

Facebook, Writing and Language Learner Variables at a Large Metropolitan Community

College

By

Gregory A. Dixon

Submitted to the graduate degree program in Education and the Graduate Faculty of the University of Kansas in partial fulfillment of the requirements of Doctor of Philosophy.

Chairperson Dr. Paul Markham

Dr. Manuela Gonzalez-Bueno

Dr. Sonya Lancaster

Dr. Edward Lovitt

Dr. Vicky Peyton

Date Defended: 18 January 2012

The Dissertation Committee for Gregory Dixon

certifies that this is the approved version for the following dissertation:

Facebook, Writing and Language Learner Variables at a Large Metropolitan Community
College

Chairperson, Dr. Paul Markham

Date approved:

ABSTRACT

This study gathered information on student engagement with Facebook, and described non-native English speakers' (NNS) expectations and experience. This also assessed the relationship this technology has with writing efficacy and compared NNS and native English speakers (NS) groups. Demographic data were collected and means were compared to examine how NNS benefit from engagement with Facebook. Correlations and ANOVA were performed.

The study found, consistent with other studies, that the overwhelming majority of students are on Facebook, and that they tend to spend approximately 30 minutes per day on the site, checking in almost every day. The number of friends on Facebook did not correlate with any measures of writing success including: confidence, grades or success based on the assessment of the writing sample. Likewise the amount of time spent on Facebook per day had no significant relationship to any measures of writing success for NNS or NS. This study did not directly find that engagement with Facebook offered clear advantages to writing for either NNS or NS. The ways that NNS and NS engage with the site and how that relates to measures of writing success were not significantly different.

DEDICATION

To my family
for all their love and support.

ACKNOWLEDGEMENTS

This dissertation completes a long and fascinating journey. I have learned that the career of an academic relies more heavily on friends, family and colleagues than I had ever suspected. I cannot express strongly enough the respect, admiration, and gratitude that I feel toward my professors and committee members, my colleagues, my students, and my family.

To all my dissertation committee members: Dr. Paul Markham, Dr. Manuela Gonzalez-Bueno, Dr. Sonya Lancaster, Dr. Ed Lovitt and Dr. Vicky Peyton, thank you so much for all of your encouragement and guidance. I am grateful to Dr. Paul Markham, who has been my advisor and who has guided me throughout my doctoral work at the University of Kansas. I'd also like to express my appreciation to the staff at the School of Education, particularly Mary Ann Williams and Susan McGee for all their considerable support and assistance.

I would also like to express my gratitude to the faculty and staff at Johnson County Community College to: Dean Andy Anderson, for allowing me to do my research study; Birgit Love, for tracking down information and supporting my efforts in so many ways; and to the faculty of the English department. Without the considerable time, effort and cooperation of the Composition teachers this could not have happened. Thanks to Karen Anderson, Salley Bennet, Angela Biondo, Pamela Bostian, James Bridson, Bill Carpenter, Chad Davidson, Mark Davis, Gail Dunker, John Hewitt, Brian Longfellow, Dr. Greg Luthi, Ted Rollins, Franklin Robinson, Mathew Schmeer, Jane Stock, and all the other faculty who gave freely of their time and cooperation. Gina Brewer lent invaluable assistance in tracking down institutional research and data, and for that I'm grateful.

In addition to the faculty who allowed me into their classes, I'd like to thank those who donated their considerable expertise and valuable time to assessing the writing samples.

A special thanks to: Danny Alexander, Dr. Samantha Bell, Dr. Diane Davis, Dr. Maureen Fitzpatrick, Dr. Sayanti Ganguly-Pucket, Dr. Keith Geekie, Dr. Beth Gulley, Dr. Nathan Jones, Dr. Katherine Karle, Paul Restivo and Marilyn Senter. The effort was considerable, and if this study breaks any ground, it is through their efforts.

And finally, I'd like to thank my family: to my mother and maternal grandmother, Barb and Josephine Denton, who instilled in their children a profound appreciation for education and sacrificed much in that support, and who both passed during the completion of this dissertation; to my father and step-mother John and Joyce Dixon, who were there for encouragement and support; to my sister Jennifer Dixon-Perkins who helped keep me on track; and my wife, Winnie Hsu, and my son who have helped me stay strong and overcome my challenges while completing this dissertation.

TABLE OF CONTENTS

ABSTRACT	iii
DEDICATION	iv
ACKNOWLEDGEMENTS	v
TABLE OF CONTENTS	vii
LIST OF TABLES	ix
LIST OF FIGURES	x
CHAPTER ONE: INTRODUCTION	1
Background of the Institutional Context	1
Overall Diversity at the School	1
The College	2
Purpose of the Study.....	3
How this benefits the target population.....	8
Addressing diversity and emergent technology	10
Model of the problem to be studied.....	15
Research Questions	15
Significance of the Study	16
Operational Definitions	20
Conclusion.....	24
CHAPTER TWO: LITERATURE REVIEW	25
Theory	26
New Technology Depends on and Expands Language Skills.....	27
Literacy: Multiple Literacies, Myriad Pathways	29
How Writers Define Themselves through Digital Media	35
Social Aspects of Technological Engagement and Literacy	37
Caveats and Obstacles for the Linguistically Diverse.....	46
Specific Potential of Web 2.0 Interventions for NNS	47
Blogging	48
Facebook	53
Conclusion.....	59
CHAPTER THREE: METHODS	61
Statement of Problem	61
The Research Questions	61
Purpose of the Survey.....	62
Purpose of the Writing Sample	64
Participants and Sampling.....	64
Data Analysis	65
Descriptive Analysis of the Survey	66
Research Design	67
Design and Experimental Manipulation.....	68
Instrument: Survey	68
Validity for the Survey	69
Threats to Validity.....	71
Reliability	72
Descriptive Analysis of the Writing Sample.....	73
Rationale for Writing Sample.....	74

Preliminary Research	74
Pilot test.....	76
CHAPTER FOUR: RESULTS.....	78
A) Descriptive Analyses of Student Demographics and Engagement with Facebook	79
Facebook Engagement	83
Time Spent on Facebook.....	84
Friending	85
B) Correlations between Measures of Intensity of Facebook Use and Measures of Writing Success.	87
C) An Examination of the Magnitude of the Differences between these Correlations for NNS and NS	90
CHAPTER FIVE: DISCUSSION	92
Conclusions	95
Limitations.....	98
Recommendations for Future Research	99
Implications for Teaching	103
Conclusion.....	105
APPENDICES.....	131
Appendix A: Survey.....	132
Appendix B: English Department Rubric	138
Appendix C: Consent statement	139
Appendix D: Tables.....	141
Appendix E: Descriptive Analysis of Student’s Background Information	182
Appendix F: Human Subjects Approval	186

LIST OF TABLES

Table 4-1. Sample Demographics.....	82
Table 4-2. Time per Day on Facebook between Subjects Effects: Gender and Native Language	84
Table 4-3. Facebook Engagement.....	85
Table 4-4. Number of Facebook Friends between Subjects Effects: Gender and Native Language.	87
Table 4-5. Correlations between Measures of Intensity of Facebook Use and Measures of Writing Success.....	88
Table 4-6. Correlations between Measures of Intensity of Facebook Use and Measures of Writing Success for NNS.....	89
Table 4-7 Correlations between Measures of Intensity of Facebook Use and Measures of Writing Success for NS.....	89

LIST OF FIGURES

Figure 1. NS Dispersion in Composition Classes.....	81
Figure 2. NNS Dispersion in Composition Classes.....	81
Figure 3. Number of friends on Facebook for NNS.....	86
Figure 4. Number of friends on Facebook for NS.....	86

CHAPTER ONE: INTRODUCTION

Background of the Institutional Context

While the community college is comparably well-situated economically, Kansas ranks very near the lowest (48th) nationally in funding education (Hoss, 2004, p. 14). The Community College Survey of Student Engagement, a national assessment of student success, classifies this community college as an extra-large suburban-serving, single campus community college. The impact of diversity is felt perhaps most strongly in gateway courses, particularly composition classes. Gateway courses are those that pose the greatest obstacle to student success. Success in those courses most accurately predicts graduation or transfer to four year college. The less politically correct and more common term might be “gatekeeper” course, because of the role they play in student achievement. The college easily has the highest freshman and sophomore enrollment of any institution of higher learning in the state: its total FA09 credit enrollment of 20,401 is a close second to KU, the largest, the enrollment of which includes junior, senior and graduate classes as well as multiple campus sites.

Overall Diversity at the School

The *US Census Bureau Quick Facts for 2009* lists the African-American population of the county at 4.4%, and the Asian population at 3.8%. Compared to the rest of Kansas, the county has 1.8% fewer Black persons but 1.6 % more Asians. This source lists the Hispanic population at 6.1% for the county compared to 9.1% for the state. Internal reports by the college estimate that the county population, from which the college draws the majority of its students, had an estimated makeup of 5.7% Hispanic population and 3.8% Asian population (*Indicators and Outcomes*, 2008), though these measurements are not as current as the Census estimates quoted above and look only at credit courses. The *2009 County Profile* prepared by the county office of Financial Management, indicates that the population of the

county is increasingly diverse, with the fastest growth from Hispanic, African-American and Asian groups.

US Census Bureau Quick Facts for 2009 records that 8.2% of the population speak a language other than English at home, compared to 8.7% found for the rest of the state; however, a query to the *US Census Bureau Fact Finder* over 2006 to 2008 data sets indicates that 10.3% of the people of the county speak a language other than English at home and that 4.2% speak English less than, “very well.” The numbers are close, but their variation attests to the difficulty in collecting this kind of data and the need for college efforts to assess the success of diverse student groups.

The College

The college, however, is more diverse than is generally thought. Spring 2009 total headcount was 18,086. According to the *Indicators and Outcomes: 2007-8*, 85.5% of the student population was classified as non-minority in 2006 (p. 22). A pamphlet issued by the Office of Institutional Research (OIR), analyzing the results for the CCSSE for the college in spring 2009, estimates the overall college enrollment to be only 71% white, non-Hispanic (*Assessing*). One of the goals of the college is to expand equity and inclusion in institutional initiatives. OIR has tracked minority student enrollment at the college and found that the percent of minority students in credit classes has steadily risen, from 13.9% in 2005 to 14.6% in 2006 and 14.6% in 2007.

It is difficult to fix the exact number and nature of the non-native English speaking population for the college or the surrounding county. According to student demographic information available on the web through International and Immigrant Student Services: the school has 1573 international students – not all of whom necessarily are non-native English speakers (NNS). The fall 2009 credit headcount was 20,401 (Brewer, 2010). From these

numbers, we might estimate the international population to be 8.7% of the school's enrollment. In this researcher's classes during the Spring 2010 semester 6 Composition I students and 2 Composition II students identified as Gen 1.5 (Dixon, 2010). That's a little over 9% who weren't exposed to significant English until kindergarten or elementary school. There were at least 5 who are true international students and NNS, so at least 15% of my students are non-native English speakers. The college also has significant hearing impaired, or Deaf, students –many of whom had American Sign Language as their first language. We may need to account for that in questions re: native language.

It should be no surprise to anyone who has studied the success and retention rates of diverse groups that non-native English speakers and other diverse groups are over-represented in composition classes. It also stands to reason that if they are more challenged and more likely to fail a required gateway class, the concentration of these students would rise. Since equity and inclusion of diverse groups is an institutional goal, and since linguistic diversity is an authentic type of diversity, and since the linguistically diverse populations are generally racially diverse and less likely to be white than NNS populations as well, the school is charged ethically to assess the specific needs, strengths and challenges of NNS in Composition courses in order to improve their success.

Purpose of the Study

Second Language Acquisition classrooms have always been closely associated with emerging technology (Armstrong and Retterer, 2008; Simon, 2008). Armstrong and Retterer (2008) note that “technology and foreign language learning have been closely linked for more than 50 years” (p. 234) and that second language instructors have enhanced the authenticity of instruction by being at the forefront of incorporating technologies such as audio recordings, video and the computer. Simon (2008) asserts that experience in

instructional technologies has become a necessary requirement for those hoping to find work in foreign language classrooms.

Emerging technology presents expanding opportunities to better inform and teach. This impacts not just the specific technical and linguistic skills involved in using computer-mediated communications but also the content delivered through the media, and student engagement with online communities. Sheltzer and Warshauer (2000) write, “Language professionals who have access to an Internet computer classroom are in a position to teach students valuable lifelong learning skills and strategies for becoming autonomous learners” (p. 176). Those without access or with limited access are at a distinct disadvantage.

Teachers, in preparing content for digital modes of instruction delivery, have too often tended to, “transpose books and lectures, and so they miss the opportunity for use of the computer for creating responsive and active learning environments”(Bork, 1985, p. 7 (cited in Alvi text but not referenced in their works cited)). This is because teachers tend to derive pedagogy from not only the theory they learn in education classes but also from their experiences as learners and their experiences in the classroom. Additionally, personal and disciplinary style and the limitations of the instructional environment also play a part in the development of teaching styles and methods (McGee and Diaz, 2007). Data transmission models of classroom communication are giving way to strategies of heightened engagement and interaction. Researchers (Lunsford, 2006; Jones-Kavalier and Flannigan, 2006; Ito et al. 2008; Lenhart et al. 2007) argue for us to redefine what it means to write in the digital age. Whatever definition we use, we must consider the role of modern web-based communication networks. It is likewise important to note, as Zhao (2003) and others have, that it isn’t the technology that makes the difference for students, but the way it is used.

Cummins (2000) notes that projects making extensive use of instructional technology (IT) can develop language and literacy more effectively than projects that make minimal use of IT. He concluded that this may be through heightened communities built across ethnic, geographical, social and linguistic divides (See also Brown et al., 1998; Cummins & Sayers, 1995).

Language educators should examine the potential of IT not only to increase the linguistic power of the individual student but also to harness that power in critical and constructive ways to strengthen the social fabric of our local and global communities...we should acknowledge the fundamental changes that IT is bringing to our societies and seek ways to use its power for transformative purposes. (Cummins, 2000, p. 539)

The diverse student population of our school makes development of literacy and the building of community essential.

Perhaps the most popular and telling metaphor of the challenges facing those wishing to facilitate the communication of faculty and students regarding the integration of technology into instruction for any subject has been articulated by Prensky using the experience of a NNS. “The single biggest problem facing education today is that our Digital Immigrant instructors, who speak an outdated language (that of the pre-digital age), are struggling to teach a population that speaks an entirely new language” (2001). Research is needed to better understand the interplay of native language and culture – in both the figurative and literal sense – in the adoption and use of new technology.

Either teachers are increasingly embracing the collaborative and facilitative ethos of current web tools or technology is finally catching up to informed and progressive teaching. Hrastinski (2008) draws a parallel between the transformation of e-learners from individual

recipients to social participants with Web 2.0 and its emphasis on social relationships in web communication and collaboration applications. The collaborative learning environment provided by IT applications can enhance education process (Alvi, 1994; Cummins, 2000). Prensky (2007) asserts this is because students can find information where ever they are, making their own judgments of its relevance and verifying it from multiple sources. They can share easily with as many people as they choose with the technological tools they already own and use. In that way this technology fits students' educational goals and practices. Emergent technologies help students become engaged, active learners who evaluate information rather than passive learners who absorb instructor knowledge (McGee and Diaz, 2007, p. 38). Kuh and Vesper (2001) suggest that in order to optimize the benefit of college, all students be urged to gain proficiency in various forms of technology as soon as possible. The ability to write clearly and effectively is the personal development outcome most directly affected by emerging technologies. Windgard (2004) in a multi-institutional study, found that adding web-enhancement leads to: more efficient face-to-face interactions, better class discussions; more active learning; less lecture; more readily available practice and feedback opportunities for students; and more student-centered instruction.

We must be careful of making assumptions regarding the use and popularity of new technology. Taylor, Jamieson and Eignor (2000) show historical evidence that access to computer technology is unequal, but when we consider the speed at which the use of technology changes, we have to continue to monitor access and use. In a national survey of teen use of social media, Lenhart (2007) found that

- use of instant messaging has declined (from 75% in 2004 to 68% in 2007), and
- visiting chatrooms has sharply dropped off (from 55% in 2000 to 18% in 2006)

The majority of online teens now view video sharing sites and they now use social networking sites like Myspace or Facebook. What seemed valid a few years ago may not be popular today and what is popular today may not have existed a few years ago. For example Personal Digital Assistants, which seemed poised for wide acceptance in the early 2000's, are rarely seen today: replaced most likely by cell phones, increasingly capable of far more applications. Consider more recently changes from 2004 to 2006, when the number of teen bloggers doubled in 2 years (Lenhart, 2007). Technology proceeds at such a pace that it requires constant attention to keep up. Many assumptions based on student use of technology only a few years old would be incorrect today.

While Web 2.0 tools are bottom up, user-controlled, systems and Learning Management Systems (such as Blackboard and ANGEL) are top down teacher or administratively controlled systems, both offer web repositories for syllabi, course policies, lesson plans, handouts and more, as well as synchronous and asynchronous communication platforms. Research shows that students want web-enhancement and class websites, but research hasn't fully looked at why students want it and/ or what specific features they will use.

Much of the literature considering the infusion of web-based technologies and strategies into instruction uses the term "blended learning." This term has been refined in scholarly literature to refer to a combination of face-to-face and online learning (Williams, 2002). Voos (2003) affirms this definition and adds the assumption that seat time is reduced. Bleed (2001) argues that it means more, an opportunity to redesign the development and delivery of content. He and others use the terms "blended" and "hybrid" interchangeably (Garnham, C., & Kaleta, R., 2002; Levine, S.L., & Wake, W.K., 2000; McCray, G.E., 2000; Young, J. R., 2002).

How this benefits the target population.

American born children of immigrants enroll in college had continually higher rates and will soon overtake the 46% participation in college rate of students from families longer established in the United States (Fry, 2002). This is both heartening and cause for concern for higher education. The Educational Trust (2003, 2005) analyzed data from the National Assessment of Educational Progress (NAEP) and found that Latinos who graduated from high school had math and reading skills comparable to white middle school children. Gonzalez Sullivan (2007) notes that community colleges offer an attractive option for diverse populations because of low tuition, wide availability of vocational programs, convenient location and well developed support services. Classes that serve disproportionately large NNS populations, such as ESL and composition classes, may have the most to gain from instructional technology interventions.

Community colleges in particular have embraced online communication and content delivery. Tung (2008), in a review of literature on online instruction, found that web-based pedagogy “has an impact and is a critical factor that affects today’s education in community colleges” (p.12). Allen & Seaman (2005) found that 72% of community colleges feel that online instruction is part of their long term strategy; however, the BellSouth Foundation found, “while teachers feel they are making dramatic leaps in using technology to create new learning experiences for students, students have seen few changes in their classroom instruction. In addition, students revealed that they were hungry for more opportunities to use technology in the learning environment” (cited in Tung 2008). Vesper (2001) further found that technological engagement mediated student skills such as writing clearly, being self-directed learners and being both independent and group problem solvers.

Lee and Muncie (2006), in a study of ESL learners' vocabulary acquisition, found that multimodal presentation of vocabulary provided scaffolding necessary to improve lexical frequency, specifically the use of target vocabulary. This, they reason, contributes to improved writing. Hinkel (2006) argues for an integrated a contextualized approach to ESL, which includes listening and speaking as well as reading and writing. The multi-media possibilities of emergent web-based technologies, such as podcasting and blogs, present a possible fulfillment of this approach taken directly to the student via their computer: on demand and accessible as many times as necessary. This is important because if an intervention or resource is found to be effective,

some students should be required to take it. Left to their own devices, students (and faculty members) do not always choose wisely, as Carol A. Twigg, president and chief executive officer of the National Center for Academic Transformation, discovered in her successful experiments with technology-enriched course redesigns. She concluded that first-year students "don't do optional" -- even when it is in their interest to do so. (Kuh, 2007)

Synchronous Computer-mediated Communication, particularly instant messaging (IM) has received some treatment in second-language research, but as of yet more asynchronous communication (such as blogging and podcasting) has not. Therefore, for this reason, and because as Hrastinski (2008) points out, asynchronous CMC is more intentional and reflective, this study will focus on asynchronous technologies.

As the costs of technology equipment and software come down and the prevalence of computer equipped students and classrooms goes up, the potential of emergent and instructional technology is being increasingly realized (Alvi, Cummins); however, solutions and consensus regarding the educational value of emergent technology, and information

technology as applied to educational settings, will be decided from consideration of pedagogy rather than the technology itself (Cummins, 2000). Assessment of writing curriculum initiatives helps administrators to make wise choices on where to allocate resources. Data collected from this study will be used to develop a policy framework that is necessary for an institution to insure that blended learning initiatives are successful (Vaughn, 2007; Garrison and Kanuka, 2004).

Knowing what instructors are doing and what students need and prefer is one component of instructional planning, particularly with emerging technologies that may be unfamiliar or, more important, untried in educational settings (McGee and Diaz, 2007 p. 36).

As an assessment not tied to grades or teacher evaluations, this study will offer an objective portrait of students' as writers. This research assessment will provide faculty with feedback on interventions and tools. Learning which initiatives are most successful will help determine directions teachers should take. Of further critical importance are questions such as: (1) are Non-native English speakers (NNS) and native English speakers (NS) getting equal access to technology and (2) how does that technology impact their respective literacies and 3) which technologies justify the time and costs need to use them effectively in the classroom?

Addressing diversity and emergent technology

In part, this study seeks to address Cummins' (2000) challenge to find how instructional technology can address the social inequities its use may reflect. After all, "technological changes (e.g. the automobile, telephone, television) have been accessed by and have served the interests of the affluent countries and classes before they have been

extended to those less privileged” (Cummins p.538). The Higher Education Research Institute (1999) in a 1998 survey of college freshmen found that

access to educational technology still is not equal for certain segments of the incoming student population As they incorporate technology into instruction and campus life, colleges and universities should be aware of the differing levels of computing experience for incoming freshmen. (p. 1).

Access to and proficiency with emergent technology is instrumental in the success of writers and essential to institutional goals of equity and inclusion. A recent national study (Ito et al. 2008) has found that “In addition to economic barriers, youth encounter institutional, social, and cultural constraints to online participation” (p. 36). Sponsored by the MacArthur Foundation, they voiced a need for a public agenda,

that recognizes the value of youth participation in social communication and popular culture. When kids lack access to the Internet at home, and public libraries and schools block sites that are central to their social communication, youth are doubly handicapped in their efforts to participate in common culture and sociability (Ito et al. 2008 p.36).

Taylor, Jamieson and Eignor (2000) point out that this equally applies to international students. We need to account for access to technology when assessing non-native English speaking students’ literacy. Shin and Cimasko (2008) call for academia to emphasize the interactive nature of multi-media designs and to focus that emphasis on the ESL classroom. They assert that more comprehensive background information on ESL students’ electronic literacies is needed to understand current composition practices in a complete and meaningful way.

Lum (2006) has noted a nation-wide adjustment in foreign language curriculum to address expectations in the use of technology to communicate and mentions blogging specifically, in addition to earlier forms of electronically mediated communication such as email. This may be of particular advantage to non-native English speaking, or otherwise diverse, students:

Channeling their energies and efforts through technology into academic work is one area over which international students have some control and can immediately experience success...it is also possible international students are more comfortable and confident using computer technology, for preparing class assignments as well as for communicating with their instructors and other students. (Kuh, 2005).

Kuh found that international students entering college scored significantly higher than American student peers in technology use (p215-6). Further research bears this out (Cummins, 2000; Lenhart and Fox, 2006; Scott, 1997). A meta-analysis of four action research studies using iPods to teach culturally and linguistically diverse students (Patten and Craig, 2007), indicates “overall writing skills and vocabulary development improved in three studies, and one study reported significant increase in comprehension skills” (p. 40). The students in this study were primarily Hispanic, as are the presumed majority of NNS students at the community college for this study.

What research that exists on NNSs’ multimodal academic text production is provocative. Research looking at the effect of web-authoring programs or presentation programs (e.g. Dreamweaver or PowerPoint) has shown that non-linguistic modes can enhance the ability to express meaning (Nelson, 2006; Tardy, 2005). Tardy studied the identities of bilingual graduate students as represented in the visual elements of PowerPoint

presentations. Nelson studied how ESL writers in college incorporated multiple media into their compositions and how these practices impacted their voice and purpose.

While nearly 90% or more of teens now use the Internet (and this holds true for all demographic and socioeconomic categories), some groups do have higher access. This is true for white teens and those from higher income households. Hispanics and those from lower-income homes have lower access (Lenhart, 2008, p.4). While critical theorists predicted that instructional technologies (IT) would focus the power and resources for more affluent students (Apple, 1993; Delpit 1988), Cummin's (2000) suggests although this would be initially true, this technology would eventually be extended to the less advantaged.

Rather than dismissing IT as another corporate plot, as many critical educators have tended to do, or lamenting its perverse impact on educational priorities, we should acknowledge the fundamental changes that IT is bringing to our societies and seek ways to use its power for transformative purposes.

(Cummins, 2000)

As well, the effects would be mitigated by cultural values and beliefs. Teachers must look at the opportunities for instructional technology to not only enhance the linguistic power of individual students but also assess how that power can be used in constructive ways to strengthen local and global communities (Cummins). Literacy defines a person's ability to communicate and creatively produce and use information (Jones-Kavalier and Flannigan, 2006) and is therefore required for full and active democratic participation.

Surprisingly, although it may seem counter-intuitive, less advantaged ethnic and linguistic minority students appear to be even more likely to own and use valuable instructional technology hardware (Lenhart and Fox, 2006; Madden and Rainie, 2005; Patten and Craig, 2007), though they may not use it for educational purposes or otherwise use it

differently. Pew Reports indicate greater minority involvement in online blogging communities (Lenhart and Fox, 2006) and that minority students are more likely to own personal media players (Madden and Rainie, 2005). A poll by the American Speech-Language-Hearing Association (ASHA) cited in *The Hispanic Outlook in Higher Education* (Allen, 2007) reports additionally that Hispanic boys listen to portable media players longer and louder than any other demographic. The different use of technology by diverse groups may be because, as Troyka (1982) asserts, developmental students are more social and “more comfortable in an oral rather than a written mode” (p. 258).

Research into hemispheric brain orientation indicates that students are multitasking (Platt 2007). Because they are accustomed to working on multiple projects at once, the left and right hemispheres of their brains communicated more simultaneously than the brains of earlier college students. Jacobs (2006) argues that by multitasking while using IM, students participate in multiple roles that contribute to their creation of a portfolio. Dr. Robert Blake, UC Davis professor of Spanish and the director of the Consortium for Language Learning and Teaching praises teachers who use technology, stating “Technology –based assignments harness more of the students’ free time...they tap into something they do anyway” (cited in Lum, 32).

Galván (2006) holds that “community colleges are particularly well positioned to prepare students with an international perspective” (86). Technology and virtual spaces may be where community college students communicate, learn and socialize. Since the college is a non-residential community college, a disproportionate portion of the student body commutes. Audio enables multitasking – while driving, or, as students in my pilot class indicated, working. Community college students are more likely than students at 4 year universities to work full-time. Also, the rise in gas prices has driven increases in online

enrollments for colleges, especially for community colleges, and experts expect the trend to continue (Dillon, 2008).

Model of the problem to be studied

This work is informed by theoretical perspectives including: second language acquisition, sociolinguistics, and literacy development. It is inspired by others, such as Vygotsky, who see language acquisition as socially mediated and influenced by and influencing the historical and cultural contexts in which it occurs. The theoretical construct guiding this study is the effect of emergent networking technology, specifically Facebook, on student confidence and attitudes toward writing and how the impact varies according to native or home language. The researcher examined the relationship of student linguistic diversity and level of engagement with Facebook and student attitudes toward writing. Independent variables including (a) age, (b) race or ethnic background, (c) English or non-English native language, and d) gender. Enhanced engagement with Facebook is predicted to affect the dependent variables: e) student attitudes and confidence regarding writing and f) scores on samples of authentic writing.

Research Questions

1. To what extent are students using Facebook (based on time per day on the site and the number of friends in Facebook), and are there differences between how gender and native language relate to the extent to which students use Facebook?
2. What is the relationship between the number of Facebook friends and time spent on Facebook, to writing success based on self-reported grades, confidence, and a writing sample scored with a college developed rubric?

3. Based on these measures of writing success on the community college developed rubric, grades in writing classes and confidence in writing, is the interaction with number of friends on Facebook or time spent on Facebook different for non-native English speaking and native English speaking students?

Significance of the Study

The *Corporation for a Skilled Workforce*, a report commissioned by the Kansas Board of Regents (KBOR) in 2007, found that two and four year colleges were inadequately preparing students in the area of information technology (Williams, 2007). Information technology was one of a few areas singled out as inadequate. This report identified communications as a key future industry in the region and urged Kansas's colleges and universities "to do a better job preparing workers for a more technological 21st century" (Williams). The report suggested increased spending in technology programs. This attitude is found as well in the Friedman's (2005) bestseller, *The World is Flat*. It describes how globalization and digitalization impact business models. For example, by extending beyond national borders and time zones, support services and supply chains can be run around the clock at lower costs. Theorists are increasingly referring to this as "fast-capitalism" which Jacobs (2006) defines as

The economic condition in which speed is the imperative; the public and private are blurred; and collaboration, flexibility, and adaptability are expected of individuals. To survive, if not thrive, in a fast capitalistic economy, individuals need to be able to construct a portfolio of achievements, attributes, and skills that they can arrange and rearrange to meet the needs of the changing economy. (p. 179)

Gonzalez Sullivan (2007) and other educators (Dellow and Romano, 2006) agree with Friedman's predictions and

worry that the loss of low-skill jobs may force older workers and those with little education out of the labor market. They assert that community colleges ...must continue to address the need for remedial/ developmental skills among new entrants. Finally, as the primary portal to the job market for the growing proportion of workers who are Hispanics or other minorities, community colleges must ensure that all their students can contribute to America's competitiveness in the global economy. (Sullivan, p. 404)

Gee (1996) identified three essential roles for workers in the new and future economy: those who "design, implement and transform networks and systems" (Gee 2000a, p 17), those who collaborate and "proactively understand and continually redesign their work as a whole process" (p. 17), and those who perform menial, low-level service jobs, typically on a part-time or on-demand basis. While Gee believes schools do a good job preparing workers for the latter, menial brute-strength, jobs, Jacobs asserts that adolescents are preparing themselves for the former two more attractive roles almost exclusively through out-of-school literacy activities. Gonzalez Sullivan (2007) applies Friedman's book and the impact of fast capitalism to Latinas/os in higher education.

Unfortunately, Hispanics are not well positioned to participate in the new, flat world of work or in the American middle class (de los Santos & de los Santos, 2005; Fry, 2002; Kelly, 2005; NCPPHE, 2005). Not only are they concentrated in the lowest paying jobs but as a group they have the lowest levels of education, and the gap between their educational attainment and that of other minorities and Whites is actually widening. (p. 401)

This has a profound impact on the community our college serves (see the demographic make-up discussed in the Background and Context section).

A 2000 report from the National Alliance of Business holds that “The current and future health of America’s 21st century economy depends directly on how broadly and deeply Americans reach a new level of literacy—‘21st Century Literacy’” (p. 4). The definition of literacy and what it means to be sufficiently able to read and write has gone under subtle transformations.

