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## Exploring the impacts of wiki collaborative technologies within the english writing environment

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EXPLORING THE IMPACTS OF WIKI COLLABORATIVE TECHNOLOGIES  
WITHIN THE ENGLISH WRITING ENVIRONMENT

A Dissertation

Submitted to the Graduate Faculty of the  
Louisiana State University and  
Agricultural and Mechanical College  
in partial fulfillment of the  
requirements for the degree of  
Doctor of Philosophy

in

The Department of Educational Theory, Policy, and Practice

by

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December 2010

## **DEDICATION**

I dedicate this dissertation to my family. My husband Robert has stood beside me and pushed me to succeed. My children Devin and Macy have understood (most of the time) that Mom needed to work. My parents Bill and Bobbie Dillon always made sure I knew I could do anything I set my mind to do. I love and appreciate all of you.

I also dedicate all I do to God—the author and the finisher of my faith. It is only through Him that I can live successful.

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When I think of people I wish to thank, I think of them in families. The first family I want to acknowledge is my student family. The students I have taught and continue to teach have always been so proud of my accomplishments and have worked steadily to provide the data that created this study. In turn, I am proud of all their accomplishments. I know so many of them have the brightest futures. Secondly is my work family. I appreciate so much the support the staff and faculty of my school have given in keeping my classes, offering me words of encouragement, and being curious enough to check on my progress.

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## ABSTRACT

The use of technology in the writing classroom has been a staple since the early-1990's when the personal computer made its way onto the desks of teachers and students across America. Since that time, the challenge has been for educators to incorporate the most recent technologies in an effort to stimulate student writing. This study examined the effects the use of a web-based wiki technology can have on the writings of high school students.

The primary goal of this study was to explore how the web-based collaborative technology in Google Docs and used in a secondary English IV classroom can impact the writing skills of twelfth grade students dually enrolled in a freshman level writing class of a local university. Specifically, the study explored how students writing levels and processes were affected, how they perceived themselves as writers, and the challenges and successes they faced through the wiki-style inclusion.

A mixed methods case study design was used. One intact twelfth grade English IV classroom was used for the study (n=15). During the Fall 2009 and the Spring 2010 semesters, data were collected from observations, student interviews, two essays, and two student surveys. Quantitative data were collected from all the 15 class members via student perception surveys and rubric-based assessments of two essays. Qualitative data included open-ended questions on the writing surveys from all of the students; teacher observations of student interactions with each other, the wiki, and the writing; and interviews with six students at three ability levels.

Results showed that wiki-based technologies can impact students' writing processes and their essay results. Strategies inherent to the wiki process can motivate students to be better participants when they know someone else is depending on their input. Another factor was the ease of access. Finally, what seemed especially prevalent in student comments and observation



was how peer editing may have contributed to students' writing progress. The findings of this study support those of previous research. They also underscore the importance of continuing to incorporate modern technologies into the classroom. Other implications for practice are also discussed.

# CHAPTER 1

## INTRODUCTION

The incorporation of technology into the educational curricula is continuing its increase, especially as computer use at home and as a part of daily life continues to generate interest. Teenagers, in particular, have included technology into so many aspects of their day-to-day existence that the use of technology is an accepted means to complete most tasks. Parents realize that future job seekers will demand computer interactions from their children; these demands have prompted parents to push for technology incorporation into education. While universities felt the first need to respond to the demand (Bailey & Cotlar, 1994), pre-kindergarten up to high school programs now regularly integrate multiple forms of technology into their everyday class regimen. Students use technology to conduct science experiments, generate web quests, create graphic arts, manipulate web design, and craft mathematical hands-on learning designs (Homicz, 2000).

A key aspect of the use of technology centers on students using technology in their writings. Research performed over several decades encourages teachers to use writing as a method for developing such skills as communication, critical thinking, and retention advancement. The use of word processors in the writing curricula has been prevalent since the early 1990's. Studies show that elementary students involved in computer-based writing projects increased the level of their communication skills when paired in collaborative writing assignments completed in a technology-based setting (Cochran-Smith, 1991). The use of technology in writing is an ongoing field of study that has shown to have such benefits as increased time on task, decreased editing (mechanical/ grammatical) problems, and increased sophistication in writing styles (Homicz, 2000). Learning to write is not just a mechanical

process in which students manipulate grammar and words on a page in order to produce literary works. Young children are often encouraged in writing to invent spellings, to write for a variety of audiences, to participate in peer editing, and to produce a number of drafts of the same writing (Cochran-Smith, 1991). As personal computers and other word processors have become more available, students have found technology a boon to the writing process. What would take multiple lined-paper drafts for perfection, time spent looking for correct spellings in a printed dictionary source, and isolated writing settings for editing and publishing can now take place in a community of writing peers through the use of technology. The problem writing teachers now face is how to use technology in a collaborative setting to improve writing skills. Most schools now have writing labs or mobile laptop labs students can use to produce their work. English instructors in secondary schools are encouraged by college English professors to use peer editing groups of two to four students (Louth, 1996).

Linguistic theories centered in the cognitive sciences provide the basis for empirical research into the writing process and the rationale behind composition pedagogy. Composition cognitive theory is based on the works of Vygotsky and Piaget, who helped develop theories of cognitive development and developmental psychologies. Linguistic composition theories are grounded in the discussions surrounding the role of grammar in the writing process. Cognitive theories focus on the writing process as completed through the thought processes of the writer. Such scholars as Emig (1971) were instrumental in connecting composition theories to cognitive theories. Researchers (e.g. Flowers, 1981; Hayes, 2000) furthered this connection with a mental map that experienced writers follow, representing the writing process as a “flow chart of boxes indicating processes.” This research was completed in response to arguments that the non-reversible linear method of writing—pre-writing, writing, and revision—did not adequately

portray the writing process. In researching the writing processes of both experienced and inexperienced writers, Sommers (1980) found experienced writers used portions of all three methods as a non-linear way to create a final writing product. Inexperienced writers often ignored parts of the linear process that did not fit their writing purpose, leading to writing misbehaviors of refusing to edit or revise their works. Flowers and Hayes' perspective was to outline the writer's decision-making throughout the writing process and show how these decisions influenced the final writing design. In this design, writing is not linear but is a flow of information in several directions and includes bits from various boxes.

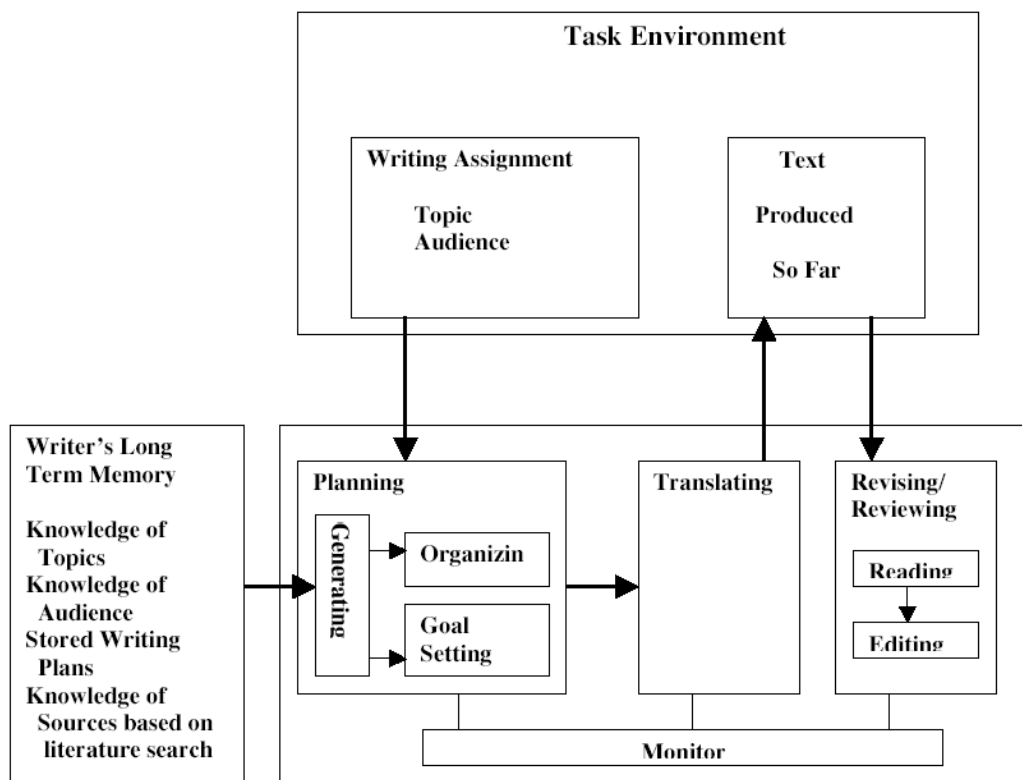


Figure 1.1 Flowers and Hayes Writing Model

According to Flowers (1981) and Hayes (2000), a problem may occur in the use of this model when it is applied by inexperienced writers, who must be careful not to get trapped in the loops of the model. For example, a novice writer may become engrossed in the loop between the “text

produced so far” and the “revising/reviewing” sections of the model. When this happens, the writer does not allow the monitor, teacher, or peer editor to generate input into the writing. The writer is also prevented from creating new ideas for inclusion into their writings because the bulk of their attention is on mechanical or grammatical errors.

While the process of writing is based in cognitive theory, the process of revision and review is grounded in literary theories of reader response criticism or peer review/ peer editing. The reader-response group theory is based on research conducted by Stanley Fish in the 1980’s, C. S. Lewis in 1961, and Louise Rosenblatt in 1938 (McManus, 1998). The foundation of reader-response criticism has the focus fall on the reader and the process of reading (Tompkins, 1980). However, in reader-response groups used for writing purposes, the emphasis is more placed on *what* is read. While the reader is important, the piece being read is of more interest. According to Dunlap, “The process for group review of writing is highly structured to make the most of individual and collective insight. Its main purpose is to help writers extend and develop the thinking, style, and focus of the work they bring to the group. . .”

([http://trc.virginia.edu/Programs/PAW/WG\\_RRGP.htm](http://trc.virginia.edu/Programs/PAW/WG_RRGP.htm)).

With regard to theoretical foundations, reader-response groups can also be linked to the social cognitive theory, which grew out of work by Miller and Collard in 1941 and was furthered by Albert Bandura (1988, 1989). The research of Miller, Collard, and Bandura indicates that people are motivated by seeing others work, by imitating observed actions, and by receiving reinforcement or punishment. Ormrod gives the main standards of social cognitive theory as:

- Humans learn by watching others;
- Learning is internal. It may or may not change behaviors;
- The learning is self-directed to behave a certain way;

- Negative or positive reinforcement can affect behavior and learning (2003).

