook use

attitude scale. Due to the large size of the table generated by SPSS, the researcher selectively presented the part of the matrix containing all the significant correlations. Table 21 below presents the correlations between all aspects of writing and Daily Routine ("Facebook has become part of my daily routine"), one of the Facebook use attitude questionnaire items.

Table 21

Correlations Between Scores of Different Writing Aspects and Daily Routine

		daily routine
FocusThesis	Pearson Correlation	.101
	Sig. (2-tailed)	.149
	N	207
IdeasSupport	Pearson Correlation	.193**
	Sig. (2-tailed)	.005
	N	207
Organization	Pearson Correlation	.237**
	Sig. (2-tailed)	.001
	N	207
AudienceTone	Pearson Correlation	.189**
	Sig. (2-tailed)	.006
	N	207
Grammar	Pearson Correlation	.094
	Sig. (2-tailed)	.176
	N	207
Mechanics	Pearson Correlation	.111
	Sig. (2-tailed)	.110
	N	207
Vocabulary	Pearson Correlation	.165*
	Sig. (2-tailed)	.018
	N	207

Note. **. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).

Examining the *p* values, significant correlation was found between Daily Routine and four aspects of writing: Ideas Support, Organization, Audience Tone, and Vocabulary. Looking at the

r values highlighted by asterisks, the strength of the correlation with Daily Routine increased in such a sequence: vocabulary (*r* = .165), Audience Tone (*r* = .189), Ideas Support (*r* = .193), and Organization (*r* = .237).

By the same token, the researcher examined the correlation between participants' writing scores in different aspects and the mean value of their Facebook Use Impact Scale. The results are shown in Table 22 below.

Table 22

Correlations Between Scores of Different Writing Aspects and Mean Value of Facebook Use Impact

		FBUSEIMPACT
FocusThesis	Pearson Correlation	.094
	Sig. (2-tailed)	.179
	N	206
IdeasSupport	Pearson Correlation	.129
	Sig. (2-tailed)	.065
	N	206
Organization	Pearson Correlation	.186**
	Sig. (2-tailed)	.007
	N	206
AudienceTone	Pearson Correlation	.001
	Sig. (2-tailed)	.993
	N	206
Grammar	Pearson Correlation	.094
	Sig. (2-tailed)	.178
	N	206
Mechanics	Pearson Correlation	.011
	Sig. (2-tailed)	.880
	N	206
Vocabulary	Pearson Correlation	.041
	Sig. (2-tailed)	.557
	N	206

Note. **. Correlation is significant at the 0.01 level (2-tailed).

Only one significant correlation was observed and it was between Organization and Facebook Use Impact (p = .007; r = .186).

Likewise, the researcher went on to run a correlation test between the scores of all writing aspects and all the questionnaire items in the Facebook use impact scale. After carefully examining the results in a large matrix, the researcher selected two columns containing the questionnaire items that were significantly correlated with certain aspects of writing scores and presented them in Table 23.

Table 23

Correlations Between Scores of Different Writing Aspects and Two Facebook Use Impact Scale Items

		self-control	communication with classmates
FocusThesis	Pearson Correlation	-.153*	.103
	Sig. (2-tailed)	.028	.140
	N	206	206
IdeasSupport	Pearson Correlation	-.123	.187**
	Sig. (2-tailed)	.078	.007
	N	206	206
Organization	Pearson Correlation	-.104	.208**
	Sig. (2-tailed)	.137	.003
	N	206	206
AudienceTone	Pearson Correlation	-.103	.139*
	Sig. (2-tailed)	.139	.046
	N	206	206
Grammar	Pearson Correlation	-.072	.033
	Sig. (2-tailed)	.304	.636
	N	206	206
Mechanics	Pearson Correlation	.017	.078
	Sig. (2-tailed)	.810	.263
	N	206	206
Vocabulary	Pearson Correlation	-.163*	-.012
	Sig. (2-tailed)	.019	.866
	N	206	206

Note. **. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

As shown in Table 23, self-control ("I am able to control my use of Facebook so that it does not interfere with studying/doing schoolwork") was in a significant negative correlation with two aspects of writing scores: Focus Thesis (r = -.153) and Vocabulary (r = -.163); communication with classmates ("I use Facebook to communicate with classmates about course related issues") was in a significant positive correlation with three aspects: Ideas Support (r = .187), Organization (r = .208), and Audience Tone (r = .139).

Interview Responses (Questions 4, 5 and 6)

The qualitative data were collected mainly to answer research questions 4, 5 and 6. Altogether fourteen students and four instructors participated in the individual interview. Their responses were carefully transcribed and reviewed by the researcher.

Research Question 4

The fourth research question is "What are students' perceptions about the relations between their online social networking and writing for academic purposes?" To get detailed answers to this overarching question, a few secondary questions were asked in the interview. They could be best represented by the follow questions:

- Do you think your use of social networking technology (SNT) or tools, such as Facebook, affect your academic writing?
- If yes, what are the positive and/or negative influences of using SNT on your academic writing?
- You said there was the influence: Are there more positive or negative influences of using SNT on your academic writing?
- What aspects of academic writing are affected?

To the leading question, “Do you think your use of social networking technology or tools, such as Facebook, affect your academic writing?”, nine participants reported “there is an influence,” and five responded with “no influence”.

“Yes, there is an influence.” Among the nine participants who confirmed the existence of influence from using SNT upon their academic writing, two participants (S1 & S2) said the influence existed and played a positive role in shaping their academic writing. Four participants (S3, S4, S5, & S6) reported that use of SNT negatively affected their academic writing, while three participants (S7, S8, & S9) reported both positive and negative influences on their academic writing.

S1 reflected that although his academic writing used to be affected by his habit of writing on SNT, such as using shorthand on Facebook, his academic writing gained more positive influences from the use of SNT. For instance, he said in the interview:

> Researcher: Do you think your use of social networking technology affects your academic writing more positively or more negatively?
>
> S1: I would say today more positively as I try to write more properly. I try to use complete sentences and all that.
>
> Researcher: Is that influenced by your use of Facebook?
>
> S1: I would say it is. Like I said, I talk to people more on there and I use that to get in the habit of writing in the right way.

S2 reported that use of Facebook didn’t harm him academically unless it distracted him from academic tasks. He felt that “appropriate” visits to Facebook often kept his mind “fresh” and improved his mental state and work efficiency. In addition, he said the information he read from Facebook often helped with his selection of topics for essay writing. “This is sometimes what I

can base my writing on," he said, "Then I do research and have a little bit of direction of what I'm writing for. In that sense, I believe that's really helping."

However, four participants (S3, S4, S5, & S6) reported negative influences from using SNT upon academic writing. S3 believed that, to some extent, while people learned to write they came across different writing styles, such as formal and informal. When asked whether there was more positive influence than negative or vice versa, he said,

> I think there might be some degree that the informal writing, like on social media, could have slightly negative effects on academic papers. … There might be some things where, if you're writing an academic paper, you can just go auto-pilot, you start rambling, you might just slip into that more informal conversation and, … but if the academic paper calls for a strict standard, and you slip over, there could be slightly negative effects. (S3)

Another participant, S4, said that her academic writing was affected when she didn't pay attention to how she was writing. She said,

> Whenever you are texting or Facebooking you don't always use correct grammar. … I think Facebook kind of makes it acceptable for people to have poor grammar. … I think Facebook makes you neglect to think about the fundamentals of writing versus when you're writing academically you have to think about the fundamentals of writing. … The negative effects of using Facebook has on academic writing is definitely making it so informal. … But at the same time, Facebook makes writing less intimidating because like I said you can get on it and write a page, just whatever is on your mind, and you're not stressing out yourself about it. (S4)

When asked about what specific aspects of academic writing were affected, S4 responded that she was more likely to use ill-structured sentences, such as run-on sentences, on Facebook than

in academic writing, and that habit might be carried over into writing academic papers. She often identified such mistakes from her papers by reviewing and revising but she seldom reviewed writing on Facebook before posting it. She also believed her grammar in writing on Facebook was "terrible." Nevertheless, she didn't think Facebook was the only thing to blame for the poor grammar in writing on SNT "because text messaging plays a large role on how people write and that's how it's carried over into Facebook." She was not supportive of the possibility of involving Facebook into learning of academic writing as she believed "Social networking and academic writing are two different worlds."

The other two participants, S5 and S6, also reported that they were either "careless" or "don't use proper English or grammar" while writing on Facebook, and that habit "sometimes" or "to some extent" got carried into their academic writing. Specifically, both of them reflected that grammar was affected the most from writing on Facebook or Twitter, including leaving out necessary punctuation marks and not writing full sentences. S5 believed that her academic writing was affected by her use of SNT in that "You talk a lot more informal [*sic*] because that's what you're used to typing on either Facebook or Twitter, and that's an informal environment." She also said, "On Facebook or Twitter, you leave out a period or something like that. You do that as well in your writing because you're used to doing that on them. … You just use slang words or just your normal everyday language but you forget (you are writing academically)." S6 explained that "… 'cause when you're on social networks you don't really use full sentences. You don't make sure that everything is explained. It affects me because, when I write, sometimes I don't explain everything because I'm not used to it. … But when you are writing you have to explain it because sometimes the reader isn't your best friend. It could be a stranger." When asked that if there was any positive effect from using SNT on writing, S6 expressed a positive

attitude by saying that “It’s better to write on social networks than not write at all. … You’re still like exercising your writing abilities.”