Although youth are often considered early adopters and expert users of new technology, their views on the significance of new media practice are not always taken seriously. Adults who stand on the other side of a generation gap can see these new practices as mystifying and, at times, threatening to existing social norms and educational standards. (Ito et al. 2008, p. 35)

Zhao (2003) in a meta-analysis looking at technologies varying from video and web tutorials to speech recognition, found a significant main effect of technology on student learning. A study by Kuh and Vesper (2001) finds unequivocal support for the proposition that “increased familiarity in using computers during college contributes to...the development of other skills and competencies considered as important to success after college” (95). They state,

Becoming familiar with computers during college appears to mediate the acquisition of skills and competencies in areas widely believed to be essential for being self-sufficient, economically productive, and socially responsible after college (e.g., self-directed learning, writing clearly, and solving problems both independently and when working with others). Moreover, students who make substantial progress in using computers are no different in terms of their

background characteristics or academic ability (as indicated by comparable grades and educational aspirations) than their peers who report little progress except for two things: they study more and they gain more from college. (98)

Further research has born this out. Lee S. Shulman, president of the Carnegie Foundation for the Advancement of Teaching, states that, “because student engagement is a precursor for knowledge and understanding, it is both a proxy for learning as well as a desired outcome in itself. By being engaged...students develop habits ... for a lifetime of continuous learning” (ctd in Kuh, 2007). Because engagement with technology mediates learning necessary to success, the use and promotion of technology and technological literacy are essential in composition courses at our institution.

Taylor, Jamieson and Eignor’s (2000) research showed notable increase in internet access in only 20 months (e.g. 18.4% of Hong Kong Chinese used the Internet weekly in 1996, compared to 54.3% in 1997). While the data is somewhat dated, this study has the benefit of a large sample size of 191,493 participants. Lenhart (2007) found that broadband access no longer had an impact on online content creation, though in 2004 there was a pronounced broadband effect: the penetrating increase of broadband in households. In 2004 51% of teens had broadband access and in 2007 3/4ths or 75% of teens reported having broadband access at home.

Jacobs (2006) in a qualitative study of the use of IM and the creation of a digital portfolio, found that her adolescent subjects learned flexibility, adaptability and self-efficacy. In her conclusion she calls for further related studies that include participants from other races, ethnicities and SES.

As language educators, our job is to reflect on norms—to explore their underpinnings, their contexts of operation, and their implications—not only to

make the norms understandable to our students but also to model for them the very process of reflecting critically on the social practices they participate in and observe (Kerns, 2006 p203).

Because of the role of identity creation in the lives of both teenagers and immigrant populations, there is clearly a need for more discussion of multimodal linguistic expression (Shin and Cimasko, 2008). This study will provide snapshot of current modes of expression by linguistic background (NNS vs NS).

Operational Definitions

Biliteracy defined by Dworin (2003, 1996) as the development of literate competencies in two languages, be they simultaneous or successively. It may be worth noting that he generally used the term with children, but the term should be no less applicable to adults.

Blended learning Martyn (2003) lists several definitions for blended learning, including the combination of pedagogical approaches, the use of multiple technology, or the combination of face-to-face and instructor interaction with instructional technology (p. 19)

Blog coinage of “We Blog” in 1999 from weblog – a term for journals or diaries kept online. (OED accessed 2-23-08) Armstrong and Retterer (2008) trace the term to a 1998 use by Peter Merholz.

Computer Mediated Communication: Kerns, (2006) has explained, “CMC is not a single, uniform genre of language use, but rather a constellation of genres related partly to the particular medium (e.g., instant messaging, e-mail, chat groups, blogs, multiple-user network-accessible interactive systems, etc.)

and partly to the particular social and cultural contexts of a given act of communication” (p.193).

Course Management System (CMS): See Learning Management System below.

Digital portfolio also known as an “e-portfolio.” Jacobs defines it as an online collection of skills, achievements and attributes.

E-learning using network technologies to teach and facilitate learning (Hranstinski, 2008; Zhang, 2004).

Face-to-face Taylor and McQuiggan (2008) define face-to-face teaching as that which happens in a regular physical space without substitution of online (or virtual) meetings for classroom seat time. This kind of teaching may also include online activities or computer resources.

Gatekeeper classes probably a politically incorrect term, commonly used to describe “college level courses students are required to complete successfully before enrolling in more advanced classes in their major field of study” (Achieving the Dream, 2006, p. 1).

Gateway course often in the past referred to as a gatekeeper course, a more sensitive term for a course that the success in which determines or strongly predicts success in college. Examples are College Algebra and Composition courses. These courses are required to graduate or transfer.

Learning Management System (LMS): a course content and delivery platform such as Blackboard, Web CT, or Angel. Also known as a CMS (See above).

Millenials: Just as my parents were labeled “baby boomers” and my generation was tagged “generation X”, the current cohort of college-aged students is

commonly referred to as millenials, the Net Gen, or the internet generation (Windham 2005).

Multi-modal Researchers (Kress & Leeuwen, 2001, 2006; Jewitt, 2006; Shin and Cimasko, 2008) use the term “multi-modal” to refer to the use of mixed media, or interactive web-based network technology to craft written texts. “Multimodal” as applied to composition, refers to the use of additional semiotic resources to construct meaning, including but not limited to: audio, video, imagery, and hyperlinks (Shin and Cimasko, 2008). Multimodal can be distinguished from “multimedia” in that the former connotes the process, and the latter more the product, but essentially the terms are closely related.

Podcasting the word “podcasting” came about as early as 2004, perhaps as a combination of “iPod” and “broadcasting” (pod may be an acronym for “portable on demand”). Podcast listeners download audio files to listen to when they wish. (Madden and Rainie 2005). Many sources further draw a distinction between podcasting and audio available on the web by subscriptions and the use of RSS feeds, a way that allows an individual users’ computer to automatically detect and download content when it is posted.

Read Write Web aka Web 2.0 (see below)

RSS Really Simple Syndication (aka: rich site summary): A way to store and distribute constantly updated materials without using up server space. It is the technology behind asynchronous Web 2.0 publications.

Vidcast Published texts with video (similar to a podcast)

- Web Enhanced Classes that incorporate a web based class content delivery platform. Web CT, ANGEL and Blackboard are platforms that have or could be used to make a class web enhanced. These classes still meet on the ground with a required number of contact hours in the classroom. These classes are sometimes referred to as hybrid or blended classes.
- Web 2.0 Tim O'Reilly, (2005) generally credited with first popularizing the term in 2004, describes the term as a set of principles or practices and stresses that it is *not*, as the name might imply, a web application. It refers to how end-users use the internet. These principles are characterized as “an attitude, not a technology” that depends on collaboration and mutual trust that some might think of as a “perpetual beta.” It describes software that gets better as more people use it and provides rich user experiences. Wikipedia, a prominent example of Web 2.0, defines it as a “web-based communities and hosted services — such as social-networking sites, wikis and folksonomies — which aim to facilitate collaboration and sharing between users”.
- Wiki A wiki is a web page that anyone can edit. They use a simplified markup language, and users can generate new pages and edit existing pages easily and quickly. Analogous to a white board or bulletin board for classroom use – where either students or teachers can post text, pictures, video, or links. It's the oldest of Web 2.0 tools, dating back to at least 1995.

Conclusion

This chapter has described the characteristics of the super large Midwestern community college where this study will take place, and the importance and rationale for the study. The next chapter will review the relevant literature and explore the technological innovations that have given rise to the current web-based social network of Facebook, as well as review what research has been done in examine the relationship between use of Facebook and academic success.

CHAPTER TWO: LITERATURE REVIEW

Google is currently converting over 50 million books to digital format; this challenges educators to ask, “in a world where the sum of human knowledge soon will be on line, how does this impact curriculum?” (Mancabelli and Richardson, 2007, p. 16). Language scholars have already been addressing the impact of technology on teaching theory, and while the speed of change may be accelerating, the craft of teaching is under no threat. Contentious issues within the communities of instructional technology and the various academic disciplines will continue to be resolved by focusing on pedagogy rather than on the technology itself (Cummins, 2000). Best practices will be enhanced by technology as will worst practices be magnified, and recorded, by technology, but the tools, applications and gadgets that so pervade our lives should not be considered good or bad in and of themselves. “Technology-based language teaching is not a method but is integrated into various pedagogical approaches” (Kern, 2006, p.200). In TESOL, computer technology applications in the classroom call for creative and critical approaches to producing and receiving texts in electronic media, which allows the creation of textual products, be alphanumeric, video or audio – This textual re-imagining of language allows for social dialogue and change (Kress, 2000). This draws attention to the need to create *possible* worlds (Bruner, 1986) and transformative pedagogies (e.g., Lam, 478; Pennycook, 1999a, 1999b). Cummins & Sayers (1995) and others (Brown, Cummins, Figueroa, & Sayers, 1998; de Klerk, 1998, Warschauer, 1999) have documented the feasibility of “sister-class networks” to critical inquiry and collaboration between students from diverse national, cultural and linguistic backgrounds. Cummins also holds that, when allied with pedagogy that incorporates collaboration, instructional technology has untapped potential to facilitate language learning

in a transformative way that will impact power relations beyond the classroom (Cummins, 2000).

Conditions may be ripe for a quantum leap in student engagement with writing and technology. In September 2008 the Pew Internet & American Life Project reported that 74 percent of youth aged 12-17 own an MP3 player (or iPod), up from just over 50 percent two years earlier (Gaming). A Pew Internet Internet and American Life survey of experts foresees mobile tools, like the phone, becoming the primary online access device in the near future (Rainie and Anderson, 2008). Indeed, this year marks the first time Smartphones and Tablets have outsold personal computers (Warman, 2011).

Theory

This project will use the technology and student engagement theory developed by George Kuh (2007; Kuh and Hu, 2001; Nelson, Thomas and Kuh, 2005; Laird and Kuh, 2005; Kuh and Vesper, 2001) and will examine that theory in relationship to native language and student attitudes and beliefs about their English writing abilities. Kuh developed this theory through his administration of the National Survey of Student Engagement (NSSE) and it indicates that student engagement with technology is so closely related to other forms of engagement that it may be considered a form of student engagement in and of itself. It may be that engagement with technology creates opportunities for other forms of engagement. Because Laird and Kuh (2005) found that educational uses of IT are so strongly correlated with student engagement, engagement in active and collaborative learning practices might best be measured through technology measures. Kuh has found that students who use computers study more and gain more from college but are otherwise no different in their background characteristics or academic ability.

Lundsford (2006), Yancey (2007) and others hold that the teaching of writing essentially is the teaching of technology. Technological innovations from pen and paper, the printing press, and the typewriter have each revolutionized the meaning and dissemination of literacy. Today we would not think to try and separate the concept of writing from the use of any of these tools. The Read-write Web or Web 2.0 tools merely represent the latest permutation of the generative component of literacy.

As applied to this study, we should expect that independent variables of technology interventions and native language to influence or explain dependant variables if student interest in instructional technology and attitudes and confidence toward writing. Because of

- the heightened orality of technological interventions,
- the increased prevalence of Mp3 players among minority populations (Madden and Rainie, 2005) compared to NS populations
- the greater racial diversity of the blogging community (Lenhart and Fox, 2006)
- and the multiple modes of presentation of language, available through technology, which addresses multiple learning styles.

The researcher expects the attitudes toward writing by non-native English speakers (NNS), the children of NNS (Generation 1.5), and members of the non-Mainstream U.S. English, will have a higher correlation with increased Facebook engagement than the corresponding native-English-speaking population.

New Technology Depends on and Expands Language Skills.

People have to be democratically involved in their own development for sustainable change (Warschauer, 2002). Groenke (2008) proposes that using CMC may provide greater freedom for language teachers to try new things and pose provocative questions, and “allow

for the disruption of traditional classroom discourse processes that silence some students' voices while privileging others" (p. 225). This has obvious advantages. English (2007) suggests that typically silent students may feel less threatened to participate in online discussions. This has great relevance for NNS from cultures that don't value student participation in class. Furthermore, Gonzalez-Bueno (1998) found that second language (L2) generated through digital media (in this case electronic mail) used a greater amount of language in their writing, generated more topics and used more language functions, displayed more accurate use of language, and initiated more interactions. This resulted in a more expressive and personal use of language. Writing through email showed more similarity with oral language. Gonzalez-Bueno and Perez (2000) investigated the use of dialogue journaling through electronic mail and found that use of digital media did significantly increase the amount of words written by students, but did not have a significant effect on lexical or grammatical accuracy.

We must analytically attend to the relationships between culture, technology and ideology, and "specifically about the ways in which technology amplifies and constrains aspects of language learning and research" (Chapelle, 2003 p. 9). Widespread and ongoing assessment of student engagement with technology must also be done because, "clearly, there is a need for more frequent and extensive discussion of multimodal cultural, ethnic, or linguistic expression in more dominant academic texts, given the particular importance of these forms of identity to second language (L2) composers" (Shin and Cimasko, 2008. p. 378). This may impact writing further than we may expect; for example, research shows that adolescent users feel that they are more likely to revise or edit their written work when they use computers, be it for school or non-school writing. (Lenhart, 2008).

Shin and Cimasko (2008) call for “instructors and researchers to address the call for greater emphasis on the interactive nature of multimodal designs and to bring that emphasis into the ESL writing classroom” (p. 391) and they assert that more comprehensive background information on ESL students’ electronic literacies is needed to understand current composition practices in a complete and meaningful way. They note that post-secondary writing courses already draw on multimodal strategies in the instruction of writing, because such approaches “provide writers who are having difficulty in using language, including those writers for whom English is a second language (ESL), with powerful tools for sharing knowledge and for self-expression” (p. 377).

Understanding of multiple literacies is crucial to the development of theories of second language reading and writing. This dissertation is unique in that it recognizes three categories of literacy (L1, L2 and electronic) that interact and affect L2 writing development.

Literacy: Multiple Literacies, Myriad Pathways

E-learning, sometimes considered a subset of distance learning in its incorporation of audio, video and computer delivery, provides non-traditional students with, “an opportunity to leverage the new technologies of the internet to achieve the skills they need to stay competitive in an increasingly digital job market” (Martyn, 2003). Zhang et al. (2004) argues that e-learning is the most powerful response to an ever- increasing demand for education. Until recently, Computer Aided Language Learning (CALL) research has examined cause-effect relationships between computers and learning, but

current research seeks to understand complex relationships among learners, teachers, content, and technology within particular social and cultural contexts...Although second language acquisition remains central, it now

increasingly overlaps with literacy studies, discourse analysis, sociocultural theory, sociolinguistics, and anthropology. (Kern, 2006, p.201)

Not only are literacy standards diverse and culturally specific but they constantly change in tandem with technical changes and a rising bar of cultural sophistication. Following from this, it is problematic to develop a standardized or static set of benchmarks to measure kids' levels of new media and technical literacy (Ito et al. 2008 p. 38). None-the-less, such assessment is essential because of the ubiquity of technology and the availability of information. "Some 93% of teens use the internet, and more of them than ever are treating it as a venue for social interaction – a place where they can share creations, tell stories, and interact with others" (Lenhart, 2007, p. i). Now that auditory forms of language can so easily be captured, shared and archived, the evolving definition of writing for this study will be clarified and expanded to mean intentionally crafted, archived communication.

While the traditional view of literacy is as a technical or cognitive skill, theorists see it increasingly as a social practice (Gee, 2000b & c; Street, 1995). Web-based network technologies are social practices where users create meaning (rather than mere tools for the distribution of meaning). "Text" has come to mean more than mere alphanumeric symbols to decode, including speech as well as writing (Fairclough, 1995). The multimodal nature of this new definition of text involves audio, visual and gestural, in addition to linguistic, systems (Kress, 2003; Kress & Leeuwen, 2001). Scholars associated with the New Literacy Studies (Barton, Hamilton, & Ivanic, 2000; Baynham, 1995; Gee, 1996, 2000b; Jacobs, 2006; Luke, 1996; Street, 1995) see literacy as a practice that is socially created. Institutions and relationships are tightly bound to concepts of literacy. Community colleges have long been associated with technical and vocational applications, but we should be careful of assumptions, and relate constructions of literacy to the communication and learning of

students. How emergent technology shapes literacy, particularly with Non-native speakers of English, has not been adequately addressed.

CMC plays a central role in e-learning and Kern (2006) asserts that because 1) CMC goes beyond print textuality, 2) transforms traditional discourse structures, 3) introduces new concepts of collaboration and ownership, and 4) allows for multicultural learning communities, it requires a newer and more complex view of literacy. Higher education seems to accept that learners can be bicultural and/ or bilingual, so it follows that we should accept that people are biliterate. Dworin (2003) notes with some irony that, “even in the field of literacy research, where attention to how different ‘literacies’ are related to social contexts and cultural practices has become a prominent feature of study (see, e.g., Gee, 1996; John-Steiner, Panofsky, & Smith, 1994; Scribner & Cole, 1981), the topic of biliteracy has not received much attention” (p. 172). This topic, Dworin argues, has been neglected or ignored, despite the ubiquity of the phenomenon and its relevance to understanding how literacy is developed. Valdes (1992) noted, “In general, the research on bilingualism has concerned itself primarily with the study of the spoken language. Most studies have focused on bilingualism as opposed to biliteracy” (p. 5). Dworin notes that none of the early work on bilingualism considered biliteracy, and that several influential books on bilingualism (he cites Hakuta, 1986; and Bailystok & Hakuta, 1994) don’t acknowledge biliteracy at all. L2 literacy development affects how learners extend and display their competence in the L2 and how they incorporate and adapt different discourses to develop their identities (McKay & Wong, 1996; Peirce, 1995).

Dworin (2003) notes that multiple paths exist for students to achieve second language literacies, and that biliteracy development is a two-way relationship. Indeed, he finds that the terms “first language” and “second language” may be inappropriate or misleading. Marian et

al. (2007) further notes that “The distinction among language proficiency, dominance, and preference remained largely unexplored...there is currently no uniform procedure for determining bilingual language dominance and proficiency” (941).

The International Reading Association’s position statement on children’s right to reading instruction holds that students, “learn to read and write at different rates and in different ways ... [these students] need more and different kinds of instruction, and they have a right to instruction that is designed with their specific needs in mind” (Walker, 2008/2009, p16). After all, engagement in any literate activity can provide understanding of anyone’s development of personal literacies (Jacobs, 2008). Studying Spanish-English bilingual children, Dworin found that what students learned in one language (either language) can transfer to the other language. Researchers (Dworin, 2003; Reyes & Costanzo, 2002) have further found that bilingual students can use their knowledge of reading strategies learned in their L2 (English) to develop their L1 reading literacy.

And if we recognize multiple literacies in our understanding, then electronic literacies are also relevant. Warschauer (1999, 2002) identifies several distinct forms of electronic literacy such as:

computer literacy (i.e., comfort and fluency in keyboarding and using computers), information literacy (i.e., the ability to read and critically evaluate online information), multimedia literacy (i.e., the ability to produce and interpret complex documents comprising texts, images, and sounds), and computer-mediated communication literacy (i.e., knowledge of the pragmatics of individual and group online interaction). (2002, p. 455)

Barbara Walker, President of the International Reading Association, urges teachers to create multiple ways for the construction of meaning, specifically, “discussion, writing, visual and

multimedia representations, and thinking aloud about their understanding.” (2008/2009, p. 16). Furthermore she suggests teachers ask students to respond using multimedia and visual tools and applications. These tools harness the oral component of language more fully than traditional text-only conceptions of literacy.

Student writing develops in tandem with thinking and oral production. Research on learning has shown that expert thinkers themselves use talk aloud protocols to solve problems (Pratt, 2007). Writing Centers are founded on the inherent worth of talking about assignments or reading papers out loud. Talking supports learning; it facilitates understanding. Through talking, students develop learning strategies and through talking with peers, they learn and their knowledge becomes more sophisticated (Barnes, Britton, & Torbe, 1990; Halliday, 1980). Oral production should not be wholly divorced from a coherent composition theory. Perhaps the ability to engage with content that is simultaneously audio and visual (multi-media) allows for specific advantages for NNS and developmental writers. Walter Ong (1982) describes the emerging communication involving technologies as a “secondary orality.” Talking about projects reinforces learning. When the talk is shared with peers the reinforcement is strengthened.

Without writing, the literate mind would not and could not think as it does, *not only when engaged in writing but normally even when it is composing its thoughts in oral form*. More than any other single invention, writing has transformed human consciousness. (Ong 2002, emphasis mine)

Literacy educators acknowledge the need to account for the changing variety of technologies used in and out of classrooms to better serve modern learners (Hobbs, 2006; Leu, 2002). We should consider Warshauer’s (2002) position that in teaching second language acquisition the more effective pedagogical goal has changed from teaching

computer technology to learn English to teaching English to use computers. Electronic literacies are more important in English than other languages because the majority of the online communication happens in English (Warschauer, 2002).

Andrea Lunsford (2006) challenges us to expand how we define writing to include multimodal, epistemic and multi-mediated discourse in computers and writing classrooms. Likewise the concept of literacy has been refined into different specific types or kinds.

Jones-Kavalier and Flannigan (2006) write:

Digital literacy represents a person's ability to perform tasks effectively in a digital environment, with "digital" meaning information represented in numeric form and primarily for use by a computer. Literacy includes the ability to read and interpret media (text, sound, images), to reproduce data and images through digital manipulation, and to evaluate and apply new knowledge gained from digital environments

Warshauer (2003) recognizes a need to account for electronic literacies. Warshauer (1999) studied the effect of electronic literacies in ESL contexts and found that technology magnified the effect of teachers' instructional strategies. This calls to mind a quote attributed to Bill Gates that, the first rule of any technology used in an educational setting is that automation applied to an efficient operation will magnify the efficiency. The second is that automation applied to an inefficient operation will magnify the inefficiency. Effective pedagogy can be enhanced with technology while ineffective strategies can be made worse. And because technology can so easily record and save our efforts – successes or failures can be public indefinitely.

We study phenomena by developing taxonomies that best describe our observations. Our shared understanding is as well as the product of lexical items that we collectively

construct within discourse communities. Meaning is constantly defined, clarified and reapplied to new situations and environments. We are increasingly defining ourselves through digital media in new modes and genres.

Research in L2 literacy has also asserted the contextual nature of literacy practices (eg. McKay, 1993, 1996; Kern 1995). The immediate purpose for the use of text contributes to the way people understand and construct meaning. Literacy appears in multiple forms that each have political and theoretical significance (Lam, 2000).

It is more appropriate to refer to literacies in multiple manifestations ... From this perspective, the cognitive skills, rhetorical styles, and interpretive strategies involved in any act of reading or writing are largely influenced by the prevailing beliefs, practices, and social relationships in a particular institutional setting or sociocultural group (Cushman, 1998; Heath, 1983; Ivanic, 1998; Scollon & Scollon, 1981; Scribner & Cole, 1981). Literacy learning is understood as a process by which the individual is socialized for group membership in specific literate communities and, in turn, participates in shaping the social practices of these communities. (Lam, 2000)

Gee (1996, 2000) refers to specific social practices of literacy, which includes: speaking and writing, interacting, and using tools and technology. Language learners constantly organize and reorganize their identity and their place in the social world when they speak, in addition to the intended information they exchange with target language speakers (Lam).

How Writers Define Themselves through Digital Media

Design elements found in new electronic modes of communication make possible the creation of meaning in ways that reflect and account for individual personalities and culture. This has attractive implications for diverse groups and minority populations, because

multimodal texts can convey human agency and express a dynamic culture through their process of creating meaning (Shin and Cimasko, 2008).

Design is an essential textual principle at a time when articulating one's voice can involve the complex orchestration of multiple modalities through electronic media within a growing diversity of linguistic and cultural affiliations. The concept of design is used to capture the transformative and innovative aspect of meaning making, in which language use is not only a matter of deploying existing representational resources according to conventions, but also a dynamic process of adopting and reshaping existing resources in different measures to create new meanings and ways of representing reality. (Lam, 2000)

The crafting of one's own image is by definition central to identity, and the expression of voice through non-textual imagery is no less relevant.

As Ito explains, being a participant in the digital age means not only "being able to access 'serious' online information and culture; it also means the ability to participate in social and recreational activities online" (Ito et al. 2008, p 35). Creating a profile on a social network site constitutes content creation – and by 2007 55% of online teens had such profiles (Lenhart, 2007, p. 3). By 2010, 73% of online teens, almost equal to the number of online adults, use social network sites (Lenhart et al., 2010). In the current web environment, profiles manifest themselves as portfolios or "e-portfolios." Jacobs (2006) defines portfolios as a collection of skills, achievements and attributes. Gee and others argue that the types of workers needed to meet the needs of the future will not be defined by essential qualities but rather by skills and abilities that can be used and adapted to meet changing contexts and demands. This representation of the self results from a complex process of composition.

Ito asserts that even creating online profiles develops a critical literacy skill for both social and interest driven sites. “For example, authoring of online profiles is an important literacy skill on both the friendship- and interest-driven sides, but one mobilizes a genre of popularity and coolness, and the other a genre of geek cred” (Ito et al., 2008 p. 38). A national study by the Pew Research Center paints a vivid picture of the online teen that shows their creativity and industry in their engagement with web-based network technology – and in many cases their participation and activity online has taken off in the last few years. Lenhart (2007) found that

- An increasing number are sharing stories, artwork, photos, and videos (39% up from 33% in 2004).
- A third of them create or contribute to the blogs or webpages of others (including school and friends).
- Almost a third (28%) have their own blogs (up from 19% in 2004).
- Many (27%) have created their own webpages (up from 19% in 2004)

Social Aspects of Technological Engagement and Literacy

The social aspect of emerging technology plays an undeniable role in its popularity, importance and appeal. By defining themselves for both small and large online audiences through the web, students craft identities and engage with others socially much more than we might expect (Ito). Figuring out yourself is tied to figuring out the world and your place in it. Sometimes called “voice” in humanities courses, many consider the discovery of an authentic sense of self to be the *sina qua non* of education.

Youth from single parent and lower-income families blog at higher rates, indicating perhaps that it fulfills a need for a sense of community and other social needs.

Fully 35% of online teens whose parents fall in the lower income brackets have created an online journal or blog, while just 24% of those in the higher income brackets have done so...An even more pronounced contrast is evident when looking at teens who live with single parents vs. those who live with married parents. Online teens living in single-parent homes are far more likely to have shared their writing through a blog; 42% of these teens keep a blog compared with 25% of teens living with married parents (Lenhart, 2007, p.9).

So despite some suspicions that lower socio-economic status (SES) students would be unfairly excluded from emergent technology, in the case of web-based networked communication the technology is a great equalizer allowing for more democratic involvement by potentially disenfranchised students.

Nelson, Thomas and Kuh (2005), in examining the 2003 National Survey of Student Engagement (NSSE), found a strong positive relationship between the academic use of information technology and student engagement. This suggests “the prospect that particular areas of involvement with informational technology could be viewed as forms of engagement in and of themselves.” Further research (Kuh and Hu, 2001; Twigg, 2004) suggests a strong correlation between information technology use and an overall student engagement measure. Twigg (1999) surveyed course redesign projects at several institutions and found that incorporating technology into courses results in improved learning, compared to courses that were not redesigned. This may be even more true of community colleges than four year institutions, according to research by Flowers, Pascarella and Peirson (2000).

In studies of Chinese-Canadian and of Spanish–Mexican populations, Li (2006) and Reyes (2006), respectively, found that family values and the home environment were the key factors in second language acquisition or biliteracy development. Galván (2006) asks that

researchers look at ways in which digital technologies can facilitate the acquisition of literacy by immigrant families, recognizing the role of family in language acquisition. Galván (2006) found that immediate family had the greatest impact on the individual student success in second language acquisition. Literacy is developed most commonly and naturally within a family, and families are powerful potential engines for literacy development. Considering the function of social networking sites to keep students connected with family and friends even when schools or countries far from their homes, we should gather data on the frequency of use and application of the technology. We need to harness what technologies they are already engaged with, the technology that already plays an active part of their social relationships.

One in four adults believes that the internet and cell phones have actually brought their families closer together (Kennedy, 2008). Social media (blogging, social networking, etc.) may even play a bigger role in many teens' lives and digital images (video or still) are central to their social communication (Lenhart et al., 2007). Digital images (e.g. video or pictures/ still images) play a big role in the lives of adolescents, and because most young people get feedback on the content they post, "Posting them often starts a virtual conversation" (Lenhart, 2007, p. ii).

Students that work full-time and have family responsibilities (which is particularly often the case with American Non-native English speaking students as well as some international students) can benefit from the enhanced flexibility of web-based technology applications. Web-based instructional techniques and curricula dramatically impact education by bringing it more directly to them. Kuh, Hossler and Olsen (2001) cited at Midwest Writing Center Association Conference regarding the combination of learning communities and electronic resources, notes "at risk students are more likely to seek out

support when it comes to their door (Blake-Yancy). There is a greater potential for technology to impact NNS success because, as we will discuss later in sections titled “Effects of technology” and “Specific benefits of Web 2.0,” technology can facilitate transformative learning.

According to a former board member of the Computer-Aided Language Instruction Consortium (CALICO), Derek Roff “in fact, the technology may be the easiest part for students” (cited in Lum). The changing environment may offer untapped opportunities for student learning. The teacher’s role may be to think up challenges and let the students figure out the most effective way to solve them using the tools already in their hands. The most exciting possibility for newer or more effective use of technology in the classroom may be its positive effect on retention (Smith 2007). A national survey of K-12 educators on online education found that the most popular reason for student interest (grades 6-8) in online education is to get remediation, or “extra help” (Speak up, 2007).

Faculty/student technology divide. Perhaps more so than their teachers, students find the incorporation of technology into projects to be intrinsically motivating (Cummins, 2000). Campbell and Olbinger (2007) report that the current generation of students believes technology should both serve them and be an integral part of their lives, even in education. Indeed, this generation believes technology to be central to their lives, and they may feel lost without it (Smith, 2007). A 2003 national survey found that 99% of students use the internet, 66% use it daily and 84% of college students own their own computers (Student Monitor, 2003). A 2007 Pew Internet and American Life project found more conservative results (that 93% use the internet (Lenhart, 2007, p. i)) that still point to the importance of web-based technology in our students’ lives. Teens believe that if their instructors would use computer technology writing tools, it would help improve the quality of their, the students’, writing

(Lenhart, 2007). Howe and Strauss predicted this in 2003, stating “millennials will gravitate easily toward – even insist upon – information technologies that simplify and streamline their educational experience” (p. 127).

In the past, credentials and expertise were the domain of the teacher, but with emerging technologies, teachers hold the credentials, but students are increasingly coming to class with superior expertise (Yancey, 2007). Campbell (2008) suggests that

the lack of education related to literacy is problematic, and the situation is exacerbated in the field of education... classroom[s] filled with digitally literate students [are] being led by linear-thinking, technologically stymied instructors...few educational organizations have developed comprehensive technology plans that specify technical learning objectives or ensure successful integration of technology to enhance students’ digital and visual literacy.

McGee and Diaz (2007) have noted the disparity between faculty and student comfort with emerging technology and a growing rank of researchers (Lane and Yamashiro, 2008; Tung 2008; Wingard, 2004) document the disparity between faculty and student expectations of use and perceived value of web enhancement. Lane and Yamashiro found that 77% of students felt that websites should be required for each college class (compared to only 33% of faculty who felt the same way); however, a meta-analysis by Wingard found that significant numbers of faculty believed that web-enhancements offered increased engagement by students and more opportunities for active learning.

The disconnection between faculty and student expectations regarding technology has been treated at length (Lane and Yamashiro, 2008; McGee and Diaz, 2007; Prensky, 2003; 2007; Tung, 2008). Tung also found significant differences in the faculty and student

perceptions of online education. The call by Lunsford (2006) and others to expand our notions of literacy to include multiple modes of composition and/or CMC into composition theory, further throws light on a schism in composition education. Entrenched traditional conceptions of words on paper – fixed static texts – have not radically changed for a long time. But with the change in publication that has come with modern technology, with communication going directly from peer-to-peer rather than from publisher to the people, we may suddenly have a biggest shift in communication. Rational teachers have been given cause for alarm (we will discuss this at greater length in the section “Caveats and Obstacles for the Linguistically Diverse”). Simon (2008) speculates that, “Bad experiences feed the argument of technophobic educators who believe that computers and other electronic gadgets do not belong in the classroom.” Prior experiences could push skeptical educators to reject educational technology en masse. Lack of information contributes to the fear of technology Simon alludes to, so assessment of emergent communication technology use is essential.