The connection between social cognitive theory and reader-response groups, peer editing, or collaborative writing can be readily made. In hearing someone read his or her composition, the listener can evaluate the writing in either a positive or a negative way. In this way, the listener can take what he hears that is solid writing and imitate its form, language, or content in a way that makes his or her own writing better. This is “learning by watching.” In the same way, the listener can hear what he judges as “bad” writing and choose to avoid writing in that way. The listener can then internalize the actions of the reader—by continuing to incorporate the positive aspects of the writing and shunning the negative ones. In this way the listener is self-directed to write a certain way. The imitation process can also occur in collaborative writing scenarios. The listener or collaborator becomes the reinforcement that affects the readers’ behaviors or learning. One of the jobs of the listener may be to share with the writer/reader the strengths and weaknesses of the writings he or she hears. Successful reader-response participants and peer editors balance the lists on both sides, offering a steady assortment of positives and negatives to the writer/reader. In hearing or seeing the constructive criticism, the writer/reader can choose to respond to the negative and positive reinforcement.

The rationale behind using *technology* in writing is based on a combination of the cognitive theory, the social cognitive theory, the literary and reader-response theories. The use of technology in writing shows an increase in communication levels, an increase in time on task, a decrease in editing problems, and a strengthening of writing styles (Homicz, 2000). Support of technology may be further categorized into Moore’s (1989) three types of interactions: student to content interaction, student to instructor interaction, student to student interaction, and the use of scaffolding. Student to content interaction is the basis of education and has its roots in cognitive

theory, which maintains that students assimilate new content by accessing their prior knowledge and making mental connections. As the basis of student to instructor interaction, Moore's research has the instructor as a presenter of information. This interaction can be linked to the social cognitive theory, in that students can look to the teacher for writing instruction, writing models, and writing reinforcements. Students should also be offered opportunities to write varied styles for various audiences (Spiegel, 1996). In student to student interaction, students provide the insights necessary to produce quality writing, including the use of freewriting, reader response groups, collaborative writing, and collaborative editing. Both the social cognitive theory and the literary/ reader-response theories are at work in this interaction. Instead of the instructor being the sole authority for the writing process, students could and would add to content, correct grammar and mechanics, and offer solid writing advice (Homicz, 2000). Scaffolding, which supports the learning process (Hmelo-Silver, 2006), increases peer interaction, reduces teacher facilitation, and helps to structure learning.

Most of the past empirical research has focused on three areas of technology and writing: writing using a word processor, writing using computer writing prompts, and writing with computer enrichment exercises. The first of these, writing using a word processor, addresses the effects of writing using a word processor versus writing using the traditional paper and pencil. The overall findings in all of the studies (e.g. Grejda & Hannafin, 1992; Li, 1990; Beyer, 1992; & Dybdahl, Shaw, & Blahous, 1997) showed a small median effect size of 0.30 with the use of word processors having a positive effect on the writing skills of students. The second area, the use of writing prompts, has been a part of the writing process for years. However, with such standardized tests as the Louisiana Educational Assessment Program (LEAP) and Graduate Exit Exam (GEE), students are required to write prompt-driven essays that are graded to determine a

student's readiness for advancement to the next grade level. While most empirical data studies for the use of computer writing prompts were conducted in the 1980's and 1990's, the research contends that the use of writing prompts may enhance writing more than just the use of word processors alone (Bangert-Drowns, 1993). Bonk and Reynolds (1992) indicates that the type of prompts can affect the writing quality. Students generally ask for prompts that generate writing, but these may not improve writing quality. However, students who ask for prompts show an improvement in writing skills. However, research by Kulik (2003) suggests prompting that is ongoing and unasked for produces better writing quality than prompting provided only if and when students ask for it. The final area of writing with computer-enrichment exercises allows access to instruction via games, tutorials, simulations, email usage, Internet resources, and laptop access. The idea behind these types of instruction is to allow for real-world applications and reliable research opportunities. Studies by Nix (1998), Owston and Wideman (1997), Follansbee et al. (1997), Gardner, Morrison, and Jarman (1993), and Stone (1999) suggest that computer enrichment has a positive effect on student writings with a median effect size of 0.34.

#### Purpose of the Study

The purpose of this study is to explore how the use of a web-based collaborative technology in a secondary English IV classroom can impact the writing skills of twelfth grade students enrolled in a college-preparatory and dual enrollment class. The researcher is involved in a dual-enrollment agreement with a south United States university's English 101 faculty. High school seniors can receive college credit in English 101 upon successful completion of a writing portfolio assessed by university faculty using the university's writing rubric. In order to participate in a dual-enrollment setting, students must attain a composite score of 18 on the



American College Test (ACT) published by ACT, Inc. and a score of 18 on the English Language Arts portion of the ACT.

### Research Questions

In order to determine how the inclusion of a wiki-based technology component influenced the writing level for a class of 12<sup>th</sup> grade English IV students, the following questions were investigated:

1. How does student writing change due to wiki technology-based collaborative review, writing, and editing?
2. How do students' writing processes change through the use of wiki collaborations?
3. How do students rate themselves as writers before and after using wiki collaborations?
4. What challenges and/or successes were experienced by student participants using wiki collaboration?

### Significance of the Study

The common trend among the research finds the writing process enmeshed in all four levels of interaction. It takes interaction with the content among students, instructors, and peers in order for writing to flourish and for scaffolding opportunities to grow. When one level of the scaffold is broken, the other areas suffer. If a student cannot produce a prewrite, drafts and publications can be laborious and trivial. Weaknesses of students who have attained minimal success (an 18-20 on the English portion of the ACT) typically fall into two categories: composition and completion. Students who fail due to composition are lacking such writing skills as wording and descriptive techniques, introducing the topic successfully, including ample and believable examples, providing supporting arguments and research, and concluding the essay properly. Students who fail due to completion either don't write essays of sufficient length, don't

include the sufficient number and type of essays in the portfolio, or don't finish the post-essay in the given time of ninety minutes. This study seeks ways to bolster the writing successes of all students involved. Success in the use of technology to write is attained through a generative process that builds on writing skills, technology skills, and interactions at all levels. While some early researchers show technology hardware is not attainable by all student users, most contend that it is more widely available in the twenty-first century classroom (Kulik, 2003). The primary methodological approaches of non-experimental research, surveys, correlational studies, and action research articles provide the bulk of the research information. This research will contribute to the literature by offering research that updates a set of empirical studies completed almost exclusively on the elementary and junior high levels. Of the several empirical studies the researcher was able to review, only one contains research conducted at the secondary school level. A practical goal for this research is to offer pragmatic advice and practical solutions for teachers of writing who want to be masters in their subject and who seek to include technology in the writing process. In true mixed methods fashion, this research will add in some qualitative details that address the students' feelings and concerns about using wiki collaborative technologies in writing as well as content analysis of changes exhibited in student writing samples. Students do have insight about their writing and about using technology to enhance their writing that can be garnered and used as a basis of better understanding their needs, their learning levels, and their attitudes toward writing. As Carroll (2001) puts it, "a 'consumer driven' model of education, in which students shape the content and process of their learning, will replace our producer driven model of education" (p. 3).

#### Limitations

Limitations that may influence the generalization of this study include:

- Convenience sample—since one classroom at one school is the setting for the quantitative portion of the study, results may be limited to students in the same type of school setting. This could lead to future research into what happens on other campuses who offer a similar program.
- Case study—the use of case studies in the qualitative section of the study leads to results that are limited to the characteristics of the samples studied and not generalizable to a larger population.
- Teacher as researcher—Teacher–researchers are often more interested in finding solutions to issues in their own classrooms than in researching for the sake of research. As a result, bias that reflects the teacher’s own theories and experiences can surface (Mitchell, 2002).

## CHAPTER 2

### LITERATURE REVIEW

This chapter provides a review of literature relevant to three areas. Part one addresses the social cognitive theories that provide the basis for the research. Part two focuses on the writing process and how it connects to the social cognitive theory. The last part is an overview of the empirical research spanning from general research about using technology in the writing process to more current technology-specific research on collaboration in writing.

#### The Social Cognitive Theoretical Perspective

Often referred to as a bridge between behaviorist and cognitive theories, the social cognitive theory incorporates attention, memory, and motivation. According to Bandura (1986), “most human behavior is learned observationally through modeling: from observing others, one forms an idea of how new behaviors are performed, and on later occasions this coded information serves as a guide for action” (p. 25). Social cognitive theory clarifies human behavior as a mutual interaction among a person’s behavior, environment, and cognition (Bandura, 1977; Bandura, 1986) shown in Figure 2.1.

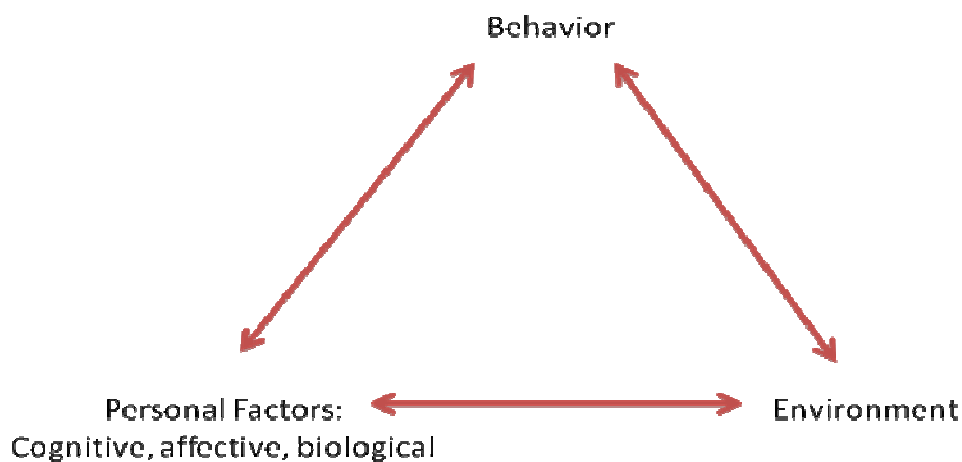


Figure 2.1 Bandura (1986) and Pajares (2002) Social Cognitive Theory Model

In the model, interactions between the person and the behavior involve the person's thoughts and actions. Interactions between the person and the environment involve personal factors of beliefs and feelings and cognition. Interactions between the behavior and the environment include the modifications created by the environment. According to Jones (1989), "the fact that behavior varies from situation to situation may not necessarily mean that behavior is controlled by situations but rather that the person is construing the situations differently and thus the same set of stimuli may provoke different responses from different people or from the same person at different times" (p. 26).

In essence, Bandura's (1986) social cognitive work theorizes that people learn from each other through imitation, observation, and modeling. Modeling, according to the Learning Theories Knowledgebase (2008), is effective only if certain requirements are met:

1. Attention—including not only distinct, affective functions, but also personal characteristics, such as those relating to the five senses, and prior knowledge.
2. Retention—preserving what has been given. Includes actual note taking skills, mental connections, cognitive strategies, rehearsals, and motor skills. Methods for retention vary from person to person.
3. Reproduction—reproducing the product. Includes self-reflections.
4. Motivation—having a good reason to reproduce. Can be connected to prior knowledge to tradition, or to future attainment or incentives.