Participants S7, S8 and S9 expressed mixed attitudes while answering the question, “Do you think your use of social networking technology or tools, such as Facebook, affect your academic writing?” S7 commented that “I think it is positive in the sense that we are communicating and we’re writing more often. However, often times, it’s shorthand, and it’s very informal. … Coming to an academic setting and having to write, it’s not the same. Like I said, I’m really struggling with vocabulary and constantly using informal language and conversation type.” When asked if some of the informal writing habits on social networks might be carried into her academic writing, though sounding a bit contradictory, she responded, “I never really encountered problems too much like shorthand, which might be the main problem in papers.”

S8 shared similar opinions about the negative effects from using social networks and his reflections might help explain the contradiction in S7’s responses. In the following lines, he explained how he was able to fight back the negative effects from using social networks on his academic writing.

> So sometimes you cut down words, you leave out letters. You don’t worry about punctuation and stuff. So I mean I’m guilty of that sometimes when I’m writing a letter, responding to emails. … So in that sense, it is negatively impacting us, but kind of contradictory to that, because I know it’s wrong, I’m more aware of how I write … (S8)

He attributed the positive effect of using SNT to the large amount of writing people did with it. Obviously, increased amount of writing served as a helpful practice of writing skills. He specifically mentioned that writing on social networks helped him be more aware of the audience to which he’s writing, while doing writing of both kinds.

According to S9, she benefited from the useful information from the posts on Facebook. In the meantime, she believed "technology would definitely inhibit spelling and grammar" because people may become too dependent on them. She cited "spell check" as an example of such dependency.

So far, the responses from nine respondents have been selectively presented. To make the commonalities and differences among their responses more explicit, the researcher "condensed" their opinions and represented them in the following table.

Table 24

Synopsis of Reported Positive and Negative Influences

There Is Influence	Negative Influences from Using SNT	Positive Influences from Using SNT
S1	shorthand	More communication with people helps with writing.
S2		Helps with content in writing.
S3	auto-pilot, rambling; more informal writing	
S4	poor grammar; run-on sentences; neglecting the fundamentals of writing; more informal writing	Makes writing less intimidating as it is not stressful.
S5	"careless" about writing; poor grammar; punctuation errors; incomplete sentences; slang words; everyday language; informal writing	
S6	not using proper English or grammar; incomplete sentences; insufficient explanations	It's better to write on social networks than not. It's exercising your writing.
S7	shorthand; informal writing; struggling vocabulary	Write more for increased communication.
S8	cut down words; punctuation errors	You get practice while doing so much writing. It helps.
S9	deteriorating spelling and grammar; technology dependency	Gets useful information from Facebook posts.

The researcher calculated the commonalities among the negative influences (n = 8) from use of SNT: four respondents (44%) mentioned "informal writing;" four (44%) mentioned "poor

grammar;" three (33%) mentioned "sentence structure;" five (56%) mentioned problems with words and spelling; three (33%) mentioned errors in writing fundamentals such as punctuation. The commonalities among the positive influences (n = 7) were also calculated: Five respondents (71%) mentioned increased helpful writing practice; two (29%) mentioned benefits to content in writing.

"No, it doesn't affect me." Five participants (S10, S11, S12, S13, & S14) reported that their use of SNT didn't affect their academic writing. Among them, participants S10, S11, S12, and S13 said that it didn't affect their academic writing at all, while S14 said it only affected his academic writing slightly but not much. To the question "Do you think your use of social networking technologies or tools, such as Facebook, affect your academic writing?", five participants almost unanimously stated that they tried not to make mistakes in their writing, even on Facebook. They stuck to correct format and standard forms so they would be writing "professionally." Specifically, they would pay attention not to use "text lingo," or "shortcuts," but stick to correct grammar, complete spelling, and "fully structured sentences."

As to the reasons for sticking to standard forms of English even when writing on social networks, these participants also responded with similar explanations. S10 and S13 stated that it was embarrassing to write with mistakes on social networks, especially when people read their posts and pointed out their mistakes. S13 and S14 both said that writing on social networks and academic writing were two different styles of writing, which were "pretty separate from each other." For example, S14 said she could maintain a clear line between them by reminding herself of what she was writing for. Another reason shared between S12 and S13 was that they felt it was "professional" to write in standard form all the time while writing in "text lingo" even on

Facebook was “unprofessional.” S13 mentioned that she didn’t wish her future employers to look at her Facebook pages and find her writing there wasn’t professional.

About the relationship between writing on SNT and academic writing, it was obvious that this group had many different opinions from the previous one. For instance, S10 said,

Personally I don’t think social media has affected my grammar. If anything, I actually check my comments more because I want to make sure I don’t have any misspellings. (S10)

When asked if she believed there was any connection between these two types of writing, S10 responded,

> Oh, no, I do! But personally I don’t think it happens with me. … I believe there is a correlation between social media site, text language and how it’s coming off in writing and making us seem less educated as a whole. (S10)

She also specifically mentioned that distractions from the Internet led to organization problems in many college students’ writing, such as “getting here and there” and including unrelated details.

S14 was the one who said use of SNT didn’t affect his academic writing much. When asked if there was any positive or negative influence from writing on Facebook upon his academic writing, he expressed that sometimes the influence might pose a little challenge. He stated,

> I’d say Facebook probably makes it worse but it’s hard to say that because even though I write on Facebook a lot, I write in my papers a lot. The two styles stay pretty separate. So it’s not to be this issue in the world, but sometimes the worst part would be if the informality transfers over into your paper. Like, I’ll get something stuck in my head but

it's the informal way and I have to figure out a way to make it more formal sounding. (S14)

Interestingly, although they stated that they didn't use "short cuts," shortened words, or "text lingo" in academic writing, three of them (S10, S11, and S12) claimed they knew or saw a lot of their peers do that, due to the influence from writing on social networks.

Research Question 5

The fifth research question is "What are instructors' perceptions about the relations between students' online social networking and their writing for academic purposes?" To answer this question, four instructors of ENGL 101 were individually interviewed. Only one (I1) of the instructors reported having used social networking technology to communicate with her students. The other three (I2, I3, & I4) only used email and/or D2L provided by the university. They explained a similar reason that Facebook was too personal and they wanted to keep their private life separate from professional life. Since there were only four of them, their responses to each of the interview questions will be presented in detail.

When asked if she used any social networking technology to communicate with students, I1 responded:

> The only one I use is Facebook. Each of my courses has a Facebook page so I do communicate with students through that, but we're not friends on Facebook, so we're only connected through the course Facebook page. The way I had the Facebook page set up is that I had each one designated as a secret group, … so that only the students in the course can see the content there, their other friends can't see what they're doing in the course. Most of my communication with the students there happens when they have a question about the course. They'll post it to the Facebook page and I'll answer it there. …

> And what's nice about that is that everyone can see that conversation in case someone else has a question. … So Facebook is the only way I use social media to talk to them outside class. (I1)

To answer Question 5, a secondary question asked to each instructor was: Do you think students' use of social networking technologies affects their writing for academic purposes?

To this question, I1 said she had noticed some influence in the past such as use of shorthand or acronyms but now that was no longer obvious. She said:

> This was a question I was very curious about. I think in some ways, no, and in some ways, yes. I think that, years ago, I used to see things in students' writing that made me think their use of technology or social media was affecting their language choices. So for example, I would see a student use the letter "u" instead of the word "Y-O-U" or maybe use the acronym "LOL," things like that, but interestingly, I haven't seen that in the last several years. (I1)

As to the reasons for the "change," I1 suspected that it might be the result of her teaching or the students' increased understanding of writing for different purposes. She commented:

> I don't know if something has changed in my teaching or something has changed in my students, but as I have talked to students in my own research and in the classroom, it seems that they have a sophisticated understanding of how to adapt their language for academic purposes. So I think in terms of language, my opinion is that when people worry that texting and social media will degrade students' use of English, I think that worry is unfounded, because I'm not seeing it as a problem in my students' writing. (I1)

However, she continued to say that she suspected that there was still influence from using social networking technology upon students' academic writing, such as a lack of revision or polishing

of their writing before submission. She suspected that that might be because students' writing habits on social networks was carried into their academic writing. The following is her response containing these assumptions.

> On the other hand, the area where I do think affects their writing is their attention to… or I should say, the care that they put into revising and polishing their writing is not to the degree that I would wish it were. And I sometimes question if that's connected to the immediacy of writing on social networking. When students are writing on Facebook, Twitter or any other social media, I think the purpose is just to get their message out there so they're not taking time to really polish their work and so sometimes I wonder if that translates into their academic work because one thing I have a lot of difficulty with is: If students have a paper to do and the paper has to be six pages, their primary concern is "Just write six pages!" And I have a hard time getting them to understand: Yes, you need to write six pages but you need a lot of time then to carefully revise it and proofread it and really make it strong and think about your ideas. I wonder if it's connected to that feeling on social media that maybe writing on there isn't as permanent or it doesn't require as much care or thought. (I1)

I2 was asked the same question: Do you think students' use of social networking technology has any influence on their academic writing? I2 first responded with similar answers to I1 in saying that some students might use free-writing style even in academic writing because of the influence from using social media. However, she said she welcomed such influence on students because the use of technology in writing made it easier for them to understand "multimodality" in writing and to use it to create "multimodal compositions." The following remarks are a detailed representation of her opinions about this.