Composition instructors need to go where writing happens to better understand and reach students, but in terms of emergent technology that isn’t happening in great numbers. For example, by 2007, the majority (55%) of online adolescents had already posted a profile on a social network. By 2010 that number was up to over 70%. Adults are much less likely to do this (only 20%) (Madden, 2007). If this, as Ito argues, is a crucial form of literacy, then writing teachers must examine network communication platforms to stay relevant to the students they seek to teach.

Effects of Technology for Linguistically Diverse Students. Access to technology varies between different groups of people (Dutton, 2004; Warshauer, 2003). Different races and or ethnic groups interact differently with technology and writing – in ways that might occasionally be unexpected or even counter-intuitive. For example, English language use on

a computer, even using it solely for word processing, may require linguistic demands of NNS that are invisible to native speakers. Dragonda and Handa (2000) posit that features like hypertext are not intuitive and, in fact, may indicate, “a mode of thinking that reflects cognitive constructs and connections that are particularly English” (p.53). Kern (2006) notes that teachers clearly need to address the central importance of register and genre to discussions of CMC, particularly for NNS: how else can students be expected to make sense of language that apparently is, “less correct, less complex, less coherent, than other forms of language use” (Kern, 2006, p. 194).

Web 2.0 applications are robust and versatile communication and socialization tools. “As such, they have an incredible educational potential for foreign language instruction” (Simon, 2008). McGee and Diaz (2007) describe Web 2.0 technology as applications that hold the greatest promise for education because they 1) support interaction and collaboration, 2) are responsive to users, and 3) are, not insignificantly, generally free.

Lam (2000) found that writing through the internet provided access to the language tools her subject needed and, “the English he controlled on the Internet enabled him to develop a sense of belonging and connectedness to a global English-speaking community” (476). Thus it fills the social needs discussed earlier in the section titled, “The social aspects of technological engagement.” It’s understandable then that a 2006 Pew report on Blogging (Lenhart and Fox) notes that bloggers are more racially diverse than the general internet using population; however, a portfolio might be one way in which middle and upper middle class youth may be better prepared for participation in the future economy (Gee, 2000a, 2000c, 2000d; Jacobs, 2006). Furthermore, social and recreational online activities are jumping-off points for experimenting with digital media creation and self-expression. Rather than seeing socializing and play as hostile to learning, educational programs could be

positioned to step in and support moments when youth are motivated to move from friendship-driven to more interest-driven forms of new media use. According to some researchers this requires a cultural shift and openness to experimentation and social exploration not generally characteristic of educational institutions, though there is evidence this sort of innovation happens; for example, Ito saw many instances of media production programs and parents supporting these activities (Ito et al. 2008, p. 35).

Teens “gain status, validation, and reputation among specific creative communities and smaller audiences. The ability to specialize, tailor ones message and voice, and communicate with small publics is facilitated by the growing availability of diverse and niche networked publics” (Ito et al. 2008, p. 34). Hence, as computer technology becomes increasingly integral to the practice of TESOL in the 21st century, we as TESOL professionals need to reinvent an age-old model of communication to help students critically reflect on the social roles and relations they are constructing through their rituals of dramatic acts on the Internet (Lam, 2000).

While as of yet there exists little research comparing NNS to NS in their use of emergent technology, what has been found comparing technology use of racially and linguistically diverse groups is intriguing. In recent surveys by the Pew Internet and American Life project, 19% of bloggers are English speaking Hispanics, while the internet using population consists of only 11% English speaking Hispanics. African-American teenagers keep journals at a higher rate than other teens (47%, compared to 31% of white teenagers). African-American teenagers are likewise more likely to write music or lyrics (37% compared to 23%) (Lenhart, 2008). African Americans are likewise slightly better

represented in blogging than in the overall internet using population. While 74% of Internet users in general are white, only 60% of the blogging population is white.

Because the open-source ethos of Web 2.0 makes collaborative communication tools largely free, open source ethos may contribute to higher minority engagement with online social software outside of school. This open access ensures opportunities for use without undue restrictions for those with limited financial resources. What appears counter-intuitive is that minority groups normally associated with the more limited financial resources appear to be the most likely to own and use personal media players (which may be considered luxury purchases). These tools have tremendous potential for education. Potential that is, as of yet, untapped. We may be poised on the brink of a revolution in education access. Minority youth are dynamically engaged with this technology, despite concerns mentioned earlier that cost may prohibit their access. According to a Pew Report, “Minorities are more likely to own iPods/MP3 players than whites. Some 16% of African-Americans and English-speaking Latinos own iPods/MP3 players, compared to 9% of non-Latino whites” (Madden and Rainie 2005). Perhaps this is because minority demographics can find community by expanding their social networks beyond traditional constraints of geography. I’ve been struck by my wife’s experience.

There are few Taiwan born women in our local area. Narrow the lived experience to those married to a western male and who have small children and the pool available for offering advice, listening to problems and sharing information becomes very small. We’re lucky to find anyone nearby in a similar situation. Online, however, she further defines her experiences and finds an active and vibrant community. Several times she’s been featured on her blog community’s front page and had on that day around a 1000 hits. On Sept. 26~27th, 2008, this happened and she had between 3000 and 4000 hits in a 24 hour period and over 50

people left messages. The potential effects this sort of virtual global community can have on international students in sparsely populated (at least compared to most of Asia), land-locked Midwestern communities should not be overlooked.

Caveats and Obstacles for the Linguistically Diverse.

Because of the link between literacy and identity (Lam, 2000, 2004; Warschauer, 2000), what Jacobs calls “schooled literacies” brings attendant risks “such as the loss of voice, distanced connections to home cultures, and a changed identity” (Jacobs, 2008, p. 209). Faculty and parents tend to fear, or at least distrust, the effect of network-based technology, specifically the effect of instant messaging (IM), on writing, and this is shown in a literature review by Jacobs of what little research exists looking at IM and literacy development. Despite a lack of empirical evidence that IM is detrimental to development, there is a “moral panic” (Thurlow, 2006) regarding its effect on writing ability. The concern seems to be that the language students learn using web-based networking technology may not be the kind of language needed to succeed in school:

the global media of the Internet may well allow immigrants the opportunity of language socialization in a less stifling environment than that of the average school, but we must bear in mind that this process will involve forms of literacy which may differ significantly from traditional forms of school literacy. (Koutsogiannis and Mitsikopoulou, 2004, p. 84)

Jacobs points out there is no clear consensus regarding the effects of, or how to approach, digital literacies. Should they: be ignored - seen as separate and outside of school learning; be seen as negative and detrimental to school learning; or be seen as an opportunity to engage students in meaningful writing. In Jacob’s case-study she found IM did not get in the way of writing skills.

Lenhart (2008) has found that more than half of Hispanic parents who can speak English felt that the use of computers caused their teen children to write carelessly or too fast. Only 39% of white parents or 34% of black parents felt that way. Furthermore, when asked a similar question in a different way, 70% of white parents and 77% of black parents believe that writing with a computer helps teens revise and edit easier, which helps their writing, but only 56% of Hispanic parents felt that way. This may reflect an underestimation by Hispanic parents of the importance of revision and editing to the writing process. It is also possible that NNS of English have different challenges in writing and they have definite ideas of what is needed. This same study found that both genders felt equally positive about the statement that more writing time in class improved writing (80% of boys and 84% of girls responded that this would have some impact on their writing). However, one out of four boys believed that their writing ability would *not* be improved by computer-based writing applications. Only 16% of young women responded the same way. Adolescents who come from lower-income families and/or the children of parents with lower levels of education particularly liked the increased writing time in class and believed that the use of computers would improve writing.

Specific Potential of Web 2.0 Interventions for NNS

A philosophy of open access, collaboration and user control defines the term “Web 2.0” rather than technology *per se*. The “read/write web” is often used almost interchangeably with the term “Web 2.0” (though read/write web refers more to the physical or virtual space and tools themselves, and Web 2.0 refers more to the philosophy behind these innovations); greater interaction is possible with these emergent technologies because they are greatly more social and collaborative than the traditional classroom (Richardson and

Mancabelli, 2007; Prensky, 2007). Other scholars offer a more measured but otherwise positive support by noting that instructional technology can facilitate community across geographical and social divides, address social inequities and promote social action (Cummins 2000; Brown et al., 1998; Cumins and Sayers, 1995). Lenhart (2007) found that minorities and lower income youth relied heavily on libraries and schools for Internet access, and that those institutions play a powerful role in their access to technology. “Although public institutions do not necessarily need to play a role in instructing or monitoring kids’ use of social media, they can be important sites for enabling participation in these activities and enhancing their scope” (Ito et al., 2008 p. 35).

Web 2.0 interventions are particularly attractive. Considering the school’s dedication to life-long learning as part of its mission in the community, these applications offer promise because, “when we are ubiquitously connected to information, learning no longer has to stop at the end of the school day or the semester” (Mancabelli and Richardson). The most common Web 2.0 applications are Podcasts, Wikis and Blogs. Beldarrain (2006) notes that emerging technology (such as wikis, podcasts and blogs) provides a student-centered constructivist environment which fosters student collaboration. Matthews and Werner (2007) used discourse analysis of faculty and found that participants using blogs and wikis used 12 times as many textual references coded as transformative learning dialogue. Faculty who use this emergent technology use language that reflects awareness of and investment in practices of teaching defined as transformational. That is, they displayed heightened social concern and emphasis on the relationships between and among communities of learners

Blogging

Some consider social networking sites such as Facebook or Myspace to be blogs – because content is constantly being created or updated; however, the sites themselves

facilitate communication – networking – and content created for these sites fall more into a category of online profile or microblogging. Lenhart (2007) explains that blogging and social networking are not always synonymous, but social network users keep their own blogs or read others' blogs at higher rates, elaborating:

Two in five (42%) teens who use social networking sites also say that they blog. However, while a majority of social network-using teens do not author their own blogs, in keeping with the conversational and social nature of social media, they are still interacting with others' blogs. Seven in ten (70%) social network users report reading the blogs of others.

Only 25% of teens don't use social networking sites at all, and the vast majority (over 75%) have commented on a peer's blog via a social networking site.

New and creative uses of blogs for language instruction are quickly gaining use and acceptance as teachers discover ways to apply them to promote literacy (Huffaker, 2004; Ray, 2006; Dobler, 2007/2008). "The number of teen bloggers nearly doubled from 2004 to 2006. About 19% of online teens blogged at the end of 2004, and 28% of online teens were bloggers at the end of 2006" (Lenhart, 2007, p. ii). A phenomenological qualitative study (Felix, 2007) found through meta-analysis that "using multiple modes of presentation will positively increase a student's opportunity for learning." Using various methods to communicate efficiently makes instruction more effective and enhances student opportunities to understand. Blogging facilitates this in several ways. Felix's study 1) highlights the importance of writing in education, 2) finds that blogging teachers changed instruction to more actively engage students 3) indicates that blogging leads to greater collaboration, connected learning, cognitive complexity, and student/ teacher dialogue.

Recent research (Felix, 2007) offers empirical evidence for the effectiveness of blogging in the classroom.

There is a relatively strong association between writing and technology platforms that help teens share their thoughts with the world such as blogs and social networking sites. Teen bloggers in particular engage in a wide range of writing outside of school. Bloggers are significantly more likely than non-bloggers to do short writing, journal writing, creative writing, write music or lyrics and write letters or notes to their friends. In this sense, bloggers are even more prolific than social networking teens when it comes to the types of writing they do. Social networking teens are unusual in their relative proclivity to write short writing, journal writing and music or lyrics. Teen bloggers also write more frequently than social networking teens. (Lenhart et al., 2008, p.34)

A blogging case study (Armstrong and Retterer) from the *AACE Journal*, further affirmed that computer mediated communication makes writing more fun for students and there's indication that students felt more confident and more accurately assimilated second language linguistic features (without overt instruction in grammar). Furthermore, use of this technology applies directly toward the workplace, "It's becoming increasingly likely that graduates will be asked to post blog entries for their employer, more and more faculty are getting students prepared now" (Lum 2006, p 32).

The most active online teens (and this includes bloggers) are also active in traditional activities; "those who are the most active *online* with social media applications like blogging and social networking also tend to be the most involved with *offline* activities like sports,

music, or part-time employment” (Lenhart et al., 2007, p. 9). This lends credence to Kuh’s correlation of technological engagement with other established measures of engagement.

Blogs offer two distinct potentials for education: as a way for students to express themselves with feedback from the instructor, the class, and perhaps to a larger audience; and as a method for instructors to communicate with students and a larger audience. Teacher blogs can effectively (and paperlessly) distribute a wealth of information, but student blogs offer the greatest possibilities for learning. It has all the benefits associated with daily writing (e.g. diaries, or journals); additionally, teens say that they are more likely to edit and revise their texts when using technology for their writing (Lenhart, 2008).

Blogs enhance writing skills by providing an audience, in addition to the proven benefits of daily writing, and the commenting function which increases peer interaction. Students get more peer feedback on the writing? process and have an increased ability to regulate their own learning process. Students are also motivated by the “fun factor” of being able to add photos, video clips and instant connections to sites they consider meaningful. This is already happening. Armstrong and Retterer (2008), have found, “Educators are using weblogs in a variety of disciplines and in many different ways ranging from distributing syllabi, digital portfolios, group assignments, collaborative writing, digital newspapers” (p. 235). A few academic bloggers have visitors that number in the hundreds of thousands: an audience that academic journals would have trouble matching (McLeod, 2007).

The culture of blogging and the highly collaborative nature of the format lend itself to inquiry-based learning (Beldarrain, 2007), and students take more ownership of their writing and learning making it a true peer-based learning experience (Ito et al. 2008). Activities that require students to write send the message that students need to generate ideas, read critically and plan carefully. By providing asynchronous communication at the time most convenient

to the student, modern technology positively, if indirectly, increases interpersonal competence (Kuh and Vesper, 2001; Alvi, 1994; Oblinger and Maruyama, 1996). Writing, self-understanding and synthesis skills are also positively affected (Kuh and Vesper). 78% of teens feel that if their teachers would use computer-based writing tools, it would improve their writing ability.

Many have documented that computer-assisted writing can be more highly motivating and that students tend to write more (Armstrong and Retterer, 2008; Daiute, 1986; Huffafaker 2004; LohNS, 2003). Teen bloggers write more prolifically, and more frequently, not just on line but also in off-line contexts. “47% of teen bloggers write outside of school for personal reasons several times a week or more compared to 33% of teens without blogs” (Lenhart, 2008). Lenhart (2007) also found that in 2007 that half of all online teens read the blogs of others (up from 38% in 2004). This makes young bloggers more likely to feel that good writing skills are essential to success in life (65% teen bloggers felt this way versus only 53% of non-blogging teens or 56% of teens on the whole). Also, blogging teens write more often and do more different kinds of writing (Lenhart, 2008).

Alvi (1994) found that emerging technology in the form of group discussion support systems (GDSS) resulted in students who felt, “higher levels of skill development, learning, and interest in learning relative to students who did not use [group discussion support systems].” While Alvi’s technical intervention may predate the modern concept of the term “blogging” *per se*, blogging is none-the-less the epitome of a GDSS and is currently at the forefront of instructional technology. The attributes of Alvi’s technology included a comment function (noted by students as a favorite attribute of the technology) which is a distinguishing, if not the defining, characteristic of blogging. Alvi found that students using a computer mediated GDSS scored significantly higher final grades than students who did

not use computers in their GDSS. This was not noticed at midterm, suggesting that the effects of such interventions may take place over time and might therefore be cumulative.

Facebook

Facebook is a specific social networking site (SNS) established in 2004. Social interaction is its core function. Users create online profiles and post messages and media on their own, and each other's, "walls." These brief messages are a form of microblogging – where users post short personal information in the form of status updates, and the "notes" tab allows for longer posts that act essentially like more conventional blog posts. Like learning management systems and other SNS, Facebook uses privacy settings so that only a member can post and view content, creating what Downes (2007) calls a "walled garden," though student expectations of privacy protection under the First Amendment guarantees of free speech are inaccurate and lead to conflict (LaRoche and Flanigan, 2009). What distinguishes Facebook from other SNS has been its focus on education. It was built initially by and for university students (Downes 2007). Unlike LMS which put the instructor or content of a course first, Facebook privileges community and relationships in a bottom up rather than top down social organization.

Student use of Facebook is now nearly ubiquitous. The 2007 National School Boards Association (NSBA) survey found that 96 % of students with online access used social networking sites – and those online spent about 9 hours a week blogging, text-messaging, chatting and otherwise communicating in those online communities. Ruth Connell (2009) in a library survey found 92.3% of Valparaiso University freshmen student population used Facebook. Martin (2009) in a University of New Hampshire study of Facebook and student grades surveyed over a thousand students and found 96% had Facebook accounts. LaRoche and Flanigan (2009) in a survey of 118 undergraduates in 2008 also found that 96% of

students surveyed had Facebook accounts. Near the end of 2009, Facebook had over 300 million users and its common stock value was about \$9.5 billion (Womack, 2009). By the beginning of 2010 it had become the "most popular social network in eight of the 10 top internet markets in the world" and by June 2010 membership had grown to "upwards of 400 million members." The site currently boasts over 500 million users (Statistics, 2011).

How Facebook affects performance and student success is not yet clear, but educators continue to investigate the relationship. Because Facebook is more permeable than the formal LMS, and more enduring (student's aren't locked out of relationships at the end of the semester) Facebook provides a potential retention tool. Gloucestershire College, in England, focused on the applications use as a retention tool (Terris, 2009) and found encouraging news that, "Facebook and other social-networking web sites can do more than provide a platform for vacation photos, favorite quotes, and status updates; they can help reduce dropout rates." Morris et al. (2010) evaluated student persistence at a private 4 year institution and found that students who persisted in college were more likely to use Facebook for building and maintaining school relationships than non-persistors. Their research also showed that students' Facebook use related significantly to Tinto's Social Integration Theory and may play an important role for some students in the transition to college. But research into the effect of social media use on student success has just started. Educators shouldn't make assumptions regarding student performance in the classroom and student activities online. Morris et al. pulled their population from "a selective, private, master's level university located in Southwestern region of the United States" (p. 315). Additionally, their sample was 62% female. This is significantly different from the sample this study proposes to look at. Morris et al.'s study showed that Facebook provides social integration, and functions like a proxy measure for social integration. They conclude that because the transition from high

school to college challenges students, a social networking platform like Facebook provides the social capital students need – through multiple connections to a larger community. Several other studies have also found Facebook use to be positively correlated with social capital (Ellison, et al., 2007; Valenzuela, et al., 2008)

An April 2009 online publication of *The Chronicle of Higher Education* notes that work at Ohio state found students on Facebook under-performed their peers, but the researcher asserted no causation (Young, 2009). Hargittai, in 2007, found no correlation between Facebook and grades (cited in Young). The latest research seems more positive toward the potential of social networking. Research at a University of New Hampshire found that students' grades weren't "affected even if they're frequently using Facebook, YouTube, Twitter, MySpace, LinkedIn and/or blogs" (Ford, 2010). In the New Hampshire study Martin found there was no correlation between Facebook use and student success. The researcher reasoned, "college students have grown up with social networks, and the study shows they are now simply part of how students interact with each other with no apparent impact on grades" (cited in Wright).

Pasek et al. (2009) explore the correlation between Facebook and grades in a meta-analysis of three studies and tries to reproduce results of the three data sets used. Karpinski's (2009) study, which initially caused a great deal of moral panic and received tremendous media attention, is addressed first by Pasek et al. and the negative correlation is shown to be exaggerated at best. They then analyze 2 more data sets and control for "age, gender, race/ethnicity and socio-economic status," but not for native language or home language. They found no negative relationship in any of the data sets, and, to the contrary, concluded, "Facebook use is more common among individuals with higher grades."

Facebook may hold a disproportionate value for developmental learners, those with emerging language skills or those otherwise marginalized. The National School Boards Association (NSBA) report paints a picture of underperforming students who nevertheless “engage in highly creative activities on social networking sites – and a sizeable proportion of them are adventurous nonconformist who set the pace for their peers” (p. 1). Bowers-Campbell (2008) contends that use of a social networking site such as Facebook may benefit developmental college readers by improving self-efficacy and self-regulated learning. She further argues that social networking software offers insight into the literacy behaviors of adolescents, and educators can use them to increase academic literacy practices. Steinfield, Ellison & Lampe (2008) found that students with lower self-esteem gained more bridging social capital from Facebook than students with higher self-esteem. They imply that students with lower self-esteem might benefit from large heterogeneous networks that facilitate engagement with college life. It provides an online form of community. However, we shouldn’t assume use of Facebook or any other SNS, translates to improved learning in all classes or all student populations. Mathias (2011) notes the inauthentic and performance quality of Facebook interactions, and describes the experience as, “a cowardly and utterly enjoyable alternative to real interaction” (p. 240) that is more akin to online community theater than genuine social engagement. This brings to bear several questions.

The responsibility for such learning-to-learn-with-technology will fall on teachers of gateway classes - in particular those of us who teach composition. Writing instructors may be optimally prepared to teach the fundamental skills needed for negotiating this new social space, such as: audience awareness and voice. Luckin et al. (2009) asks how the read/write web interacts with learning and what sort of skills support the kind of learning that happens in this environment, and notes that researchers (Buckingham, 2007; Green and Hannon,

2007; Jenkins, 2006) have identified "learner criticality" as a constellation of essential cognitive skills. This seems to be a more specific subset of meta-cognitive skills - which is an awareness and knowledge of self and learning - learning to learn. Mazer, Murphy and Sidmonds (2009) suggest that teacher use of Facebook can cause students to perceive teachers as more credible and more effective in communicating course content. Mazer, Murphy and Sidmonds (2007) also showed how Facebook can play an important factor in motivating students and in fostering affective learning and creating a positive learning climate. Luckin et al.'s study of 11-16 year old British students found low use of wiki's (save Wikipedia), blogs and podcasts by students, and high use of social networking sites, such as Facebook. The tremendous potential of the former applications are not as embraced by youth as we might have thought. Indeed, they found,

The types of activity revealed by the data illustrated little evidence of critical enquiry or analytical awareness, few examples of collaborative knowledge construction, and little production or publishing outside social networking sites. We also confirm the low level of computer activity at school when compared to use at home and also illustrate the difference in the type of activity being undertaken inside and outside school. (100)

Luckin et al. also note a lack of sophistication in research and a lack of higher order thinking skills. We should remember that the population studied was only 11-16 years old, but elsewhere Carr (2010) argues that modern technology creates consumers of information who are less equipped to think deeply or construct meaning from that information.

Facebook relates to the specific composition objectives of developing the awareness and understanding of voice and audience. LaRoche and Flanigan (2009) note that students enter college and work discourse communities with unrealistic expectations regarding their

rights to free speech, and they fail to recognize what constitutes private versus public expression.

Many students assume that The First Amendment protects their right to free speech and by extension protects them from punishment for posting their social life online. This assumption is false...Facebook pages are often created and maintained without considering the potential audience or appropriateness of the postings. (p. 31)

LaRoche and Flanigan surveyed 118 undergraduate students and 45 employers to assess their tendencies and values. Their research presented images from alleged Facebook posts and, perhaps not surprisingly, found significant differences in what employers and students found appropriate or offensive. Additionally the researchers note:

- Intentionally or by accident, Facebook users tend to make public their private lives
- Government and law enforcement have full access to all Facebook accounts
- Campus police sometimes crack down on drinking and student behavior by watching the site
- Postings have been used to expel students
- Over 20% of students will add any person who seeks to friend them
- Some colleges ban athletes from Facebook

Many of these points may come as a surprise to students. The researchers conclude that while students at public institutions may have the right to free speech, that right offers no protection from suffering the consequences of that expression.

The number of friends, and what that means to fellow users of Facebook has emerged as an interesting consideration. Students use Facebook primarily to create relationships with

people they have already met online – to learn more about each other and establish bonds (Ellison et al, 2007; Morris et al, 2009-2010; Pempek, Yermalayeva & Calvert, 2009).

Because friends in real life are almost always friends on Facebook, and purely online friends are potential friends, the number of friends a student has on Facebook can be used as a proxy measure for social integration (Morris et al, 2009-2010).

Research has supported the idea that the number of friends one has on Facebook affects social judgments by others (Tom Tong, Van Der Heide & Langwell, 2008; Kleck Reese Behnken & Sudar, 2007 cited in Tom Tong et al.). Though no one has yet posited a magic number of friends that separates popularity from excessive friending, Tom Tong et al. found that beyond around 250 to 300 friends, the number of friends offered diminishing returns regarding peer assessments of popularity. They speculate that Facebook users judge that people with excessive numbers of friends might be spending too much time alone on a computer, and hence appear desperate rather than popular, which also supports Donath and Boyd's (2004) conclusions regarding potential negative associations of having too many friends on a social networking site. None-the-less, Tom Tong et al. find that in terms of peer judgments, it's better to have too many Facebook friends than too few.

Conclusion

Non-Native English speaker engagement with Facebook and its effects on their writing has not been studied, and it needs to be. Shulman (cited in Kuh, 2007) noted that engagement with technology is a measure of overall student engagement and it is not a factor found in most currently measured learning outcomes. Little of what research exists on the effect of emergent technology and student engagement or writing looks at non-native speakers of English, although the use and application of such interventions may have the greatest impact on their learning. Lam (2000) studied how Web 2.0 experiences affected the

formation of identity and literacy development and asked how “communities on the web act as contexts for L2 literacy use and development” (p. 457). Lam stated that the many ways for ESL learners to develop literacy via the Internet had not been studied in depth. Shin and Cimasko (2008) note that “Few studies have looked at the academic multimodal text production of ESL students” (p.377). Lam studied how literacy in an L2 is related to the development of digital web-based networking technologies. Her findings are provocative and relevant, but technology has changed with staggering rapidity.

What research exists on the impact of Facebook on student grades has gone back and forth (Parry, 2010). While there seems no conclusive evidence regarding overall grade point averages, it has been shown to contribute to overall college success (Ellison et al., 2007; Morris et al., 2010; Terris, 2009; Valenzuela et al., 2008). No research has looked at performance in writing classes specifically, let alone looked specifically at the effect on NNS. Because Facebook is where students spend their time, and where they learn their language, we need to analyze the impact of engagement with Facebook on writing.

CHAPTER THREE: METHODS

Statement of Problem

Introduction: This study used survey questionnaires to gather information on Non-native English speaking (NNS) students' engagement in emergent social networking technology (Facebook), in addition to writing samples gathered in the form of authentic class essays written about midway through the academic semester. This study examines the relationship of Facebook with student literacy and compares NNS experiences to Native English Speaking Students (NS).

The Research Questions

This study used quantitative research, a survey and scores on a writing sample graded by faculty who also teach those classes (but not those students), to examine the relationships among independent variables (such as language background and confidence in writing) related to dependent variables such as revision, preparation for classes, student technology engagement, writing outside of the classroom and collaboration. Specifically stated:

1. To what extent are students using Facebook (based on time per day on the site and the number of friends in Facebook), and are there differences between how gender and native language relate to the extent to which students use Facebook?
2. What is the relationship between the number of Facebook friends and time spent on Facebook to writing success based on self-reported grades, confidence, and a writing sample scored with a college developed rubric?
3. Based on these measures of writing success on the community college developed rubric, grades in writing classes and confidence in writing, is the

interaction with number of friends on Facebook or time spent on Facebook different for non-native English speaking than for native English speaking students?

This study aims to define and investigate the above research questions and clarify and enlighten the practical and theoretical knowledge of how technological engagement affects student confidence in their writing abilities. This chapter presents the research design, descriptions of participants, data collection procedures, and data analyses of the study.

Purpose of the Survey

The purpose of the survey was to collect data from a sample of a population so that inferences can be extended regarding an attitude, tendency or characteristic - to describe and explore (Babbie, 2001). Meyer (2002) noted the difficulty of identifying specific factors that affect online learning and so a survey of student perceptions was a logical place to start.

A questionnaire was developed to describe and compare student engagement with and expectations toward using Facebook. Engagement with this technology was compared to self-reported measures of student confidence and success in writing, and scores on a writing sample. Informed in part from surveys by The Community College Survey of Student Engagement (CCSSE) and the Educause Learning Initiative (ELI), an initiative to advance learning through information technology, this survey fills gaps in research, and triangulates the results of these measures and other research that looks at online contexts. The survey contains Likert-like items measuring perceptions related to Facebook and writing, and demographic information, including race, native language and gender.

This picks up the mantle put down by Laird and Kuh (2005) that urges us to ask about the ways students engage in information technology that might be different from or independent of the indicators represented by the NSSE survey. Many contemporary

researchers (Meyer; Prensky, 2007; Newman and Scurry, 2001) urge educators to reassess our beliefs regarding student learning and look at how technology plays a role. Tung (2008) shows that the impact of technology and the characteristics of students must be studied, and that the differences between faculty and student perceptions need to be addressed. Likewise, Wingard (2004) notes that little research yet has been done to assess the effect of web-enhancements on student learning. Less yet can be found to assess the impact of emergent social technologies on NNS, but what does exist is promising (Cummins, 2000; Lum, 2006). Campbell (2008) further reiterates that:

We have found a common void in professional development for faculty—training needed to gain the requisite computer skills to integrate technology into the curriculum effectively. Too often success occurs in pockets within the institution, where individually motivated faculty embrace advances in technology, mastering—on their own time—the skills needed to merge the digital world with academia. Taking precedence over systematic planning is the trial-and-error approach to using technology in the classroom, specifically for nontechnical courses such as English or fine arts.

Prensky articulates language as a metaphor for technological engagement. Current American students have been born using current technology and interact with it as a “digital native,” naturally, fluently and with ease. Older students, students from less technologically developed countries and most faculty, however, come to current technology from another time and/or place, and while they can learn and use it effectively, they will always retain a digital “accent.”

Purpose of the Writing Sample

To add a measure of validity, and an objective measure of writing efficacy, a writing sample was collected and measured using a rubric developed by a community college English Department Assessment Committee. Participants were assigned numbers to identify them, and the writing samples had personally identifying information redacted. New identification numbers assigned to the participant's survey. This provided an authentic measure of writing ability, because the product provided to the researcher will be an example of their academic writing – the construct the researcher wished to examine.

Participants and Sampling

Survey collection was cross-sectional (one time) using convenience sampling. There were two groups of participants in this study, NS and NNS students in Composition I, Composition II and developmental classes including the highest level of ESL and the highest level prior to Comp 1 known as 106. Both groups came from the community college. The participants came from the classes of 19 different full-time instructors. 330 participants completed surveys, and of those participants, 295 (89%) stated that they used Facebook, 28 (8.4%) responded that they did not have a Facebook account, and 7 (2.1%) participants did not respond to the question. Student data were collected from 236 (80%) NS, and 59 (20%) NNS who reported using Facebook. The sample did not include online students. Surveys were completed online using the Survey Monkey statistical software in computer classrooms with the researcher present. All NNS writing samples collected were scored, as well as NS writing samples, by college faculty who teach those classes. There were 205 writing samples; this is fewer than the 330 surveys, because surveys were administered early in the semester, and natural attrition reduced the number of students in the sample, and because some students provided inaccurate information for the researcher to link the survey to the

appropriate writing sample. Of those, 189 students fulfilled all the criteria to be included in the analysis.

Data Analysis

Correlations were used to examine the relationships between Facebook use and writing. Additionally, relationships in the data were measured using One-Way ANOVA. Multiple regression was used to examine the effect of native language and race on engagement with Facebook.

Research Question 1: To what extent are students using Facebook (based on time per day on the site and the number of friends in Facebook), and are there differences between how gender and native language relate to the extent to which students use Facebook? The independent variables is native language and gender, and the project compared the means on dependent variables of engagement with Facebook (i.e. the time spent using Facebook and the number of friends) using ANOVA to examine how the different groups use the technology. Are NNS using the technology to the extent NS are?