In considering the social cognitive theory, one must ascertain what is meant by the three main factors--environment, behavior, and personal factors--and sub-sets of these factors. The environment includes any external issues that can affect a person's behavior. Environment is divided into the social and the physical. Social environments are those of family, friends, and

acquaintances. Physical environments refer to a given space, its size, the temperature therein, the availability of comfort. According to Parraga (1990), environment and situation work cohesively. The situation is one's perception of the environment—place, time, physicality, activity. The second concept of behavior includes the knowledge and skills necessary to perform a task. According to social cognitive theorists, behaviors are best learned through expectations, through self-control, and through observational learning (Glanz et al., 2002).

Glanz et al. also theorized that the third of Bandura's (1986) work, the area of personal factors, included the use of reinforcements, self-efficacy, coping responses, and "reciprocal determinism" (Glanz, 2002 p. 169). Bandura's (1963) "reciprocal determinism" is the belief that the environment and one's behavior are caused by each other. This is in opposition to behaviorism, which states that the environment causes a person's behavior. Bandura's study of adolescent aggression suggests that the relation between environment and behavior is mutual. Later in 1977 and 1986, Bandura would add a third component called psychological processes or "personal factors" (see Figure 2.1). This third component is the cognitive aspect, which includes a person's ability to think and process images and language—of which writing is key.

### Social Cognitive Theory and the Writing Process

About three decades ago, writing and composition teachers began to focus on the process a person used as he or she tried to write. The underlying goal was to understand why some students have trouble with writing assignments. What was created from this research is called the writing process. The writing process runs a gamut of three to nine or even eleven steps depending on the source of the information. For many writers and teachers of writing, the process is a recursive linear one. A writer may revisit a previous step at any time during his or

her writing experience; however, after revisiting a previous step, the writer again goes through the linear lineup (see Figure 2.2).



Figure 2.2 The Writing Process (Hughes, 2007)

In order to understand writing as a social cognitive process, links can be made first to writing as a cognitive process. Booth (2008) ascertains the use of a linear writing model has a direct link to cognitive processes through the use of long term and short term memory. His linear model of writing (Figure 2.3) shows a scheme of writing that uses a water tank (for holding massive amounts of information in the long term memory), a short pipe (for short term memory),

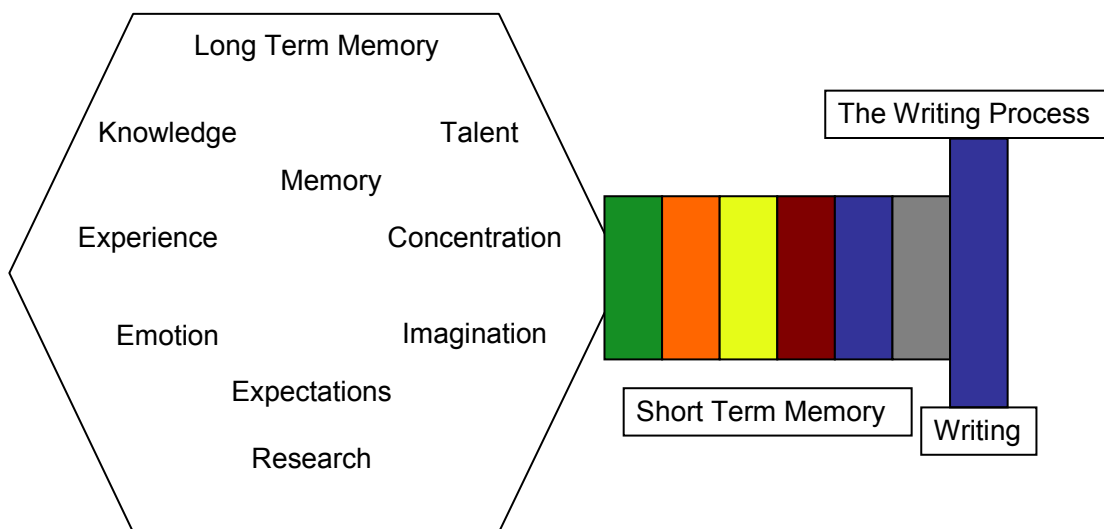


Figure 2.3 Cognitive Writing Process (Booth, 2008)

and a water faucet (the writing process). According to Booth, writing is a cognitive process that calls on “conscious actions” that can be improved through modeling and repetition. Booth writes: “The goal of our instruction, helping students attain/improve competence as writers is, with its emphasis on revision, an attempt to induce a qualitative result (improved performance with focus on audience consideration) from a quantitative act (the generation of text)”

([http://www.umuc.edu/writingconference/archives2008/materials/JBooth\\_TheWebandtheRock.ppt](http://www.umuc.edu/writingconference/archives2008/materials/JBooth_TheWebandtheRock.ppt)).

Writing, then, becomes a “cognitive act,” one of the many things we do consciously. With the use of foresight and recall, writing allows the composer to access both short term and long term memories as a precursor to the writing process. The writing process can then be broken into parts as a way to manage information and improve writing.

However, some researchers contend that writing is not at all a linear process. While these researchers (Flower, 1989; Cooper & Holzman, 1989) do believe the writing is connected to cognitive processes, they do not believe the writing process is linear nor is it solely cognitive. Rather, Flower’s research and research by Brandt (1992) include a writing process that is more flow-chart based (see Figure A in Chapter One). Writers employ an ongoing interpretation, an “inside out approach” (Brandt, 1992, p. 316). In this way, writers use their social systems to access cognitive skills in the writing process.

How then can writing be a social cognitive process? In the Cooper and Holzman (1989) book *Writing as Social Action*, the authors contend that writing cannot be just a cognitive process, as the cognitive process used alone alleviates the social and cultural context that writing incorporates. “Writing is not fundamentally a cognitive process . . . . Writing is located in the social world and, thus, is fundamentally structured by the shape of the environment” (p. x). As was stated previously, social cognition is strongly affected by the environment. When students



are asked to write, they do access long term and short term memories, but they also look to aspects of their surroundings for guidance, inspiration, examples, and feedback.

### Research on Writing Using Technology

Several meta-analyses synthesized studies have been conducted on the effects of computers on student writing. The first meta-analysis to review word processing and its effects on writing studies was completed by Bangert-Drowns (1993), who considered research in the decade prior to 1993. This early review included 20 quantitative studies with only 10 elementary and secondary studies conducted. The overall findings in all of the studies indicated an increase in writing quality with a median effect size of 0.21, a small effect size. The findings in the 10 studies indicated an increase in writing quality of 0.28 standard deviations. Four of these studies specifically measured the effects of word processing on writing skills. Three of the four studies found that word processing generated significant positive effects on the writing skills of students. The fourth study found just the opposite—word processing had a significant negative effect on the writing skills of students. The median effect in these four studies was an increase in writing skills by 0.30 standard deviations.

Kulik's (2003) meta-analysis examines 12 studies completed in the decade prior to 2003. Kulik notes that all of the studies for word processing had experimental sets of students compose using word processors while the control group wrote using pencil and paper. These studies indicate students who use word processors in the writing process are better writers than their counterparts. However, the average effect sizes were small, with writing scores raised approximately 0.3 standard deviations. Kulik also found that increases in writing scores were not always entirely dependent on word processing use and were not consistent across studies. While some studies (e.g. Grejda & Hannafin, 1992; Li, 1990; Beyer, 1992;) found positive effects

favoring students using word processing, some (e.g. Dybdahl, Shaw, & Blahous, 1997) found significant negative effects favoring control groups with pencil and paper.

Another meta-analysis performed by Goldberg, Russell, and Cook (2002) also looked at the comparison between student writings produced using pencil and paper vs. student writing using computers. Their analysis found the effect sizes were in favor of the computer for the writing quantities ( $d=.50$ ,  $n=14$ ) and writing quality ( $d=.41$ ,  $n=15$ ). Overall, their research indicates that writing with computers makes for more engagement and higher motivation on the part of the student. In addition, students create writings of better quality and longer lengths.

Research on writing may be further categorized based on Moore's (1989) three types of interaction: student to content interaction, student to instructor interaction, student to student interaction, and the use of scaffolding.

#### Student to Content Interaction

The basis of education is the student's interaction with the content, which can be presented from a variety of sources: texts, study guides, audiotape, videotape, DVD, or computer software.

Writing through computer enrichment allows access to instruction via games, tutorials, simulations, Internet resources, and laptop access. The idea behind these types of instruction is to allow for real-world applications and reliable research opportunities. A review by Kulik (1994) found five studies of computer enrichment on writing. Three of the studies indicated lower test scores for students with computer access, with a median effect of -0.14. Kulik (2003) contends the decrease in effect size for test scores could be because of a lack of more modern-day advancements such as the World Wide Web and improved tutoring and simulations. Six more recent studies synthesized by Kulik (2003) found five of the six maintained an improvement in

student writing skills for those who used computer enrichments, with an effect size of 0.34. The enrichments included such things as writing-specific software programs and specialized writing technology hardware. The remaining study showed a small significant decrease in effect size.

One of the latter studies was conducted by Follansbee et al (1997), who examined the effects of Internet assignments on student learning in the history classroom setting. The research groups were made up of fourth and sixth grade classes in seven urban school areas. Fourteen of the classes were used as control groups and offered traditional computer access but no Internet access. The 14 experimental groups were allowed access to both the computer and the Internet in order to complete a project-based assignment. An outside evaluator rated the projects on such factors as effectiveness, organization, and completion. Experimental projects were more highly rated with an effect size of 0.36

#### Student to Instructor Interaction

The second interaction, one that is considered highly necessary by most learners, is that of interaction between the student and the instructor. Moore's (1989) version of the instructor's roles was as a presenter of information, of skills, of attitudes, of values, of organization, of support. For children at the high school level, it is important for student writers to build their writing skills in a particular order, with side forays into grammar and mechanical skills practice as needed (Louth, 1996). Students should also be offered opportunities to write varied styles for various audiences (Spiegel, 1996). Coaching is a major role for the instructor (Moore, 1989), as students at the high-school level often need guidance into the proper methods for editing grammatical errors and thoughtful writing processes.

A study that looked at the relationship between students' writings and an adult other than the classroom instructor was completed by Stone (1999). Stone explored the effects of guided

writing activities completed via the Internet on the writings of second graders. The experimental group completed guided writing activities with the help of a parent at home. The control group did not receive guided Internet activities. In comparing pre and post writing activities, the researcher found a small increase in the writings of the experimental group with an effect size of 0.28.

### Student to Student Interaction

The third interaction, those between and among students, became a challenge in the 1990's. The idea that students could adequately provide insight for each other into such topics as writing was a radical one at the time. Writing teachers, through such methods as "writing down the bones," "free writing," and "reader response groups" (Louth, 1996; Spiegel, 1996), realized how much students could help each other in the prewriting and editing processes of writing. Instead of the instructor being the sole authority for the writing process, students could and would add to content, correct grammar and mechanics, and offer solid writing advice (Homicz 2000).