> Okay, the way I see it, it's affecting their writing in terms of the conventions of writing because some of them might use more free-writing style. They don't follow the conventions because of the effects of social media. Sometimes their word choice is not like academic, again, because they're used to saying things like slang, everyday language, or conversational English on social media. This is one thing but from my own perspective, I like the effects of social media on them because I teach them multimodality and how to create multimodal compositions. So this is something they do all the time but they don't think much about it. … It's easy for them to grasp the point. …, because this is part of everyday life but you (students) don't think of that as writing or composing. So just telling them: this is how you express your ideas through sharing photos, through commenting on each other' posts, watching your YouTube videos and sharing it to somebody's wall or on your own newsfeed or something. It's not like I have to struggle to make them understand that. This is a good effect that I like about social media. (I2)

To the same question, I3 wasn't sure if students' use of SNT affected their academic writing but she was sure that students were distracted from their academic tasks by SNT. Thus, their academic performances must be affected in other ways, if not academic writing. This is what she said:

> I don't know if it affects their writing. I would say it affects their attention span. It affects their concentration and focus in class. And then I think it affects their ability to do some other readings that are assigned for our class. … But I think sometimes they're more distracted, trying to check their phones and things like that. I try to control how much of that they use. So I don't know if I could say it affects their writing but it does affect their academic performances in other ways. (I3)

I4 apparently didn't find her students' academic writing affected by their use of SNT. She believed that her students were well aware that they were writing academically when doing so. She said, "The writing for this class is basically academic writing so I think they try not to be too informal when they write their papers for this class." Nonetheless, she made predictions about the possible influence by saying,

> If I should find anything I think it should be their tone of language. Sometimes some students use very informal tone, especially in the first draft stage. … But for other aspects like organization and other aspects, I think they know what they are expected to do for each writing assignment. (I4)

Research Question 6

The sixth research question is "What are instructors' perceptions about utilizing the relationship between students' online social networking and their academic writing?" To seek responses to this question, the researcher asked the instructors if they had any experience in using online SNT for instruction and learning of writing, as well as if they planned to use it in the future. Two instructors (I1 & I2) reported having used Facebook for instructional purposes. They also expressed willingness to use SNT for future teaching, although one instructor (I1) may continue using Facebook and the other (I2) would like to try Twitter. The third instructor (I3) claimed having used texting and Google Docs for instructional purposes but she didn't have specific plans to use any SNT in future teaching. The fourth instructor (I4) didn't use any SNT or any technology of similar kind in prior teaching experience and she had no plan to use any in the future. The following is the presentation of their responses.

When asked to describe her experience of using Facebook in instruction, I1 explained how she used it with students and how she tried to avoid the pitfalls while using it.

> The primary reason I use it (the course Facebook page) is for students, any time they have a reading assignment to write their written response to and post it to the Facebook page. … And now I've changed that so now they type up their response, post it to Facebook and then they're required to respond to another person's post. Then I read the posts on Facebook in order to grade them. I had varying levels of success with this. Students have told me they like it. … There is a risk of course a student might copy someone else's work, you know, so I try to watch out for that, but I think it's working. … So some of them, I can tell, they have just written on Facebook and haven't reread any of their work. … The thing I'm still figuring out is how to respond to them. … if I were to write a comment on every single one's I think that will be overwhelming, both in terms of my time and also in terms of, just visually, my language will overwhelm the Facebook page. So what I have chosen to do is just occasionally respond to some, here and there, different people every time, to let them know I'm reading them. And the other thing, sometimes I will click "like" on the students' post or comment but I struggled with that also because I might click "like" to signify "This is strong." or "This is an interesting idea." but then I wonder if that could send a message to other students that that is favored to them. (I1)

I1 also stated that students' motivation was increased while doing assignments on Facebook. Most of them wrote enough to reach the required length, which was an obvious difference from students' writing turned in as hard copies. She attributed that positive change to the publicity of writing on the course Facebook page. In addition, I1 mentioned that she had the experience of a student posing a personal question on Facebook, which created an awkward situation for her to respond. She responded on Facebook appropriately anyway and she believed

it would be better to let students know to ask personal questions using the university provided means of communication, such as the university email or visits during office hours.

When asked about future plans about using SNT in instruction, I1 responded that she would continue to use Facebook in writing instruction but she thought "I would like to ask my students for some feedback on how I might do it differently." She also expressed interest in trying Twitter, such as using its hashtag feature for sharing or commenting on each other's ideas.

When I2 was asked about experience of using Facebook in teaching, she recalled her experience of using it to connect American students and their counterparts in Egypt for language learning purposes.

> A couple of years ago, I was teaching my native language (Arabic) to undergraduate students here. So I created a Facebook page to connect my students here with my former students back in Egypt. So they can have native speaker counterparts they can talk to and communicate with. … By doing this, I actually helped them (her American students) to see that anything they do in their everyday life is writing. Text messaging is writing; posting on Facebook is writing, updating their status is writing; Tweeting is writing. So even if they don't see it that way, it's writing. (I2)

Before involving SNT in instruction, I2 didn't think students were aware of the connection between writing on social media and writing for academic purposes. She stated,

> I don't think they see the link. Most of them, from what I have seen so far, do not perceive this as academic writing, or as writing in the first place. They don't see that as writing: I'm texting. Okay, I told them: You're posting on Facebook. You have to present your writing. You're updating your status, you write. … From Facebook, I teach them about audience awareness. … I use this example and I use snapshots from my own

Facebook account to show them how I use the audience filter. … This audience awareness is just there and you practice it without thinking too much about audience. So this brings the idea of audience very quickly to their mind. (I2)

I2 also talked about her plan of using Twitter for writing instruction in the near future, as well as the benefits it may bring to students.

Since I'm teaching research writing next semester, something I'm planning on using that I have seen some scholars using on Twitter and I'm gonna try is to create a hashtag for your class, or maybe different hashtags depending on how you're gonna use it. Start discussing ideas for research. On Twitter we don't have to follow each other; we don't have to be friends with each other or anything. We just follow the hashtags. I'm gonna put students from both sections together under the same hashtag. They get some feedback from each other, even from students in the other class. … At the same time, I'm giving them more audience, opportunities for more feedback from other students in the other class going through the same section. Even though in class they are working together, they may be in groups of three and four and that's it, but opening it on Twitter it may give them more ideas from other people. (I2)

When asked, I2 explained the reason that she would choose Twitter over Facebook next semester.

The problem with Facebook is: unless I create a page or group that can be closed for us and all students join, there's no way we communicate unless we "friend" each other. And I'm against "friending" my students when I'm teaching them. Student will not like to have me as a friend on the list. I mean because they don't want me to see their social lives,

their activities on Facebook. Maybe after they finish my course and they like to "friend" me on their Facebook that's fine, but not when I'm still teaching them. (I2)

I2 also explained that she preferred to use SNT in instruction because "new media technology" was her research interest. However, she cautioned about the careful use of them due to privacy concerns of both teachers and students.

When I3 was asked about her experience and perceptions of using SNT in teaching, she said that one of her intentions was to reduce students' distraction by texting on cell phones. Her solution was to make use of it educationally and meet their inclination to look at their cell phones. She explained how she let students use texting for class purposes.

> They tend to be really distracted and trying to text during class. And I try to integrate using texting. … I use text-a-friend. So we pose a rhetorical question in class, … and they had to text a friend to get an answer so it's not their answer. They would say, my friend said this. So I try to use the cell phones, for example, the texting, or we use our cell phones to research a question. … I don't use either of those (Facebook or Twitter) in class but I do use YouTube. (I3)

I3 also explained how her trial with Google Docs wasn't really successful and the reason she didn't use any SNT with students.

> One semester in my English 101 class, I was trying to use Google Docs for students to collaborate on papers together. And they ended up not really using Google Docs, just kind of emailing each other or meeting in the library, passing notes and sharing ideas on drafts. … So I haven't been very successful with using some of these technologies. … Like I said, I like some part of my life to be distinct from student life all the time so… I don't really have a Facebook that they can access. (I3)

I3 stated that she would like to use technology in teaching “if it serves a purpose.” When asked about future possibility of using SNT in teaching, she didn’t have any specific plan to use any of them and she didn’t feel such needs as an “immediacy.”

As previously mentioned, I4 didn’t use any SNT in instruction of writing. She explained her reasons.

> I’m not a huge fan of using social networking technology for my class. … Yeah, I do have a Facebook account. I used it only for personal reasons. Compared to others I don’t think I used it a lot. I think Facebook is too personal. I’m not sure if it’s a good idea to mix this personal space with learning purposes. So if I want to use Facebook for my class I need to create a separate group page or something. (I4)

In this chapter, the results of the current study were presented in detail. Chapter 5 will include a summary of the results, conclusion, educational implications, limitations of the study, and suggestions for future research.

CHAPTER 5

DISCUSSION

This chapter first summarizes the key findings of the study in light of the six research questions and the literature review. It then provides a conclusion of the research findings, which is followed by a reflection on the educational implications and limitations of the study. Finally, suggestions for future research are discussed.

Summary of the Results

Research Question 1

Research Question 1 is "How frequently do undergraduate students use social networking technologies on a regular basis?" On average, participants used Facebook approximately four times per day, with 36.5% of them using it more than three times on a typical day. Again, on average, participants spent close to an hour (53.38 minutes) on Facebook per day. Among the 215 participants, 23.5% of the participants spent more than an hour on Facebook on a typical day, while 76.5% of the participants spent no more than an hour on it. In a previous study done by Junco (2012), college students, on average, checked Facebook 5.75 times and spent 101.09 minutes on it per day. All these numbers suggested that college students spent significant amount of time on Facebook in daily life, even if Facebook was losing some of its popularity to Twitter and Instagram, according to some of the interviewed participants.