Research Question 2: What is the relationship between the number of Facebook friends and time spent on Facebook to writing success based on self-reported grades, confidence, and a writing sample scored with a college developed rubric? The independent variables are native language and gender. The researcher compared the means on dependent variables of engagement with Facebook (i.e. the time spent using Facebook and the number of friends) and self-reported measures of writing confidence or ability, as well as scores of a writing sample, using correlations to investigate if engagement with Facebook relates with measures of writing success.

Research Question 3: Based on these measures of writing success on the community college developed rubric, grades in writing classes and confidence in writing, is the

interaction with number of friends on Facebook or time spent on Facebook different for non-native English speaking than for native English speaking students? The independent variables are native language, and gender. The researcher used Z scores to examine the magnitude of the differences between correlations of Facebook engagement for NNS and NS.

Descriptive Analysis of the Survey

A descriptive analysis developed a profile of participants through a survey administered online. The profile describes students' native languages, genders, writing class levels, and engagement with Facebook. To summarize the responses, means, standard deviations and frequencies and distributions of the Likert scale questions were computed. To measure the intensity of engagement with Facebook, the means of questions of how many Facebook friends one has, and how much time spent on Facebook were measured in 6 levels and were assigned values of very high, high, moderate, low, very low and not applicable. The means of self-reported measures of writing confidence were measured in 5 levels and were assigned values of very high, high, moderate, low, and very low. Grades in writing classes were measured in 9 levels: mostly As; mostly A's and B's; mostly B's; mostly B's and C's; mostly C's; mostly C's and D's; mostly D's; mostly D's and F's; and mostly F's. In addition to this a writing sample was collected midway through the term. It was a final draft that students had the opportunity to revise, and it was scored according to the community college developed rubric.

Cronbach's Alpha for Reliability. To measure the internal consistency of the Facebook engagement and writing items, Cronbach's alpha was computed on the following values: a) the means of writing and revision behaviors in Facebook and b) the means of scores on the writing samples, and c) the means of Facebook writing beliefs.

Analysis of Variance (ANOVA). A One-Way ANOVA was performed to examine how Facebook engagement compares to self-reported measures of writing confidence and grades in writing classes.

Research Design

This section describes the survey method used in this study. Quantitative research methods were employed in this study. Naturally occurring student summer enrollment patterns determined student placement in classes. Classes used for this study were determined by faculty cooperation. 18 faculty cooperated in this study, and surveys and writing samples were drawn from 29 sections. This study compared NNS students from the cooperating composition classes with NS participants from that same sample, comparing the engagement with Facebook with measures of confidence in writing and scores on a writing sample. A Likert-type scale informed in part by the Community College Survey of Student Engagement (CCSSE) and the Educause Learning Initiative (ELI) was developed to describe the level and intensity of Facebook use and how it relates to success in writing. Demographic factors such as gender and native language were entered as independent variables in the data analysis, and success in writing classes, Facebook use and scores on writing samples were entered as dependent variables. Independent variables were controlled to measure and account for the effect of race and linguistic diversity on the dependent variables. The survey was distributed via Survey Monkey online questionnaire, and administered with the researcher in the computer lab to answer any questions. The measures of writing efficacy of those highly engaged with Facebook were compared to the measures of writing efficacy for those less engaged with Facebook using One-Way ANOVA.

Design and Experimental Manipulation

This study used a survey to develop student profiles drawn from native language background and demographic information. Questions regarding technology engagement were informed by the Educause Learning Initiative Student /Faculty questionnaire, with additional questions pulled from the Community College Survey of Student Engagement and questions developed by the researcher. Student writing competence was measured through self-reported responses to this questionnaire, and scores on writing samples marked by instructors, not their own, who teach those classes.

This study looked at native language, Facebook use and writing success. The primary statistical techniques used in the study were a) descriptive analysis b) Bivariate Pearson Correlations and c) Analysis of Variance (ANOVA). Regression analysis were used to examine what factors (i.e., Facebook usage) would be good predictors for success in academic writing

Means, standard deviations and ranges were computed to find engagement with technology and success in writing. In order to find correlations between engagement with technology, NNS and / or NS, and confidence in writing proficiency were computed using the Pearson Product-Moment Correlation Coefficients. Regression Analysis was performed to explore the effects of technology on writing confidence.

Instrument: Survey

Demographic information was collected via online questionnaire. The beneficial backwash of the assessment was a reflection on, and heightened awareness of, technological engagement and writing success. In addition to demographic questions specific to the interests in the students' home languages, questions regarding technology were informed by the questionnaire developed by the Educause Learning Initiative. Additional questions

involving engagement with technology and writing practices were inspired by the Community College Survey of Student Engagement. Questions regarding Facebook engagement have been developed from research in social integration, communication and psychology.

Pempek et al (2009) used a diary-like measure to collect data on the amount of time students spent using Facebook per day and found students used Facebook approximately 30 minutes per day, but spent most of that time browsing and a small fraction of the time posting. These results match the findings of Ellison et al. (2007). This study used the same categories of minutes per day: 0 = less than 10, 1 = 10–30, 2 = 31–60, 3 = 1–2 hours, 4 = 2–3 hours, 5 = more than 3 hours. Ellison et al. also used the number of friends to measure Facebook use intensity, using the categories: 0 = 10 or less, 1 = 11–50, 2 = 51–100, 3 = 101–150, 4 = 151–200, 5 = 201–250, 6 = 251–300, 7 = 301–400, 8 = more than 400. Because intensity of Facebook use has likely increased four years since their study (the number of Facebook users has gone from 50 million users in 2007 to over 500 million users in 2011), this study used the same first 7 categories, but modified the 8th to read, “401-750” and the 9th will read “over 751.”

Validity for the Survey

White (1994) tells us, “although validity is a complex issue....one simple concept lies behind the complexity: honesty. Validity in measurement means that you are measuring what you say you are measuring, not something else, and that you have really thought through the importance of your measurement in considerable detail” (10). While we may not be able to assure that all surveys were filled out honestly and thoughtfully, because the results of the survey serve the interests of the students themselves, the results should reflect as accurately as possible the perceptions of the sample in question. Self-reported language

measures have been found to indicate linguistic ability with some degree of accuracy (MacIntyre, Noels, & Clement, 1997; Marian, 2007; Ross, 1998; Shameem, 1998; Stefani, 1994). Jia et al. (2002) studied the grammatical domain and concluded that self-assessment correlated positively with behavioral performance. Furthermore:

Survey research provides one method of empirical verification...survey research methods facilitate the openness of science. Since survey research involves the collection and quantification of data, such data becomes a permanent source of information. .. if the theory itself undergoes modifications later, it is always possible to return to the set of data and reanalyze them from the new theoretical perspective. (Babbie, 1973, p. 49)

Also, because in most cases it will be administered by someone not in the classroom and instructors are largely blind to research questions and hypotheses, we limited the bias that troubles Alvi (1994) when instructors or someone with a stake in the responses collects data.

The difficulty of coming up with a valid assessment of writing derives from the double role of writing as a *socializing* discipline (enforcing and confirming student membership in and educated community) and as an *individualizing* discipline (demanding critical thinking and an active relation of the self to material under study). Although both ...are important, the second one is more significant for American education. (White, 1994, p. 12)

Incorporating and adapting ideas from established methods such as the Educause ELI survey and the CCSSE offer way to measure content validity for part of the test.

Incorporating constructs from established surveys allows for triangulating the data.

Educause (2008) defines itself as higher-education technology consortium. “EDUCAUSE is a nonprofit association whose mission is to advance higher education by promoting the

intelligent use of information technology.” Their experience, reputation and non-profit status minimize the potential for bias. CCSSE provides a national and public measure of student engagement designed for the unique needs diverse community college student populations.

If school officials allow use of student identification numbers, we can also look at course completion and course success and have a strong assessment of predictive validity. The theory section earlier in this chapter attempts to establish construct validity, and the results hopefully bear out the correlation of this study with the theories of Kuh and others. Particular questions, approached in different ways in various areas of the survey, offer an opportunity to address concurrent validity. Demographic questions allow us to code and compare the results of non-native English speakers and compare their results to the larger native English speaking population.

Results were drawn from several classrooms, and care was taken to make it clear that this information would not be used to assess individual teacher performance and to reassure stakeholders that the information gathered is of interest to college goals and that no identifiable information would be connected to individual teachers and published. It is difficult to identify whether success or student engagement results from the use of technology, or the influence of talented and hardworking teachers – teacher effect. An online survey using SurveyMonkey was chosen as the most likely form of data collection to garner faculty cooperation. This also mitigated individual teacher effect on responses.

Threats to Validity

White (1994) documents a long-standing hostility to assessment by writing teachers. The survey method of data collection from students arguably best circumvented this challenge. Also, maintaining the confidentiality of participants hopefully eased faculty concerns.

It is essential to communicate to our students that reading and writing are both fun and a source of personal power. Tests that measure specific grammar structures are invariably tests of dialect. A survey describes student characteristics without the risk of boring or intimidating them, and the writing sample assessed with a content-based rubric triangulated our results.

The researcher expected Facebook engagement to correlate highly with writing confidence and attitudes, so great care was taken in instructions to the students to not bias their responses.

Reliability

In order to be reliable, our measure has to be fair and consistent. Reliability establishes the upper limit for validity. That means an assessment device can be no more valid than it is reliable (Slavin, 2007; White 1994, p. 17). This study had specific challenges to face regarding reliability. Measures of subjective traits or abilities such as creativity or writing are notoriously unreliable; also, assessments given to “low-achieving students are usually lower in reliability than tests given to older or higher-achieving students” (Salvin, p.178). As established in chapter 1, this college is committed to diversity.

Part of the advantage of incorporating ideas or constructs from other earlier measures was an assessment of reliability. A survey might be a reliable form of assessment, because an individual participant might be more likely to respond to these questions consistently in the same way than an outside observer making a subjective assessment, provided that students are 1) honest, and 2) not subject to extreme stress.

Furthermore, we accessed a writing sample of the participants and compared means from items measuring writing confidence and self-assessment of writing ability. This will

provide an external indication of whether those students highly engaged with emergent technology are being more or less successful.

Descriptive Analysis of the Writing Sample

Writing samples were assessed using a rubric developed and tested by Johnson County Community College's English Department. It was developed according to department goals and objectives and reflects what students should know to succeed in Composition I. Because Composition I and Composition II objectives differ most regarding the use of research and the incorporation of the ideas of others, and because this sample was taken from a final draft of a mid-term assignment, these papers were assessed with these criteria. The rubric has the advantage of being developed by the department and at least 5 faculty members, including the researcher, had practiced assessment norming and used the rubric in real assessment. 12 faculty who teach the classes participated in the assessment of the writing samples in 7 sessions that each lasted 2-3 hours over a span of 3 weeks. In the beginning of each session 40 minutes to an hour was taken to norm several representative paper. During each session only one class level was assessed. 205 papers were scored. Of those 189 belonged to students who had a Facebook account.

Writing samples were assessed in four categories including: content, organization, style and mechanics. Content involved student command of focus and development, and the success of the introductions and conclusions. Organization regarded overall arrangement of paragraphs and transitions between ideas. The effective use of thesis statements and topic sentences was considered part of the organization category. Style referred to the precise use of language, tone, and the overall successful use of phrasing and sentence structure, including syntax issues. Mechanics regarded the use of grammar, punctuation and formatting, including MLA format, margins and font. Each category was marked on scale of 1 to 4.

Each sample was read and scored by two different readers. A total score was then computed by averaging the two total scores. If the assessments of any individual criteria (content, organization, style or mechanics) were 1 point different the two scores were averaged. If the scores of any individual criteria were more than 1 point apart, a third grader assessed the sample on that criterion only, and the third grader's assessment was used. Due to extensive pre-assessment norming activities, relatively few papers required a third reader, and when a third reader was required they invariably fell between the other two readers.

During the first pass papers were pulled from a stack and each faculty grader was assigned a different colored copy of the rubric, which they filled out and attached to the paper. After being marked, they were then put into a second pile. During the second pass readers chose papers with attached rubrics of a different color than their own and repeated the process. For the content criteria, 56% of the papers were an exact match for both passes, and 99% of the papers were within 1 point. For the organization criteria 54% of the papers were an exact match for both passes, and 97% of the papers were within 1 point. For the style criteria, 61% of the papers were an exact match for both passes, and 99% of the papers were within 1 point. And for the mechanics criteria, 54% of the papers were an exact match for both passes, and 98% of the papers were within 1 point.

Rationale for Writing Sample

Assessment rubrics have face validity because the sample looks like what it is supposed to assess. It has been used and evaluated according to goals and objectives for the English department at the college.

Preliminary Research

Some action research had been done with a convenience sample regarding the incorporation of technology into the classroom: a survey and a focus group interview. A

preliminary survey administered at the beginning of the semester to a class of 15 students taught in fall 2007 at a different local community college in a less affluent community revealed that students overall have access to relatively good and current technology. 46.7% owned a computer less than 5 years old, and likewise 46.7 % had some sort of high speed internet connection. 20% had no computer at home whatsoever. 60% had an Mp3 player or iPod, indicating that students are more likely to have expensive leisure technology than more practical equipment like a PC. While this seems counter-intuitive to many faculty and technology support personnel, it triangulates conclusions found in the 2005 Pew Report (Madden and Rainie). Additionally:

- Approximately 35% had never or rarely used a computer to look up the meaning of a word, but all had used the internet. Most used the internet daily or weekly to download music.
- 60% never or only sometimes prepare multiple drafts of papers, and 73.3% of students had never or only sometimes sent an email to an instructor.
- 66.7% report working over 30 hours per week, and 80% report working over 20 hours per week.
- 60% commuted 30 minutes or more each direction to and from school.

In a focus group interview at the end of the semester, the students elaborated on technology in the classroom. Because of the time spent commuting, and the prevalence of music players in cars in addition to Personal Media Players (PMPs), there is high interest in class content that can be listened to. Media that can be accessed while multi-tasking fits best with their lifestyle.

Considered alone, the results were highly suggestive. Inclusion of emergent technology, particularly one which involves audio, holds promise. Not every student may

necessarily shine to it, but the initial feedback indicates linguistically diverse populations trend that way. Considered alongside current theory and research, the experiences of the 2007 fall writing pilot offers triangulation that supports the prediction that engagement with emergent technology will correlate with student writing confidence and success.

Pilot test

A pilot test of the survey was run using 27 students in the researcher's Composition 2 classes, since these students would definitely not be in the sample from which data would eventually be obtained. Primarily this was a test of the instrument. From this trial adjustments have been made to categories measuring the number of Friends, layout and to questions pertaining to what constitutes good writing. The average time it took students to complete the survey was 3 minutes. Students indicated little confusion with the survey, but subsequent coding, data entry and discussions with experts in statistics revealed room for improvement in the instrument.

Gender was consistent with college means: Racial make-up was also fairly consistent with college means, though the Black students in this sample were all African and not African-American. Likewise the percentage of non-native speakers of English at 14.8 % came remarkably close to the 15% I've noted in previous classes in previous semesters. 96% of students in the pilot maintained a Facebook account, which is what most of the most recent studies cited in the literature review have found (Connel, 2009; LaRoche & Flannigan, 2009; Martin, 2009). The sample seemed representative of diversity at the school.

Correlations were run on selected variables, and as predicted from the literature, gender had no apparent relationship with overall Facebook use. Because the number of respondents is so small, there isn't enough power to make any claims, and coding problems cast any conclusions into doubt, but some relationships might turn out to be significant.

Writing confidence and reading confidence correlate so highly that they might be assessing the same thing. The same is true for: the number of friends on Facebook and the amount of time spent on Facebook; writing confidence and writing ability; and coming to class prepared and doing multiple drafts of writing assignments. A few correlations hint toward potential significance. Blank spaces indicate correlations that haven't been looked at yet.

These results couldn't be taken too seriously due to the small size of the sample, but the results led me to consider that the way Facebook relates to writing may be solely regarding sense of audience, tone and authorial voice. Facebook may or may not be creating conditions that contribute to better writers, but perhaps characteristics that contribute to better writing practices (such as the forming of identity relative to authorial voice, or the development of an awareness of audience) might be assessed through Facebook use. The work of Tom Tong et al. may support this theory. These results also raised the question, that if the number of Facebook friends correlates with a practice known to contribute to writing success, such as writing multiple drafts of an assignment, then we might see a relationship between intensity of Facebook use and success in writing. Unfortunately a coding error (placement of "NA or 0" in the coding of the survey) render results on this question uncertain.

CHAPTER FOUR: RESULTS

This chapter details the results of the investigation of the relationship between engagement with Facebook, student writing behaviors and success in writing, and how those relationships may be different for non-native English speakers (NNS) than for native-English speakers (NS). Research objectives were to better understand the following:

1. To what extent are students using Facebook (based on time per day on the site and the number of friends in Facebook), and are there differences between how gender and native language relate to the extent to which students use Facebook?
2. What is the relationship between the number of Facebook friends and time spent on Facebook, to writing success based on self-reported grades, confidence, and a writing sample scored with a college developed rubric?
3. Based on writing success on the community college developed rubric, grades in writing classes and confidence in writing, is the interaction with number of friends on Facebook or time spent on Facebook different for non-native English speaking and native English speaking students?

This chapter is organized into the following sections: (a) descriptive analyses of student demographics and engagement with Facebook and their relationships (b) correlations between number of friends on Facebook, time per day on Facebook, grades, confidence in writing and scores on the writing sample and (c) an examination of the magnitude of the differences between these correlations for non-native English speakers and native English speakers.

Reliability. To measure the internal consistency of the Facebook engagement and writing measures, Cronbach's alpha was computed. For revision behavior on Facebook

items, Cronbach's alpha was .883 (see Appendix D: Table 1). For measures of the number of words Facebook users wrote on average, Cronbach's alpha was .760 (see Appendix D: Table 2). For scores on writing samples judged on the 4 criteria measured by the rubric, Cronbach's alpha was .855 (see Appendix D: Table 3). For Facebook and Writing Beliefs statements, Cronbach's alpha was .681 (see Appendix D: Table 4). Because .7 or higher is generally considered an adequate measure of reliability in liberal arts and sciences, the survey appears to be internally consistent.

A) Descriptive Analyses of Student Demographics and Engagement with Facebook

When the demographics of the sample collected are compared to the demographics of the college, based on the information known about the institution, this sample appears to be representative, with 54.5% female and 45.5% male students (see also Table 4-1). According to the student enrollment summaries published by the Office of Institutional Research, the most recent summer for which we have information is 2009 and shows 57.9 % female and 42.1% male students. The Fall 2011 semester right after the study showed 54.7 % female and 45.3% male students. Information on native language is not adequately collected by the college for comparison.

Descriptive analyses were used to develop a profile of participants. The profile describes a student's native languages, gender, writing class level, and engagement with Facebook. To summarize the responses, means, standard deviations and frequencies and distributions of the Likert scale questions were computed. To measure the intensity of engagement with Facebook, the means of questions of how many Facebook friends one has, and how much time is spent on Facebook were measured in six levels and assigned the following values: very high, high, moderate, low, very low and not applicable.

Students were recruited from the two required composition classes (Composition I and Composition II), as well as the highest developmental writing classes (Level 4 Writing for ESL students and ENGL 106: Introduction to Writing for students who did not identify as non-native speakers). While advising and assessment testing are assumed to direct NNS to ESL classes, non-native English speakers are represented in ENGL 106). Of 340 surveys administered, 31 (9.1%) students reported not using Facebook, and 14 (4%) surveys could not be used. Age of consent and/ or a negative response to the question of whether the participants understood the consent statement and agreed participate rendered these unusable, even though several of these subjects answered all of the questions. Thirty-two (9.4%, 29 NS and 3 NNS) students provided otherwise useable information on the survey, but entered inaccurate data on the identity of their teacher or the last 4 digits of their student ID number so that they could not be included in correlations or ANOVA with the writing samples. While 26.5% (N = 86) reported speaking a language other than English (or multiple languages) in the home, 21% (N = 68) reported speaking a language other than English as their native language. Only the group who reported speaking a native language other than English will be referred to as Non-native Speakers (NNS). Only 11.9% reported writing best in a language other than English.

Because 29 students (12%) did not provide accurate information to link their survey to their writing sample, it is difficult to know for sure what class some students took. 51 (15%) students were in the Introduction to Writing class, 106; 94 (27.6%) students were enrolled in Composition I; and 62 (18%) students were enrolled in Composition II (see Figure 1).

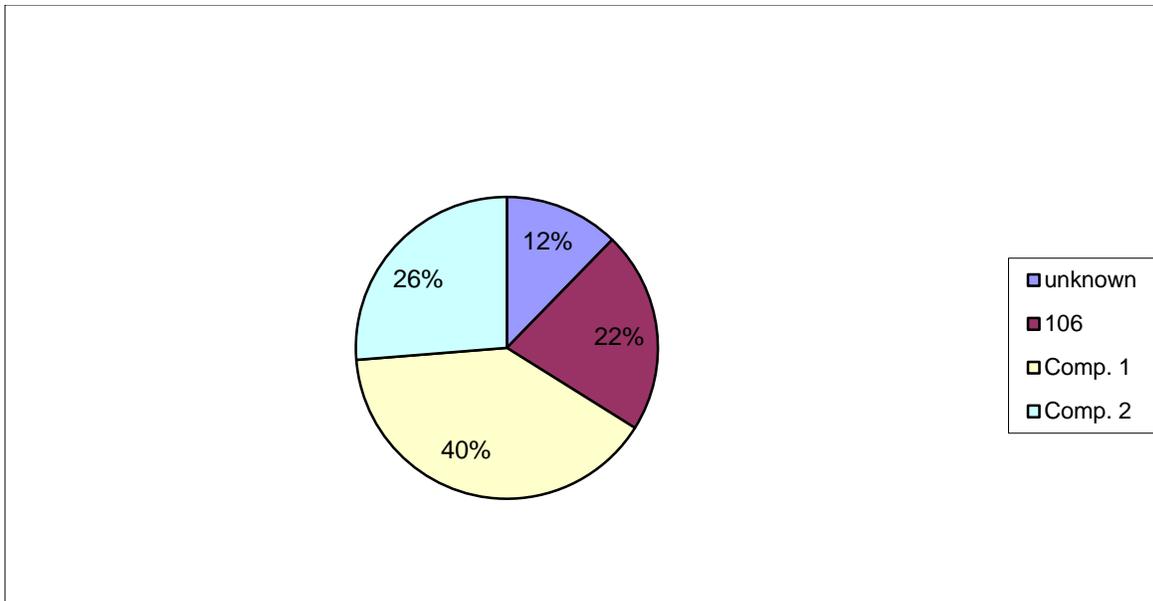


Figure 1. NS Dispersion in Composition Classes.

Three students (5%) did not provide accurate information to link their survey to their writing samples. Evidence shows 24 students were in ESL Level 4; six students were in the Introduction to Writing class, 106; 9 students were enrolled in Composition I; and 17 students were enrolled in Composition II (See Figure 2).

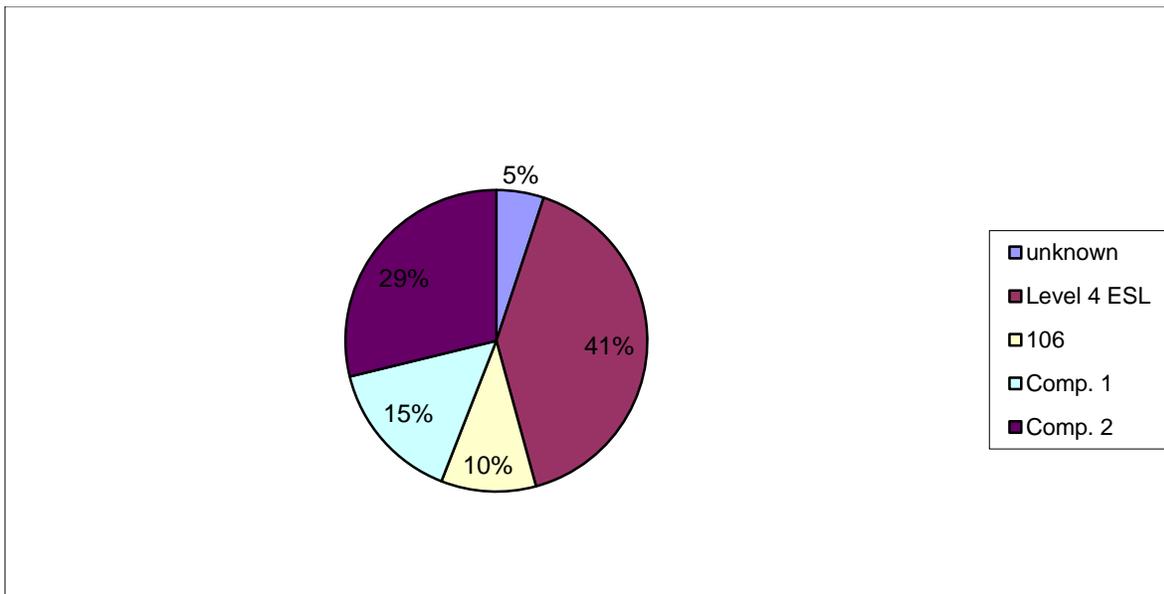


Figure 2. NNS Dispersion in Composition Classes.

Of the total sample 54.5% (N = 175) identified as female, and 45.5% (N = 146) as male. These proportions were similar in the NNS sample, where 53.7 % (N = 36) identified as female, and 46.3% (N = 31) as male. The sample was young, with over half (N = 174) being 18 to 20 years old, and 84.5% being 29 or younger. The NS and NNS samples differed slightly in age. For NS 58.2% were 18 to 20 years old, compared to NNS, for whom only 36.8% (N = 25) reported being 18 to 20. A larger portion of NNS compared to the NS fell in the 21-24 age group: 26.5% (N = 18) compared to 14.1% (N = 36) for NS. For both groups the majority of participants reported being 29 or younger (85.1% for NS and 82.4% for NNS).

Table 4-1

Sample Demographics

	Mean or % (N)	S.D.
Gender:		
male	45.5% (146)	
NNS	46.3% (31)	
NS	45.3% (115)	
female	54.5% (175)	
NNS	53.7% (36)	
NS	54.7% (139)	
Age ¹	1.99	1.32
NNS	2.24	1.25
NS	1.93	1.33
Race ²		
White	68.4% (221)	
Other	31.3% (101)	
Native Language		
English	79% (256)	
Other than English	21% (68)	

Notes: ¹ represents the mean for range 1 = 18 to 20 years old, 2 = 21 to 24, 3 = 25 to 29, 4 = 30 to 39, 5 = 40 to 49 and 6 = 50 or older. ² Choices for race included White, Black/African American, Hispanic/Latino, Asian/Pacific Islander, Middle Eastern, Other and Prefer not to say. Participants were asked to choose all that apply. One student, or .3%, chose not to reveal their race.

Facebook Engagement

The majority (91.3%) of students surveyed ($N = 295$) reported having Facebook and only 35.6% ($N = 115$) reported using any additional or alternative Social Networking Site (SNS). The percentages of students engaged in Facebook were very similar for NS and NNS (92.2% for NS ($N = 211$) compared to 88.1% for NNS ($N = 59$)). Because the number of students reporting not to have a Facebook account was so small, the researcher lacked confidence in data gathered from the group, and focused analysis on those who reported using the social networking site.

No significant difference was found between NNS and NS in how likely they are to have a Facebook account, but gender does seem to make a significant difference ($r = -.128$, $p = .022$, $N = 320$) in the likelihood of having a Facebook account for Native English speakers. This is significant at the .05 level, 2-tailed. NNS and NS males reported almost identical numbers at 87.1% and 87.8% respectively; 88.6% of NNS women reported using Facebook, but 96.4% of NS women said they have a Facebook account. The difference may be interesting, but the percentages are all so high that the researcher considers use of Facebook to be nearly ubiquitous. In this sample, Facebook use is nearly as widespread for NNS as it is for NS, however differences in how the site is used by NS and NNS are revealed between genders.

NNS men and women regardless of their ages tend to have about as many friends, spend about as many days a week on Facebook, and use Facebook for about the same amount of time per day. No significant differences have been discovered between gender for NNS for measures of: time per day on Facebook, number of days per week on Facebook, or the number of friends on Facebook. NNS men and women also report being about as likely to report using an additional social networking system (other than Facebook).

Time Spent on Facebook

More than half of the participants (52.6%; N =170) use Facebook almost every day; However, most use it for an hour or less a day, with the common response being less than 30 minutes a day (43%; N =142). This is consistent the results of (Pempek, Yermolayeva & Calvert, 2009). Time spent using Facebook can be a difficult question to resolve due to the way the system works on computers and hand-held devices, and because of the different things people do on Facebook. This will be discussed in more detail in Chapter V.

The study looked at how much time per day students spent on Facebook as a dependent variable. Two-Way ANOVA was performed on the interaction between native language and gender, and no main effect was found for gender $F(1, 289) = .886, p = .347$. Likewise, there was no main effect for native language $F(1, 289) = .191, p = .662$. The interaction between the two was not significant $F(1, 289) = 3.448, p = .064$.

Table 4-2

Time per Day on Facebook between Subjects Effects: Gender and Native Language

	NS	NNS	
Female	2.85 (1.05)	2.65 (1.08)	2.81 (1.06)
Male	2.45 (.84)	2.78 (1.01)	2.52 (.89)
	2.68 (.99)	2.71 (1.04)	

NNS and NS have similar mean scores for the amount of time per day spent on Facebook.

Where their engagement differs most is the mean reported in the number of friends on

Facebook: NNS ($M = 5.14, SD = 1.64$) compared to NS ($M = 6.11, SD = 1.49$).

Table 4-3

Facebook Engagement

	Mean or % (N)	S.D.
Have Facebook account	91.3% (295)	
NNS	88.1% (59)	
NS	92% (236)	
Have a SNS other than Facebook?	35.6% (115)	
NNS	52.2% (35)	
NS	31.3% (80)	
Time per day on Facebook	2.55	1.06
NNS	2.55	1.12
NS	2.55	1.04
Number of Friends on Facebook	5.56	1.96
NNS	4.74	1.96
NS	5.78	1.91

Notes: For time per day on Facebook: 1 = 0, 2 = less than 30 minutes, 3 = 30 minutes to an hour, 4 = 1 -2 hours, and 5 = 3 hours or more. For Number of Facebook friends: 1 = 0, 2 = 1 to 10, 3 = 11-50, 4 = 51 to 100, 5 = 101 to 200, 6 = 201 to 400, 7 = 401 to 800 and 8 = over 800.

Friending

Of the entire sample, the majority (69.8%) reported having between 101 and 800 friends in their Facebook social network. The majority reported having 201 or more friends and the most frequent response to the question of how many friends one had on Facebook was 201 to 400. 43% of NNS had over 200 Facebook friends.