Empirical studies have found that technology-based learning produces higher levels of socially-competent behaviors for students (Clements & Natasi, 1988). Heap (1989) describes how the social context can be directly influenced by the task concept design. This article focuses on collaborative writing design settings and how these designs can be positively or negatively impacted by the social context of the classroom community. Studies show that elementary students involved in computer-based writing projects increased the level of their communication skills when paired in collaborative writing assignments completed in a technology-based setting (Cochran-Smith, 1991). The use of technology in writing is an ongoing field of study that has

shown to have such benefits as increased time on task, decreased editing (mechanical / grammatical) problems and increased sophistication in writing styles (Homicz, 2000).

Research completed by Nix (1998) presented positive results based on the use of e-mail in a fourth grade class setting. Nix was interested in e-mail's effects on the students' writing skills. The control group was given no e-mail capabilities; the experimental group spent three months in e-mail correspondence with students at another school. Nix compared writing samples completed during the three months. She found that the experimental group showed writing improvement holistically with an effect size of 0.40. The essay scores, which were determined using a rating scale, had a positive effect size of 0.30.

In the writing process, one of the more recent student-to-student interactions is peer editing. According to research by Leibowitz (1999), students find high-tech tools useful in commenting on one another's essays. Such peer editing creates more communication, collaboration, and accountability. Johnson and Card's research (2007) found students attributed their writing successes to the inclusion of peer editing groups into the online component of the study. Such writing success through group interactions is one of the positive aspects, as found in research by Luce-Kapler (2007).

### Scaffolding

Scaffolding, as described by Hmelo-Silver (2006) and by DeLisi (2006), is an important part of technology-supported learning. DeLisi ascertains that modern technology supports scaffolding, which in turn supports the learning process. According to DeBourgh (2002), scaffolding also includes monitoring and review. Scaffolding can be used for learner motivation, task complexity and learner frustration reduction, and structure. Tasks that include scaffolding and guided instructions produce success for students. A Kirschner, Strijbos, Kreijns, and Beers

(2004) study found functional roles for team members and the use of virtual scaffolding increased peer interaction and reduced teacher facilitation. Working with a competent peer as a part of the scaffolding process has been found to be a motivating factor in the writing process (Daiute & Dalton, 1993; Heap, 1987). Homicz (2000) points to the use of an online forum for sharing work asynchronously as a part of scaffolding process of interactions. Use of both asynchronous and collaborative settings should increase communication skills for students (Smith, 1990). Bangert-Drowns' (1993) work indicated that the use of writing prompts may enhance writing more than just using word processing alone, citing what Salomon (1991) terms "word processors plus." Three studies from the 1980s and two studies from the 1990s provide the justification.

Zellarmayer, Salomon, Globerson, and Givon (1991) studied 20 students, grades six and nine, who were divided into three groups: group one wrote using unsolicited prompting from a program called Writing Partner; group two received assistance only when they asked for it; group three received no guidance. All students in each group wrote using word processors. A final writing assignment found that students in group one wrote significantly better than the control group with an effect size of 1.34. Students in group two who could ask for assistance rarely did and performed much as the control group.

Research by Bonk and Reynolds (1992) focused on the use of prompts in the writings of 164 rural students in grades six, seven, and eight. Two randomized groups consisted of an experimental group that received writing prompts and a control group that did not. Pre and post writings from all participants without the use of prompts were used as a baseline. While effect size cannot be generated from the data provided in this article, Bonk and Reynolds do indicate that the type of prompt can affect the writing quality. Students generally ask for prompts that

generate writing, but these do not improve writing quality. However, students who ask for *evaluation* prompts show an improvement in writing skills. This research has been reviewed by Kulik (2003), who found the data “sketchy” (p. 42), although the results suggest that prompting that is ongoing and unasked for produces better writing quality than prompting providing only if and when students ask for it. As Kulik contends, more research is needed on this topic.

Schieber’s (1999) study was the only one to find a negative effect of computer enrichment on the quality of student writings. Students in 24 classrooms were used in the study; nine classroom settings used laptops in instruction and homework completion. Fifteen classroom settings, which were taught the same curriculum, did not own laptops or use them for schoolwork. After two years, Schieber evaluated the writings to find the scores for both groups were similar with an effect size of -0.10.

#### Web 2.0 and Writing

Web 2.0 defines a sub-section of information literacy and communication technologies that has evolved from a read-only status of the World Wide Web into a “read-write Web” (West and West, 2009). Technologies involved in Web 2.0 include those of social networking, weblogs, and wikis. Web 2.0 takes the writing process model from that of a lone student working in isolation to produce an essay to a writing process model of students collaboratively sharing ideas and creating multiple works based on a variety of input (Beach, Anson, Breuch, & Swiss, 2009). The read-write Web function provides the technology tools that allow educators to create a successful collaborative learning environment that can impact both face-to-face class settings and online classrooms (Lightner, Bober, & Willi, 2007).

Studies that use a variety of Web 2.0 tools offer insight into the use of these technologies and their impact on the writing processes of students. While there are some journal articles that

address Web 2.0 tools in higher education classrooms, much of the current research for K-12 classrooms is being conducted by practitioners, who then report their findings on their own Web 2.0 site. These sites offer everything from inception to implementation to assessment. Glogoff (2005) found Web 2.0 tools such as blogging that is monitored and maintained on a regular basis proved successful for students, who reported that peer-review helped them understand course content more adequately. According to Wang (2009), “the role of technology is crucial in providing learners a channel to practice their writing skills and convey the fruits of their labor to others” (p. 29). Wang’s study, completed with weblog technology, found some 80 percent of students’ comments to other students about their writings were valid and helpful. Research completed by West (2008) found blogging helped AP students understand and use the tools required to write a literary analysis.

Wiki technologies show great promise for enhancing the writing process. With little to no knowledge of programming or HTML, wiki users can collaboratively work through the writing process. According to Luce-Kapler (2007), wiki technologies allow users access and editing on an ongoing basis. Breen’s (2007) research found two of three students involved in wiki-based project showed significant writing achievement. The key to the improvement, Breen found, was the “community of writers” that was created through continuous teacher and peer editing. This motivated students to participate in the project and become aware of the improvements needed in their own writing and the writing of their peers.

### Summary

The common trend among the research finds the writing process enmeshed in all levels of interaction. It takes interaction among content, instructors, and peers in order for writing to flourish. When one level of the scaffold is broken, the other areas suffer. If a student cannot



produce a prewrite, drafts and publications can be laborious and trivial. Success in the use of technology to write is attained through a generative process that builds on writing skills, technology skills, and interactions at all levels. While some early researchers show technology hardware is not attainable by all student users, most contend that it is more widely available in the twenty-first century classroom. The primary methodological approaches of experimental research, surveys, correlational studies, and action research articles provide the bulk of the research information.

## **CHAPTER 3**

### **METHODOLOGY**

This chapter describes the methodology details of the study including research design, participants, course description, instructional strategies and technology, procedure, and outcome measures and data collection.

#### Research Design

This study used a one-group pretest/ post-test, mixed-method design following the triangulated method (Creswell 2005). Both quantitative and qualitative data were collected to obtain a better understanding of how incorporating wiki technology into a writing classroom will impact the writing skills of students.

Quantitative data were collected on student writing performance and perceptions using a pre-/ post-test design from all students. This baseline writing was the first expository essay written by the students in the middle part of the first semester of 2009. This was evaluated by the researcher and two university English professors using the university writing rubric (Appendix C). The post-test was a second expository writing completed via wiki collaborative technology; works created and edited through this collaborative technique provided the artifacts for the imbedded approach (explained further in the following paragraph). A survey, based on research completed by Homicz (2000) and modified to better fit this study's research questions, was administered twice to all participants.

The qualitative portion of the study consists of case studies. Data was collected from six student participants in the study via interviews and surveys. The case-study design allowed for insight into students' perspectives of the use of wiki collaborative technology in writing. Using interviews and artifacts, including final portfolios that chronicle writing advancements, the

researcher used the within-case and across-case analysis approach to learn about the individual members of the group and their thoughts about the writing process.

### Participants

Participants for the study were students enrolled in a rural, southern, public English IV class. This class operated under dual-enrollment (also termed Early Start 101) agreements between the school and a state university. All students were classified as graduating seniors.

In order to enroll in the class, students must have met the following requirements as decided by the state's board of education, the state university, and the public school:

- be at least 15 years of age and currently enrolled in an 11<sup>th</sup> or 12<sup>th</sup> grade class at a public high school in Louisiana;
- successfully completed Honors English III with a grade of B or better;
- have a minimum composite score of 18 on the American College Test (ACT) with an individual score of 18 in English/ Language Arts;

During the 2009-10 school year, 16 students were enrolled in the class. Fifteen of the students participated in the research design and fourteen submitted a portfolio to the university for possible credit in English 101. One of these students was not eligible for dual enrollment as she was a foreign-exchange student. However, due to her exceptional English grades in Germany, she was recommended for the class as it was the highest level English class taught at the research high school and would better serve her needs when she returned to Germany to finish her high school credits there. She participated in all class assignments, wrote each essay and formulated a portfolio; but she was not allowed to submit her portfolio to the university. She could not obtain any college credits as per her exchange status. Her scores and various writing inputs were not included in the research data.

For the qualitative case studies, six students were selected using a stratified random sampling method. Two students maintained a low English ACT score of 18-21; two students had a medial English ACT score of 22-25; and two students achieved a high English ACT score of 26 and above. The literature underscores the theories that collaborative writing increases a student's writing capabilities; however, the researcher expected borderline students (those who had the basic composite score of 18 and an English/Language Arts score of 18 on the ACT) to benefit more from the wiki-based interactions. Of especial interest from a qualitative perspective were case study participants. Each of these students was interviewed twice regarding their perceptions of the writing process and how technology plays a role in their writings.

The researcher (teacher) has taught Honors English IV for 20 years and the dual-enrollment portion of the class for the past six years. Each Early Start 101 teacher must submit to rigorous training and use a detailed course plan that documents integration of English 101 text(s), assumptions, goals, and assessment rubric into the existing English IV classroom. As a master teacher, she was able to monitor student progress and provide higher level writing applications and techniques that helped students publish a passing portfolio assessment, thus successfully gaining credit in English 101.

#### Course Description

English IV is defined by the state board of education as a class focused on four grade-level expectations: reading and responding, writing, writing and proofreading, speaking and listening, and information resources. Each grade-level expectation (GLE) is subdivided into more specified objectives. Reading and responding in English IV is focused on British literary works. Writing in English IV is expected to be complex and include such essays as definition, problem/solution, research, literary analysis, process, and persuasive. Students are also expected

to apply standards of grammar and mechanics to their own and their peers' writings in the writing and proofreading GLE. Speaking and listening objectives center on formal presentations and listening strategies, and information resources objectives focus on information access and use in various writing situations and presentations. The level of student learning correlates to the higher level domains as defined by Bloom's Taxonomy (Bloom, 1984).