Facebook's persistent popularity among college students could be explained by the findings from a previously reviewed study by Ellison et al. (2007). The researchers found a significant and positive relationship between college students' frequency of Facebook use and their maintenance of social relationships. The frequency of Facebook use was also positively related to students' satisfaction with university life and mental well-being. College students used

Facebook to keep their social ties when they moved away from their home communities, which was also evidenced in the interview responses in the current study. In a research review, Nadkarni and Hofmann (2012) concluded that Facebook use was driven by two basic social needs: the need to belong and the need for self-presentation. This two-factor model also provided reasonable explanations to college students' enduring use of Facebook.

As reported in the survey responses, on a typical day, participants on average checked Facebook every two and a half hours (149.73 minutes) while they were doing academic work. Specifically, almost half (46.7%) of them checked Facebook at least once in every hour of their study time. Only 11.4% of the participants checked Facebook at intervals longer than four hours. Again, these percentages indicated college students were frequent Facebook users. The possible impacts upon students' academic performances will be discussed in the answers to Question 2.

The most common activity done on Facebook was reported as "check news feed" by 37.2% of the participants, with "view statuses" as the second most favorite activity reported by 10.7% of the participants. All the activities that might involve writing were ranked in terms of their decreasing popularity as follows: Check and answer messages (7.4%), Do English assignment (4.7%), Talk to friends (3.7), Keep in touch with family (2.8%), and Post pictures/status updates (2.8%). Their combined percentage was 21.4%, which clearly showed that participants didn't write much on Facebook. Instead, they read news, statuses, notifications, and posts, as well as looked at pictures and did other activities. There was only one activity that was apparently connected to academics, Do English assignment, and it was reported by only 4.7% of the participants. Such a low percentage should not be surprising because similar trends were identified in earlier studies. Hew (2011) reviewed 36 empirical studies concerning teachers' and students' Facebook use. One of the major findings was that Facebook was seldom used for

educational purposes by either group. Similar to what was found in Ellison et al.'s study (2007), another finding by Hew (2011) was that students used Facebook mainly for keeping existing social ties.

Research Question 2

Research Question 2 is "How do the frequency and duration of undergraduate students' use of social networking technologies correlate with their performance in academic writing?" To answer this question, the researcher tested the Pearson Correlation Coefficients between participants' total writing score and three variables of their Facebook use: times per day, minutes per day, and time between Facebook checks. As reported in Chapter Four, the results indicated no significant correlation between total writing score and any of the Facebook use variables. Since academic writing was certainly a part of college students' academic performances, such a finding seemed discrepant with many of the previous studies that found the influence of using social networking technology upon academics to be either negative (Bowman et al., 2010; Junco, 2012; Junco & Cotten, 2011; Karpinski et al., 2012; Kirschner & Karpinski, 2010; Paul et al., 2012; Rosen et al., 2010; Rouis et al., 2011) or positive (Clark, 2009; Kabilan et al., 2010; Kaufer et al., 2011; Magogwe & Ntereke, 2013; Shih, 2011; Yu et al., 2010; Yunus et al., 2012; Yusof et al., 2012). However, this finding was echoed in the results of a previous study done by Alias et al. (2012). These researchers explored the effects of using Facebook Notes as a language learning strategy on students' academic writing performance. Although both the experiment and the control groups improved academic writing performance, the difference between the two groups' performances was not statistically significant, which indicated that there was no significant relationship between the use of Facebook Notes and the improvement of students' academic writing. Therefore, as suggested in Alias et al.'s study (2012), even if no statistically

significant relationship was identified, more details need to be examined and understood before academic writing performance could be completely separated from Facebook use.

Among the items in the Facebook Use Attitude scale, “Facebook has become part of my daily routine.” carried the highest mean value (3.53) of participants’ responses. Altogether 59% of the participants chose “Agree” or “Strongly Agree” to this item. The mean value of responses to “I log on to Facebook and check it regularly whenever I am on the computer.” was 3.29 and the one for “I have tried to cut down on my Facebook use.” was 3.16. These numbers could be translated into a possibility that many college students were regular and frequent Facebook users and that they wanted to cut down its use for some reason.

The mean values higher than 3.00 among the items of the Facebook Use Impact scale were from “I use Facebook to procrastinate when I should be studying/doing schoolwork,” 3.07, “I am able to control my use of Facebook so that it does not interfere with studying/doing schoolwork,” 4.15, and “I use Facebook to communicate with classmates about course related issues,” 3.33. Participants’ strong inclination of controlling Facebook use and their tendency to use Facebook to procrastinate indicated they were well aware of the influence from using Facebook upon their schoolwork. That also explained why many students reported wanting to cut down its use in the first scale. In the classic research conducted by Kirschner and Karpinski (2010), among those participants who reported negative impact on their academic performance from Facebook use, the majority of them suggested procrastination behavior as the most evident negative impact. In Paul et al.’s study (2012), a positive relationship was found between students’ time spent on online social networks and their attention deficit during academic endeavor. In the current study, the responses to the item about using Facebook to procrastinate concurred with these previous findings.

With no significant correlation identified between the total writing score and the mean value of either of the two scales, the researcher continued to run correlation tests between the total writing score and each questionnaire item in both attitudinal scales. Among the items in the Facebook Use Attitude scale, “daily routine” was the only item found to be significantly and positively related with Total Score. The interpretation could be that the more college students use Facebook as a daily routine, the better they will perform in academic writing. Although no causal relationship could be concluded between the two factors, such a result ran opposite to the findings in some previous studies that examined college students’ Facebook use in daily life and its relationship to academics. Kirschner and Karpinski (2010) and Junco (2012) found a significant and negative correlation between Facebook use and academic performance or engagement. Bowman et al. (2010) and Paul et al. (2012) found that students’ online networking engagement negatively impacted academic engagement.

Among the items in the Facebook Use Impact scale, “communication with classmates” (I use Facebook to communicate with classmates about course related issues) was the only item that was positively correlated with Total Score. The numerical representation ($p = .033$; $r = .149$) could be translated into such a trend: The more college students use Facebook to communicate with their classmates about course related issues, the more likely for them to do well in academic writing. To seek better explanations to both of these positive relationships, it became necessary to examine the relationship between Facebook use and different aspects of participants’ writing performances.

Research Question 3

Research Question 3 is “How are different aspects of undergraduate students’ academic writing correlated with their use of social networking technologies?” Table 19 in Chapter Four

reported the results of the correlation test between participants' Facebook use (times per day, minutes per day, and time between FB checks) and their scores in the seven aspects of writing. Interestingly, the vocabulary score was found to be significantly and positively correlated with "minutes per day" but it was significantly and negatively correlated with "time between FB checks." A possible explanation for the positive correlation between the first pair was that participants improved their vocabulary by reading extensively on Facebook. As reviewed previously, the two most common activities on Facebook were "check news feed" and "view statuses," reported by a total of 47.9% of the participants. Obviously, these activities featured significant amount of reading. Moreover, reading was not only involved in these two but in many other activities on Facebook. Therefore, it is reasonable to assume that the reading students do on Facebook may be helpful to their vocabulary growth.

Participants' score on "organization" was significantly and positively correlated with the mean values of both the Facebook Use Attitude and the Facebook Use Impact attitudinal scales. Among the items in the Facebook Use Attitude scale, "daily routine" was found to be significantly and positively correlated with the scores of four aspects of writing, i.e. "ideas support", "organization", "audience tone", and "vocabulary." Amidst the items in the Facebook Use Impact Scale, "self-control" (I am able to control my use of Facebook so that it does not interfere with studying/doing schoolwork) was found to be in significant and negative correlation with "focus thesis" and "vocabulary"; "communication with classmates" was positively related to "ideas support", "organization", and "audience tone."

As reviewed in Chapter Two, there was a limited amount of research on the relationship between online social networking and academic writing. There was hardly any research done about the possible interaction between Facebook use and students' performances in specific

aspects of academic writing. The scarcity of research in this field made it difficult to find direct references or explanations for the correlations identified between certain aspects of Facebook use and academic writing. Nonetheless, the findings in a few previous studies may provide some broad yet plausible explanations. In a qualitative study conducted in the University of Botswana, Magogwe and Ntereke (2013) found that more than 60% of the students held positive attitudes about using Facebook to teach communication and academic literacy skills. Academic literacy skills would naturally include the skill of academic writing. Thus, students' positive attitude about using Facebook to teach academic literacy skills could be logically predictive of the positive relationship between students' using Facebook as a "daily routine" and certain aspects of academic writing. In addition, Junco (2012) found that certain activities on social networking sites, such as using Facebook for collecting and sharing information, might bring positive academic outcomes. Using Facebook to communicate with classmates about course related issues was certainly an activity of exchanging information for academic purposes. In this sense, it became easier to understand it becoming a predictor of certain performances in academic writing. With using Facebook as a daily routine being a positive predictor of certain performances in academic writing, such as "ideas support" and "vocabulary," the control of its use would understandably forecast the negative trend in performance in the same or related aspects. Evidently, "vocabulary" is such a case in point and it is not difficult to understand the close connection between "ideas support" and "focus thesis."

The correlations between the variables of writing performance in different aspects and Facebook use are summarized in Figure 4 below.