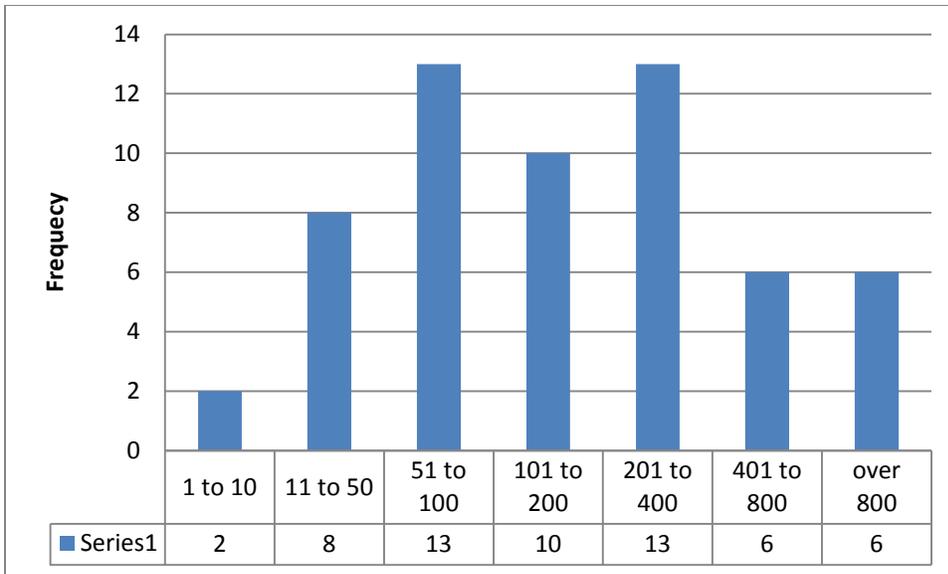


Figure 3. Number of friends on Facebook for NNS

NS (Figure 4) report having larger numbers of friends on Facebook than do NNS (see Figure 3; Table A6, Appendix D). 71% of NS had over 200 friends, with the most common response being 401 to 800 friends on Facebook.

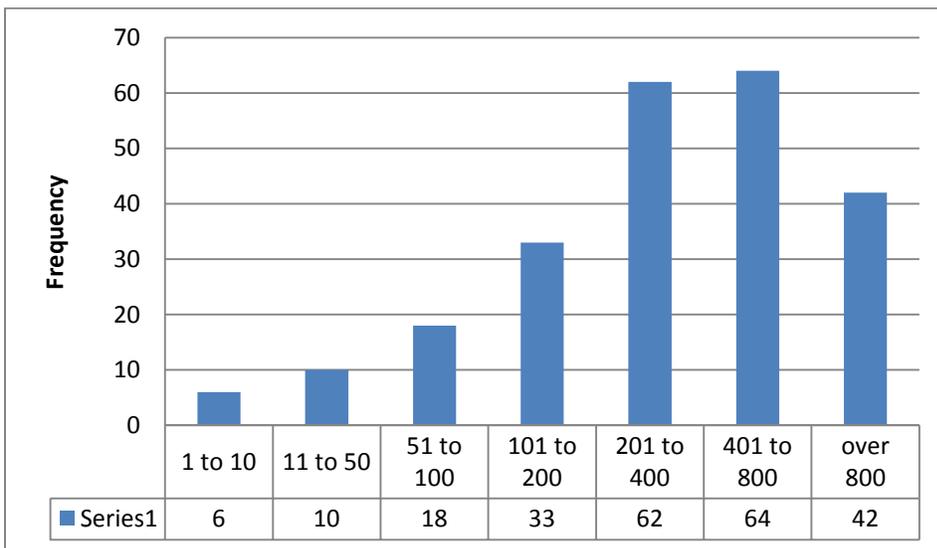


Figure 4. Number of friends on Facebook for NS

Men were more confident than women in both language groups. NS men are the most confident ($M = 4.01$; $SD = .79$), followed by NS women ($M = 3.89$; $SD = .77$), and NNS men ($M = 3.65$; $SD = .96$) and lastly NNS women ($M = 3.56$; $SD = .74$).

Two-Way ANOVA was performed on the number of Facebook friends and gender, and no main effect was found for gender $F(1, 287) = .1434, p = .232$. There was, however, a main effect for native language $F(1, 287) = .19292, p < .001$. The interaction between the two was not significant $F(1, 287) = .529, p = .468$.

Table 4-4

Number of Facebook Friends between Subjects Effects: Gender and Native Language

	NS	NNS	
Female	6.05 (1.49)	4.9 (1.67)	5.84 (1.58)
Male	6.16 (1.50)	5.33 (1.59)	5.98 (1.55)
	6.10 (1.49)	5.11 (1.63)	

NS did have significantly more friends on Facebook than NNS, but gender did not have a statistically significant effect.

B) Correlations between Measures of Intensity of Facebook Use and Measures of Writing Success.

A Pearson’s Product Moment correlation was computed to investigate whether significant relationships existed between variables, and how those relationships differed for non-native English speakers compared to native English speakers. What is true for NS is not necessarily true for NNS. Studies not taking into account differences in native languages may overlook the differing nature of relationships between Facebook engagement and writing.

Table 4-5

Correlations between Measures of Intensity of Facebook Use and Measures of Writing Success.

Measure		1	2	3	4	5
1. Number of friends on Facebook	Pearson correlation	1				
	Sig. (2-tailed)	-				
	N	293				
2. Time per day on Facebook	Pearson correlation	.272**	1			
	Sig. (2-tailed)	.000	-			
	N	293	295			
3. Grades in writing classes	Pearson correlation	-.060	-.072	1		
	Sig. (2-tailed)	.303	.221	-		
	N	293	295	295		
4. Academic writing confidence	Pearson correlation	.141*	.017	.357**	1	
	Sig. (2-tailed)	.016	.774	.000	-	
	N	293	295	295	295	
5. Total Scores on writing sample	Pearson correlation	-.054	-.124	.312**	.247**	1
	Sig. (2-tailed)	.466	.091	.000	.001	-
	N	187	188	188	188	188

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

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

Because one aim of the study was to examine whether differences existed between the relationships of Facebook engagement and writing success, these same correlations were broken down by native language (see tables 4-6 and 4-7)

Table 4-6

Correlations between Measures of Intensity of Facebook Use and Measures of Writing Success for NNS

Measure		1	2	3	4	5
1. Number of friends on Facebook	Pearson correlation	1				
	Sig. (2-tailed)	-				
	N	58				
2. Time per day on Facebook	Pearson correlation	.377**	1			
	Sig. (2-tailed)	.003	-			
	N	58	59			
3. Grades in writing classes	Pearson correlation	-.098	-.009	1		
	Sig. (2-tailed)	.466	.947	-		
	N	58	59	59		
4. Academic writing confidence	Pearson correlation	.049	.114	.262*	1	
	Sig. (2-tailed)	.713	.389	.045	-	
	N	58	59	59	59	
5. Total Scores on writing sample	Pearson correlation	-.279	-.096	.197	.029	1
	Sig. (2-tailed)	.100	.571	.242	.864	-
	N	36	37	37	37	37

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

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

Table 4-7

Correlations between Measures of Intensity of Facebook Use and Measures of Writing Success for NS

Measure		1	2	3	4	5
1. Number of friends on Facebook	Pearson correlation	1				
	Sig. (2-tailed)	-				
	N	235				
2. Time per day on Facebook	Pearson correlation	.259**	1			
	Sig. (2-tailed)	.000	-			
	N	235	236			
3. Grades in writing classes	Pearson correlation	-.055	-.086	1		
	Sig. (2-tailed)	.399	.187	-		
	N	235	236	236		
4. Academic writing confidence	Pearson correlation	.125	-.005	.384**	1	
	Sig. (2-tailed)	.056	.944	.000	-	
	N	235	236	236	236	
5. Total Scores on writing sample	Pearson correlation	-.035	-.136	.337**	.294**	1
	Sig. (2-tailed)	.670	.096	.000	.000	-
	N	151	151	151	151	151

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

C) An Examination of the Magnitude of the Differences between these Correlations for NNS and NS

Z-scores were computed to determine the significance of the differences between correlations of Facebook engagement measures and writing success measures. The correlation of the number of Facebook friends and grades was computed for NNS and NS. The Z-score observed (Z_{obs}) was .288, $p > .05$, so the magnitude of the difference between the correlations was not significant.

The correlation of the number of Facebook friends and writing confidence was computed for NNS and NS. The $Z_{obs} = .511$, $p > .05$, so the magnitude of the difference between the correlations is not significant. The correlation of the number of Facebook friends and scores on the writing sample was computed for NNS and NS. The $Z_{obs} = 1.306$, $p > .05$, so the magnitude of the difference between the correlations was not significant. The correlation of time per day spent on Facebook and grades was computed for NNS and NS. The $Z_{obs} = .149$, $p > .05$, so the magnitude of the difference between the correlations was not significant. The correlation of time per day spent on Facebook and writing confidence was computed for NNS and NS. The $Z_{obs} = -.802$, $p > .05$, so the magnitude of the difference between the correlations is not significant. The correlation of time per day spent on Facebook and scores on the writing sample was computed for NNS and NS. The $Z_{obs} = -.2186$, $p > .05$, so the magnitude of the difference between the correlations was not significant. The interaction between the number of friends on Facebook or time spent on Facebook and measures of writing success does not appear to be significantly different for NNS and NS.

In this chapter, the results of the current study were presented. To investigate the three research questions the following statistical analyses were computed: descriptive analyses of student demographics and Engagement with Facebook and their relationships;

descriptive analyses of student demographics and engagement with Facebook; correlations between number of friends on Facebook, time per day on Facebook, grades, confidence in writing and scores on the writing sample; and an examination of the magnitude of the differences between these correlations for non-native English speakers and native English speakers. The next chapter will address the summary of the study, conclusions, recommendations for future research, and implications for teachers and administrators.

CHAPTER FIVE: DISCUSSION

This chapter provides a summary of the study, conclusions, recommendations for future research, and implications for teachers and administrators.

Research Question 1: To what extent are students using Facebook (based on time per day on the site and the number of friends in Facebook), and are there differences between how gender and native language relate to the extent to which students use Facebook?

NNS and NS students alike are both overwhelmingly on Facebook: (NNS at 88% and NS at 92%). NNS male and female college students are equally likely to use the social network, but with NS, 96.4% of women reported using the site, as apposed to 87.8% of NS men. Actual engagement with the site may be higher, if some students chose to deny that they had created an account as a face-saving way to decline to participate in the study, or if they believed that by not checked the site for an extended time their account would be closed.

Neither native language or gender have a significant effect on the amount of time spent on Facebook, for either NS or NNS. Gender did not affect the number of friends students had on Facebook, but native language did. NNS had significantly fewer friends on Facebook than NS, but there was no significant interaction between gender and native language. This may support Danah Boyd's thesis that marginalized youth behave the most cautiously in online social spaces. Facebook users make insightful and surprisingly sophisticated choices regarding their interaction with the public of Facebook. Boyd (2011) reports that in her research extremely high percentages of people of color use pseudonyms on Facebook, compared to white people, and she posits that those marginalized by systems of power rely more heavily on pen names. The patterns of numbers of Friends may reflect social marginalization for NNS in a way that would be less relevant for NS.

Something may be going on with Facebook engagement for NNS that reveals workings of the affective filter. NNS who reported higher numbers of Facebook friends did report being more likely to ask questions in class significant to the .05 level, but there was no relationship for NS. This may indicate that the number of friends on Facebook relates to a lower affective filter for NNS. Somehow the extent to which one is socially (and perhaps politically) isolated plays a role in online writing behavior. As such, the online behavior of NNS requires and deserves special attention.

However, NNS and NS use Facebook in different ways, and perhaps from different motivations. What contributes to (or reflects) success in writing for NS should not be assumed to contribute to (or reflect) success in NNS samples. It should also be noted that 54% of NNS women reported having a social networking system (SNS) other than Facebook, compared to only 35% of NS women, and 48% of NNS men use another SNS compared to only 27% of NS men. Many countries have their own SNS which use that country's native language and culture. Considered as a whole, we can't assume that NS are more engaged in Social Networks based solely on an examination of Facebook.

Research Question 2: What is the relationship between the number of Facebook friends and time spent on Facebook, to writing success based on self-reported grades, confidence, and a writing sample scored with a college developed rubric?

The number of friends on Facebook correlated at the .05 level with confidence in writing for academic classes for the entire sample ($r = .141, p = .016, N = 293$), but otherwise neither the number of friends on Facebook nor the amount of time spent per day on the site correlated with any measure of writing success.

For NNS, the amount of time spent per day on Facebook did not correlate with any measures of writing success, be they self-reported or measured by faculty on the writing sample. Grades and confidence correlated at the .05 level ($r = .262, p = .045, N = 59$), but neither grades nor confidence correlate with scores on the writing sample. For NS grades and confidence correlate at the .01 level ($r = .384, p < .001, N = 236$), and both grades ($r = .337, p < .001, N = 151$) and confidence ($r = .294, p < .001, N = 151$) correlate to the .01 level with scores on the writing sample.

For NNS the number of Facebook friends does not correlate with any other measures on the writing sample, nor with grades or confidence. Likewise for NS, the number of friends on Facebook does not correlate with any measures of writing success, whether self-reported or measured empirically on the writing sample.

For NNS the higher numbers of friends on Facebook does correlate with many Facebook writing behaviors at the .01 level (2-tailed), such as: frequency to post, frequency to comment to posts, frequency to react to comments made to your post, and frequency to post in a language other than English. Frequency to revise or update based on feedback correlated at the .05 level. This indicates that participants with more friends on the SNS

tended to write more and engage more in writing and revision behaviors on the site. Higher numbers of friends for NNS also correlated with writing more words in a post ($r = .304, p = .021, N = 58$) significant at the .05 level. This was also largely true for NS. For NS, higher numbers of Facebook friends correlated with every Facebook writing behavior at the .01 level and NS with higher numbers of friends wrote longer posts and longer comments to posts (see Appendix D: Table C5).

Research Question 3: Based on writing success on the community college developed rubric, grades in writing classes and confidence in writing, is the interaction with number of friends on Facebook or time spent on Facebook different for non-native English speaking and native English speaking students?

This study did not find that engagement with Facebook offered any advantages to student writing, but neither did it have a negative impact on measures of writing success. For the most part, engagement with Facebook appears to have little if any effect or impact on student writing. Examinations of the magnitude of the differences of correlations of number of friends and time per day spent on Facebook with measures of writing success for NNS and NS samples by calculating Z scores revealed no significant interactions between native language or gender.

Conclusions

This study contributes to the field of by collecting data from a large sample, and by combining that data with objective assessments of student writing. Most research to date has restricted itself to success rates or self-reported data regarding grades. Little if any research has looked at Facebook and success in writing, and this study additionally looked at both NNS and NS students. This research casts light on the relationship between the writing and

engagement with Facebook. This study found that 91.3% of the sample had Facebook accounts. Ellison, et al. (2007) found that 94% of their sample had Facebook and others (Martin, 2009; LaRoche and Flanigan, 2009) found that 96% had Facebook accounts. In this sample, Facebook use is nearly as widespread for NNS as it is for NS. This study found that the majority of students spend about 30 minutes per day on Facebook. This is consistent with findings by Ellison, et al. (2007), and Pempek, Yermalayeva & Calvert (2009). Time spent on Facebook can be misleading due the way the system works on computers and hand-held devices, and because of the different things people do on Facebook. Facebook can run in the background while students are doing other things, be they working on homework, surfing the web and so on. When friends post, or when responses are made to one's posts, or other changes to one's account are made, Facebook can "push" notification to any device one uses to interact with Facebook. That means one is alerted to changes or activity on one's account, drawing one's attention back into the social network and away from other activities.

Facebook engagement does not appear to have a clear relationship with success in writing. In fact, what relationships exist, as demonstrated in this study, are negative correlations. Native English speakers who spent more time per day on Facebook scored lower in style, and the Pearson correlation was significant, but no significance was found using ANOVA. Time per day on Facebook had no effect on non-native English speakers; however, NNS with higher numbers of friends had a significant Pearson Correlation with lower Mechanics and Grammar scores ($r = -.331, p = .045, N = 37$) significant at the .05 level, but again here ANOVA did not find this relationship significant. ANOVA did show that for NNS time on Facebook was significant with the frequency to write multiple drafts, but the Pearson Correlation was not significant ($r = -.009, p = .944, N = 58$) and showed that it was a negative correlation. But these correlations are only found in one of four of the

rubric categories. As did Pasek, Hargittai and More (2009) this study did not find a robust negative relationship with Facebook use and measures of success, though the present study focused specifically on writing, where Paske, Hargittai and More performed a meta-analysis of research of broader concepts of academic success.

There is more to grades in composition classes and success in college than just writing ability or talent. Morris et al. (2010) showed that the number of Facebook friends could be used as an index to predict real or potential friends on campus, and that activity on Facebook appears to be related to social integration. Facebook engagement and participation is a foil that displays and highlights constructs of confidence and the workings of one's affective filter. Apparently revision or writing multiple drafts declines as confidence in one's ability goes up. But what it means to revise today may be different than in the past. Younger students are increasingly comfortable going paperless. If they define a draft as a paper copy, then perhaps not all revision is accounted for. The writing process is changing and becoming less paper based, as articulated by Lunsford (2006), Cummins (2000), Ito (2008) and Jones-Kavalier and Flannigan (2006).

NS appear to use Facebook for bridging Social Capital, creating multiple weak ties which is consistent with findings in other studies (Ellison, et al., 2007; Pempek, Yermalayeva & Calvert, 2009; Tom Tong, Van Der Heide, & Langwell, 2008). Tom Tong, Van Der Heide, & Langwell found that Facebook data such as the number of friends contain sociometric data that peers use to make judgments. Perhaps NNS use Facebook to maintain stronger ties – such as with friends or family from farther away geographically - and NS, particularly male, use Facebook to establish larger numbers of weaker ties. This supports the idea of Facebook as a performance space for NS. For NNS however, engagement with

Facebook seems to reveal something going on with the affective filter. In either case, the awareness of audience plays a pivotal role.

Limitations

The parameters of this study are confined to students enrolled in the specific community college. A limitation of this study is that the sample is restricted to one college, decreasing the generalizability of its findings. Another limitation is that it relies on students' self-perceptions of ego sensitive issues such as writing ability and comfort with technology. Also, the rubric developed and used by the English department should have high rates of inter-rater reliability, but will limit the generalizability to external populations. The number of students with Facebook may be higher. It is possible that some students who did not want to take part in the survey and study replied that they did not have Facebook as a face-saving way to not participate. Additionally, true inter-rater reliability was not computed because a representative sample of the writing samples were not graded by all of the faculty participating in the grading sessions.

In this study the choice was made to follow the precedent set by Ellison et al. (2007) and Tom Tong, Van Der Heide & Langwell (2008) and collect responses from multiple choices set by the researcher. If real estimates of the number of friends were entered there might have been less variability in the responses and a truer look at Facebook engagement. This might allow for more consistent measures of distance between the number of friends and their relationships to writing. Also, more nuanced assessment of how time is spent on Facebook is needed. More choices of time spent might reduce variability in responses. An additional limitation of the study is the analysis of clustered data (classes, teachers, and courses) but this variability is not estimated with a One-Way ANOVA; Hierarchical

Regression Analysis could have been used to account for higher order variability between subjects, if the data set were large enough to accommodate the number of level-2 variables.

Recommendations for Future Research

For NS however, there was a negative correlation between time per day on Facebook and the style score ($r = -.190, p = .020, N = 151$) significant at the .05 level (2-tailed). That is, NS who spent greater amounts of time on Facebook did worse on the style components of the assessment. Note that time on Facebook does not indicate writing behaviors on Facebook. Many people spend an inordinate amount of time playing games and the instrument did not take that into account. For NNS the higher numbers of friends on Facebook does correlate negatively with Mechanics and Grammar scores ($r = -.331, p = .045, N = 37$) significant at the .05 level. NNS participants with more Facebook friends scored worse on grammar. For NS, the correlation between the number of Facebook friends and confidence approached significance, and that relationship may be worth investigating.

Writing behavior on Facebook is influenced by measures of intensity of Facebook use and this could bleed over into academic writing. High numbers of friends on Facebook negatively correlates to writing multiple drafts of papers for NS ($r = -.196, p = .003, N = 235$) significant at the .01 level (2-tailed). There is no apparent correlation for NNS. Therefore if higher numbers of Facebook friends contributed to a lesser likelihood to revise, the negative impact might be felt more with NS. Those who have high numbers of Facebook friends do report writing more words in their average post and more words in their response to an average post. This is true for NNS ($r = .433, p < .001, N = 65$) and ($r = .260, p = .036, N = 65$) respectively. It is also true for NS with the correlation significant at the .01 level (see Appedix E: Table C6). This is consistent with Gonzalez-Bueno (1998), Gonzales-Bueno, M.

and Perez, L. (2000), and Kern (1995) who found CMC contributed to writing a greater amount of language.

For NNS, the negative correlations of performance in Mechanics and Grammar on the writing sample to beliefs that Facebook improves audience awareness does not show that Facebook use affects the item, but if students believe Facebook helps understand their audience, then they are more likely to believe use of Facebook helps other aspects of their writing. This may lead them to rationalize spending more time on the social network. That may take time from other activities, such as proofreading. But there's no correlation that students who hold this belief spend more time per day on Facebook, or have more friends. They may log on to Facebook more days of the week though.

For NS, a high number of Facebook friends makes it less likely a student will report writing multiple drafts, but they do report a higher measure of confidence in their writing to an extent that approached significance but fell short of the threshold set for this study. Facebook interventions initiated by the teacher or college may benefit the composition skills of NNS and NS women disproportionately, but would likely have little impact on NS men. Perhaps expanding the number of Facebook friends for NNS would improve audience awareness and revision skills, but NNS may already be more advanced than NS in this regard.

There may exist a relationship with writing confidence and engagement with Facebook, measured indirectly through composition behaviors. NS with higher numbers of Facebook friends are less likely to write multiple drafts of academic work ($r = -.196, p = .003, N = 235$), but there is no corresponding relationship for NNS. However, NNS with higher numbers of Facebook friends are more likely to ask questions in class. Asking questions in class correlated with higher grades in writing classes for NNS ($r = .422, p =$

.001, $N = 59$) significant at the .01 level. This was also also true for NS, where asking questions correlated with grades in writing classes ($r = .182$, $p = .005$, $N = 235$) significant at the .01 level, and also for NS writing self-assessment ($r = .161$, $p = .013$, $N = 235$) significant at the .05 level. Remember that NS were good judges of their own writing ability in English, where there was no correlation between writing success measures and writing confidence in English for NNS.

Qualitative methods could be used to investigate the relationship between Facebook engagement and writing behaviors, particularly related to revision and audience analysis. For quantitative research, care should be taken to gather non-native English speaking participants from more advanced composition classes and have NNS representation from all levels of writing classes. Lower Style and Grammar and Mechanics scores might reflect more challenging assignments and greater required critical thinking.

In future research, the number of Facebook friends could be collected as real numbers. Future researchers should also ask when participants adopted Facebook, and how long they have been engaged with the technology to explore why NS tend to have larger numbers of friends. Tom Tong et al. (2008) found that favorable impressions of others sociability increased with the number of friends up to a point at which higher numbers of friends offered diminishing returns. Numbers of friends after a certain threshold may behave differently in writing measures, which is supported by Donath and Boyd's (2004) ethnographic research which speculates that friending too many others contributes to negative judgments against a profile. Only a relatively small number, 10-20, of close relationships can be maintained (Parks, 2007) and perhaps only about 150 total social relationships (Dunbar, 1993; Gladwell, 2000). Real numbers of Facebook friends should be collected to examine this possibility. Furthermore, not all time is equal. If most time is spent

playing games then assumptions may need be adjusted. Ingram (2010) reports that only 6% of online social network gamers are under 21 years old, so assumptions that young people are the only ones gaming may be mistaken. Time spent gaming but not communicating with writing could have different effects on writing skills than time spent actually communicating with others. Tom Tong et al. found that the number of Facebook friends had a curvilinear effect on the impressions made on others. That is, the more friends the better, up to a point, after which more friends offered diminishing returns. This might as well be true for the relationship between Facebook engagement and writing.

Qualitative methods could be used to explore the issues of power and confidence. Something is going on that isn't as simple as gender or native language alone. Perhaps NES women are, as the majority language and gender, more comfortable and likely to engage and interact in online communication. Or NNS men, having considerable power don't feel the need to protect themselves in the way NNS women might. Those with power seem to be more pro-active, while those Danah Boyd (2008) would call marginalized seem to be more reactive. NNS post less to status updates than NES, though the difference is small, but NNS are more likely to reply to comments. Donath and Boyd (2004) speculate that SNS could increase bridging social capital, and Cummings, Lee, & Kraut (2006) have investigated the role of the internet in these transitions. If Bridging Social Capital is more commonly a focus of men than women - and making friends with new people is more risky behavior for NNS women than for NNS men, then researchers should investigate how Facebook might be used to create a safe place for NNS to engage in authentic practice with the target language interventions that compel NNS to expand their social net – their circle of “friends” - may help create Bridging Social Capital.

Implications for Teaching

Facebook is a real and applied example of a digital profile. It demonstrates and reflects an awareness of audience, skills and experience using digital media to communicate, in addition to text-based verbal communication. This demonstrates the type of writing called for in the future, and articulated by Lunsford (2006), Cummins (2000), Ito (2008) and many others. The online environment of Facebook is the sort of instructional game that Gee (2003) talks about, and it likely could be co-opted to teach literacy, but right now what it teaches is how to use Facebook. If, as Beck and Wade (2004) argued, video games have shaped how we think and learn, then Facebook is helping to shape how we write.

Facebook is where students are. They already invest tremendous amounts of time and effort communicating through the site. Bowers-Cambell (2008) notes that instructors can reach students quicker through Facebook than through email or college LMS. Initiatives that seek to reach students, particularly students who lack social connections, should consider the role of the site in reaching students. There is already considerable interest and money involved in bringing Facebook into college learning environments. The Bill and Melinda Gates foundation last year earmarked 20 million dollars for innovative ideas to promote readiness for college and to improve graduation rates (Waters, 2011). This initiative's first direct investment in a for-profit company went toward developing a Facebook application. At two million, ten percent of the total budget, it represents a substantial commitment.

Building community in a non-residential community college is a challenge, but as Rivera, Soderstrom, and Uzzi (2010) point out, embeddedness in social networks increasingly is recognized as a root cause of human achievement. Social networking systems offer a unique mode of access to the larger college community, and a way for students to develop relationships online with classmates they had met on campus offline (Pempek,

Yermolayeva & Calvert, 2009). Ellison, Steinfield & Lampe (2007) found that Facebook use interacted with measures of well-being, which suggest that it might benefit students with low self-esteem. This may be of particular value for students dealing with culture shock, or who are otherwise isolated. Tong Tong et al. argues that social networking systems are created to manage and form impressions and create and maintain relationships. All these things are essential to real communication.

International students, non-native English students, and students from cultural or ethnic minorities may have the most to gain from local social networks. Bowers-Campbell (2008) found that Facebook has advantages for those developing their reading skills in college, in terms of motivation and authentic use of literacy skills. Whether students are cut off from friends and family as immigrants, or isolated from the larger college community by family commitments, college social networks can connect them to resources and academic support, both formally through school sponsored programs and informally through casual relationships with other students. We are learning that different ethnic or linguistic groups act and interact differently through social networks. Hargittai (2007) discovered that Hispanic students were significantly less likely to use Facebook and more likely to use MySpace, but quite the opposite is seen with Asian students. Facebook could be used to provide social connections and support to groups marginalized from conventional sources of power and support, but it could as easily be used to further marginalize certain groups, particularly NNS women (Boyd, 2008).

Initiatives aimed at supporting all groups also need to carefully weigh the role of anonymity in any online forum. Identity is not a simple issue for most adolescents, and for immigrants and marginalized ethnic groups the challenges are multiplied. Not all immigrants are NNS, and not all NNS are immigrants, but immigrants are disproportionately represented

among NNS. Perhaps immigrant NNS use Facebook to maintain relationships strained by geographical distance, if so it can have effects on issues of homesickness. Facebook engagement and participation is a foil that displays and highlights constructs of confidence and the workings of one's affective filter.

Conclusion

Educators need to regularly question the orthodoxies of their profession. One such orthodoxy is the belief that revision always leads to better writing. We must also redefine what constitutes writing. Imaginative and purely mental stages of writing which can't be observed externally count, while notoriously difficult to quantify, are none-the-less crucial components of the composition process. Oral expression, asking questions and dialogue about the potential paper should figure into our considerations of what constitutes composition. We need to examine our current assumptions and share our understanding of the process with the students we seek to serve. We regularly tell students that mere proofreading and editing do not equal revision, but a clean paper is seen as evidence of revision. Writing isn't merely a static knowledge domain, but a skill and a behavior as well.

In the present study, student engagement with Facebook was examined, and the behaviors and experiences of non-native English speakers and native English speakers were compared and contrasted to provide useful information, suggestions for future research and possible implementations for teachers and administrators in higher education. The results from the study can be generalized to other higher education situations. However, due to the clustering of NNS student in Level 4 ESL and Composition II, more research is needed to look at how NNS engage with social media.

Students in this study who showed high engagement with Facebook, demonstrated little or no effect on overall measures of writing success, with the exception that NNS who

had higher numbers of friends on Facebook tended to score lower on Grammar and Mechanics in the writing sample. NS who had higher numbers of friends on Facebook were less likely to revise or write multiple copies of academic work, but there was no effect of Facebook engagement on writing for NS. However, Facebook engagement may reflect measures of confidence that may indicate facility with composition. NNS who have larger numbers of Facebook friends are more likely to ask questions in composition classes, and for both NNS and NS asking questions in class correlated with writing success. Furthermore, student beliefs in the positive effects of Facebook and evidence that it correlates with increased writing and with college success demand that we continue to examine the relationships between social networks and writing.

REFERENCES

- About CCSSE (2008) *CCSSE – Overview* Retrieved April 30, 2008 from <http://www.ccsse.org/aboutccsse/aboutccsse.cfm>
- About Educause (2008) *Educause* –retrieved February 21, 2008 from <http://www.educause.edu/about>
- Achieving the Dream*. (2006, April). Gatekeeper achievement . Data Notes, 1(3), 1
- Allen, I. E., & Seaman, J. (2006). *Making the grade: Online education in the United States*. Needham, MA: Sloan-C. Retrieved March 29, 2008, from http://www.sloan-c.org/publications/survey/pdf/making_the_grade.pdf
- Alvi, M. (1994, June). Computer-mediated collaborative learning: An empirical evaluation. *MIS Quarterly* 159-174.
- Apple, M. W. (1993) *Official Knowledge: Democratic Education in a Conservative Age*. New York: Routledge
- Armstrong, K. & O. Retterer (2008) Blogging as L2 writing: a case study. *AACE Journal* 16 (3), 233-251
- Babbie, E. (2001) *Survey Research Methods* (9th ed). Belmont, CA: Wadsworth.
- Barnes, D.R., Britton, J.N., & Torbe, M. (1990). *Language, the Learner, and the School* (4th ed.). Portsmouth, NH: Boynton
- Barton, D., Hamilton, M., & Ivanic, R. (2000). *Situated literacies: Reading and writing in context*. London: Routledge.
- Baskin, B. H. & Harris, K. (February 1995) “Heard any good books lately? The case for audiobooks in the secondary classroom” *Journal of Reading*. 38 (5), 372-376.
- Baynham, M. (1995). *Literacy practices: Investigating literacy in social contexts*. London: Longman.

- Beck, J.C. and M. Wade. (2004) *Got Game: How the game generation is reshaping business forever*. Boston, MA: Harvard Business School Press
- Beldarrain, Y. (2006) Distance education trends : Integrating new technologies to foster student interaction and collaboration. *Distance Education*. 27(2), 139-153.
- Bernstein, R. (2007, May 17) "Minority Population Tops 100 million" *U.S. Census Bureau News*, US Dept. of Commerce Washington, D.C. Retrieved September 30, 2008 from <http://www.census.gov/Press-Release/www/releases/archives/population/010048.html>
- Bleed, R (2001). A hybrid campus for the new millennium. *Educause Review* 36 (1) 16-24
- Bork, A. (1986) Advantages of Computer-based Learning, *Journal of Structural Learning* 9:1
- Bowers-Campbell, J. (2008) Cyber "Pokes": motivational antidote for developmental college readers. *Journal of College Reading and Learning*, 39 (1) 74-87
- Boyd, D.(2008) *Taken Out of Context: American Teen Sociality in Networked Publics* Ph. D. Dissertation accessed online on Jan. 20 at 1:30 pm.
<http://www.danah.org/papers/TakenOutOfContext.pdf>
- Bridge Ratings (2005) Bridge ratings industry update: The podcasting outlook. Retrieved November 12, 2007 from http://www.bridgeratings.com/press_11.12.05.PodProj.htm
- Brown, K., Cummins, J., Figueroa, E., & Sayers, D. (1998). Global learning networks: Gaining perspective on our lives with distance. In E. Lee, D.Menkart, & M. Okazawa-Rey (eds), *Beyond heroes and holidays: A practical guide to K-12 anti-racist, multicultural education and staff development* (pp. 334-354). Washington, DC: Network of Educators on Americas.
- Campbell, G. (2008) Innovation, Gambling and a Love of wisdom. *Educause Review*, 43, (4) July/ August) Retrieved July 15, 2008 from

<http://connect.educause.edu/Library/EDUCAUSE+Review/InnovationGamblingandaLov/46974>

Carini, R. M., Kuh, G. & Zhao, C.M. (March / April 2005) A comparison of international student and American student engagement in effective educational practices. *The Journal of Higher Education*. Vol. 76, No. 2.