The university's course assumptions, goals, and performances for English 101 detail what every freshman in English 101 should do:

- “read and write on a variety of topics using diverse genres representing a range of purposes and audiences;
- attend to their writing both as process (prewriting, drafting, response, revision, and editing) and as product (genre and document formats, organization, grammar, mechanics, and style);
- support their writing with critical reading and thinking skills and research; and
- explore both the pragmatic (academic, professional, civic) and humanistic (expressive, interpersonal, imaginative) value of writing and reading in their lives.” (Appendix F details this list into more specific outcomes).

Beyond this general list of objectives, the university's Early Start 101 English class allows each teacher leeway to design his or her own course outline. The teacher is expected to incorporate university text(s), have each student create a portfolio due at a specified time, require each student to write a memoir, and allow the student latitude in the writings he or she chooses for the portfolio. The portfolio is comprised of at least four major writing assignments (two to three page essays of 250 words per page). One assignment must be the “Personal Memoir Assignment” (see appendix E). The four assignments must:

- represent a range of literary, nonliterary, personal, and public writing genres, purposes, audiences, and strategies of development;
- demonstrate attention to strategies of essay- and paragraph-level coherence, grammatical correctness, and stylistic effectiveness; and
- integrate a variety of information resources and document those resources using MLA style when appropriate (at least one assignment must use in-text citations and a works cited list).

Teachers in area schools who are involved in Early Start 101 must incorporate both the state mandates for English IV and the university's requirements for Early Start 101, but the meshing of the two is up to each teacher. For the researcher, the first semester is focused on writing. Literature/ readings used are varied in style and source; most come from the required reading text *Roots to Branches* (2008). The writing genres are those listed in both the state departments GLE's and in a variety of university professorial syllabi collected by the researcher. Students create essays, use peer editing and reader response group strategies, and publish their works. Writing evaluations, as per university instruction, are based on the ES101 Major Assignments Rubric (Appendix C). The first semester's focus on writing culminates with an in-depth research unit limited to British literary and/or historical topics. Semester two continues with the writing but incorporates British literature from the parish adopted text *Literature* (Allen, 2008) by MacDougal Littell. Presented chronologically, the literature in this semester begins with the Anglo-Saxon tradition and ends with the Renaissance period. Each literary division integrates a writing activity drawn from the various types of essays presented and practiced in the first semester.

In accordance with the university's Early Start 101 English course parameters, the researcher has submitted an extensive course plan that has been approved by Early Start 101 teaching personnel. Sections included in the course plan include the "ES101 Course Overview," which describes the main topics, methods, and major assignments of the course and their relevance to English 101. The "ES101 Major Assignments Rubric" provides a checklist of English 101 topics and concerns covered in the major assignments included in the course plan. The final sections of the course plan outline four major writing assignments with guidelines, handouts, readings, assessment, and other related documents.

### Instructional Strategies and Technologies

#### Current Writing Instructional Strategies

Instructional strategies fall into Moore's (1989) three categories of interactions: student to instructor, student to content, student to student, and through the use of scaffolding. Students in English IV/ ES 101 are expected to write at a level equivalent to the level of freshmen English class students. Detailed assumptions were discussed in the preceding section. For purposes of this class and in the student to instructor mode, the researcher follows a combination of syllabi designed by university English department faculty. With writing essentially broken into the two categories of creative and expository, instruction begins with the creative genre of narrative and descriptive essays. Expository essays are the crux of instruction; however, the researcher has found that students must build a writing foundation that can be sufficiently presented through creative writing. Classroom activities include the presentations of pre-writing strategies, teacher-designed free writing exercises, short in-class writing assignments, discussions about the writing process, activities regarding voice and audience, and peer editing instruction. Students also

interact with the instructor through one-on-one verbal writing evaluations and written instructor evaluations of student writing.

Students interact with the content as they complete lengthier out-of-class writing assignments and find research to use as support for their writings. They continue to apply teacher-implemented techniques during the expository phase of writing. For purposes of this class, students typically write five to six expository essays ranging from the position paper to the compare/ contrast paper to the literary analysis paper. Students are also responsible for content related to grammar/ mechanics and vocabulary.

A key concept behind this study is the incorporation of student to student interaction. Traditionally, this interaction is centered on peer editing that occurs at the rough draft stage of writing. The peer editing process covers a spectrum of possibilities. Students may simply trade papers and mark any mistakes in concept, writing style, grammar or mechanics. Students may use a rubric to numerically assess the writing. Students may employ the Reader Response Group method of peer editing. Reader Response Group has the author read his or her own paper as one or more peers listen and respond to what they hear. This encourages students to focus on content and presentation and not merely on the grammatical errors. Why are collaborative writing assignments so important in the modern English classroom? Research from Colorado State University shows that students involved in collaborative writing situations solicit responses based on the strengths of the members—from organization to peer review (Kiefer, 2009). As more workplaces incorporate project-based activities, students who write collaboratively have opportunities for practice and learn the advantages or disadvantages of collaborative work on the job (Kiefer, 2009).



As part of the scaffolding for this class, students read successful examples of each type of paper and see the writing process in concrete form. In addition, students received grading rubrics prior to the rough draft or final draft completion. This step was helpful in student revisions and making sure all parts of the draft were in compliance with expectations. Other scaffolding items included teacher-generated instruction sheets, sample prewriting strategies, and the university writing rubric (which will be used for portfolio evaluation).

### Technology Inclusions

Pre-study technologies available to students in the English IV/ Early Start 101 included access to a computer lab with 29 personal computers and a laptop cart of 10 additional computers. Students were not allowed to remove the laptops from the English building, but they could use them in study hours for writing, publication, or research. The lab was equipped with direct Internet access, while the laptops had wireless Internet access. All computers had the Microsoft Word basic word processing program. The laptops were programmed with Inspirations for students to use in the prewriting phase. Both the desktops and the laptops had access to a laser printer. SmartBoard technologies, available in the main classroom, allowed for class discussion of essays and whole-class editing sessions.

### Wiki Technology.

The focus of this study was the inclusion of a wiki technology into the existing writing frame. While most of the interaction among students took place during the editing phase, the researcher believed that writing can be positively affected by interaction at all points of the writing process. Incorporation of a wiki forum for students to use from the thinking phase through the publication phase was the goal of this study. The researcher believed this would impact student writing and help produce writing of a higher quality.

Wiki is a part of a new breed of interactivity on the web commonly termed as Web 2.0. Web 1.0 allowed users to read and consume information. Web 2.0 allows users to collaborate in online spaces. Educators are just beginning to take advantage of the collaborations offered by Web 2.0: blogs, podcasting, virtual worlds, networking, and wikis. Students have the option to become collaborative learners in a knowledge-building process. While web tools such as e-mail, threaded discussions, and chat have been used effectively for online course communication, their use in collaborative learning was limited and challenging. Web 2.0 tools have shown great potential in the collaborative world of learning communities. Of these tools, wikis have shown promise for enhancing learning, as users need little to no programming knowledge in order to use, create, and modify Web content (West & West, 2009).

An online collaborative tool, wiki technology was created by Ward Cunningham in 1995 and called WikiWikiWeb (West & West, 2009). Cunningham chose the word *wiki*, a Hawaiian term for “quick” and used the word to mean a collection of internet pages that can be edited by anyone. Similar to blogs and threaded discussions, the wiki is a form of asynchronous communication, with contributions made at different times by varying responders. However, the blog is generated by a single author who may or may not involve other participants. Blog entries are linear and chronological, with no opportunities for users to edit earlier posts. Threaded discussions are static and are more response oriented; only the administrator has the power to change or edit the discussion.

Wikis are dynamic in nature; ownership is shared among all members and contributions are open for editing. The nature of the wiki allows for real collaboration. According to West and West (2009), “the overall purpose of a wiki is to support the team’s needs for building a shared understanding of a topic, goal, or objective; to support team processes such as planning, research,

and problem solving; and to create team outcomes through a shared document or set of documents” (p. 5).

The researcher planned to implement a free wiki, such as Google Docs (2009). Most of the research showed Google Docs to be a form of wiki technology (West & West, 2009). Research by Beach, Anson, Breuch, and Swiss (2009) states Google Docs is the most frequently used composition tool on the web. In Google Docs, users can share, import, or edit documents, which are then saved on Google’s servers. This provides access from any device with Internet capabilities (Skaf-Milli, Ignat, Rahhal, & Molli, 2007; Southavilay, Yacef, & Calvo, 2009). Google Docs was one of the few wiki programs students could easily access within the framework of the central office’s technology program for the target school. Intended for collaborative use through each step of the writing process, the wiki included a prompt that relates to the portion of the process in use. For example, if students were just beginning the pre-writing processes, the wiki prompt asked them to share their initial thoughts about a topic selection and the pre-writing strategy they planned to use. Students were given explicit instructions about response expectations: the type, quantity, and quality of responses for each portion of the writing process. In addition, students were prompted to respond via color coding/ highlighting and via comments. Any direct and in-text changes made to an essay, for example, was made in a varied color or with highlighting in order for the student and the researcher to ascertain what the original essay contained and what changes were made. Students also commented on overall quality of the essays via comment pages.

### Procedure

The study, which took place over a two-semester school year, was explained to all students on the first day of classes. Consent forms were developed for both students and parents

to sign prior to the initiation of the study. The forms were collected by the end of the second full week of the class. The procedures for the study are presented in Table 3.1:

Table 3.1 Study Procedures

Procedures	Timeframe
Pre-essay completed without wiki-based collaboration and evaluated with the university rubric	Fall 2009; end of the first semester
Interviews conducted with randomly-selected case-study students	Fall 2009; end of the first semester
Pre-surveys given to all participants	Fall 2009; end of the first semester
Post-essay completed with wiki-based collaboration and evaluated with the university rubric	Spring 2010; end of the second semester
Second interview conducted with case-study students	Spring 2010; end of the second semester
Post-surveys given to all participants	Spring 2010; end of the second semester

In the first semester, students completed a variety of essays, including an expository essay on the use of cell phones by vehicle operators. This would become the pre-essay as it was completed without the use of any wiki technologies. Students could use technologies they already knew, such as the Internet and word processing programs. At the end of the first semester, interviews were conducted by the researcher on six case-study students. Students were selected through a stratified random sampling. This type of sample occurs when participants are selected from a sub-population. Students were divided according to American College Test (ACT) scores in the English portion of the test: low achievers scored 18-21; mid-achievers scored 22-25; high achievers scored 26 and above. From these sub-populations, two students were randomly selected. In addition and also at the end of the semester, a survey was administered to all participants.

Students were introduced to the idea of Web 2.0 in the first full week of class in the second semester. Students were asked to identify themselves as writers by giving a background of their writing accomplishments, general feelings about writing, feelings about writing using technology-enhanced programs, the availability of technology in their homes, and their expertise level using technology. The introduction gave students a chance to experiment with the use of the Web 2.0 and respond to classmates in a non-graded environment. In an attempt to diversify response and underscore the use of technology outside of the classroom, students were prompted to respond to a prompt or to the preceding person on the web page via comments each day in the first week of classes; however, classroom time was be allotted for use each day. The goal for this was to have students collaborating in their own time.