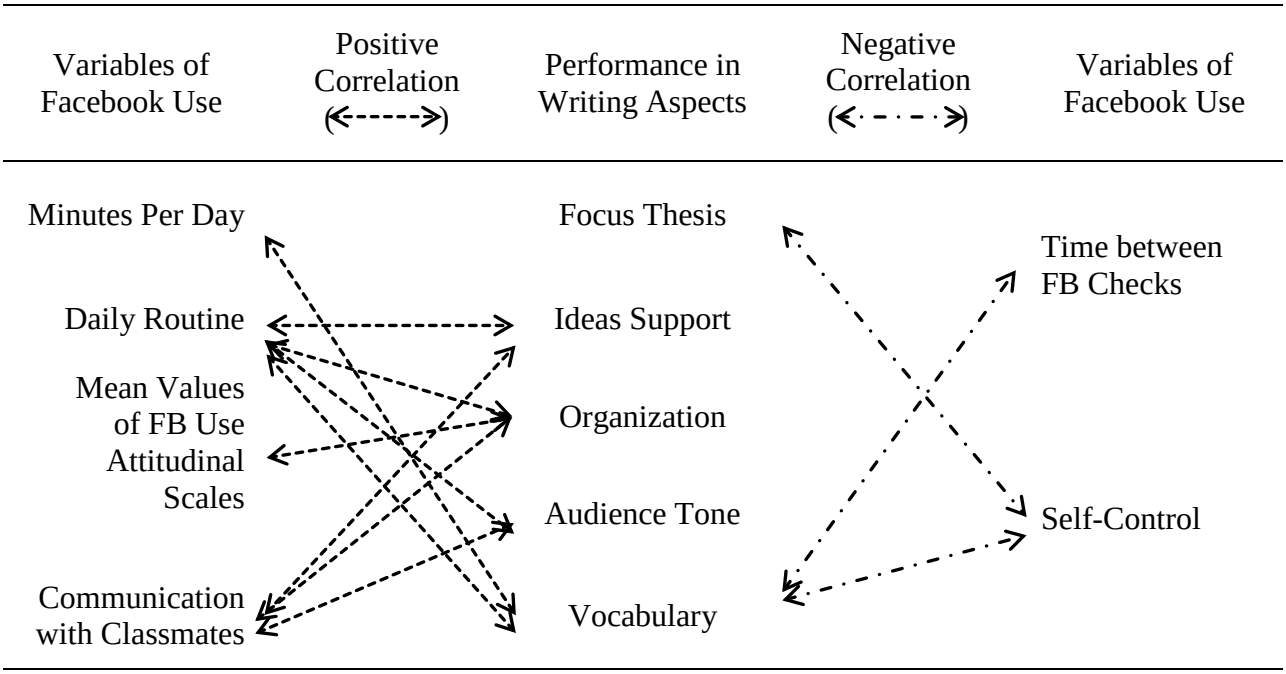

Figure 4. Correlations between writing performance and Facebook use variables.

Obviously, the number of the identified positive correlations between these variables is three times as many as the number of the identified negative relationships. In addition to the related discussions in previous research, another explanation might be found within the theoretical framework of TAM (Technology Acceptance Model) by Davis (1989) and Davis et al. (1989). The descriptive statistics of participants' Facebook use indicated that most students accepted Facebook as a SNT. The high mean values of their use of it as a "daily routine" (3.53) and as a way to "communicate with classmates" (3.33) both indicated that they perceived it easy to use Facebook. These two items, which reflected high level of PEOU (Perceived Ease of Use) by the students, were found to be positively correlated with the same three aspects of writing performances. A possible underlying reason could be that using a technology well accepted and perceived easy to use by students may help improve students' performances in academic writing.

Research Question 4

Research Question 4 is "What are students' perceptions about the relations between their online social networking and writing for academic purposes?" Among the 14 interviewed students, nine of them reported that their use of SNT affected academic writing while five others claimed that there's no influence. Among the nine participants who believed that SNT use affected academic writing, two of them reported that the effects were mostly positive; four participants reported more negative influences than positive ones; three participants reported both positive and negative influences.

Specifically, all the reported positive effects could be synthesized as that writing on a social networking site was a helpful practice of their writing skills and that the information gained from reading on Facebook helped with the content and topic selection for essay writing. These found perceptions of the writing on social networking site as positive impetus upon academic writing actually had their predecessors in earlier studies. In Kabilan et al.'s (2010) and Shih's (2011) studies, favorable attitudes about using Facebook as an online environment or peer assessment tool in learning English and writing classes were found among majority of the participating students. In a study done by Yusof et al. (2012), most students scored higher in outline writing after using Facebook as a platform for giving peer feedback. Yunus et al. (2012) conducted a qualitative research among ESL students and found that most of them believed that using social networking sites in writing instruction would bring a lot of benefits, such as enhanced interaction between teachers and students, increased motivation and confidence in English writing, and training in thinking and writing skills. In these studies, it was evident that many college students recognized the potential benefits in utilizing social networking sites or activities during their learning of academic writing. Taking advantage of the social nature of

these platforms to serve learning purposes can actually find its solid theoretical support in Vygotsky's (1978) sociocultural theory of human learning, which basically held that social interaction is the foundation of human learning. Students' favorable attitudes about using SNT in academic writing and increased motivation by the use of it could also be explained by the Technology Acceptance Model by Davis (1989) and Davis et al. (1989). Students' positive perception of the effectiveness of SNT in improving their performance would lead to their favorite attitude toward using it, including using it for academic purposes. Such attitudes would then lead to their behavioral intention to use it and actual use of it.

The negative influences commonly featured informality in writing, such as "auto-pilot" in writing, neglecting the fundamentals of writing, and using shorthand and slang words, as well as poor grammar, including incomplete and ill-structured sentences. In Yunus et al.'s (2012) study, some ESL students also reported potential drawbacks in using social networking sites in writing instruction and learning: students might be distracted more often; features of informal writing like shorthand might affect formal writing; functions of online writing like self-correction might lead to decreased capacity in spelling. Interestingly, all of these reported drawbacks were repeated in the interview responses in the current study. One of the dual theoretical models postulated by Salomon and Perkins (1988), the Low-Road Transfer, could offer reasonable explanations for these reported negative influences. According to Salomon and Perkins (1988), "low road transfer reflects the automatic triggering of well-practiced routines in circumstances where there is considerable perceptual similarity to the original learning context" (p. 25). When students were not paying attention to the differences between the two styles of writing and felt academic writing as a similar process to writing on social networking sites, low road transfer

happened and they unconsciously transferred those characteristics of informal writing into academic writing.

Five participants claimed that use of SNT didn't affect their academic writing. Their responses were rather self-explanatory. They tried to write "professionally" by sticking to the standard form of language even when writing on social networks. They all did that for similar reasons. They wanted to keep their writing free of mistakes and look "professional" when their friends or future employers were to read it. Another reason was that they were aware that writing on social networks and academic writing were two different styles of writing so they tried to maintain a clear line between them. According to the theory of Situated Learning and Cognition developed by Brown et al. (1989), a learner's formation and understanding of a concept will continually evolve in different activities and changing contexts. Logically related to that was the other theoretical model postulated by Salomon and Perkins (1988), High-Road Transfer, which "depends on deliberate mindful abstraction of skill or knowledge from one context for application for another" (p. 25). Casting it onto the findings in the current study, some participants, like those five mentioned above, intentionally chose to stay with standard forms of language while writing for academic purposes even though they might experience an occasional "impulse" to write informally like what they did on social networks. They kept reminding themselves of doing academic writing when they were slipping off the formal track. With the High-Road Transfer carried further, these participants stuck to the standard form of writing even while writing on social networks. In these situations, their deliberate application of formal writing practice significantly diminished their inclination to write informally. Students' awareness of the two different writing styles and their ability to mindfully shift between them

might be a good explanation to the non-existence of correlation between participants' Facebook use and their overall writing performance found previously in this study.

Research Question 5

Research Question 5 is "What are instructors' perceptions about the relations between students' online social networking and their writing for academic purposes?" Four instructors of ENG 101 participated in the individual interview. Only one instructor (I1) reported having used Facebook to communicate with her students. On Facebook, she set up a course page for each class and she had it designated as a secret group so that their activities were not open to the public. The other three instructors didn't use any social networking technology to communicate with students because they all felt it was too personal and they wanted to keep their private and professional life separate.

While answering Question 5, I1 and I2 noticed in students' writing use of shorthand, acronyms, slang words, conversational English, and free-writing style, as well as lack of revising or polishing before submission. They suspected that that might be because students' writing habits on social networks was carried into their academic writing. However, I1 felt that influence was no longer obvious either due to writing instruction or students' increased understanding of the writing for different purposes. She felt that the use of social media would not really degrade students' use of English since they had developed a sophisticated understanding of how to shape their language for academic purposes. I2 welcomed the influences from using SNT on students' writing because she believed students' use of technology in writing made it easier for them to understand "multimodality" in writing and to use it to create "multimodal compositions." I3 wasn't sure if students' use of SNT affected their academic writing but she was sure that students were distracted from their academic tasks by SNT. Similar to I1, I4 didn't find her students'

academic writing was affected by their use of SNT and she believed her students were well aware that they were writing academically while doing so.

On one hand, it is easy to find that the negative influences from using SNT upon academic writing assumed by the instructors were all matched in the responses by those students who reported negative influences. On the other hand, instructors' perception that most students were able to write properly without being negatively affected by their use of SNT was also confirmed in the responses by the five students who claimed not being affected by their use of SNT. Obviously, these instructors got a good understanding of their students' characteristics in academic writing although both of the instructors' and students' responses pointed at different directions. A plausible explanation is that both Low-Road Transfer and High-Road Transfer are taking effect, but the strength of their effect varies in different student populations. If Low-Road Transfer happens more frequently than High-Road Transfer during a student's academic writing, the student is more likely to be affected by the use of SNT. As a result, his/her writing will manifest more features of informal writing; if High-Road Transfer is more persistent than its counterpart during the academic writing process, the student's academic writing will be less likely to bear the trace of informal writing habits.