Chapelle, C. A. (2003). *English language learning and technology: Lectures on applied linguistics in the age of information and communication technology*. Amsterdam: John Benjamins.

Clark, D. (2003). Blend it like Beckham. *Epic Group PLC*. Retrieved November 26, 2008, from http://www.epic.co.uk/content/resources/white_papers/blended.htm

Class Schedule (2008) Kansas City Kansas Community College

Community College Survey of Student Engagement (2008) Retrieved 4-30-2008
<http://www.ccsse.org/>

Cope, B., & Kalantzis, M. (Eds.). (2000). *Multiliteracies: Literacy learning and the design of social futures*. London: Routledge.

Cummings, J., Lee, J., & Kraut, R. (2006). Communication technology and friendship during the transition from high school to college. In R.E.Kraut, M.Brynin, &S. Kiesler (Eds.). *Computers, Phones, and the Internet: Domesticating Information Technology* (pp. 265-278). New York: Oxford University Press

Cummins, J. & Sayers, D. (1995). *Brave new schools: Challenging cultural illiteracy through global learning networks*. New York: St. Martin's Press

Cummins, J. (2000) Academic Language Learning, Transformative Pedagogy, and Information Technology: Towards a Critical Balance. *TESOL Quarterly*. 34, 3, pp.537-548

- Daiute, C (1986). Physical and cognitive factors in the revising process: Insights from studies with computers. *Research in the Teaching of English*. 20, 140-159
- Delpit, L.D. (1988) The silenced dialogue: Power and pedagogy in educating other people's children. *Harvard Educational Review*, 58, 280-298
- Dillon, Sam (2008) High cost of driving ignites online classes boom. *The New York Times*. July 11, 2008 retrieved August 2, 2008 from .
http://www.nytimes.com/2008/07/11/education/11colleges.html?_r=2&oref=slogin&oref=slogin
- Dobler, E. (2007/2008) . Blogs as learning tools. *Kansas Journal of Reading*, 23, 18-25
- Donath, J. & Boyd, D. (2004, October). Public displays of connection. *BT Technology Journal*, 22 (4), 71-82.
- Dragona, A., & Handa, C. (2000). *Xenes glosses: Literacy and cultural implications of the Web for Greece*. In G. E. Hawisher & C. L. Selfe (Eds.), *Global literacies and the World-Wide Web* (pp. 52–73). London: Routledge
- Dutton, W. H. (2004). *Social transformation in an information society: Rethinking access to you and the world*. Paris: UNESCO.
- Dworin, J.E. (1996). *Biliteracy development: The appropriation of English and Spanish literacy by second and third grade students*. Unpublished doctoral dissertation, University of Arizona, Tucson. Cited in Dworin (2003).
- Dworin, J.E. (2003). Insights into Biliteracy Development: Toward a Bidirectional Theory of Bilingual Education. *Journal of Hispanic Higher Education*. 2 (2). 171-186
- Edelsky, C. (1986). *Writing in a bilingual program: Había una vez*. Norwood, NJ: Ablex.

- Edelsky, C. (1989). Bilingual children's writing: Fact and fiction. In D.M. Johnson & D.H. Roen, (Eds.), *Richness in Writing: Empowering ESL students* (pp. 165-176). White Plains, NY: Longman.
- Edelsky, C. (1991). *With literacy and justice for all: Rethinking the social in language and education*. London: Falmer.
- Education Trust. (2003). *Latino achievement in America* [Fact sheet]. Retrieved March 5, 2007, from <http://www.edtrust.org>
- Education Trust. (2005). Achievement in America [PowerPoint presentation]. Retrieved March 5, 2007, from <http://www.edtrust.org>
- Educause Learning Initiative* (2008) ELI Student Faculty Questionnaire Retrieved 4-30-08 <http://www.educause.edu/ELIStudent%2FFacultyQuestionnaire/10538>
- Ellison, N. B., Steinfield C & Lampe, C (2007) The benefits of Facebook "friends:" social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication*, 12, 1143–1168. doi:10.1111/j.1083-6101.2007.00367.x
- English, C. (2007). Finding a voice in a threaded discussion group: Talking about literature online. *English Journal*, 97(1), 56–61.
- Essex, C. (2006) Podcasting: a new delivery method for faculty development. *Distance Learning*. 3:2. p 39-44
- Estabrook, L., Witt E. & Rainie, L. Information Searches That Solve Problems. *Pew Internet Project*. December 30, 2007. Retrieved on January 30, 2008 from http://pewinternet.org/pdfs/Pew_UI_LibrariesReport.pdf
- Fairclough, N. (1992). *Discourse and social change*. Oxford: Blackwell.
- Fairclough, N. (1995). *Critical discourse analysis: The critical study of language*. London: Longman.

Felix, J.P. (2007) Edublogging: Instruction for the digital age learner. Dissertation abstract

Retrieved 10-8-08 at 3:15 pm

<http://bonsall.schoolwires.com/1512109262125477/cwp/view.asp?A=3&Q=277322&C=55071>

Flaherty, Robert. Enhancing Learning and Teaching Conference, Ottawa March 1, 2008

Flowers, L., Pascarella, E. T., and Pierson, C. T. (2000). Information technology use and cognitive outcomes in the first year of college. *Journal of Higher Education* 71 (6): 637-667.

Friedman, T. (2005). *The world is flat: A brief history of the twenty-first century*. New York: Farrar, Straus & Giroux.

Fry, R. (2002). Latinos in higher education: Many enroll, too few graduate. Washington, DC: Pew Hispanic Center .

Galván, J.A. (2006). Practical suggestions to internationalize the general education curriculum. *Journal of Hispanic Higher Education*. 5 (1) 85-90

Gaming & Civic Engagement Survey of Teens/Parents (2/26/08) *Pew Internet & American Life Project*

<http://www.pewinternet.org/pdfs/PIAL%20Gaming%20FINAL%20Topline.pdf>
accessed 11-24-8

Garnham, C., & Kaleta, R. (2002). Introduction to hybrid courses. *Teaching with Technology Today*, 8(6). Retrieved November 26, 2008, from

<http://www.uwsa.edu/ttt/articles/garnham.htm>

Gee, J. P. (1996). *Social linguistics and literacies: Ideologies in discourses*. Philadelphia: Falmer.

- Gee, J. P. (2000a, December). *The new capitalism: What's new?* Paper presented at the University of Technology, Sydney Research Centre Vocational Education & Training Working Knowledge: Productive Learning at Work Conference, University of Technology, Sydney, Australia. (cited in Jacobs)
- Gee, J. P. (2000b). The new literacy studies: From “socially situated” to the work of the social. In D. Barton, M. Hamilton, & R. Ivanic (Eds.), *Situated literacies: Reading and writing in context* (pp.180–196). London: Routledge.
- Gee, J. P. (2000c). New people in new worlds: Networks, the new capitalism and schools. In B. Cope & M. Kalantzis (Eds.), *Multiliteracies: Literacy learning and the design of social futures* (pp. 43–68). London: Routledge.
- Gee, J. P. (2000d). Teenagers in new times: A new literacy studies perspective. *Journal of Adolescent and Adult Literacy*, 43, 412–420.
- Gee, J. P. (2003). *What video games have to teach us about literacy and learning*. New York: Palgrave Macmillan.
- Gee, J. P., Hull, G., & Lankshear, C. (1996). *The new work order: Behind the language of new capitalism*. Boulder, CO: Westview.
- Gladwell, M. (2000). *The Tipping Point: How little things make a big difference*. New York: Brown Little, & Co.
- Godwin-Jones, R. (2003) Emerging technologies: Blogs and wikis. *Language Learning & Technology*. May 7 (2), 12-16 [Http://lt.msu.edu/vol7no2/emerging/](http://lt.msu.edu/vol7no2/emerging/)
- Gonzalez Sullivan, L. (2007) Preparing Latinos/as for a Flat World: The Community College role. *Journal of Hispanic Higher Education* 6 (4), 397-422
- Gonzales-Bueno, M. (1998) The Effects of Electronic Mail on Spanish L2. *Language Learning & Technology*. 1 (2), 55-70

- Gonzales-Bueno, M. and Perez, L. (2000) Electronic Mail in Foreign Language Writing: A Study of Grammatical and Lexical Accuracy, and Quantity of Language. *Foreign Language Annals*. 33 (2), 189-198
- Groenke, S. (2008) Missed Opportunities in Cyberspace: Preparing Preservice Teachers to Facilitate Critical Talk About Literature Through Computer-Mediated Communication *Journal of Adolescent & Adult Literacy*. 52 (3), 224-233
- Grosjean, F. (1989). Neurolinguists, beware! The bilingual is not two monolinguals in one person. *Brain and Language*, 36, 3-15.
- Hargittai, E. (2007) Whose Space? Differences among users and non-users of social network sites. *Computer-Mediated Communication*. 13:276-97
- Halliday, M.A.K. (1980). Three aspects of children's language development: Learning language, learning through language, learning about language. In Y.M. Goodman, M.M. Haussler, & D.S. Strickland (Eds.), *Oral and written language development research: Impact on the schools. Proceedings from the 1979 and 1980 IMPACT conferences sponsored by the International Reading Association and the National Council of Teachers of English with support from the National Institute of Education* (pp. 7–20). Urbana, IL: National Council of Teachers of English.
- Heath, S. B. (1983) *Ways with words: language, life, and work in communities and classrooms*. New York: Cambridge University Press
- Hinkel, E. (2006). Current perspectives on teaching the four skills. *TESOL Quarterly*, 40, 109–131.
- Hobbs, R. (2006). Multiple visions of multimedia literacy: Emerging areas of synthesis. In M.C. McKenna, L.D.Labbo, R.D. Kieffer, & D. Reinking (Eds.), *International Handbook of Literacy and Technology*. 2, pp. 15-28). Mahwah, NJ: Erlbaum

- Hoss, Cynthia. (2004) *Title III Grant: Creating a Comprehensive Student Engagement System*
- Howe, N., & Strauss, W. (2003). *Millennials go to college*. Washington, DC: American Association of Collegiate Registrars and Admissions Officers and LifeCourse Associates.
- Hrastinski, S. (2008) Asynchronous and synchronous E-Learning *EDUCAUSE Quarterly* 31 (4), Retrieved November 26, 2008, from <http://connect.educause.edu/Library/EDUCAUSE+Quarterly/AsynchronousandSynchrou/47683?time=1227732475>
- Huffaker, D. (2004) *Gender similarities and differences in online identity and language use among teenage bloggers*. Unpublished master's thesis. Georgetown University, Washington, DC (cited in Armstrong & Retterer).
- Huffaker, D. (2004). The educated blogger; Using weblogs to promote literacy in the classroom, *First Monday*, 9 (6) retrieved January 8, 2009 from <http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/1156/1076>
- Office of Institutional Research. (2008). *Indicators and Outcomes 2007-2008*
- Office of Institutional Research Johnson County Community College. (2009). *Assessing*
- Ito, M., Horst, H., Britton, M., Boyd, d. Herr-Stephenson, B., Lange, P., Pascoe, C. & Robinson L. (2008 November) Living and learning with new media: summary of findings from the Digital Youth Project. *The John D. and Catherine T. MacArthur Foundation Reports on Digital Media and Learning* retrieved 11-28-8 <http://digitalyouth.ischool.berkeley.edu/files/report/digitalyouth-WhitePaper.pdf>

- Jacobs, G. (2008) We learn what we do: Developing a repertoire of writing practices in an instant messaging world. *Journal of Adolescent & Adult Literacy*, 52 (3), 203-211
- Jia, G., Aaronson, D., & Wu, Y. (2002). Long-term language attainment of bilingual immigrants: Predictive variables and language group differences. *Applied Psycholinguistics*, 23, 599–621.
- Johnson County, Kansas. (n.d.) In Wikipedia. Retrieved April 20, 2011, from http://en.wikipedia.org/wiki/Johnson_County,_Kansas
- Jones-Kavalier, B. & Flannigan, S. (2006) Connecting the digital dots: literacy of the 21st Century. *Educause Quarterly*. 29 (2)
<http://connect.educause.edu/Library/EDUCAUSE+Quarterly/ConnectingtheDigitalDotsL/39969?time=1216252027> accessed 1:23pm 7-22-8
- Keeling, S and Foote, S. (2007) Podcasting: Helping Advisors Get Connected to the “Net Gen.” *Academic Advising Today*, 30 (4), December 2007
- Kennedy, T. et al. (2008) *Networked Families*. Pew Internet and American Life Project. Retrieved 1-22-09 from <http://pewresearch.org/pubs/998/networked-families>
- Kern, R. (1995). Redefining the boundaries of foreign language literacy. In C. Kramsch (Ed.), *Redefining the boundaries of language study* (pp. 61–98). Boston: Heinle & Heinle.
- Kern, R. (2006) Perspectives on technology in Learning and teaching languages. *TESOL Quarterly*, 40 (1), 183-210
- Kern, R., Ware, P. D., & Warschauer, M. (2004). Crossing frontiers: New directions in online pedagogy and research. *Annual Review of Applied Linguistics*, 24, 243–260.

- Kleck, C.A., Reese C.A., Behnken D.Z, & Sudar, S.S. (2007). *The company you keep and the image you project: Putting your best face forward in online social networks*. Paper presented at the annual meeting of the International Communication Association, San Francisco
- Koutsogiannis, D., & Mitsikopoulou, B. (2004). The Internet as a global discourse environment: A commentary on Lam and Bloch. *Language Learning & Technology*, 8(3), 83–89.
- Kress, G. (2000). Design and transformation: New theories of meaning. In B. Cope & M. Kalantzis (Eds.), *Multiliteracies: Literacy learning and the design of social futures* (pp. 153–161). London: Routledge.
- Kress, G. (2003). *Literacy in the new media age*. London: Routledge.
- Kress, G., & Van Leeuwen, T. (2001). *Multimodal discourse: The modes and media of contemporary communication*. London: Arnold.
- Kress, Gunther, & Van Leeuwen, Theo. (2001). *Multimodal discourse*. New York: Oxford University Press.
- Kress, Gunther, & Van Leeuwen, Theo. (2006). *Reading images: The grammar of visual design* (2nd ed.). New York: Routledge.
- Kuh, G. and Vesper N. (2001). Do computers enhance or detract from student learning? *Research in Higher Education*, 42 (1), 87-102
- Kuh, G. D., and Hu, S. (2001). The relationships between computer and information technology use, student learning, and other college experiences. *Journal of College Student Development* 42, 217-232.
- Kuh, G. (2007, June 15) How to Help Students Achieve. *The Chronicle of Higher Education*. 53 (41).

- Laird, N. & Kuh, G. (2005, March) Student experiences with technology and their relationship to other aspects of student engagement. *Research in Higher Education*. 46 (2), 211-34.
- Lam, W. S. E. (2000). Literacy and the design of the self: A case study of a teenage writing on the Internet. *TESOL Quarterly*, 34, 457–482.
- Lam, W. S. E. (2000). Literacy and the design of the self: A case study of a teenage writing on the Internet. *TESOL Quarterly*, 34, 457–482.
- Lane, C. & Yamashiro, G. (2008, July-Sept.). Assessing learning and scholarly technologies: lessons from an institutional survey. *Educause Quarterly*. 31 (3)
- Lane, L. (2008) Toolbox or Trap? Course Management Systems and Pedagogy. *Educause Quarterly*, 31 (2)
- <http://connect.educause.edu/Library/EDUCAUSE+Quarterly/ToolboxorTrapCourseManagement/46576> accessed 7-22-08
- Learn out loud <http://www.learnoutloud.com/Content/Topic-Pages/Introduction-To-Podcasting/17> accessed 9-5-7 10:30 am
- Lee, S.H. & Muncie, J. (2006) From Receptive to Productive: Improving ESL Learners' Use of Vocabulary in a Postreading Composition Task. *TESOL Quarterly*, 40, (2), 295-320
- Lenhart, A. Madden, M. & Smith A. (2007, December 19). Teens and social media. *Pew Internet & American Life Project*. Retrieved April 20, 2011 from <http://www.pewinternet.org/Reports/2007/Teens-and-Social-Media.aspx>
- Lenhart, A, Arafeh, S., Smith, A. & Macgill, A. (2008, April 24) Writing, technology and teens *Pew Internet & American Life Project*. Retrieved November 24, 2008 from <http://www.pewinternet.org/>

- Lenhart, A. Purcell, K. Smith, A. & Zickhur K. (2010, February 3). Social media and young adults *Pew Internet & American Life Project*. Retrieved April 20, 2011 from <http://www.pewinternet.org/Reports/2010/Social-Media-and-Young-Adults.aspx>
- Lenhart, A. & Fox, S. (July 19, 2006) Bloggers: A portrait of the internet's new storytellers. *Pew Internet & American Life Project*. retrieved February 13, 2008 from <http://www.pewinternet.org/>
- Lenhart, A., Madden, M., & Hitlen, P. (2005). *Youth are leading the transition to a fully wired and mobilization*. Retrieved August 4, 2005, from www.pewinternet.org
- Leu, D.J., Jr. (2002). The new literacies: Research on reading instruction with the Internet In A.E. Farstrup & S.J. Samuels (Eds.), *What research has to say about reading instruction* (3rd ed.), (pp. 310-336) . Newark, DE: International Reading Association.
- Levine, S.L., & Wake, W.K. (2000). Hybrid teaching: Design studios in virtual space. *Education of Artists*. Retrieved November 26, 2008, from <http://research.the-bac.edu/sva/index.htm>
- Li, G. (2006). Biliteracy and trilingual practices in the *home context: Case studies of Chinese-Canadian children*. *Journal of Early Childhood Literacy*, 6(3), 355-381. doi:10.1177/1468798406069797
- Lohnes, A., & Fox, S. (2003, winter) . Weblogs in education: Bringing the world to the liberal arts classroom. *The Newsletter of the National Institute for Technology and liberal Education*. 2(1) Retrieved November 24, 2008 from <http://connect.educause.edu/Library/Abstract/WeblogsinEducationBringin/35767>
- Luke, A. (1996). Genres of power? Literacy education and the production of capital. In R. Hasan & G. Williams (Eds.), *Literacy in Society* (pp. 308–338). New York: Longman.

- Lum, L. (2006, Sept. 21). Language, culture & technology. *Diverse Issues in Higher Education*. 23 (16), 30
- Lunsford, A (2006). "Keynote address: 2005 computers and writing conference" *Computers and Composition*. 23:2. 169-177 Elsevier Inc.
- MacIntyre, P. D., Noels, K. A., & Clement, R. (1997). Biases in self-ratings of second language proficiency: The role of language anxiety. *Language Learning*, 47, 265–287.
- Madden, M. and Rainie, L (April 3 2005). *Pew Internet and American Life Project*. Retrieved October 12, 2007 from http://www.pewinternet.org/PPF/r/194/report_display.asp
- Mancabelli R. & Richardson, W. (2007, May). "High-Tech Inspires the Read/Write Website" *Education Digest: Essential readings condensed for quick review*. 72 (9) 14-18
- Marian, V., Blumenfeld, H. & Kaushanskaya, M. (2007). The language experience and proficiency questionnaire (LEAP-Q): Assessing Language Profiles in Bilinguals and Multilinguals. *Journal of Speech, Language and Hearing Research*. 50. 940-967
- Mathias, A. (2011). The fakebook generation. In Kirsznner, and Mandell (Eds) *The Blair Reader* (pp. 239-24). Boston: Prentice Hall.
- Matthew, V. & Werner, R. (2007). Exploring two models for developing online faculty. March 28. conference presentation *North East Regional Educational Computing program*. Retrieved July 15, 2008 from <http://net.educause.edu/ir/library/powerpoint/NCP07074A.pps>
- McCray, G.E. (2000). The hybrid course: Merging on-line instruction and the traditional classroom. *Information Technology and Management*, 1, 307-327.

McGee, P. and Diaz, V. (2007, September/ October) Wikis and Podcasts and Blogs! Oh My!

What is a faculty member supposed to do? *Educause Review*.

McKay, S. (1993). Examining L2 composition ideology: A look at literacy education.

Journal of Second Language Writing, 2, 65–81.

McKay, S. (1996). Literacy and literacies. In S. McKay & N. Hornberger (Eds.),

Sociolinguistics and language teaching (pp. 421–445). New York: Cambridge

University Press.

McKay, S., & Wong, S. L. (1996). Multiple discourses, multiple identities: Investment and agency in second-language learning among Chinese adolescent immigrant students.

Harvard Educational Review, 66, 577–608.

McLeod, S. (2007). Professors who blog: Web 2.0 publishing venues don't need to clash

with higher education's traditional practices. *Technology and Learning*. 27. 10.50

May

Mikat, Martinez & Jorstad (2007) Podcasting for your class. *Journal of Physical Education,*

Recreation and Dance. May/June 78 (5)

Morris, J., Reese, J., Beck, R., & Mattis, C. (2009-2010). Facebook usage as a predictor of

retention at a private 4-year institution. *J. College Student Retention*, 11(3), 311-322.

National Alliance of Business, (2000), *A Nation of Opportunity: Building America's 21st*

Century Workforce. 21st Century Workforce Commission: Washington, D.C.

National Commission on Writing for America's Families, Schools and Colleges. (2004).

Writing: a ticket to work or a ticket out. New York, NY.

Nelson, L., Thomas, F. & Kuh G. (2005) "Student experiences with information technology

and their relationship to other aspects of student engagement." *Research in Higher*

Education. 46. 2 (March 2005):211(23). *Expanded Academic ASAP*. Gale. University of Kansas Libraries. 5 Nov 2007

Nelson, M. (2006). Mode, meaning, and synaesthesia in multimedia L2 writing. *Language Learning & Technology*, 10(2), 56–76.

Newman, F. & Scurry, J. (2001). Online technology pushes pedagogy to the forefront. *Chronicle of Higher Education*, 47 (44), p B7

O'Reilly, T (2005) What is web 2.0: Design patterns and business models for the next generation of software Retrieved November 6, 2007 from <http://www.oreilly.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html>

Oblinger, D., and Maruyama, M. (1996) *Distributed learning*. Boulder, CO: Cause Professional Paper Series, 14.

Ong (2002, May). *Orality and Literacy (New Accents)*. Routledge.

Ong, W (1978). Literacy and orality in our times. *ADE Bulletin*, 58, 1-7

Ong, W (1982) *Orality and literacy*. Methuen & Co., Ltd., London

Parks, M. R. (2007). *Personal networks and personal relationships*. Mahwah, NJ: Lawrence Erlbaum Associates.

Parry, M (2010 January 7). Facebooking won't affect your grades, study finds. At least until next month's study tells you it will. *The Chronicle of Higher Education* Retrieved April 20, 2011 from <http://chronicle.com/blogs/wiredcampus/facebooking-wont-affect-your-grades-study-finds-at-least-until-next-months-study-tells-you-it-will/19551>

Patten, K. & Craig D. (July 2007). iPods and English-Language learners: a great combination. *Teacher Librarian*. 34 (5) 40-44

- Pasek, J., More, E., & Hargittai, E. (2009). Facebook and academic performance: Reconciling a media sensation with data. *First Monday: Peer Reviewed Journal on the Internet*, 14(5).
- Peirce, B. N. (1995). Social identity, investment, and language learning. *TESOL Quarterly*, 29, 9–32.
- Pempek, T.A., Yermolayeva, Y.A., & Calvert, S.L. (2009). College students' social networking experience on Facebook. *Journal of Applied Developmental Psychology*, 30 (3) 227-238. doi:10.1016/j.physletb.2003.10.071
- Platt, G. "How Learning Style considerations aid adaptability" *Are You Teaching with "Style"?* Webinar: Starlink available Nov. 12-26, 2007 Retrieved November 14, 2007 from www.starlinktraining.org
- Prensky, M. (2001, October) "Digital Natives, Digital Immigrants," *On the Horizon*, 9 (5). 1–6, <http://www.marcprensky.com>.
- Prensky, M. (2003 May/June). Overcoming educators' digital immigrant accents: A rebuttal. *The Technology Source*, 147
- Prensky, M. (2007) Changing Paradigms: From “being taught” to “learning on your own with guidance.” Retrieved February 25, 2008 from <http://www.marcprensky.com/writing/Prensky-ChangingParadigms-01-EdTech.pdf>
- Prensky, M. (2007b) To educate we must listen: reflections from traveling the world. http://www.marcprensky.com/writing/Prensky-To_Educate,We_Must_Listen.pdf
- Rainie, L & Anderson, J. (2008) The Future of the internet III. *Pew Internet & American Life Project*. Retrieved February 4, 2009 from <http://www.pewinternet.org/>
- Ray, J. (2006). Welcome to the blogosphere: The educational use of blogs (aka edublogs). *Kappa Delta Pi Records*, 42 (4), 175-177.

- Reeder, K., MacFadyen, L. P., Roche, J., & Chase, M. (2004). Negotiating cultures in cyberspace: Participation patterns and problematics. *Language Learning & Technology*, 8(2), 88–105.
- Reyes, I. (2006). Exploring connections between emergent biliteracy and bilingualism. *Journal of Early Childhood Literacy*, 6(3), 267-292. doi:10.1177/1468798406069801
- Ross, S. (1998). Self-assessment in second language testing: A meta-analysis and analysis of experiential factors. *Language Testing*, 5, 1–20.
- Sabrio, D. (2007 spring) Research in developmental writing courses and implications for practice. NADE Digest, 3 (1) pp 39-43
- Scott, N.A. Student Success: Serving international students in an age of technology. In *E.B. Comp & E.L. Comp, Caring in an age of technology: Proceedings of the 6th international conference on counseling in the 21st century*. Beijing, China, May 29-30. (ERIC)
- Shameem, N. (1998). Validating self-reported language proficiency by testing performance in an immigrant community: The Wellington Indo-Fijians. *Language Testing*, 15, 86–108.
- Shin, D. & Cimasko, T. (2008) Multimodal composition in a college ESL class: new tools, traditional norms. *Composition and Computers*. 25. 376-395
- Simon, E. (2008, August 4) Foreign language faculty in the age of web 2.0. *Educause Quarterly* 31(3) retrieved May 4, 2011 from <http://connect.educause.edu/Library/EDUCAUSE+Quarterly/ForeignLanguageFaculty/47082>

- Smart, M.P. (2008) Listening to themselves: Podcasting takes lessons beyond the classroom *Edutopia*. Retrieved November 24, 2008 from <http://www.edutopia.org/podcasting-student-broadcasts>
- Smith, Jade (2007) Loyola Marymount University's Three-part Retention Strategy Pays Off. *Recruitment & Retention*. 21 (11) Magna publications.
- SOPHOS (2008) Only one in 28 emails legitimate, Sophos report reveals rising tide of spam in April - June 2008. Press release retrieved Dec. 8 2008
- Speak up (2007) Learning in the 21st century: a national report of online learning. Retrieved November 19, 2007 from <http://www.tomorrow.org/speakup/learning21Report.html>
- Spellings, M. (2007, May) Interview *The Daily Show* Retrieved November 15, 2007 from http://www.thedailyshow.com/video/index.jhtml?videoId=87387&title=margaret-spellings&tag=generic_tag_education&itemId=105046
- Statistics (2011) *Facebook* Retrieved February 24, 2011 from <http://www.facebook.com/press/info.php?statistics>
- Stefani, L. (1994). Peer, self and tutor assessment: Relative reliabilities. *Studies in Higher Education*, 19, 69–75.
- Street, B. V. (1995). *Social literacies*. London: Longman.
- Student Monitor (2003) *Computing and the Internet: Fall 2002*. Ridgewood, NJ:
- Tardy, C. (2005). Expressions of disciplinarily and individuality in a multimodal genre. *Computers and Composition*, 22(3), 319–336.
- Taylor, C., Jamieson, J. & Eignor D. (2000) Trends in computer use among international students. *TESOL Quarterly* 34 (3), 575-585
- Thorne, S. L., & Payne, J. S. (2005). Evolutionary trajectories, Internet-mediated expression, and language education. *CALICO Journal*, 22, 371–397.