For the second and third weeks of the second semester, the wiki prompts focused on the first steps of the writing process. The researcher asked students to post samples of their Inspiration- or Word-produced pre-write work for others to view, respond, or add to. Students then collaborated using the web on a class-produced brainstorm pre-write about the topic of heroes. This brainstorm became the impetus for their first wiki writing—the compare/contrast essay. Students used the web for posting each part of their paper as prompted. The introduction was posted, and students commented on an assigned student’s work. Students then posted sections of their essay as they needed and /or received input from others; the rough draft was the next mandated post, with editing and collaboration following. Students continued to post and review until a final draft deadline was set.

Each time a new type or topic of essay was set forth in the second semester, students followed these guidelines for collaboration:

- Topic selection post with collaboration following;

- Pre-write post with collaboration;
- Introduction post with collaboration;
- Middle paragraph post with collaboration;
- Conclusion post with collaboration;
- Rough draft post with collaboration;
- Final draft post with peer review/ rubric.

Guidelines needed to be altered for some paper types or for timing purposes. However, the researcher felt that continuity in expectations would create a more fluid sharing environment. At the end of the second semester, both the interviews with the same six participants and the surveys with all participants were repeated.

#### Sample Wiki Design: Frame-based Writing

##### Purpose.

One way of addressing continuity in expectations is in the form of frame-based writings—assignments in which students are provided with a structure that shapes the essay. These structures (scaffoldings) can be instructor-driven to the extent needed. At the twelfth grade level, students were offered minimal structure, leaving them to fill in the details, supports, and opinions. The purpose of frame-based writing was for students to organize their thoughts (Nessel & Graham, 2006). The instructor provided a frame, and students expanded and completed it. Writing types that work well within a frame activity include: opinion-based, justification, compare/ contrast, persuasive, interpretative.

##### Procedure.

Once students received the writing frame, they worked within a small group or a whole-class grouping to research and complete it. The wiki home page was used by the instructor to

give directions and set expectations. Links to each group or person's framed activity were given; a completed sample frame would better give students an idea of the format and response expectations. In addition, each group or person had a framed wiki page with the writing framework included on each page. (See figure 3.1). As students continued through the writing process, they added to the previous post(s) with more parts of their essays.

Sample Justification Frame	
Justification Frame	
Based on what you have read about uniform policies in several school districts, what do you think are the reasons more schools are adopting uniform policies and what are the reasons schools should not adopt a uniform policy? Place your answers in the frame below.	
The reasons for more schools to adopt a uniform policy are _____ (first reason), _____ (second reason), and _____ (third reason).	
There are also several reasons why schools should not adopt or should abandon the uniform policy. These include _____, _____, and _____.	

Figure 3.1 Sample Justification Frame

### Outcome Measures and Data Collection

#### Quantitative Outcomes

##### Rubric-based Assessments and Grades.

Student learning outcomes were measured by rubric-based assessments completed on two of the four essays required in the portfolio submitted to the university. Because assessments were not allowed by the researcher on the memoir essay (which is a university-designed assignment) or on the essay exam administered near the conclusion of the second semester, the researcher used rubrics for the two essays the student chose to use in his or her portfolio. The researcher had access to scoring rubrics (see Appendix C). The researcher was able to obtain both the essays

and the scoring rubrics in the beginning of May 2010. Data from these scoring rubrics were used to show the level of improvement for each student as compared to scoring rubrics used for initial phases of the writing project.

#### Survey Responses.

A Student Survey of Writing Advancements (Appendix D) was administered at the end of the first semester and at the end of the second semester. The survey, loosely modeled after a survey by Homicz (2000), but modified to meet the needs of high school seniors in a wiki writing environment, asked students to examine their writing in four areas: the writing process, peer editing/self editing, writing and essay styles, and technology and writing. For each section, the students were asked to respond on a Likert scale, with four being a strong response and one being a weak response.

The first section of the survey offered statements about the students' perception and abilities of various parts of the writing process: contributing ideas, formulating a thesis, building and collecting evidentiary support, shaping ideas into an essay format, revising writings, and publishing writing. The second section of the survey focused on editing: helping others edit, communicating ideas through writing, giving feedback and criticism, recognizing and evaluating weak writing areas, applying feedback suggestions to writing, editing essays for grammar and mechanics, and trusting the suggestions made by peers in the editing process. Section three of the survey reflected on essay styles: writing creatively, critiquing a piece of writing, experimenting with new writing styles, communicating ideas through various forms, writing essays across the curricula, and soliciting input from other students. The final survey section considered technology and writing with a focus on the class wiki site: using the wiki to access class documents, submitting assignments via the wiki, searching for answers using the wiki, using web



sources to find support, using technology to write with fewer errors, using the wiki to discuss ideas with peers.

The survey ended with one multiple-choice question and two open-ended questions. The multiple-choice question offered background information as to how students usually complete an essay. From the four choices, students indicated how much of the writing process was completed using technology resources. The two open-ended questions were designed for students to rate their personal levels of improvement in writing and to highlight factors that improved or challenged their writing. The researcher believed these last two questions would give additional insight that will prove useful in both the quantitative and the qualitative portions of research.

#### Qualitative Outcomes

##### Student Interviews and Surveys.

Qualitative data was collected in the forms of student interviews, surveys, and artifacts (essays and wiki revision histories). Student interviews were conducted at the end of the first semester and at the end of the second semester with two randomly selected students who had achieved the minimal English score of 18-21 on the ACT, two students who had achieved a medial English score of 22-25 on the ACT, and two students who had achieved a high English score of 26-30 on the ACT. The researcher hypothesized that wiki collaboration technology would substantially benefit students at all levels. The thoughts these students had toward writing were noted through interviews that focused on their perceptions of the writing process and how technology played a role in their writing and through the Student Survey of Writing Advancements (Appendix D). Protocol for the interview (Appendix G) was used according to the guided interview approach (Johnson & Christensen, 2004). The guided questions included:

1. Can you describe an experience when you have gained insight into:

- a. Creating a prewrite?
  - b. Beginning your introductory paragraph?
  - c. Citing sources?
  - d. Editing?
  - e. Publishing?
2. What has been the most challenging part of writing in this semester?
  3. What has been the most successful part of writing in this semester?
  4. How have technologies such as wikis influenced and/or changed your writing techniques?
  5. What would you change about this semester's writing experiences?
  6. How do you think the wiki inclusion has affected your writing process?

Students were allowed freedom to elaborate on the questions in an effort for the researcher to gain more understanding of their writing perspectives. Interviews were taped by the researcher, who also took notes during the interview. The researcher transcribed the notes, coded, and analyzed student answers.

#### Artifacts.

Student writing samples that showcase the writing process in its entirety were used as artifacts to examine the researcher's hypothesis that the inclusion of wiki collaborative technology would positively impact student writing. Two writing samples from the six randomly selected students at three levels were examined. One writing sample was taken from the first semester as a sort of pretest/ prewriting. The rubric for this writing sample was included. This first writing showed the writing process of a paper constructed without the use of wiki technology. The second piece of writing and its accompanying rubric was taken from the second semester and was created through the use of wiki technology. To further underscore the

hypothesis, student interviews were analyzed for themes and improvement of troubled areas (topic selection, introduction writing, conclusion formulation, source citations).

## Data Analysis

### Quantitative Data Analysis

Descriptive statistics were run on student participant attributes, in order to provide a greater understanding of the class sample. Descriptive statistics were used to provide the means and standard deviations of the essay scores. A numerical value and a letter grade were assigned to the writing evaluation using the university rubric. The researcher and university graders used the same rubrics for the assessment of each writing assignment. Letter grades were given a number on the GPA scale of zero to 4.0 for quantitative purposes. A paired samples *t* test was conducted to evaluate whether the student writing completed using the wiki collaborations (post-test) showed improvement when compared to the writing completed without the use of wiki collaborations (pre-test). The effect size and the confidence intervals were also reported as a part of the paired samples comparisons.

The Student Survey of Writing Advancements provided quantifiable data which was summarized using frequency distributions and descriptives. The first semester survey was compared with the second semester survey using paired *t*-tests for each category of items as well as the overall survey.

### Qualitative Data Analysis

Qualitative analysis was conducted on the interview, the open-ended responses in the student surveys, and the student writing process. The interview data was coded using an open coding system, within-case analysis, and cross-case analysis (Glaser & Strauss, 1967) of interview responses. These analysis methods allowed the researcher to analyze each case

individually and to analyze data across the cases to establish themes and patterns (Creswell, 1998). Student responses to the two open-ended questions were analyzed similarly to provide further insight into students’ perceptions of their writing.

For the writing process—prewriting, topic development, external support, editing phases, and final draft publication, the researcher used content analysis to identify patterns of progress and types of improvements in typically troubled areas of writing: topic selection, introduction writing, conclusion formulation, and source citations. The improvements in the writing process were linked to the presence and type of feedback students received from their peers as well as their perceptions of contributing factors in their survey and interview responses.

Yin (1994) states that for an analysis to be valid and valuable, the researcher must gather as much relevant verification as is available and must indicate all applicable alternative points of view. The triangulation of survey, interview data, and the writing process data will assist in establishing the validity of the collected data and in generating possible responses to the proposed research questions of this study. Table 3.1 summarizes the outcome measures and type of data analyses that were performed to address each of the research questions.

Table 3.2 Research Questions, Data Sources, and Data Analyses

Research Question	Outcome Measure/ Data Source	Analysis Method
How will student writing change due to wiki-based collaborative review, writing, and editing sessions?	Rubric-based grades on two final draft essays—one without wiki-based collaboration and one with wiki-based collaboration.	Descriptive statistics; Paired samples <i>t</i> test (overall and on parts of the rubric)
How do students’ writing processes change through the use of wiki collaborations?	Essay process in the portfolio; wiki revision histories	Content analysis for themes and improvement in troubled areas (topic selection, introduction writing, conclusion formulation, source citations)

Table 3.2 Continued

How do students rate themselves as writers before and after using wiki collaborative?	Student Survey of Writing Advancements	Frequency distributions and descriptives, and paired <i>t</i> -tests
What challenges and/or successes were experienced by student participants in using wiki collaboration?	Interview; responses to two open-ended questions in the survey	Coding, categorizing, and analysis using within-case methods

### Validity and Credibility

History can be a serious threat to the internal validity of a one-group design. It may be possible that something other than the wiki collaborations has an effect on the writings students produce in the post-test/ writing. To control for history, the researcher triangulated data whenever possible, including gathering data from the survey, from interviews, and from writing samples. The researcher also had three scorers for the pre- and post-essays. Instrumentation could be a threat; the researcher was careful to construct the post-test phase of the design—the second essay—as to make it similar to but not the same as the first pre-test phase—the first essay. Differential selection could be a problem as students selected in the three scoring levels (low, medium, high) could still differ in characteristics that affect writing skills, such as their reading abilities, their spelling abilities, their motivation to learn, their ability to do well on tests. Further research into the backgrounds of each student was necessary for these characteristics to be identified and reported as possible threats to internal validity.