Research Question 6

Research Question 6 is "What are instructors' perceptions about utilizing the relationship between students' online social networking and their academic writing?" Two instructors (I1 & I2) reported having used Facebook for instructional purposes and they had plans to use SNT, such as Facebook or Twitter, in future instruction. I1 set up a course page on Facebook and used it for peer review purposes. She felt it increased students' motivation in writing, probably due to the publicity of their writing among their peers in the group. A challenge for her was to give

appropriate feedback to student's responses on Facebook, due to the amount of work and the likely "domino" effect caused by her favorable comments on some responses. I1 planned to continue using Facebook or Twitter in future instruction but with more adaptations based on students' feedback. I2 had used Facebook to connect students across cultures for language learning purposes. She believed that its use helped students realize the connection between writing for social purposes and writing for academic purposes. She was also able to improve students' audience awareness in writing by involving Facebook in instruction. I2 planned to use Twitter instead of Facebook because, using the hashtag features of Twitter, she and her students didn't have to follow or "friend" each other and they could still exchange feedback with each other. Not being confined to a close group, students would enjoy opportunities to get feedback from more of their peers.

These two instructors' prior experience and future enthusiasm in involving SNT in writing instruction were also well-grounded in the theoretical model of M-learning (mobile learning), which were defined by Brown (2005), Park et al. (2012), and Peters (2007). Most of the mobile digital devices are capable of the function of PDA, "Personal Digital Assistance," as defined by Kitchiner (2006, p. 119). Mobile devices capable of such a function generally support most of the social networking sites or applications. Therefore, the integration of SNT in writing instruction and learning certainly increases students' access to the course page, forum, or learning system carried by that technology or application.

The other two instructors seemed to be much less enthusiastic about using SNT in writing classrooms. I3 used texting in an activity, "text-a-friend," for students to seek peer responses to questions under discussion. Her main intention was actually to reduce students' distraction from checking their cell phones. She tried to use Google Docs for peer collaboration among students

but students were not really taking advantage of the collaboration features of the platform. I3 didn't feel it as an "immediate" need to use any SNT in future instruction. I4 didn't use any SNT in writing instruction in the past and she didn't plan to use any in the future. Her explanation was also simple: Facebook was too personal and she didn't want to mix that personal space with learning purposes.

Conclusion

The current study made its unique contribution to the field by investigating a large sample, and especially by triangulating the data using three instruments: survey questionnaire, writing sample, and individual interview. This study produced descriptive statistics about many details of undergraduates' Facebook use, such as daily frequency, duration, delays between Facebook checks, and activities on Facebook. One of the Pearson Correlation tests in the study didn't find statistical significance between undergraduates' Facebook use and their overall writing performance, which challenged the findings in early research that showed either positive or negative relationships.

Undergraduates' attitudes about their Facebook use and its potential impact were also investigated and reported in detail. It was found that most students perceived themselves as routine users of Facebook and they were well aware of the distraction and procrastination it caused to their study, which further evidenced the findings in previous studies by Bowman et al. (2010), Kirschner and Karpinski (2010), and Paul et al. (2012). However, students on average rated very high (4.15) on their ability to control the use of Facebook, thus counteracting its interference with academic work by doing so. It was also important to find in this study that students manifested a favorable attitude (3.33) about using Facebook to communicate with their peers about course-related issues, which positively predicted their overall writing performance.

Although no significant statistical difference was found between coefficients of students' Facebook use and the total writing score, significant correlations were identified between some variables of Facebook use and students' performances in certain aspects of writing. These specific correlations were presented in Chapter 4 and discussed earlier in this chapter. Figure 4 is a graphic synthesis of the correlations. Four aspects of writing, namely, Ideas Support, Organization, Audience Tone, and Vocabulary, were positively predicted by students' regular and continuous Facebook use, their positive attitude about Facebook use, and their use of it for academic purposes. In contrast, only two aspects of writing, Focus Thesis and Vocabulary, were negatively predicted by students' delay and self-control in using Facebook. At this level of analysis, the positive relationships between Facebook use and academic writing performance evidently outnumbered the negative relationships between the two. Little to no research so far has investigated the relationship between students' Facebook use and their writing performance at a level so in-depth as in the current study.

As summarized in the discussion for Question 4, more students (n = 9) believed that their use of SNT affected academic writing than those (n = 5) who didn't; students (n = 4) who perceived the influence to be negative outnumbered those (n = 2) who perceived it positive. These results from the qualitative data were apparently discrepant with the quantitative analysis, which found no correlation between Facebook use and overall writing performance. Although significant correlations were found between variables of Facebook use and many aspects of writing performances, these findings didn't match what were typically featured in the interview responses. A contributing factor to the discrepancies might be due to the nature of the two research methods. While being interviewed about the relationship between SNT use and academic writing, the participants were carefully and intentionally examining what they did with

the two styles of writing. Naturally, they would pay more attention to their differences than their connections due to their divergent primary purposes. What was reflected in the quantitative data would be less subject to the attitudinal factors of the participants compared to the interview responses. Those statistically significant correlations found between Facebook use factors and performances in different writing aspects might go largely unnoticed by students in daily life, especially the positive correlations, which are even less likely to be grounded by their conscious maintenance of what some interviewed students described as "a clear line between the two styles of writing."

In contrast to many of their students, the instructors didn't think much of the negative influence from using SNT upon their academic writing. Although they detected the informal features in students' academic writing either in the past or on rare occasions now, they didn't think that the influence from using SNT was really degrading their academic writing; they tended to believe that their students could write properly based on their understanding of the different expectations of academic writing and writing on social networks. In fact, two instructors expressed enthusiasm in continuing to use SNT in future writing instruction in spite of the minor pitfalls occasionally encountered during their application of them. In addition to the convenience in peer review and the technological capacity in communication, these instructors also credited the integration of SNT for students' increased motivation in writing academically.

Educational Implications

It was found in this study that undergraduates were frequent Facebook users and there were likely connections between their Facebook activities and academic writing performances. It would be meaningful to inform students of the time and frequency about their Facebook use even though many of them were aware of the distraction and procrastination it caused to their study.

The quantified reports of their Facebook use may serve as a good reminder of the time they spent on social networks daily, particularly to those students who were spending exorbitant amounts of time on social networking regularly. Additionally, a common recognition was identified between students and instructors about the transfer of informal features from writing on social networks into academic writing. If both instructors and students paid attention to these features in writing instruction and practice, it is likely to increase the efficiency in further reducing these negative effects in students' academic writing. Another favorable by-product outside the classroom could be that more students may try to write in standard form even on social networking sites, now that they are more aware of the likely transfer of substandard writing features on social networks into academic writing.

While the positive relationships between some variables of Facebook use and performances in certain aspects of academic writing might be made known to both instructors and students, it has to be made clear that it is mainly students' attitudes or perceptions about their Facebook use that were found to be positive predictors of certain types of writing performance. The only "factual" variable among them is their actual time spent on Facebook, which positively predicted their vocabulary performance in writing. Such clarification of the finding is a precaution against students' misconception that more Facebook use will actually "cause" better performance in academic writing. Nonetheless, students who are informed of such findings might develop a more accepting attitude to the integration of SNT or technology similar to its nature in writing instruction. Being informed of the same finding, instructors might be able to involve SNT or similar technology in more custom-made ways when they hope to improve students' writing in those identified aspects.

Proportionally, more students than instructors reported that use of SNT negatively influenced academic writing in the individual interviews. While being aware of the similar negative influences, instructors also saw more advantages in using SNT in writing instruction and learning than students. Their responses evidenced in the quantitative and qualitative results in this study, instructors might have a more impartial perception of the relationships between the use of SNT and academic writing. Therefore, instructors should be encouraged to offer guidance to students about utilizing Facebook features and resources for academic writing or other academic purposes. In the meantime, standing on a better-documented ground, they could also caution students about the possible negative influences from using SNT upon academic writing. Such information can be provided in thematic workshops on campus or given in writing classes at the beginning of the semester, especially to freshmen. Additionally, for instructors enthusiastic about integrating SNT in writing instruction, such as I1 and I2, the comprehensive data and their sophisticated analysis in the current study will provide these instructors with factual support and methodological inspiration for their better-informed and more effective practice.

Limitations of the Study

The quantitative data collected from the survey investigation were based on students' self-report about their Facebook use frequency and duration. The accuracy of their estimates might be subject to their own awareness of Facebook use and its relations to study and the way they calculated the frequency and duration of their Facebook use. In studies conducted by Bowman et al. (2010), Junco and Cotten (2011), and Karpinski et al. (2012), it was evident that college students were very likely to multitask with a computer. More than half ($\geq$ 49.3%) of them admitted having social networking sites active during study time (Karpinski et al., 2012). Therefore, the way they calculated the frequency of checking Facebook and the time spent on it

could vary among the participants. O'Brien (2011) reported the same issue as a limitation in her study, from which the current study borrowed the questionnaire about Facebook use.

As was mentioned in Chapter 3, gender distribution among the participants was not purposefully controlled due to the method of convenience sampling. As a matter of fact, gender distribution was rather uneven among the participants: 138 female students (64%) and 77 male students (36%), which might have somewhat affected the research results. The researcher tested the Bivariate Correlations between gender and all the other dependent variables in the study and found four significant gender differences, "Total Score" (r = -.464; p = .000), "lost track of time" (r = -.237; p = .000), "procrastination" (r = -.194; p = .004), and "distraction from study" (r = -.166; p = .015). For these tested dependent variables, the Sig. (2-tailed) or p values are all less than .05, which suggests that there is a significant difference in the mean scores on these variables for the two groups. Therefore, the correlational examination between writing performance and Facebook use perceptions on these items could have produced different results, if gender distribution in the sample had been more balanced.