- Threadgold, T. (1997). *Feminist poetics: Poiesis, performance, histories*. London: Routledge.
- Thurlow, C. (2006). From statistical panic to moral panic: the metadiscursive construction and popular exaggeration of new media language in the print media. *Journal of Computer-Mediated Communication* 11(3), 667-701.
- Tom Tong, S., Van Der Heide, B. & Langwell, L. (2008). Too much of a good thing? The relationship between number of friends and Interpersonal Impressions on Facebook. *Journal of computer-Mediated Communication*, 13, 531-549. Doi: 10.1111/j.1083-6101.2008.00409.x
- Troyka, L. (1982) Perspectives on legacies and literacy in the 1980's. *College Composition and Communication*, 33 (3), 252-261
- Tung, C. (2007) *Perceptions of Students and Instructors of Online and Web-enhanced Course Effectiveness in Community Colleges* Dissertation
- Twigg, C. A. (2004) *Improving Learning and Reducing Costs: Lessons learned from Round II of the Pew Grant Program in Course Redesign*. Troy, NY Center for Academic Transformation.
- Twigg, C.A. (1999). Improving learning & reducing costs: Redesigning large-enrollment courses. *National Centre for Academic Transformation*. Retrieved October 3, 2006, from <http://thencat.org/Monographs/mono1.pdf>
- Twigg, C.A. (2003a). Improving learning and reducing costs: New models for online learning. *EDUCAUSE Review*, 38(5), 29-38.
- Twigg, C.A. (2003b). Program in course redesign. *National Centre for Academic Transformation*. Retrieved November 26, 2008, from <http://thencat.org/PCR.htm>

- U.S. Bureau of the Census. (2003). *Language use and English-speaking ability* (Census 2000 Brief C2KBR-29). Retrieved November 24, 2004, from <http://www.census.gov/prod/2003pubs/c2kbr-29.pdf>
- Valdés, G. (1992). Bilingual minorities and language issues in writing: Toward profession-wide responses to a new challenge. *Written Communication*, 9, 85-136. [Abstract]
- Valenzuela, S., Park, N., & Kee, K. (2008). Lessons from Facebook: The effect of social network sites on college students' social capital. *Paper Presented at the 9th International Symposium on Online Journalism*, Austin, Tex. (4-5 April). Retrieved from <http://online.journalism.utexas.edu/2008/papers/Valenzuela.pdf>
- Vanden Boogart, M. R. (2006). Uncovering the social impact of Facebook on a college campus. Unpublished masters thesis, Kansas State University, Manhattan, Kansas. Retrieved May 13, 2011 from <http://krex.k-state.edu/dspace/bitstream/2097/181/4/MatthewVandenBoogart2006.pdf>
- Walther, J. B. (1992). Interpersonal effects in
- Voos, R. (2003). Blended learning--What is it and where might it take us? *Sloan-C View*, 2(1). Retrieved November 26, 2008, from <http://www.sloan-c.org/publications/view/v2n1/blended1.htm>
- Vygotsky, L.S. (1978). *Mind in society: The development of higher psychological processes* (M. Cole, V. John-Steiner, S. Scribner, & E. Souberman, Eds.). Cambridge, MA: Harvard University Press.
- Walker, B. (2008/2009). Multiple pathways transform literacy instruction. *Reading Today* 26 (3, 16) Retrieved January 11, 2009 from http://www.reading.org/publications/reading_today/samples/RTY-0812-pathways.html

- Warman, Matt (2011) Smartphones outsell PC's. *The Telegraph* retrieved April 20, 2011 from <http://www.telegraph.co.uk/technology/mobile-phones/8316143/Smartphones-outsell-PCs.html>
- Warschauer, M. (1999). *Electronic literacies: Language, culture, and power in online education*. Mahwah, NJ: Lawrence Erlbaum.
- Warschauer, M. (2000). Language, identity, and the Internet. In B. Kolko, L. Nakamura, & G.B. Rodman (Eds.), *Race in cyberspace* (pp. 151–170). New York: Routledge.
- Warschauer, M. (2002). A developmental perspective on technology in language education. *TESOL Quarterly*, 36, 453–475.
- Warschauer, M. (2003). *Technology and social inclusion: Rethinking the digital divide*. Cambridge, MA: MIT Press.
- Waters, A. (2011). The Gates foundation invests in a Facebook app for college students. *Read Write Web*. Retrieved 21 November 2011 from http://www.readwriteweb.com/archives/the_gates_foundation_invests_in_a_facebook_app_for.php
- Weedon, C. (1997). *Feminist practice and poststructuralist theory* (2nd ed.). Cambridge, MA: Blackwell.
- Weiss, M & Hanson-Baldauf, D. (2008, Jan-March) E-mail in academia: expectations, use, and instructional impact. *EDUCAUSE Quarterly* 31 (1), 42-50 Retrieved November 25, 2008 from <http://connect.educause.edu/Library/EDUCAUSE+Quarterly/EMailinAcademiaExpectatio/46032>

- Wells, A. T. (Feb. 20, 2008) A Portrait of Early Internet Adopters: Why People First Went Online --and Why They Stayed *Pew Internet & American Life Project* Retrieved March 3, 2008 from <http://pewresearch.org/pubs/739/early-internet-adopters>
- White, E. (1994) *Teaching and Assessing Writing: Recent Advances in Understanding, Evaluating, and Improving Student Performance*. Second Edition Jossey-Bass: San Francisco CA.
- White, E. (1995) *Assigning, Responding, Evaluating: A Writing Teacher's Guide*. St. Martin's Press: New York
- Williams, C. (2002) Learning online: a review of recent literature in a rapidly expanding field. *Journal of Further and Higher Education*, 26 (3), 263-272
- Williams, M.R. (2007) New-age training urged for students. *Kansas City Star*. Oct. 18, 2007 B5
- Windham, C. (May/June 2007) "Confessions of a Podcast Junkie" *EDUCAUSE Review* Retrieved November 15, 2007 from <http://www.educause.edu/apps/er/erm07/erm0732.asp>
- Windham, C. (Sept. Oct. 2005) "Confessions of a Net Gen Learner" *EDUCAUSE Review* Retrieved November 15, 2007 from <http://www.educause.edu/apps/er/erm05/erm0552.asp>
- Wingard, R. G. (2004). Classroom teaching changes in Web-enhanced courses: A multi-institutional study. *EDUCAUSE Quarterly*, 2004. 1, 26-35.
- Yancey, K. B. (2007) Lunch plenary address. *Midwest Writing Centers Association Conference* Oct. 26

- Young, J. R. (2002). Hybrid teaching seeks to end the divide between traditional and online instruction. *Chronicle of Higher Education*, 48(28), A33. Retrieved November 26, 2008, from <http://chronicle.com/free/v48/i28/28a03301.htm>
- Zhao, Y. (2003). Recent developments in technology and language learning: A literature review and meta-analysis. *CALICO Journal*, 21(1), 7–27.

APPENDICES

Appendix A: Survey

Screen 1

Facebook and Writing Exit this survey

Description and consent

This page briefly confirms consent.

*** 1. Are you 18 years of age? (If not, you can't participate in the study. Thank you).**

yes
 no

*** 2. Do you understand the Informed Consent statement the researcher has made to your class, and do you agree to allow the researcher to have access to an ungraded copy of a writing sample (provided by the teacher). It is possible with internet communications that through intent or accident someone other than the intended recipient may see your response. Do you agree to participate?**

Yes
 No

Next

Powered by **SurveyMonkey**
Create your own [free online survey](#) now!

Screen 2

Facebook and Writing Exit this survey

Description and consent

This page briefly confirms consent.

! This question requires an answer.

*** 1. Are you 18 years of age? (If not, you can't participate in the study. Thank you).**

yes
 no

! This question requires an answer.

*** 2. Do you understand the Informed Consent statement the researcher has made to your class, and do you agree to allow the researcher to have access to an ungraded copy of a writing sample (provided by the teacher). It is possible with internet communications that through intent or accident someone other than the intended recipient may see your response. Do you agree to participate?**

Yes
 No

Next

Powered by **SurveyMonkey**
Create your own [free online survey](#) now!

Screen 3

* 3. Who is your teacher?

* 4. What are the last four digits of your student identification number?

Prev

Next

Powered by **SurveyMonkey**
Create your own [free online survey](#) now!

Screen 4

5. How often do you

	Never	Rarely	Sometimes	Often	Always
Prepare two or more drafts of a paper or assignment before turning it in.	<input type="radio"/>				
Come to class without completing the assigned readings.	<input type="radio"/>				
Come to class without completing assigned rough drafts.	<input type="radio"/>				
Go to a teacher's office to talk about your work.	<input type="radio"/>				
Ask questions in class or take part in class discussions.	<input type="radio"/>				
Discuss ideas from your readings or classes with others outside of that class (fellow students, friends, family, co-workers, etc).	<input type="radio"/>				
Email a teacher.	<input type="radio"/>				

6. What grades do you get in writing classes?

<input type="radio"/> Mostly A's	<input type="radio"/> B's and C's	<input type="radio"/> Mostly D's
<input type="radio"/> A's and B's	<input type="radio"/> Mostly C's	<input type="radio"/> D's and F's
<input type="radio"/> Mostly B's	<input type="radio"/> C's and D's	<input type="radio"/> Mostly F's

7. Please mark your level of agreement with the following statements.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
I am confident in my writing ability for work turned in to college classes	<input type="radio"/>				
I am confident in my reading comprehension for college work.	<input type="radio"/>				

8. I feel my writing ability for academic purposes is

- very strong
- strong
- average
- weak
- very weak

9. Do you have a Facebook account?

- Yes
- No

10. Do you use a social networking site other than Facebook?

- Yes
- No

11. Please mark your level of agreement with the following statements.

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
I like connecting to classmates on Facebook	<input type="radio"/>				
Use of Facebook helps improve my use of grammar in writing for academic purposes	<input type="radio"/>				
Use of Facebook helps improve my ability to analyze audience.	<input type="radio"/>				
Use of Facebook helps my writing by developing my voice or sense of identity as a writer.	<input type="radio"/>				

12. How many days a week do you use Facebook?

- not applicable - 0
- 1
- 2
- 3
- 4
- 5 to 7

13. How many Friends do you have on Facebook?

Screen 5: Part 2

14. How much time in an average day do you spend on Facebook?

- not applicable - none
- less than 30 minutes
- 30 minutes to an hour
- 1-2 hours
- 3 hours or more

15. How often do you

	Never	Rarely	Sometimes	Often	Always
write posts (or status updates) in Facebook?	<input type="radio"/>				
post to friends' walls?	<input type="radio"/>				
write comments to post?	<input type="radio"/>				
revise or edit a status update?	<input type="radio"/>				
revise or edit a status update based on feedback from your audience?	<input type="radio"/>				
react to comments made to your posts?	<input type="radio"/>				
post in a language other than English?	<input type="radio"/>				

16. For the following questions, please count acronyms as the number of words they represent (for example: jk = 2 words; lol = 3 words; imho = 4 words, etc.).

	10 or less	11-20	21-30	31-40	41 or more
How many words does your average post have?	<input type="radio"/>				
How many words does your average comment to a post or status update have?	<input type="radio"/>				

Powered by **SurveyMonkey**
Create your own [free online survey](#) now!

Screen 6

Facebook and Writing

Exit this survey

Demographic information

17. What is your gender?

- female
 male

18. What is your race or ethnicity?

- White Asian/ Pacific Islander Prefer not to say.
 Black/ African-American Middle Eastern
 Hispanic/ Latino Other

19. What languages are spoken in your home? (Check all that apply).

- English Chinese Arabic
 Spanish Japanese Other
 Korean Hmong

20. What is your native language (what language did you learn first)?

- English
 A language other than English.
 I'm truly bilingual in English and another language and have been from age 2 or younger.

21. In what language do you write best?

- English
 A language other than English

22. What is your age?

- 18 to 20
 21-24
 25-29
 30-39
 40-49
 50 or older

Prev

Done

Powered by **SurveyMonkey**
Create your own [free online survey](#) now!

Appendix B: English Department Rubric

	4	3	2	1
CONTENT	<ul style="list-style-type: none"> Well-focused and developed body paragraphs, including thorough explanations Many concrete, specific, and vivid examples Well-developed, engaging introductions and conclusions appropriate for intended audience 	<ul style="list-style-type: none"> Generally well-focused and developed body paragraphs, including explanations Specific and vivid examples Competent, somewhat engaging introductions and conclusions appropriate for intended audience 	<ul style="list-style-type: none"> Relatively focused, fairly well-developed body paragraphs, but lacking thorough explanations Some specific examples, but tending toward more general examples Brief introductions and conclusions, perhaps not entirely appropriate for intended audience 	<ul style="list-style-type: none"> Underdeveloped, unfocused or under-explained body paragraphs Few specific examples Brief or missing introductions and conclusions, perhaps completely inappropriate for intended audience
ORGANIZATION	<ul style="list-style-type: none"> Overall, effective paragraph arrangement and internal paragraph organization Effective transitional methods (within and between paragraphs) Effective thesis and topic sentences 	<ul style="list-style-type: none"> Overall paragraph arrangement effective; internal paragraph organization somewhat flawed Most transitional methods effective Thesis and topic sentences generally effective 	<ul style="list-style-type: none"> Overall and/or internal paragraph arrangement flawed Transitional methods sometimes missing, repetitive, or misleading Thesis and/or some topic sentences absent, poorly crafted, or inaccurate 	<ul style="list-style-type: none"> Overall and/or internal paragraph arrangement seriously flawed, perhaps lacking paragraphing Few transitional methods Thesis and topic sentences absent or ineffective
STYLE	<ul style="list-style-type: none"> Language precise (e.g., concrete, specific, vivid, concise) Well-phrased sentences of varied type and structure; effective word repetition Tone appropriate to rhetorical situation throughout 	<ul style="list-style-type: none"> Language generally both concise and precise (e.g., avoids wrong words, words with inappropriate connotations) Generally well-phrased sentences of varied type and structure; some unneeded word repetition Tone generally appropriate to rhetorical situation 	<ul style="list-style-type: none"> Language often repetitive and imprecise (e.g., wrong words, worn phrasing, clichés) Some awkwardly phrased sentences of repetitive and limited sentence type and structure Tone often inappropriate to rhetorical situation (e.g., slang/idiom used inappropriately) 	<ul style="list-style-type: none"> Language often repetitive and imprecise; meaning often difficult to discern Many awkwardly phrased sentences of repetitive and limited sentence type and structure Tone inappropriate to rhetorical situation (e.g., slang/idiom used inappropriately) throughout
MECHANICS	<ul style="list-style-type: none"> Few errors (major and/or minor) Punctuation varied and skillfully used (e.g., commas, parentheses, dashes, semicolons, colons) College-appropriate essay formatting (e.g., heading, margins, font, title, etc.) 	<ul style="list-style-type: none"> Some errors (major and/or minor)—generally patterned—but not enough to obscure meaning Punctuation somewhat varied, generally well used Overall, college-appropriate essay formatting (heading, margins, font, title, etc.) with only minor formatting errors 	<ul style="list-style-type: none"> Numerous errors (major and/or minor)—patterned and more varied—that sometimes obscure meaning and damage writer’s credibility Punctuation seldom varied and/or awkwardly used Overall essay formatting (heading, margins, font, title, etc.) significantly flawed 	<ul style="list-style-type: none"> Numerous errors (major and/or minor) that frequently obscure meaning Chaotic error occurrences and/or multiple patterns of error Overall essay formatting (heading, margins, font, title, etc.) best termed “a mess”

Appendix C: Consent statement



Informed Consent / Disclosure

Project Title: Facebook, Writing Confidence and Language Learner Variables at JCCC.

Principal Investigator: Greg Dixon

Introduction

You are being invited to participate in a research study to describe the relationship between Facebook and writing.

Purpose

I want to see how use of Facebook relates to writing. Do people who use it a lot write better or worse than those who rarely use the site? I also hope to see how gender, native language and class level affects the impact of Facebook on writing.

Procedures

If you agree to be a part of this research, you will take a short survey which will take no more than 5 to 10 minutes. Your teacher will also provide me with a clean/ ungraded copy of a rough draft or writing sample written in the first week of class. I won't see the teacher's marks or scores on your papers. Surveys and writing samples will be matched to the author, personal information will be removed and an identification number will be assigned. Individual data will not be released. The paper will be marked using a rubric developed by the JCCC English Dept.

Participant Population

Participants are recruited from writing classes at JCCC. I want up to 500 participants.

Voluntary Participation

Your participation in this research study is your choice. You may choose not to and withdrawal at anytime. This study can be discontinued at anytime without your consent. If for some reason I believe that you are not fully participating or that this study is contrary to your best interest, your participation can be discontinued.

Fees and Expenses

There are no fees or expenses.

Risks and Inconveniences

There are no risks or inconveniences associated with the research study, except for the loss of 5 to 10 minutes of class time.

Benefits

The benefits are that the results will better direct college efforts to support student success. We may also get a look at whether time spent using Facebook has any use for writing.

Alternative Procedures

There are no alternative procedures.

Confidentiality

Participants will be assigned numbers to identify them, and the writing samples will have personally identifying information taken off. Names on writing samples will be replaced with numbers on the participant's survey. Materials will be kept in a locked drawer in a locked office on JCCC campus for no more than 3 years, then it will be shredded by JCCC document services.

In case of injury

If you believe you suffer any type of injury or harm from this study, please contact Eve Blobaum, Chair Research Participant Protection Program, Johnson County Community College, 12345 College Boulevard, Box 36, Overland Park, Kansas 66210, 913-469-8500 ext. 4965, [ebloaum@jccc.edu](mailto:eblobaum@jccc.edu)

Questions

If you have any questions, please contact me, Greg Dixon, at Greg Dixon, Assistant Professor English, , Johnson County Community College, 12345 College Boulevard, Box 80, Overland Park, Kansas 66210, gdixon3@jccc.edu

Consent

You have voluntarily agreed to participate in this research study. You fully understand the purpose of the research, what is expected of you, as well as the risks and benefits of this research study. You have had the chance to ask questions about this study and have had them answered. If you don't consent do not fill out the survey.

Appendix D: Tables

Table 1

Descriptive Statistics for Facebook Writing Behaviors for the Entire Sample (N = 295)

Individual items and scales	Mean	S.D.
Question 15: Facebook writing revision scale (Cronbach's alpha = .883)		
How often do you write posts (or status updates) in Facebook?	2.84	1.13
How often do you post to friends' walls?	2.91	1.09
How often do you write comments to posts?	3.07	1.14
How often do you revise or edit a status update?	2.53	1.21
How often do you revise or edit a status update based on feedback from you audience?	2.12	1.13
How often do you react to comments made to your posts?	3.17	1.23
How often do you post in a language other than English?	1.78	1.17

Note: responses were in a Likert scale ranging from 1 = never to 5 = always.

Table 2

Descriptive Statistics for Facebook Word Count for the Entire Sample (N = 295).

Individual items and scales	Mean	S.D.
Question 16: Facebook word Count in posts (Cronbach's alpha = .760)		
How many words does your average post have?	2.09	.86
How many words does your average post have?	1.93	.90

Note: items ranged from 1 = 10 or less, 2 = 11 to 20, 3 = 21 to 30, 4 = 31 to 40 and 5 = 41 or more.

Table 3

Summary Statistics for Facebook and Writing Beliefs (N = 295).

Individual items and scales	Mean	S.D.
Question 11: Facebook writing beliefs scale (Cronbach's alpha = .681)		
I like connecting to classmates on Facebook	3.59	1.11
Use of Facebook helps improve my use of grammar in writing for academic purposes	2.60	1.02
Use of Facebook helps improve my ability to analyze my audience	3.55	.92
Use of Facebook helps my writing by developing my voice or sense of identity as a writer	3.04	1.08

Note: responses were in a Likert scale ranging from 1=strongly disagree to 5=strongly agree.

Table 4

Summary Statistics and Factor Analysis for Evaluations of Writing Samples (N = 189).

Individual items and scales	Mean	S.D.
Scores on Writing Samples: (Cronbach's alpha = .855)		
Content score	2.55	.58
Organization score	2.44	.55
Style score	2.40	.57
Mechanics and Grammar score	2.47	.57

Note: items ranged 1 = poor to 4 = excellent.

Section A: Descriptive Analyses of Student Demographics and Engagement with Facebook

Table A1

Frequencies by Class Level

Native Language: L1. English or other/bilingual			Frequency	Percent	Cumulative Percent
English	Valid	unknown	29	12.3	12.3
		106 Intro to Writing	51	21.6	33.9
		Composition I	94	39.8	73.7
		Composition II	62	26.3	100.0
		Total	236	100.0	
Other than English	Valid	unknown	3	5.1	5.1
		Level 4 ESL	24	40.7	45.8
		106 Intro to Writing	6	10.2	55.9
		Composition I	9	15.3	71.2
		Composition II	17	28.8	100.0
		Total	59	100.0	

Table A2

Facebook Demographics

	Mean or % (N)
Have Facebook account	91.3% (295)
female	94.8% (165)
NNS	88.6% (31)
NS	96.4% (134)
male	87.7% (128)
NNS	87.1% (31)
NS	87.8% (101)
Have a SNS other than Facebook?	35.6% (115)
female	39.1% (68)
NNS	54.3% (19)
NS	35.3% (49)
male	31.5% (46)
NNS	48.4% (15)
NS	27% (31)

Table A3

Time per day on Facebook – by Gender

	Mean or % (N)	S.D.
Time per day on Facebook	2.55	1.06
female	2.72	1.10
NNS	2.47	1.13
NS	2.78	1.09
male	2.34	.96
NNS	2.60	1.10
NS	2.28	.91

Notes: For time per day on Facebook: 1 = 0, 2 = less than 30 minutes, 3 = 30 minutes to an hour, 4 = 1 -2 hours, and 5 = 3 hours or more.

Table A4

Facebook Engagement – by Gender

	Mean or % (N)	S.D.
Number of Facebook friends	5.57	1.95
female	5.60	1.86
NNS	4.40	2.00
NS	5.91	1.70
male	5.53	2.05
NNS	5.07	1.87
NS	5.65	2.09

Note: For Number of Facebook friends: 1 = 0, 2 = 1 to 10, 3 = 11-50, 4 = 51 to 100, 5 = 101 to 200, 6 = 201 to 400, 7 = 401 to 800 and 8 = over 800.

Table A5

Facebook Engagement – by Native Language

	Mean or % (N)	S.D.
Have Facebook account (total population)	91.3% (295)	
NNS	88.1% (59)	
NS	92.2% (236)	
Have a SNS other than Facebook		
NNS	52.2% (35)	
NS	31.3% (80)	
Amount of time per day on Facebook		
NNS	2.73	1.05
NS	2.67	.99
Number of Friends on Facebook		
NNS	5.14	1.64
NS	6.11	1.49

Notes: For time per day on Facebook: 1 = 0, 2 = less than 30 minutes, 3 = 30 minutes to an hour, 4 = 1 -2 hours, and 5 = 3 hours or more. For Number of days per week: 1 = 0, 2 = 1, 3 = 2, 4 = 3, 5 = 4, and 6 = 5 to 7. For Number of Facebook Friend: 1 = 0, 2 = 1 to 10, 3 = 11-50, 4 = 51 to 100, 5 = 101 to 200, 6 = 201 to 400, 7 = 401 to 800 and 8 = over 800.

Table A6

Number of Friends on Facebook Frequencies

Native Language			Frequency	Valid Percent
English	Valid	1 to 10	6	2.6
		11 to 50	10	4.3
		51 to 100	18	7.7
		101 to 200	33	14.0
		201 to 400	62	26.4
		401 to 800	64	27.2
		over 800	42	17.9
		Total	235	100.0
	Missing	1		
	Total	236		
Other than English	Valid	1 to 10	2	3.4
		11 to 50	8	13.8
		51 to 100	13	22.4
		101 to 200	10	17.2
		201 to 400	13	22.4
		401 to 800	6	10.3
		over 800	6	10.3
		Total	58	100.0
	Missing	1		
	Total	59		

Table A7

Time per Day on FB Frequencies

Native Language: L1. English or other/bilingual		Frequency	Valid Percent
English	Not applicable - 0	12	5.1
	less than 30 minutes	117	49.6
	30 minutes to an hour	55	23.3
	1-2 hours	40	16.9
	3 hours or more	12	5.1
	Total	236	100.0
Other than English	Not applicable - 0	5	8.5
	less than 30 minutes	23	39.0
	30 minutes to an hour	18	30.5
	1-2 hours	9	15.3
	3 hours or more	4	6.8
	Total	59	100.0

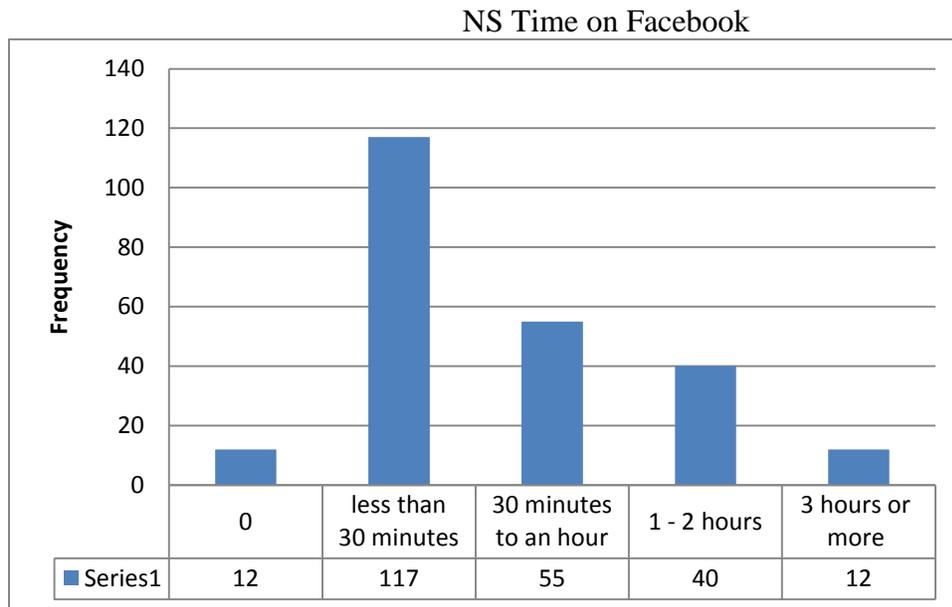


Figure A6. Bar graph of How much time NS Spend per day on Facebook

NNS Time on Facebook

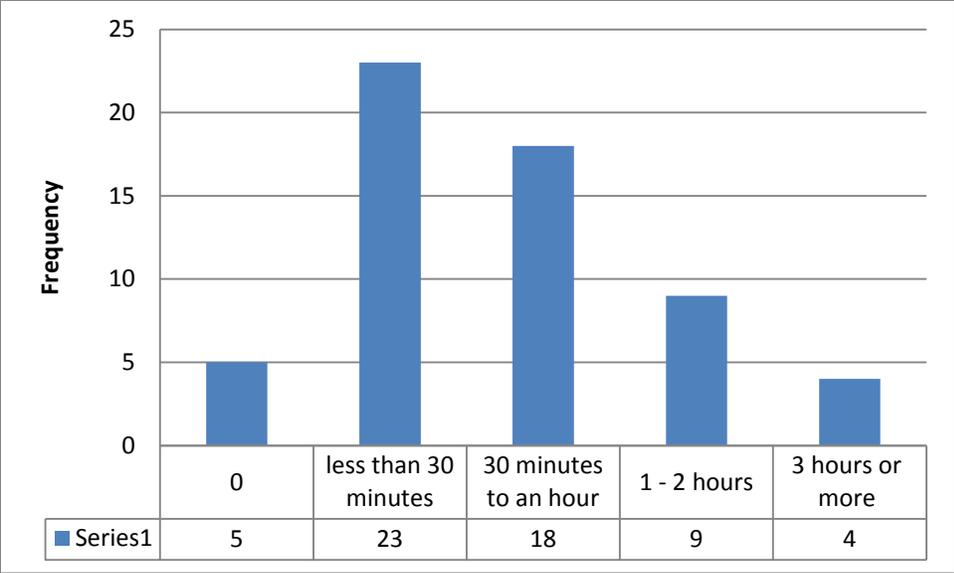


Figure A7. Bar Graph of NNS Time Per Week on Facebook

Table A8

Facebook Writing Behaviors

	Mean or % (N)	S.D.
How often do you write posts on Facebook?		
female		
NNS	2.94	1.00
NS	3.19	1.07
male		
NNS	2.96	1.02
NS	2.67	.97
How often do you post to friends' walls?		
female		
NNS	3.20	.89
NS	3.34	.96
male		
NNS	2.93	.87
NS	2.65	.97
How often do you write comments to posts?		
female		
NNS	3.23	.94
NS	3.39	.96
male		
NNS	3.48	1.09
NS	2.91	1.08
How often do you react to comments made to your posts?		
female		
NNS	3.68	1.11
NS	3.46	1.04
male		
NNS	3.48	1.25
NS	2.99	1.17
How often do you post in a language other than English?		
female		
NNS	3.43	1.41
NS	1.49	.86
male		
NNS	3.30	1.14
NS	1.45	.80

Note: 1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always.

Table A9

Facebook Revision Behaviors

	Mean or % (N)	S.D.
How often do you revise or edit a status update		
female		
NNS	2.94	1.24
NS	2.77	1.22
male		
NNS	2.37	1.25
NS	2.39	1.04
How often do you revise or edit a status update based on feedback from your audience?		
female		
NNS	2.84	1.29
NS	2.22	1.16
male		
NNS	2.30	1.10
NS	1.95	.95
How often do you post in a language other than English?		
female		
NNS	3.43	1.41
NS	1.49	.86
male		
NNS	3.30	1.14
NS	1.45	.80

Note: 1 = never, 2 = rarely, 3 = sometimes, 4 = often, 5 = always.

Table A10

Facebook Writing Word Count

	Mean or % (N)	S.D.
How many words does your average post have?		
female		
NNS	2.00	.82
NS	2.24	.84
male		
NNS	2.33	.68
NS	2.00	.90
How many words does your average comment to a post or status update have?		
female		
NNS	2.03	.98
NS	2.24	.84
male		
NNS	2.22	.94
NS	1.89	.89

Note: 1 = 10 words or less, 2 = 11-20, 3 = 21-30, 4 = 31-40, 5 = 41 or more.

B) Descriptive Analyses of Writing Behaviors and Measures of Writing Success

Table B1.

Writing Success Measures – Self-reported Grades

	Mean	S.D.
Grades in Writing Classes		
total		
NNS	7.53	1.10
NS	7.51	1.28
female		
NNS	7.74	1.03
NS	7.66	1.24
male		
NNS	7.26	1.16
NS	7.31	1.31

Note: In grades reported in writing classes, subjects selected from: 1 = mostly F's, 2 = D's and F's, 3 = mostly D's, 4 = C's and D's, 5 = mostly C's, 6 = B's and C's, 7 = mostly B's, 8 = A's and B's, and 9 = mostly A's.

Table B2

Writing Success Measures – self-assessment of writing for academic purposes

	Mean	S.D.
Self-assessment of writing ability		
total		
NNS	3.31	.88
NS	3.63	.76
female		
NNS	3.19	.75
NS	3.65	.74
male		
NNS	3.41	1.01
NS	3.61	.80

Note: For the Self- assessment of writing ability, subjects responded to the statement, “I am confident in my writing ability for work turned in to college classes,” in a Likert scale response ranging from 1 = strongly disagree to 5 = strongly agree.

Table B3

Writing Success Measures – Self-reported Grades

	Mean	S.D.
I feel my writing ability for academic purposes is:		
total	3.82	.79
female	3.56	.74
NNS	3.89	.77
NS	3.93	.83
male	3.65	.96
NNS	4.01	.79
NS		

Note: 1 = very weak, 2 = weak, 3 = average, 4 = strong and 5 = very strong.

Table B4

Writing Domain Measures by Native Language

		Mean or % (N)	S.D.
Content Score	NNS	2.49 (38)	.53
	NS	2.56 (151)	.59
Organization Score	NNS	2.42 (38)	.53
	NS	2.44 (151)	.56
Style Score	NNS	2.30 (38)	.59
	NS	2.43 (151)	.57
Mechanics Score	NNS	2.30 (38)	.58
	NS	2.51 (151)	.57

Note: All scores on scale of 1 to 4, with 1 being the least successful and 4 the most successful.

Table B5.

Writing Domains from Writing Sample

		Mean	S.D.
Content score			
female	NNS	2.67	.49
	NS	2.55	.57
male	NNS	2.37	.50
	NS	2.57	.62
Organization score			
female	NNS	2.58	.43
	NS	2.47	.58
male	NNS	2.29	.59
	NS	2.40	.53
Style score on			
female	NNS	2.36	.59
	NS	2.47	.54
male	NNS	2.26	.61
	NS	2.35	.60
Mechanics and grammar score			
female	NNS	2.44	.57
	NS	2.54	.53
male	NNS	2.18	.58
	NS	2.46	.62

Notes: Scores on faculty graded writing sample using school rubric ranged from 1 = poor to 4 = excellent. Number of subjects is the same in all categories. One NNS did not report gender.

Table B6

Content Score Frequencies

Native Language:			Frequency	Valid Percent	Cumulative Percent
English	Valid	1.50	8	5.3	5.3
		2.00	44	29.1	34.4
		2.50	45	29.8	64.2
		3.00	35	23.2	87.4
		3.50	14	9.3	96.7
		4.00	5	3.3	100.0
		Total	151	100.0	
	Missing	85			
	Total	236			
Other than English	Valid	1.50	2	5.3	5.3
		2.00	13	34.2	39.5
		2.50	9	23.7	63.2
		3.00	12	31.6	94.7
		3.50	2	5.3	100.0
		Total	38	100.0	
		Missing	21		
		Total	59		

Note: All scores on scale of 1 to 4, with 1 being the least successful and 4 the most successful.

Table B7

Style Score Frequencies

Native Language			Frequency	Valid Percent	Cumulative Percent
English	Valid	1.00	3	2.0	2.0
		1.50	9	6.0	7.9
		2.00	49	32.5	40.4
		2.50	49	32.5	72.8
		3.00	30	19.9	92.7
		3.50	9	6.0	98.7
		4.00	2	1.3	100.0
		Total	151	100.0	
	Missing	85			
Total		236			
Other than English	Valid	1.00	1	2.6	2.6
		1.50	3	7.9	10.5
		2.00	19	50.0	60.5
		2.50	4	10.5	71.1
		3.00	9	23.7	94.7
		3.50	2	5.3	100.0
		Total	38	100.0	
	Missing	21			
Total		59			

Note: All scores on scale of 1 to 4, with 1 being the least successful and 4 the most successful.