External validity can be problematic for single subject experiments, in that most of these results are not always able to be generalized. For this study, population validity could be an issue because of the population from which we have to choose at the specified high school setting. With a predominantly Caucasian population, the results might not extend to a larger populace. However, with a pragmatic view, the researcher may be able to offer suggestions for

teaching writing to high school students, and that would extend to a larger population. The makeup of the research school setting could also have created an ecological validity problem. The context of this school does not at all resemble an urban setting; however, the issues teachers of writing face in both settings are similar. The research was not intended to focus on cultural issues students in different areas face, but on the common writing issues all students face. Students typically have trouble with similar problems in their writing—for example, selecting a topic, beginning the introduction, formulating a thesis sentence, and using correct citations. The researcher believes outcomes from this study could cross the boundaries of ecology and be applied in any educational situation where students are learning the writing process.

To establish trustworthiness, data for the study was triangulated with the researcher collecting supporting artifacts for the interviews conducted. Student essays and/or portions of those essays were used to verify the coding and categories generated from the interviews. Trustworthiness was established through prolonged engagement—the study took place over a 180-day school year—and through data/source triangulation with interviews and surveys completed for more than one person.

## CHAPTER 4

### RESEARCH RESULTS

This case study was designed to investigate how writing styles for high school seniors in a dual-enrollment class (high-school-level English IV Honors and college-level English 101) changed through the inclusion of a technology-based wiki-styled writing component. Two quantitative surveys completed by all students and two writing samples from six students were analyzed for descriptives and paired samples T-tests. Qualitative data from two interview sessions with the same six students were analyzed using the defined problem areas of writing as a basis for coding and categorizing. One set of interview data is based on six students' perceptions of their writing before the wiki inclusion; the second set of interview data is based on the same students' perceptions of their writing after the wiki inclusion.

The results of this research study are detailed in the following subsections of this chapter: (1) analysis of pre-/ post-survey data; (2) analysis of writing samples; (3) analysis of interview data; and (4) case studies.

#### Analysis of Pre-/ Post-Survey Data

The Student Survey of Writing Advancements (Appendix D) was administered in a pre/post format after the first semester of writing completed without the use of the wiki-based inclusion and at the end of the second semester of writing completed through Google Docs, the wiki-based inclusion. (A description of Google Docs is included in Chapter Three.) Data were organized and analyzed from six different areas of the two surveys: (1) Writing Preference, (2) Writing Improvement, (3) The Writing Process, (4) Peer Editing/ Self Editing, (5) Writing and Essay Styles, and (6) Technology and Writing. Each section included six to nine self indicators of writing advancements as perceived by the student and ranked on a Likert scale of one to four,

with four being the strongest indicator and one being the weakest. One objective-style question near the end of the survey asked students to indicate their preferred method of completing the writing process with four possible categories for completion (see the Writing Preference section and Figures 4.1 and 4.2 for results from this question). The final two questions on the survey were open-response style; the first asked students if they felt their writing had improved during the semester and in what way (Writing Improvement and Figure 4.3). The second asked students to identify the most important contributing factor(s) to their writing improvement or challenges and to explain why they chose these factors. The final question and the answers to it will be addressed in the qualitative analysis section of this chapter.

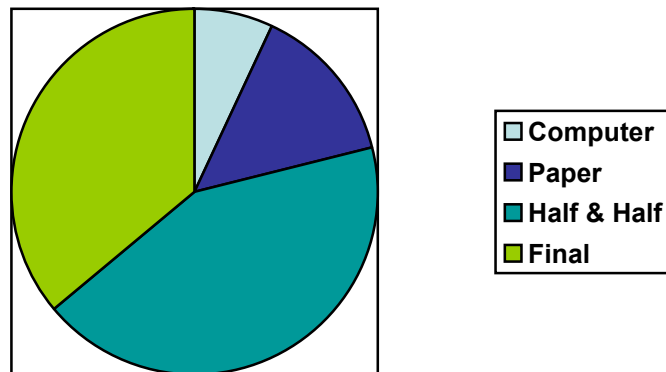


Figure 4.1 Graph of First Semester Survey Writing Preference

#### Writing Preferences

The Writing Preference question of the survey asked students to specify their usual writing preference within four given areas: (1) “I do everything on the computer”; (2) “I write out everything on paper”; (3) “I do about half of it on paper and half of it on the computer”; (4) “I only type the final draft on the computer.” In the first semester survey one student did every part of the writing process on the computer; two did everything on paper; six completed half on



paper and half on the computer; and five did only the final draft on the computer (see figure 4.1). For the final survey, more students completed all or part of the writing process on the computer: four students completed all writing on the computer; seven completed half on paper and half on the computer; three did only the final draft on the computer; and none of the students completed everything on paper (see chart 4.2).

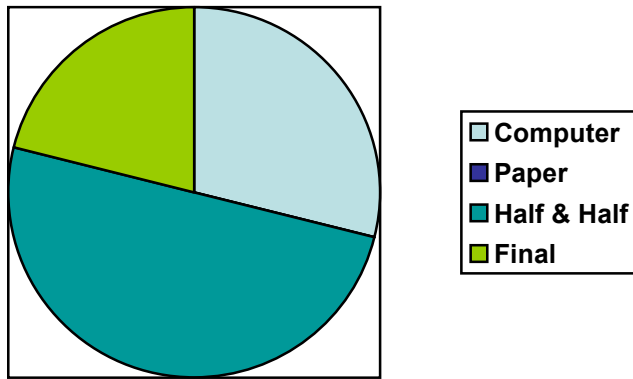


Figure 4.2 Graph of Second Semester Survey Writing Preference

#### Writing Improvement

In addition to noting their writing preferences, students were also asked if they thought their writing had improved over each semester. For the first semester survey, 12 students (86 %) indicated they saw improvement in their own writing in the first semester. While none of the

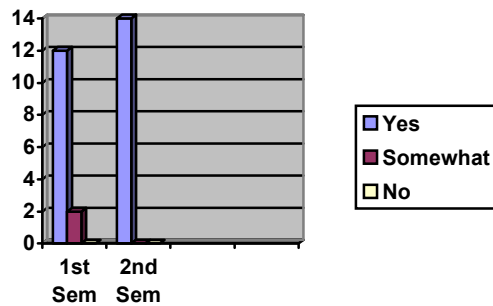


Figure 4.3 Graph of Writing Improvement

students declared a negative writing effect, two (14 %) of them indicated they felt only somewhat improved. In the second semester survey, 14 students (100 %) felt they had improved their writing skills over the second semester.

### The Writing Process

The nine indicators in the first section of the survey were intended to cover the basic steps in the writing process: prewriting, topic construction, external source inclusion, essay formulation, revisions, and publications. Overall, the pre-survey indicators had a mean of  $M=3.02$ ,  $SD=.45$  (see Table 4.1). All but two of the indicators fell into the prescribed mid- to high level of strength with a mean value higher than 3.0. The highest means were ascribed to Indicators 3 and 4 ( $M=3.57$  and  $3.29$ , respectively), showing that on average students feel they can build knowledge about an issue and extract and use information from another author's work as evidentiary support. The two lowest indicators were 7 and 9 ( $M=2.57$ ,  $2.14$ , respectively), which dealt with publication processes with and without the use of technology. Student response indicates that while students can construct knowledge and successfully incorporate information from other authors, they feel challenged about publishing their own work, especially when a prescribed technology is involved.

In the post-survey, the overall mean was  $M=3.40$ ,  $SD=.49$ . The top two scoring indicators were 4 and 8 ( $M=3.57$ ), which focused on extracting and using information from another author's work and publishing writing using common technology word programs, such as Microsoft Word. Indicators 7 and 9 had means of  $M=2.93$  and  $M=3.43$ , respectively. Indicator 7 had a  $p$ -value of  $p=.29$ , a result that is not considered statistically significant. However, indicator 9 had a  $p$ -value of  $p=.00$ , which indicates a statistical significance in the improvement students made in publishing through the use of a technology-based forum such as a wiki or blog.

Table 4.1 The Writing Process Survey Section

The Writing Process	Pre-Survey		Post-Survey		<i>p</i>	<i>d</i> *
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
1. I can contribute ideas to group discussions.	3.07	.59	3.36	.48	.16	.49
2. I can formulate a thesis sentence.	3.00	.65	3.50	.50	.01	.77
3. I can build my knowledge about a topic or issue.	3.57	.49	3.43	.62	.43	.29
4. I can extract and use information from an author's work as evidence in my own paper.	3.29	.80	3.57	.73	.10	.35
5. I can shape ideas into an essay format appropriate to the topic.	3.07	.96	3.43	.62	.21	.38
6. I can revise my thoughts and writing about a topic or an issue.	3.21	.67	3.43	.62	.27	.33
7. I can prepare my writing for publication.	2.57	.98	2.93	.70	.29	.37
8. I can publish my writing using word processing programs, such as Microsoft Word or Works.	3.21	.77	3.57	.73	.10	.47
9. I can publish my writing using a technology-based forum, such as a wiki or a blog.	2.14	.91	3.43	.73	.00	1.42
Average of the Items	3.02	.45	3.40	.49	.00	.84

\**d* refers to effect size.

A second indicator with statistical significance was the indicator about formulating a thesis sentence. The pre-survey had a mean of  $M=3.00$ ,  $SD=.65$ ; the post-survey had a mean of  $M=3.50$ ,  $SD=.50$ . This indicator's *p*-value was  $p=.01$ . This reveals a statistically significant increase in the level students felt they had improved in their abilities to create thesis sentences. This improvement is likely more a result of practice over an extended period of time rather than directly linked to the inclusion of wiki technology.

The survey shows that students already felt confident in quite a few areas: idea contribution, building knowledge, adding evidence from outside sources, shaping an essay and

its various parts, writing and idea revisions, and publication through normal technology tools. Most of these areas continued to improve in the second survey, with one exception. While not statistically significant, student confidence was slightly lower in their abilities to build knowledge, as shown in Indicator 3, the highest performing indicator in the pre-survey. This could be linked to the teaching method of building up to the harder topics and writing styles. In the first semester, students are eased into the college writing processes with connections to writing styles they have practiced in ninth, tenth, and eleventh grades. The second semester is used for introducing more complex writing styles, multifaceted topics, and more in-depth research styles.

#### Peer Editing/ Self Editing

This section of the survey had eight indicators intended to have students evaluate their skills at various aspects of editing: peer editing, communicating ideas and criticism, recognizing and correcting errors in style and format, recognizing and correcting errors in grammar and mechanics, and applying feedback from others. The total mean for all of the indicators in the pre-survey was  $M=3.13$ ,  $SD=.43$ . The highest indicators were numbers 3 and 5. Indicator 3 stated, “I can give honest feedback and/or criticism to other students about their writings,” and carried a mean of  $M=3.64$ ,  $SD=.48$ . Indicator 5 stated, “I can apply my instructor’s or other students’ feedback comments to my writing,” and had a mean of  $M=3.29$ ,  $SD=.70$ . Indicative from these high scores is the conclusion that students felt positively toward giving true criticism and receiving input they could and would use to better their writing.