The scores of participants' academic writing performance were all gathered from the grading of the writing samples completed in one of their ENGL 101 classes. All the participants were assigned the same writing task with the same requirements. The same rubric was used and the raters were well trained to grade with highly consistent criteria (reported in Chapter 3). These procedures effectively enhanced the reliability of the measure of students' writing samples. However, these scores may be inadequate in reflecting students' overall writing competency and characteristics because they only wrote one argumentative essay with no more than 400 words. No students wrote longer than that due to the time limit in class. There is no doubt that many revealing findings were reached in this study by analyzing the data collected, including the

writing scores as a key component, but the narrow range of data collection for students' academic writing might negatively affect the generalizability of the research findings .

All the data in the current study were collected from first-year students who were enrolled in one university, which might also limit the generalizability of the results among larger student populations. Nonetheless, these students were from different majors in all colleges in Indiana University of Pennsylvania, which justified their responses as an effective representation of the student characteristics in the university. In addition, only four instructors were interviewed and their responses were reported and analyzed in this study. Such a small sample of faculty might not convincingly represent the practices and perceptions of much larger populations of writing instructors in higher education.

Suggestions for Future Research

In future research, participants should preferably be recruited from different universities and should include students at different grade levels. Larger and more diverse sample population may more effectively curtail the inaccuracy with self-reported responses. It is also recommended to conduct longitudinal research, during which data can be collected regularly or multiple times, so that more reliable information about students' Facebook use can be gathered. Likewise, to gather more comprehensive information about academic writing, more interventions can be conducted with students' writing or the academic records of their writing performances may be collected upon permission. If possible, students' writing on social networking sites may be collected to be examined along with their academic writing, which will provide direct evidence of the connections between the two styles of writing. To achieve that end, measures have to be taken to make sure students' privacy will be effectively protected. To compare and contrast the characteristics of two writing styles might be more time-consuming and strenuous than to handle numerical data from factual or attitudinal investigations.

In addition to Facebook, more research attention should be paid to the use of other social networking technologies or sites among college students because many newer technologies are gaining increasing popularity among them. For instance, in the current study, a few of the interviewed students indicated that, although they were still using it, Facebook was no longer their most favorite social networking tool. Instead, they would like to try out relatively newer or fancier technologies on social networks, such as Twitter, Instagram or Tumblr, because the social media they used was part of their self-presentation (Nadkarni & Hofmann, 2012).

Finally, it is suggested that more exploratory research on the integration of social networking technologies or sites be conducted in writing classrooms or other literacy classrooms. The current generation's enthusiasm about literacy practices on online networking sites has been researched and evidenced in a few early studies (Clark, 2009; Vie, 2008; Yu et al. 2010). College students also showed more acceptance than faculty of the educational use of social networking sites (Roblyer et al., 2010). Therefore, it is advisable for faculty to give more thoughts of taking advantage of the features of social networking technologies and students' enthusiasm about them to serve instructional and learning purposes. More scholarly exploration will definitely better inform future pedagogical innovations in this promising field.

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Appendix A

Survey Questionnaire for Students

(Used With Permission)

Please note that you will be considered willing to participate in the survey by filling out the following questionnaire.

1. IUP Banner ID: @__ __ __ __ __ __ __ __
2. Age: below 18 years ___ (If yes, you can't participate in the study. Thank you.), between 18-20 years ___, between 21 and 23 years ____, between 24 and 26 years ___, between 27 and 29 years ___, between 30 and 40 years ____, over 41 ____.
3. Gender: male ___, female ____
4. Race: American Indian or Alaska Native ___; African American ___; Asian or Pacific Islanders ___; White or Caucasian ___; Other races ___.
5. Country of origin:
6. What is/are your major(s)? _____

Please answer the following questions about your use of Facebook:

7. Do you have a Facebook account?
If you answered yes, please skip to question 9
If you answered no, please answer question 8

8. What are your reasons for never creating or deleting a previously created Facebook account?

9. How frequently do you use Facebook? Fill in the appropriate blank.
___ times per day ___ times per week ___ times per month ___ times per year

10. On a typical day, how much time do you spend on Facebook?
___ hours ___ minutes
11. On a typical day, when you are studying or doing schoolwork, how much time goes by before you check Facebook?
___ hours ___ minutes

12. On a typical day, what do you do most when you are on Facebook? How frequently?
_____ ___ times per day ___ times per week
_____ ___ times per day ___ times per week
_____ ___ times per day ___ times per week

13. What do you like about using Facebook?

14. What are the downsides, if any, of using Facebook?

Please rate how strongly you agree or disagree with the following statements about your use of Facebook:

15. Facebook has become part of my daily routine

1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree

16. I log on to Facebook and check it regularly whenever I am on the computer
1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree

17. I lose track of time when I am on Facebook
1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree

18. I have tried to cut down on my Facebook use
1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree

19. I would be upset if I were no longer able to use Facebook
1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree

20. Sometimes I go on Facebook while I am in class
1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree

21. When I am not on Facebook I find myself wondering what I am missing
1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree

22. I think I might be addicted to Facebook
1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree

Please rate how strongly you agree or disagree with the following statements about how your use of Facebook impacts you academically:

23. Facebook distracts me from studying/doing schoolwork
1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree

24. I use Facebook to procrastinate when I should be studying/doing schoolwork
1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree

25. The time I spend on Facebook takes away from studying/schoolwork time
1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree

26. If Facebook did not exist, I would get a lot more studying and schoolwork done
1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree

27. I have missed a class because I was on Facebook
1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree

28. I would be getting better grades if I spent less time on Facebook
1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree

29. My grades are suffering because of my Facebook use
1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree

30. I am able to control my use of Facebook so that it does not interfere with studying/doing schoolwork
1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree

31. I have had to wait for a computer at the TECH Center or library because other students were on Facebook
1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree

32. I use Facebook to communicate with classmates about course related issues
1 - Strongly Disagree 2 - Disagree 3 - Neutral 4 - Agree 5 - Strongly Agree

If you would like to participate in the study by completing this survey, please circle "Yes". If you don't want to participate in the study, please circle "No" and your response will not be included and analyzed.
Yes; No.

If you circled "Yes" to the question above and you are willing to participate in the individual interview (if selected), please circle "Yes" and leave your email address; otherwise, please circle "No."
Yes. Email address: _____
No.

Appendix B

Semi-Structured Interview for Students

1. Please tell me a little about your educational background.

2. What social networking technology do you use most frequently for communication purposes?

3. Do you have a Facebook account? If yes, describe how you use it. Why did you join it initially? If you don't have a Facebook account, what social networking technologies do you use?

4. What do you like most about Facebook? What do you like least about Facebook?

5. Do you use Facebook to interact with your friends at school? Your professors? Your family? Explain why or why not.

6. How often do you communicate with your friends at school/your professors/your family using Facebook?

7. What are you goals for your first year English writing classes?

8. What digital technologies do you use to complete your writing assignments?

9. Does your writing on social networking tools, such as Facebook, affect your academic writing? If yes, what are the positive and/or negative influences of digital writing on your academic writing? What aspects of academic writing are affected?

10. What are some ways in which your instructors can enrich the curriculum by adding some social networking technologies such as Facebook, MySpace, Google docs, blogs, Wikis, discussion board, Skype, Snapchat, etc.?

11. What do you think is the most important thing for your instructors to remember when they integrate digital writing into writing class in future?

12. Do you have any other thoughts about using Facebook and your academic writing that you'd like to share with me?

Appendix C

Semi-Structured Interview for Instructors

1) Please tell me a little about your background (teaching/educational experiences).

2) How often do you communicate with your students through social networking technologies in a week? What do you often use?

3) Do you think students' use of social networking technologies affect their academic writing? If yes, in what aspect(s)?

4) Do you incorporate social networking technologies into your instruction of writing classes in any way? If so, please describe the frequency and how you do it.

5) Are you planning to use/continuing to use social networking technologies in your instruction of students' writing? If so, why and how?

Appendix D

Writing Prompt

Issue: Are we too dependent on modern technology?

Directions: You are writing an argumentative essay in which you develop your point of view on the issue—"Are we too dependent on modern technology?" Will you say "yes" or "no" toward the issue? You are supposed to develop a clear argumentative essay by taking ONE side only and support your viewpoint with at least two examples or evidences that are taken from your own reasoning or experiences of yourself or other people. For example, many young people are spending much time on using their cell phones, especially smart phones. Do you think too much texting or cell phone use causes young people less able to concentrate and focus? You may use your views about this as an argument for your standpoint. You might also engage an opposing point of view by providing a counter-argument and develop a refutation with stronger evidence in support of your proposition (optional). Your potential audience will be students and faculty at universities and colleges. Please try to make your essay focused, convincing, and well-organized. Try to avoid inappropriate grammar in sentences and mechanical errors with spelling and punctuation. Please write neatly.