Table B8

Organization Score Frequencies

Native Language			Frequency	Valid Percent	Cumulative Percent
English	Valid	1.00	2	1.3	1.3
		1.50	10	6.6	7.9
		2.00	48	31.8	39.7
		2.50	46	30.5	70.2
		3.00	34	22.5	92.7
		3.50	10	6.6	99.3
		4.00	1	.7	100.0
		Total	151	100.0	
	Missing	85			
	Total	236			
Other than English	Valid	1.50	3	7.9	7.9
		2.00	13	34.2	42.1
		2.50	11	28.9	71.1
		3.00	9	23.7	94.7
		3.50	2	5.3	100.0
		Total	38	100.0	
	Missing	21			
	Total	59			

Table B9

Mechanics and Grammar Frequencies

Native Language			Frequency	Valid Percent	Cumulative Percent
English	Valid	1.00	2	1.3	1.3
		1.50	11	7.3	8.6
		2.00	35	23.2	31.8
		2.50	49	32.5	64.2
		3.00	43	28.5	92.7
		3.50	9	6.0	98.7
		4.00	2	1.3	100.0
		Total	151	100.0	
	Missing	85			
Total	236				
Other than English	Valid	1.00	1	2.6	2.6
		1.50	4	10.5	13.2
		2.00	16	42.1	55.3
		2.50	6	15.8	71.1
		3.00	10	26.3	97.4
		3.50	1	2.6	100.0
		Total	38	100.0	
		Missing	21		
	Total	59			

Table B10

Writing and Social Behaviors

	Mean	S.D.
Writing multiple drafts		
female	3.42	1.22
NNS	3.58	1.20
NS	3.37	1.23
male	3.24	1.25
NNS	3.48	1.29
NS	3.17	1.23
See a teacher in their office		
female	2.30	1.00
NNS	2.17	1.24
NS	2.33	.97
male	2.35	.99
NNS	2.61	1.05
NS	2.28	.97
Ask questions in class		
female	3.64	1.05
NNS	3.33	.96
NS	3.72	1.07
male	3.47	1.00
NNS	3.77	1.06
NS	3.39	.97
Discuss class content outside of class with others (friends, family, coworkers, etc.)		
female	3.28	1.14
NNS	3.14	1.18
NS	3.32	1.13
male	3.01	1.01
NNS	3.16	1.10
NS	2.96	1.10

Note: 1 = never, 2 = rarely, 3 = sometimes, 4 = often, and 5 = always.

Table B11

Writing Beliefs Measures

	Mean	S.D.
Use of Facebook helps improve my use of grammar in writing for academic purposes.		
total		
NNS	2.73	1.16
NS	2.56	.98
female		.95
NNS	2.65	1.02
NS	2.56	.92
male		
NNS	2.74	1.26
NS	2.56	1.06
Use of Facebook helps improve my ability to analyze audience.		
total		
NNS	3.58	.88
NS	3.54	.93
female		
NNS	3.45	.77
NS	3.38	.98
male		
NNS	3.67	.96
NS	3.76	.82

Note: subjects responded to the statements, in a Likert scale response ranging from 1 = strongly disagree, 2 = disagree, 3 neutral, 4 = disagree to 5 = strongly disagree.

C) Correlations between Facebook Engagement and Writing Behaviors and Success or Confidence in Writing

Table C1.

Correlations of Time per Day spent on Facebook to Measures of Writing Success for NNS.

Survey item	Pearson correlation	Sig. (2-tailed)	N
Content	-.084	.614	38
Organization	.020	.906	38
Style	.078	.642	38
Mechanics and Grammar	-.172	.301	38
Grades in writing classes	-.009	.947	59
Writing confidence (academic)	.114	.389	59
Writing self-assessment	.092	.490	59

Note: nothing is significant

Table C2

Correlations of Time per Day Spent on Facebook to Scores on the Writing Sample for NS.

Survey item	Pearson correlation	Sig. (2-tailed)	N
Content	-.116	.157	151
Organization	-.081	.324	151
Style	-.190*	.020	151
Mechanics and Grammar	-.087	.290	151
Grades in writing classes	-.086	.187	236
Writing confidence (academic)	-.005	.944	236
Writing self-assessment	-.081	.213	236

Note: *The style score is significant at the .05 level (2-tailed).

Table C3

Correlations of the Number of Friends to Writing Behaviors on Facebook for NNS.

	Survey item	Pearson correlation	Sig. (2-tailed)	N
NNS	Frequency to post	.358**	.006	58
	Frequency to post to friends walls	.252	.058	57
	Frequency to write comments to posts	.439**	.001	57
	Frequency to revise or update	.395	.002	57
	Frequency to revise or update based on feedback	.081	.545	58
	Frequency to react to comments made to your post	.360**	.006	58
	Frequency to post in language other than English	.381**	.003	57

* Note: For survey items a through g: 1 = never, 2 = rarely, 3 = sometimes, 4 = often and 5 = always. The frequency to revise or update based on feedback and the number of words in average comment to a post for NNS is significant at the .05 level (2-tailed). All other correlations above are significant at the .01 level (2-tailed).

Table C4

Correlations of the Number of Friends to Number of Words Written on Facebook for NNS.

	Survey item	Pearson correlation	Sig. (2-tailed)	N
	Average words per post	.304	.021	58
	Number of words in average comment to a post.	.101	.450	58

* Note: 1 = 10 or less, 2 = 11 to 20, 3 = 21 – 30, 4 = 31 – 40 and 5 = 41 or more. The number in an average comment or post for NNS is significant at the .05 level (2-tailed). Correlation of average words per post to number of friends are significant at the .01 level (2-tailed).

Table C5

Correlations of the Number of Friends to Writing Behaviors on Facebook for NS.

	Survey item	Pearson correlation	Sig. (2-tailed)	N
NS	Frequency to post	.463	.000	250
	Frequency to post to friends walls	.515	.000	248
	Frequency to comment to posts	.552	.000	248
	Frequency to revise or update	.332	.000	249
	Frequency to revise or update based on feedback	.305	.000	250
	Frequency to react to comments made to your post	.508	.000	250
	Frequency to post in language other than English	.254	.000	249

* Note: For survey items a through g: 1 = never, 2 = rarely, 3 = sometimes, 4 = often and 5 = always. All correlations above are significant at the .01 level (2-tailed).

Table C6

Correlations of the Number of Friends to Number of Words Written on Facebook for NS.

	Survey item	Pearson correlation	Sig. (2-tailed)	N
	Average words per post	.292	.000	244
	Number of words in average comment to a post.	.215	.001	246

Note: 1 = 10 or less, 2 = 11 to 20, 3 = 21 – 30, 4 = 31 – 40 and 5 = 41 or more. All correlations above are significant at the .01 level (2-tailed).

Table C7

Correlations of Number of Friends on Facebook to Scores on Writing Samples for NNS.

	Survey item	Pearson correlation	Sig. (2-tailed)	N
NNS	Content	-.225	.180	37
	Organization	-.022	.898	37
	Style	.034	.842	37
	Mechanics and Grammar	-.331*	.045	37

Note: * correlation is significant at the .05 level (2-tailed).

Table C8

Correlations of Number of Friends on Facebook to Scores on Writing Samples for NS.

	Survey item	Pearson correlation	Sig. (2-tailed)	N
NS	Content	.008	.918	151
	Organization	.037	.655	151
	Style	-.088	.282	151
	Mechanics and Grammar	-.042	.608	151

Note: Nothing is significant

Table C9

Correlation of Number of Friends on Facebook to Writing and Revision Behaviors for NNS.

	Survey item	Pearson correlation	Sig. (2-tailed)	N
NNS	Writing multiple drafts.	-.009	.944	58
	Asking questions in class.	-.174	.192	58

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

Table C10

Correlation of Number of Friends on Facebook to Writing and Revision Behaviors for NS.

	Survey item	Pearson correlation	Sig. (2-tailed)	N
NS	Writing multiple drafts.	-.196**	.003	235
	Asking questions in class.	.097	.137	234

Table C11

Correlations of Writing Confidence to Scores on the Writing Sample for NNS.

	Survey item	Pearson correlation	Sig. (2-tailed)	N
	Content	.105	.532	38
.	Organization	.088	.599	38
	Style	.159	.339	38
	Mechanics and Grammar	-.071	.672	38

Note: nothing is significant

Table C12

Correlations of Writing Confidence to Scores on the Writing Sample for NS.

	Survey item	Pearson correlation	Sig. (2-tailed)	N
NS	Content	.303**	.000	151
.	Organization	.307**	.000	151
	Style	.185*	.023	151
	Mechanics and Grammar	.182*	.025	151

Note: ** significant at the 0.01 level * significant at the 0.05 level.

Table C13

Correlations of Writing Self-assessment to Scores on the Writing Sample for NNS.

	Survey item	Pearson correlation	Sig. (2-tailed)	N
	Content	.015	.930	38
.	Organization	-.190	.252	38
	Style	.058	.728	38
	Mechanics and Grammar	-.138	.407	38

Note: nothing is significant

Table C14

Correlations of Writing Self-assessment to Scores on the Writing Sample for NS.

	Survey item	Pearson correlation	Sig. (2-tailed)	N
NS	Content	.207*	.011	151
.	Organization	.276**	.001	151
	Style	.250**	.002	151
	Mechanics and Grammar	.209*	.010	151

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

Table C15

Correlations of Self-reported Grades to Scores on the Writing Sample for NNS.

Survey item	Pearson correlation	Sig. (2-tailed)	N
Content	.271	.099	38
Organization	.158	.343	38
Style	.135	.418	38
Mechanics and Grammar	.095	.569	38

Note: nothing is significant

Table C16

Correlations of Self-reported Grades to Scores on the Writing Sample for NS.

Survey item	Pearson correlation	Sig. (2-tailed)	N
NS Content	.221**	.006	151
Organization	.294**	.000	151
Style	.280**	.001	151
Mechanics and Grammar	.242**	.003	151

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

Table C17

Correlations of Measures to Writing Multiple Drafts for NS.

Survey item	Pearson correlation	Sig. (2-tailed)	N
Time per day on Facebook	-.088	.176	236
Number of friends on Facebook	-.196**	.003	235
Grades in Writing classes	.102	.118	236
Writing confidence (academic)	.001	.983	236
Writing self-assessment	.019	.767	236
Content	.003	.975	151
Organization	.015	.854	151
Style	.101	.219	151
Mechanics and Grammar	.027	.744	151

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

Table C18

Correlations of Asking Questions in Class to Writing Behaviors and Success for NS.

Survey item	Pearson correlation	Sig. (2- tailed)	N
Time per day on Facebook	-.046	.485	235
Number of friends on Facebook	.097	.137	234
Grades in Writing classes	.182**	.005	235
Writing confidence (academic)	.110	.091	235
Writing self-assessment	.161*	.013	235
Content	.077	.349	150
Organization	.081	.324	150
Style	.084	.308	150
Mechanics and Grammar	.103	.210	150

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

Table C19

Correlations of Asking Questions in class to Writing Behaviors and Success for NNS.

Survey item	Pearson correlation	Sig. (2- tailed)	N
Time per day on Facebook	-.185	.160	59
Days per week on Facebook	-.189	.152	59
Number of friends on Facebook	-.174	.192	58
Grades in Writing classes	.422**	.001	59
Writing confidence (academic)	.117	.377	59
Writing self-assessment	.259*	.048	59
Content	.039	.818	38
Organization	-.092	.584	38
Style	.207	.212	38
Mechanics and Grammar	.098	.560	38

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

Table C20

Correlations of the belief that Facebook helps audience awareness to other writing beliefs for NNS

	Survey item	Pearson correlation	Sig. (2-tailed)	N
NNS	Facebook helps my grammar	.429**	.001	59
.	Facebook develops voice and identity	.570**	.000	59
	Mechanics and grammar score on writing sample	-.365*	.024	38
	Time per day on Facebook	.042	.753	59
	Days a week on Facebook	.281*	.031	59
	Number of friends on Facebook	.057	.671	58

Note: * correlation is significant at the .05 level (2-tailed). ** correlation is significant at the .01 level (2-tailed).

Table C21

Correlations of the Belief that Facebook Helps Audience Awareness to Other Writing Beliefs for NS

	Survey item	Pearson correlation	Sig. (2-tailed)	N
NS	Facebook helps my grammar	.174**	.008	234
.	Facebook develops voice and identity	.167*	.011	234
	Time per day on Facebook	.089	.174	235
	Days a week on Facebook	.046	.481	234
	Number of friends on Facebook	.054	.413	234

Note: * correlation is significant at the .05 level (2-tailed). ** correlation is significant at the .01 level (2-tailed).

Table C22

Correlations of Age with Facebook Writing Engagement for NS.

NS	Survey item	Pearson correlation	Sig. (2-tailed)	N
	Number of friends on Facebook	-.522**	.000	235
	Time per day on Facebook	-.136*	.037	236
	Frequency to write posts (or status updates)	.077	.237	236
	Frequency to post to friends' walls.	-.144*	.027	236
	Frequency to comment to posts (or status updates)	-.277**	.000	234
	Frequency to revise or update posts	-.122	.063	235
	Frequency to revise or edit an update based on feedback from your audience.	-.094	.149	236
	Frequency to react to comments made to your post.	-.150*	.021	236

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

Table C23

Correlations of Age with Writing Success Measures and Writing Behaviors for NS.

NS	Survey item	Pearson correlation	Sig. (2-tailed)	N
	Grades in writing classes	.071	.277	236
	Writing confidence for academic purposes	-.053	.422	236
	Writing self-assessment	-.061	.354	236
	Frequency to write multiple drafts	.271**	.000	236
	Frequency to ask questions in class	1.44*	.027	235
	Content score on writing assessment	.156	.056	151
	Organization score on writing assessment	.032	.697	151
	Style score on writing assessment	.104	.205	151
	Mechanics and grammar score on writing assessment	.067	.417	151

Table C24

Correlations of Gender with Writing Success Measures and Writing Behaviors for NS.

NS	Survey item	Pearson correlation	Sig. (2-tailed)	N
	Grades in writing classes	-.138*	.034	235
	Writing confidence for academic purposes	.052	.431	235
	Writing self-assessment	-.23	.726	235
	Frequency to write multiple drafts	-.089	.172	235
	Frequency to ask questions in class	-.150*	.022	234
	Content score on writing assessment	.018	.823	151
	Organization score on writing assessment	-.061	.459	151
	Style score on writing assessment	-.107	.192	151
	Mechanics and grammar score on writing assessment	-.067	.413	151

Note: * significant at the .05 level (2-tailed). Gender did not correlate with any Writing Success Measures and Writing Behaviors for NNS.

D) ANOVA of Student Variables in Facebook Engagement and their Relationship to Writing

Table D1

ANOVA results of Time per day on Facebook on Student Variables for NNS

Student variable	<i>n</i>	<i>F</i>	<i>p</i>
Frequency to write multiple drafts	59	3.012	.026*
Believe that Facebook helps grammar	59	.529	.715
Facebook helps develop identity and voice	59	1.182	.329
Facebook helps improve ability to analyze audience	59	.824	.515
Grades in writing classes	59	.149	.963
Writing confidence for academic purposes	59	1.692	.165
Writing self-assessment	59	1.125	.354
Content score on writing assessment	38	.886	.483
Organization score on writing assessment	38	.410	.800
Style score on writing assessment	38	.439	.780
Mechanics and grammar score on writing assessment	38	1.094	.376
Frequency to ask questions in class	38	1.333	.270

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

Table D2

ANOVA Results of Time Per Day on Facebook on Student Variables for NS

Student variable	<i>n</i>	<i>F</i>	<i>p</i>
Frequency to write multiple drafts	236	2.418	.049*
Believe that Facebook helps grammar	234	5.979	.000**
Facebook helps develop identity and voice	234	8.971	.000**
Facebook helps improve ability to analyze audience	235	1.285	.276
Grades in writing classes	236	.651	.627
Writing confidence for academic purposes	236	.516	.724
Writing self-assessment	236	.948	.437
Content score on writing assessment	151	1.717	.149
Organization score on writing assessment	151	.651	.627
Style score on writing assessment	151	2.271	.064
Mechanics and grammar score on writing assessment	151	.918	.455

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

Table D3

ANOVA results of Number of Facebook Friends on Student Variables for NNS

Student variable	<i>n</i>	<i>F</i>	<i>p</i>
Frequency to write multiple drafts	59	1.309	.270
Believe that Facebook helps grammar	59	.323	.922
Facebook helps develop identity and voice	59	.517	.793
Grades in writing classes	59	.788	.583
Writing confidence for academic purposes	59	.912	.494
Writing self-assessment	59	1.382	.240
Content score on writing assessment	38	1.227	.321
Organization score on writing assessment	38	.998	.445
Style score on writing assessment	38	.541	.773
Mechanics and grammar score on writing assessment	38	1.061	.407
Frequency to ask questions in class	59	2.451	.037*

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

Table D4

ANOVA results of Number of Facebook Friends on Student Variables for NS

Student variable	<i>n</i>	<i>F</i>	<i>p</i>
Frequency to write multiple drafts	236	2.67	.016*
Believe that Facebook helps grammar	234	3.03	.007**
Facebook helps develop identity and voice	234	5.03	.000**
Grades in writing classes	236	1.33	.246
Writing confidence for academic purposes	236	2.09	.056
Content score on writing assessment	151	.14	.991
Organization score on writing assessment	151	.53	.783
Style score on writing assessment	151	.771	.594
Mechanics and grammar score on writing assessment	151	.816	.559

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

E) ANOVAs to examine effects of language learner variables on relationship between Facebook and writing

Table E1

ANOVA Results of Gender on Facebook Engagement for NNS

Student variable	<i>n</i>	<i>F</i>	<i>p</i>
Number of friends on Facebook	57	1.000	.322
Time per day on Facebook	58	.230	.633
Frequency to write posts (or status updates)	58	.011	.918
Frequency to post to friends' walls.	57	1.376	.246
Frequency to comment to posts (or status updates)	57	.858	.358
Frequency to revise or update posts	58	2.995	.089
Frequency to revise or edit an update based on feedback from your audience.	58	2.906	.094
Frequency to react to comments made to your post.	58	.400	.530
Frequency to post in language other than English	57	.161	.690

Table E2

ANOVA Results of Gender on Facebook Engagement for NS

Student variable	<i>n</i>	<i>F</i>	<i>p</i>
Number of friends on Facebook	234	.289	.592
Time per day on Facebook	235	10.108	.002**
Frequency to write posts (or status updates)	235	14.605	.000**
Frequency to post to friends' walls.	235	28.824	.000**
Frequency to comment to posts (or status updates)	233	12.974	.000**
Frequency to revise or update posts	234	6.623	.011*
Frequency to revise or edit an update based on feedback from your audience.	235	3.521	.062
Frequency to react to comments made to your post.	235	10.360	.001**
Frequency to post in language other than English	234	.102	.750

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

Table E3

ANOVA Results of Gender on Writing Success Measures and Writing Behaviors for NNS

Student variable	<i>n</i>	<i>F</i>	<i>p</i>
Grades in writing classes	58	2.805	.100
Writing confidence for academic purposes	58	.137	.712
Writing self-assessment	58	.852	.360
Frequency to write multiple drafts	58	.258	.614
Frequency to ask questions in class	58	.648	.424
Content score on writing assessment	37	3.417	.073
Organization score on writing assessment	37	3.009	.092
Style score on writing assessment	37	.247	.623
Mechanics and grammar score on writing assessment	37	1.897	.177

Table E4

ANOVA Results of Gender on Writing Success Measures and Writing Behaviors for NS

Student variable	<i>n</i>	<i>F</i>	<i>p</i>
Grades in writing classes	235	4.538	.034
Writing confidence for academic purposes	235	.622	.431
Writing self-assessment	235	.123	.726
Frequency to write multiple drafts	235	1.880	.172
Frequency to ask questions in class	235	5.320	.022
Content score on writing assessment	151	.050	.823
Organization score on writing assessment	151	.551	.459
Style score on writing assessment	151	1.720	.192
Mechanics and grammar score on writing assessment	151	.673	.413

Table E5

ANOVA of Age on Facebook Engagement for NNS

Student variable	<i>n</i>	<i>F</i>	<i>p</i>
Number of friends on Facebook	58	1.406	.237
Time per day on Facebook	59	1.978	.097
Frequency to write posts (or status updates)	59	.618	.687
Frequency to post to friends' walls.	58	.779	.544
Frequency to comment to posts (or status updates)	58	1.565	.186
Frequency to revise or update posts	59	.513	.765
Frequency to revise or edit an update based on feedback from your audience.	59	.565	.726
Frequency to react to comments made to your post.	59	.793	.560
Frequency to post in language other than English	58	1.115	.364

Table E6

ANOVA Results of Age on Facebook Engagement for NS

Student variable	<i>n</i>	<i>F</i>	<i>p</i>
Number of friends on Facebook	235	20.921	.000**
Time per day on Facebook	236	1.511	.187
Frequency to write posts (or status updates)	236	.793	.556
Frequency to post to friends' walls.	236	2.496	.032*
Frequency to comment to posts (or status updates)	234	3.733	.003**
Frequency to revise or update posts	235	1.161	.329
Frequency to revise or edit an update based on feedback from your audience.	236	.626	.680
Frequency to react to comments made to your post.	236	1.703	.135
Frequency to post in language other than English	235	1.921	.092

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

Table E7

ANOVA Results of Age on Writing Success Measures and Writing Behaviors for NNS

Student variable	<i>n</i>	<i>F</i>	<i>p</i>
Grades in writing classes	59	1.111	.366
Writing confidence for academic purposes	59	1.370	.251
Writing self-assessment	59	1.129	.357
Frequency to write multiple drafts	59	1.760	.137
Frequency to ask questions in class	59	1.906	.109
Content score on writing assessment	38	1.273	.300
Organization score on writing assessment	38	.878	.507
Style score on writing assessment	38	.805	.544
Mechanics and grammar score on writing assessment	38	.812	.550

Table E8

ANOVA Results of Age on Writing Success Measures and Writing Behaviors for NS

Student variable	<i>n</i>	<i>F</i>	<i>p</i>
Grades in writing classes	236	1.402	.224
Writing confidence for academic purposes	236	.466	.801
Writing self-assessment	236	.354	.879
Frequency to write multiple drafts	236	4.177	.001**
Frequency to ask questions in class	235	1.223	.299
Content score on writing assessment	151	2.193	.058
Organization score on writing assessment	151	.290	.918
Style score on writing assessment	151	1.444	.212
Mechanics and grammar score on writing assessment	151	1.733	.131

Note: ** significant at the 0.01 level

Appendix E: Descriptive Analysis of Student's Background Information

Table 1

Descriptions of Population for which Writing Samples Were Obtained (N = 189).

	% (N)
total	
NNS	20.1% (38)
NS	79.9% (151)
female	56.6% (107)
NNS	48.6% (18)
NS	58.9% (89)
male	43.1% (81)
NNS	50% (22)
NS	41.1% (62)

What Is Their Native Language?

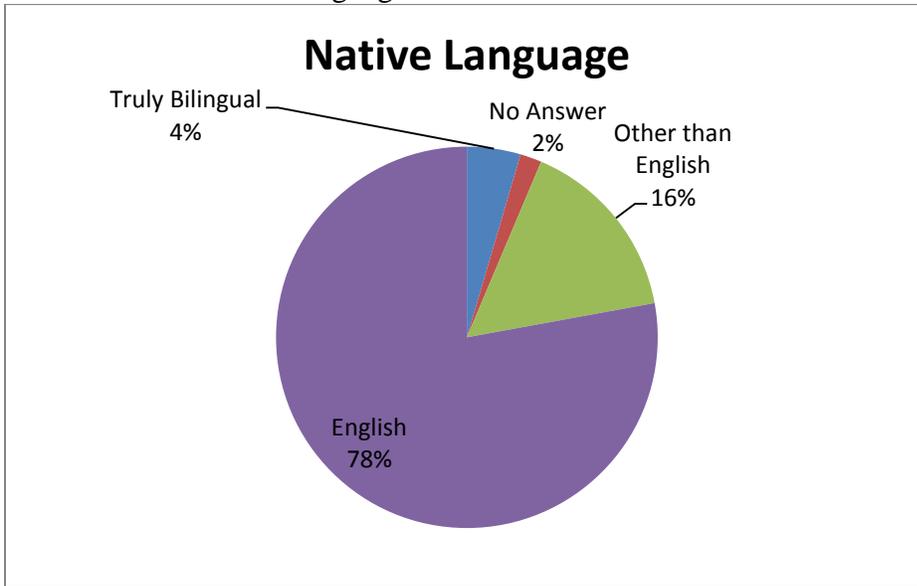


Figure 1. Pie Chart of Native Language

Table 2

Frequencies by Class Level

Native Language: L1. English or other/bilingual		Frequency	Valid Percent
English	unknown	29	12.3
	106 Intro to Writing	51	21.6
	Comp 1	94	39.8
	Comp 2	62	26.3
	Total	236	100.0
Other than English	unknown	3	5.1
	Level 4 ESL	24	40.7
	106 Intro to Writing	6	10.2
	Comp 1	9	15.3
	Comp 2	17	28.8
Total	59	100.0	

Note: Because the researcher relied on student provided information to know what class they were in (such as the last four numbers of their student identification number, and/ or their teacher's name), when those questions were unanswered or answered incorrectly, their appropriate class could not be recorded.

Table 3

Gender Frequencies by Class Level

Count	Gender		
	female	male	Total
Class Level unknown	20	11	31
Level 4 ESL	15	9	24
106 Intro to Writing	33	24	57
Comp 1	52	50	102
Comp 2	45	34	79
Total	165	128	293

Table 4

Native Language Frequencies by Class Level

Count		Native Language		Total
		English	Other / Bilingual	
Class Level	unknown	29	3	32
	Level 4 ESL	0	24	24
	106 Intro to Writing	51	6	57
	Comp 1	94	9	103
	Comp 2	62	17	79
Total		236	59	295

Table 5

Number of Facebook Friends Frequencies by Class Level

Count		Number of friends on FB							Total
		1 to 10	11 to 50	51 to 100	101 to 200	201 to 400	401 to 800	over 800	
Class		1	2	1	5	9	8	5	31
Level	Level 4	0	3	9	2	7	1	1	23
	ESL								
	106 Intro to Writing	3	4	5	13	13	15	4	57
	Comp 1	1	6	12	14	21	23	26	103
	Comp 2	3	3	4	9	25	23	12	79
Total		8	18	31	43	75	70	48	293

Table 6

Age Frequencies by Native Language

Count		age						Total
		18 to 20	21 to 24	25 to 29	30 to 39	40 to 49	50 or over	
Native Language	English	138	33	32	18	10	5	236
	Other than English	20	17	13	6	2	1	59
Total		158	50	45	24	12	6	295

Table 7

Time per Day on Facebook Frequencies by Native Language

Count		Time a day on FB					Total
		less than - 0	30 minutes to 30 minutes	30 minutes to an hour	1-2 hours	3 hours or more	
Native Language	English	12	117	55	40	12	236
	Other than English	5	23	18	9	4	59
Total		17	140	73	49	16	295

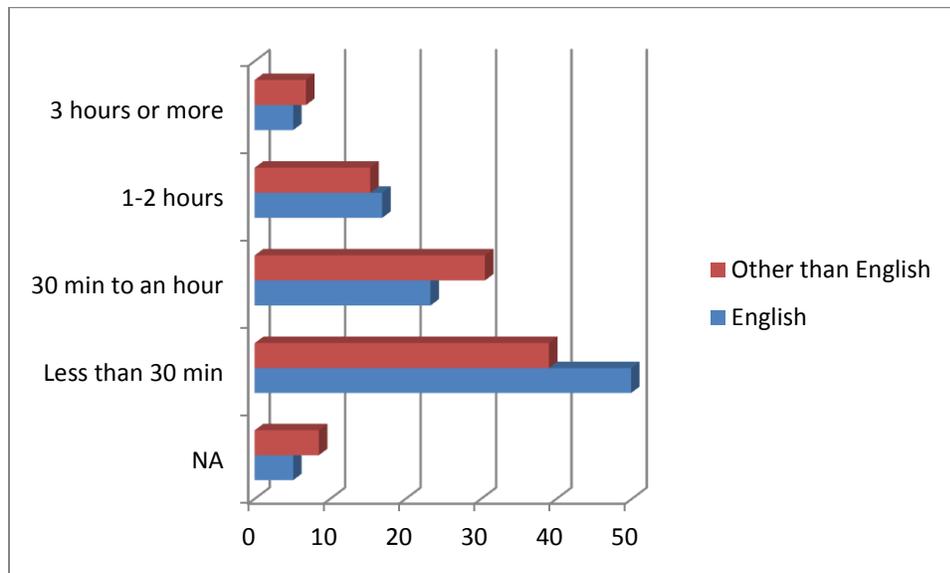


Figure 2. Time Per Day on Facebook

Appendix F: Human Subjects Approval



6/13/2011
HSCL #19446

Greg Dixon
1406 Pairie Ave
Lawrence, KS 66044

The Human Subjects Committee Lawrence Campus (HSCL) has received your response to its expedited review of your research project

19446 Dixon/Markham (C&T) Effect of Facebook and Learner Variables on Student Writing

and approved this project under the expedited procedure provided in 45 CFR 46.110 (f) (7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies. As described, the project complies with all the requirements and policies established by the University for protection of human subjects in research. Unless renewed, approval lapses one year after approval date.

The Office for Human Research Protections requires that your consent form must include the note of HSCL approval and expiration date, which has been entered on the consent form(s) sent back to you with this approval.

1. At designated intervals until the project is completed, a Project Status Report must be returned to the HSCL office.
2. Any significant change in the experimental procedure as described should be reviewed by this Committee prior to altering the project.
3. Notify HSCL about any new investigators not named in original application. Note that new investigators must take the online tutorial at http://www.rcr.ku.edu/hsc1/hsp_tutorial/000.shtml.
4. Any injury to a subject because of the research procedure must be reported to the Committee immediately.
5. When signed consent documents are required, the primary investigator must retain the signed consent documents for at least three years past completion of the research activity. If you use a signed consent form, provide a copy of the consent form to subjects at the time of consent.
6. If this is a funded project, keep a copy of this approval letter with your proposal/grant file.

Please inform HSCL when this project is terminated. You must also provide HSCL with an annual status report to maintain HSCL approval. Unless renewed, approval lapses one year after approval date. If your project receives funding which requests an annual update approval, you must request this from HSCL one month prior to the annual update. Thanks for your cooperation. If you have any questions, please contact me.

Sincerely,

A handwritten signature in blue ink that reads 'Mary Denning'.

Mary Denning
Coordinator
Human Subjects Committee Lawrence

cc: Paul Markham

7/12/2011
HSCL #19446

Greg Dixon
1406 Prairie Ave
Lawrence, KS 66044

The Human Subjects Committee Lawrence Campus reviewed your research update application for project

19446 Dixon/Markham (C & T) Effect of Facebook and Learner Variables on Student Writing

and approved this project update through an expedited review process according to 45 CFR 46.110 (b)(2) minor changes in a previously approved project. Your project has continued approval to 6/13/2012. Approximately one month prior to 6/13/2012, HSCL will send to you a Status Report request, which will be necessary for you to complete in order to obtain continued approval for the next twelve months. Please note that you must stop data gathering if you do not receive continued HSCL approval.

HSCL approves the modification from paper survey to an online survey that will be conducted during regular class time.

Please use the HSCL "approval stamp" on your consent forms. Just cut and paste. You may resize and reshape the text to fit your documents.

Approved by the Human Subjects Committee University of Kansas, Lawrence Campus (HSCL) on 7/12/2011. Approval expires one year from 6/13/2011. HSCL# 19446

If you complete your project before the renewal date, please notify HSCL. Thank you for providing HSCL with update information.

Sincerely,



Mary Denning
HSCL Coordinator