Appendix E

College-Level Writing Rubric

	Masterful (5)	Skilled (4)	Able (3)	Developing (2)	Novice (1)	Way Off (0)
Focus, Purpose, Thesis (Controlling Idea)	Engaging and full development of a clear thesis as appropriate to assignment purpose.	Competent and well-developed thesis; thesis represents sound and adequate understanding of the assigned topic.	Mostly intelligible ideas; thesis is weak, unclear, too broad, or only indirectly supported.	Mostly simplistic and unfocused ideas; little or no sense of purpose or control of thesis.	Ideas are extremely simplistic, showing signs of confusion, misunderstanding of the prompt; thesis is essentially missing or not discernible.	Shows complete confusion about the topic or inability to grasp it; thus conspicuous absence of thesis and lack of purpose.
Ideas, Support & Development (Evidence)	Consistent evidence with originality and depth of ideas; ideas work together as a unified whole; main points are sufficiently supported (with evidence); support is valid and specific.	Ideas supported sufficiently; support is sound, valid, and logical.	Main points and ideas are only indirectly supported; support isn't sufficient or specific, but is loosely relevant to main points.	Insufficient, non-specific, and/or irrelevant support.	Lack of support for main points; frequent and illogical generalizations without support.	Clear absence of support for main points.
Structure, Organization	Organization is sequential and appropriate to assignment; paragraphs are well developed and appropriately divided; ideas linked with smooth and effective transitions.	Competent organization, without sophistication. Competent paragraph structure; lacking in effective transition.	Limited attempts to organize around a thesis; paragraphs are mostly stand-alones with weak or non-evident transitions.	Organization, while attempted, was unsuccessful. Paragraphs were simple, disconnected and formulaic. No evident transitions or planned sequence.	Organization, if evident at all, is confusing and disjointed; paragraph structure is weak; transitions are missing, inappropriate and/or illogical.	Paragraph structure does not exist; or is a single rambling paragraph or series of isolated paragraphs.
Audience, Tone, and Point-of-View	Clear discernment of distinctive audience; tone and point-of-view appropriate to the assignment.	Effective and accurate awareness of general audience; tone and point-of-view satisfactory.	Little or inconsistent sense of audience related to assignment purpose; tone and point-of-view not refined or consistent.	Shows almost no awareness of a particular audience; reveals no grasp of appropriate tone and/or point-of-view for given assignment.	Lacks awareness of a particular appropriate audience for assignment; tone and point-of-view somewhat inappropriate or very inconsistent.	No evident awareness of audience as appropriate to assignments; tone completely inappropriate to assignment.
Sentence Structure (Grammar)	Each sentence structured effectively, powerfully; rich, well-chosen variety of sentence styles and length.	Effective and varied sentences; errors (if any) due to lack of careful proofreading; syntax errors (if any) reflect uses as colloquialisms.	Formulaic or tedious sentence patterns; shows some errors in sentence construction; some non-standard syntax usage.	Sentences show errors of structure; little or no variety; no grasp of sentence flow.	Simple sentences used excessively, almost exclusively; frequent errors of sentence structure.	Contains multiple and serious errors of sentence structure: *i.e.*, fragments, run-ons. Unable to write simple sentences.
Mechanics and Presentation	Virtually free of punctuation, spelling, capitalization errors; appropriate format and presentation for assignment.	Contains only occasional punctuation, spelling, and/or capitalization errors. Few formatting errors. Most errors likely careless.	Contains several (mostly common) punctuation, spelling, and/or capitalization errors. Several errors in formatting or formatting is inconsistent.	Contains many errors of punctuation, spelling, and/or capitalization. Errors interfere with meaning in places. Formatting incorrect in most places.	Contains many and serious errors of punctuation, spelling, and/or capitalization; errors severely interfere with meaning. Formatting weak.	Frequent errors in spelling and capitalization; intrusive and/or inaccurate punctuation, communication is hindered. No formatting as appropriate to assignment.
Vocabulary and Word Use	Exceptional vocabulary range, accuracy, and correct and effective word usage.	Good vocabulary range and accuracy of usage.	Ordinary vocabulary range, mostly accurate; some vernacular terms.	Errors of diction, and usage, while evident, do not interfere with readability.	Extremely limited vocabulary; choices lack grasp of diction; usage is inaccurate.	Diction and syntax make communication meaningless or very confusing at best.

Saint Mary's College – School of Extended Education (Melanie Booth, Learning Resource Program)

Appendix F

Permission to Use the Scoring Rubric

Full Headers
Raw Message

Subject: **RE: College Writing Rubric**

From: Melanie Booth <mbooth@wascsenior.org>

Date: 07/22/13 11:21 AM

To: Wen Huachuan <w.huachuan@iup.edu>

Hello,
Thank you for seeking permission to use the rubric; please feel free to do so. Best of luck with your study!
-Melanie Booth

Melanie Booth, Ed.D.
Special Assistant to the President
WASC Senior College and University Commission
985 Atlantic Ave., Suite #100
Alameda, CA 94501
510.995.3168
www.wascsenior.org

-----Original Message-----
From: Wen Huachuan [mailto:w.huachuan@iup.edu]
Sent: Saturday, July 20, 2013 6:06 AM
To: Melanie Booth
Subject: College Writing Rubric

Dear Dr. Booth,
Hello! How are you doing? I am a doctor candidate in Indiana University of Pennsylvania, majoring in Curriculum and Instruction. I am currently working on my dissertation, which is a study about the effects of college students' use of social networking technologies upon their writing for academic purposes. As an essential part of the study, I need to collect participating students' academic writing samples and have some instructors grade them with the same rubric. The results will serve as part of the quantitative data for the study and will not affect the students in any way. I found this rubric from Google and I thought it was really a good one (Please see attached). It has the names of St. Mary's College and yours at the bottom. Therefore, I am writing to you wondering if I could use this rubric in my study. If you

could allow me to use it I would greatly appreciate your help!
Thank you very much for your consideration!
Huachuan Wen
Doctoral Candidate & Teaching Associate
Professional Studies in Education
Indiana University of Pennsylvania
Office Tel.: 724-357-2400

Appendix G

Permission to Use the Survey Questionnaire

Full Headers
Raw Message

Subject: RE: Could I have your permission to use your survey?

From: "O'Brien, Shannon <s2obrien@ucsd.edu>

Date: 07/23/13 06:49 PM

To: Wen Huachuan <w.huachuan@iup.edu>

Dear Wen,

Thank you very much for your interest in my survey. You have my permission to go ahead and use whatever parts of the survey work for your study. I am really interested in hearing more about the work you are doing and reading your dissertation when it is complete.

I wish you the best of luck and please do not hesitate to reach out if you have any questions or need additional information.

Sincerely,

Shannon
Mobile: 215-680-2167

Shannon J. O'Brien, Ph.D.
Dean of Advising, Revelle College
University of California, San Diego
9500 Gilman Drive
La Jolla, CA 92093-0321
p/ 858-534-3490
f/ 858-534-4663
e/ s2obrien@ucsd.edu

-----Original Message-----
From: Wen Huachuan [mailto:w.huachuan@iup.edu]
Sent: Tuesday, July 23, 2013 6:29 AM
To: O'Brien, Shannon

Subject: Could I have your permission to use your survey?

Dear Dr. O'Brien,
How are you doing? I am a doctoral candidate in Indiana University of Pennsylvania, majoring in Curriculum and Instruction. I am currently working on my dissertation, which is a study about the effects of college students' use of social networking technologies upon their writing for academic purposes. My research will be a mixed method study. As an essential component of the quantitative part, I need to investigate participating students' use of Facebook. I found on Proquest your doctoral dissertation, FACEBOOK AND OTHER INTERNET USE AND THE ACADEMIC PERFORMANCE OF COLLEGE STUDENTS. I found that your research instruments were very well designed and brought about very interesting results. In particular, the parts of the survey about students' Facebook use would make a great validated instrument for my research.
I am writing to you in seek of your permission to use these parts of your survey in my research. Your help would mean a lot to me and I would greatly appreciate it! Thank you very much for your time and consideration!
Huachuan Wen
Doctoral Candidate & Teaching Associate
Professional Studies in Education
Indiana University of Pennsylvania
Main Office Tel.: 724-357-2400
Office Tel.: 724-357-4733

Appendix H

Indiana University of Pennsylvania
www.iup.edu

Institutional Review Board for the
Protection of Human Subjects
School of Graduate Studies and Research
Stright Hall, Room 113
210 South Tenth Street
Indiana, Pennsylvania 15705-1048

P 724-357-7730
F 724-357-2715
irb-research@iup.edu
www.iup.edu/irb

October 16, 2013

Huachuan Wen
59 Regency Square
Indiana, PA 15701

Dear Mr. Wen:

Your proposed research project, "Writing with Social Networking Technologies: Effects on College Students' Academic Writing," (Log No. 13-232) has been reviewed by the IRB and is approved. In accordance with 45CFR46.101 and IUP Policy, your project is exempt from continuing review.

It is also important for you to note that IUP adheres strictly to Federal Policy that requires you to notify the IRB promptly regarding:

1. any additions or changes in procedures you might wish for your study (additions or changes must be approved by the IRB before they are implemented),
2. any events that affect the safety or well-being of subjects, and
3. any modifications of your study or other responses that are necessitated by any events reported in (2).

The IRB may review or audit your project at random *or* for cause. In accordance with IUP Policy and Federal Regulation (45CFR46.113), the Board may suspend or terminate your project if your project has not been conducted as approved or if other difficulties are detected.

Although your human subjects review process is complete, the School of Graduate Studies and Research requires submission and approval of a Research Topic Approval Form (RTAF) before you can begin your research. If you have not yet submitted your RTAF, the form can be found at http://www.iup.edu/page.aspx?id=91683 .

I wish you success as you pursue this important endeavor.

Sincerely,

John A. Mills, Ph.D., ABPP
Chairperson, Institutional Review Board for the Protection of Human Subjects
Professor of Psychology

JAM:jeb

Cc: Dr. Monte Tidwell, Dissertation Advisor
Ms. Brenda Boal, Secretary