Three indicators fell below the prescribed mid- to high level of strength—indicators 4, 6, and 7. Indicator 4, “I can recognize weak points in an essay,” had a mean of  $M=2.86$ ,  $SD=.64$ ;

indicator 6, “I can evaluate the writings of others,” had a mean of  $M=2.93$ ,  $SD=.59$ ; and indicator 7, “I can help others edit their writings to be grammatically and mechanically correct,”

Table 4.2 Peer Editing/ Self Editing Survey Section

Peer Editing/ Self Editing	Pre-Survey		Post-Survey		<i>p</i>	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
1. I can help others edit their writings.	3.21	.56	3.29	.59	.72	.14
2. I can communicate ideas to others through my writing.	3.07	.59	3.21	.67	.55	.24
3. I can give honest feedback and/or criticism to other students about their writings.	3.64	.48	3.57	.62	.67	-.15
4. I can recognize weak points in an essay.	2.86	.64	3.21	1.01	.10	.55
5. I can apply my instructor’s or other students’ feedback comments to my writing.	3.29	.70	3.50	.63	.27	.30
6. I can evaluate the writings of others.	2.93	.59	3.14	.74	.34	.36
7. I can help others edit their writings to be grammatically and mechanically correct.	2.93	.88	3.00	.85	.78	.08
8. I can trust the contribution of classmates when offered suggestions about writing.	3.14	.64	3.43	.62	.10	.45
Average of the Items	3.13	.43	3.29	.53	.25	.33

had a mean of  $M=2.93$ ,  $SD=.88$ . These three indicators focus on the analysis and evaluation of writing, and are the areas students noted they feel more challenged in applying to their own writings and to the writings of others.

The post-survey results carried an overall mean of  $M=3.29$ ,  $SD=.53$ . None of the post-survey individual indicator results were lower than 3.00. The two indicators with the highest post-survey means were numbers 3 ( $M=3.57$ ,  $SD=.2$ ) and 8. Indicator 8 revealed a slight increase in the mean for the statement, “I can trust the contribution of classmates when offered

suggestions about writing” ( $M=3.43$ ,  $SD=.62$ ). The three indicators discussed in the previous paragraph had increased means: Indicator 4 ( $M=3.21$ ,  $SD=1.01$ ); Indicator 6 ( $M=3.14$ ,  $SD=.74$ ); and Indicator 7 ( $M=3.00$ ,  $SD=.85$ ). However, none of the p-values for the indicators were of statistical significance.

### Writing and Essay Styles

The seven indicators in this survey section dealt with types of writing (creative and

Table 4.3 Writing and Essay Styles Survey Section

Writing and Essay Styles	Pre-Survey		Post-Survey		<i>p</i>	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
1. I can exercise creativity or creative thinking in my writing approach.	3.14	.74	3.14	.74	1.0	.00
2. I can write a critique of a piece of writing.	2.79	.67	3.07	.59	.10	.42
3. I can apply what I learn to “real world” problems or issues.	3.29	.70	3.57	.49	.26	.40
4. I can experiment with a writing style that is new to me.	2.64	.61	3.07	.70	.03	.70
5. I can communicate ideas to others by using different modes of information (i. e., combining visual and written text, writing with hyperlinks, or using wikis or blogs).	2.43	.73	3.43	.73	.00	1.37
6. I can write essays for different subject matter.	3.29	.59	3.57	.49	.16	.47
7. I can ask other students for comments on my writing.	3.50	.63	3.57	.62	.67	.11
Average of the Items	3.01	.42	3.35	.41	.00	.43

expository), writing applications, various modes of communication through writing, and soliciting input from a variety of sources. Means for the pre-survey results show only one in the higher mean range, Indicator 7: “I can ask other students for comments on my writing” ( $M=3.50$ ,  $SD=.63$ ). Three indicators fell below the mid- to high level of strength in writing. One of these was indicator 2, “I can write a critique of a piece of writing,” which had a mean of  $M=2.79$ ,

$SD=.67$ . Another was indicator 4, “I can experiment with a writing style that is new to me,” with a mean of  $M=2.64$ ,  $SD=.61$ . The third one was indicator 5, “I can communicate ideas to others by using different modes of information (i.e., combining visual and written text, writing with hyperlinks, or using wikis or blogs),” with a mean of  $M=2.43$ ,  $SD=.73$ . These indicators reveal that students feel less successful with new writing styles in new writing situations. They consider themselves less competent with writing critically about another piece of writing/ literature.

For the post-survey results, students ranked themselves above the mid- to high level of strength in writing in all categories. The highest levels (Indicators 3, 6, 7) each had a mean of  $M=37$ ,  $SD=.49$ ,  $.49$ ,  $.62$  respectively. These indicators addressed real world applications, writing essays for different applications, and soliciting other students for comments. Two of the three lowest ranked categories from the preceding paragraph increased with statistical significance. Indicators 4 and 5 showed a  $p$ -value of  $p=.03$  and  $p=.00$  respectively. The effect sizes for each was  $d=.70$  and  $1.37$ . From this, the researcher infers that students feel improvement in the areas of experimenting with new writing styles and communicating through different modes of technology inclusion—namely the wiki.

### Technology and Writing

The final section of the survey asked students to rate themselves on various uses of technology and writing: accessing and using wiki sites for document retrieval, assignment submission, and as a discussion board/ peer editing tool; and using various other websites in the writing process. Only one of the means in the pre-survey garnered a mid- to high level of strength in writing. Indicator 4 stated, “I can use websites (including the class wiki site) to collect or find sources of information to help support ideas for my writing.” Indicator 4 had a mean of  $M=3.00$ ,  $SD=.93$  in the pre-survey and a mean of  $M=3.57$ ,  $SD=.62$  in the post-survey. The rest

of the indicators from the pre-survey covered a range of means: Indicator 1 ( $M=1.07$ ,  $SD=.26$ ); Indicator 2 ( $M=1.07$ ,  $SD=.26$ ); Indicator 3 ( $M=1.00$ ,  $SD=.00$ ); Indicator 5 ( $M=1.21$ ,  $SD=.41$ ); and Indicator 6 ( $M=1.00$ ,  $SD=.00$ ). All of the lower scoring indicators dealt with the particular use of the class wiki site to complete some part of the writing process.

Table 4.4 Technology and Writing Survey Section

Technology and Writing	Pre-Survey		Post-Survey		<i>P</i>	<i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
1. I can use the class wiki site to access class syllabus, assignments, announcements, and schedules.	1.07	.26	3.50	.63	.00	9.35
2. I can use the class wiki site to submit assignments and receive results.	1.07	.26	3.50	.63	.00	9.35
3. I can search for answers to questions using the information on the class wiki site rather than verbally ask the instructor or other students.	1.00	0.00	3.50	.50	.00	.00
4. I can use websites (including the class wiki site) to collect or find sources of information to help support ideas for my writing.	3.00	.93	3.57	.62	.10	.61
5. I can use the class wiki site as well as word processing software to write more clearly without excessive errors in language structure or mechanics.	1.21	.41	3.50	.50	.00	5.59
6. I can use the class wiki to discuss ideas and concepts in this course with other students.	1.00	0.00	3.86	.35	.00	.00
Average of the Items	1.39	.20	3.57	.32	.00	.00

Once students had a chance to work through several class wiki writing exercises using Google Docs, the post-survey scores show a statistically significant difference, with the exception of Indicator 4, which had a post-survey mean of  $M=3.57$ ,  $SD=.62$ . The rest of the



indicators had the following means: Indicator 1 ( $M= 3.50, SD=.63$ ); Indicator 2 ( $M= 3.50, SD=.63$ ); Indicator 3 ( $M= 3.50, SD= .50$ ); Indicator 5 ( $M= 3.50, SD= .50$ ); and Indicator 6 ( $M= 3.86, SD= .35$ ). All of these indicators had a p-value of  $p= .00$ . Overall effect size was  $d=.00$ .

Inferences drawn from this statistical significance indicates students felt they improved parts of their writing process through the use of the wiki-based writing technologies. In particular is Indicator 6: “I can use the class wiki to discuss ideas and concepts in this course with other students.” Students were openly supportive of the aspect of the wiki that allowed them to converse with their peers via the wiki. More along this vein will be discussed in the qualitative interview results.

### Analysis of Writing Achievement

A whole-class analysis of two writing samples provides data for all students who participated in the experiment. One of the writing samples is taken from first semester writings completed independent of the wiki technology. Students could and did use technologies such as word processing programs and internet research for the first semester writing. The second writing sample is taken from a second wiki technology experiment, when students used Google Docs to complete every part of the writing process, from pre-writing to final publication. In an effort to maintain some research credibility, both sample essays are expository in nature, required the student to incorporate outside sources, and were graded using the target university’s required grading rubric.

Rating sheets were based on a Likert-scale rubric of a scale of 0-4. Zero (F) indicated a student’s failure in completing the feature successfully, and 4 (A) showed an accomplishment in completing the feature successfully. Various features of the rubric are weighted with (1) content, purpose, and audience and (2) research and documentation counting for 20 percent each of the

total grade. All of the other features each counted for 10 percent of the total grade and included: (1) formal and rhetorical features of genre; (2) grammar and mechanics; (3) style and usage; (4) reading of sources; (5) use of technology; and (6) length and development. All grades are based on a total out of a possible 100 points. To tally the final score for each student, each feature was given a numerical value: an *A* = 4 points, a *B* = 3 points, a *C* = 2 points, a *D* = 1 point, and an *F* = 0 points. The numerical value was multiplied by the weight given to that feature. The sum of these values was then placed in a formula which gave the total value for the paper:  $y=x$  (the sum) + 55. Fifty-five is the number which the target school has designated as the least amount a student must attain in a “Zeroes Aren’t Permitted (ZAP)” program.

#### First Semester Essays

This assignment asked students to create a position paper about cell phone use by drivers. In a position paper, students are to address both sides of a particular issue—Should cell phone use by drivers be banned by a national law?—and then defend one of those positions with outside supporting evidences. Most of the students took the position that cell phone use by drivers should be banned, with references to accidents as the top supporting evidence. Only one essay was about a different topic; while it was still a position paper, one student did not complete the cell phone essay assignment. The researcher pulled an essay this student had written in the second semester but without the use of wiki technologies.

All of the essays received passing scores: 3 essays scored in the *D* range of 60-69; 7 in the *C* range of 70-79; and 5 in the *B* range of 80-89. The average score was 77. According to rating sheets, students tended to score lower in grammar and mechanics, style and usage, and use of technology. Students scored average or slightly above average in the other categories of

content, purpose, and audience; formal and rhetorical features; research and documentation; reading of sources; length and development.

## Second Semester Essays

The second semester essay asked students to write an essay comparing and contrasting the Anglo-Saxon hero Beowulf with a modern hero of their own choosing. Students' choices for modern heroes ranged from comic heroes to armed service persons, from doctors and lawyers to moms and dads. Students completed this essay process through Google Docs. All students logged into the website through one login, a necessity because of restrictions on internet access through the targeted school's central technology department. At different times of the writing process, students were given instructions that directed them what to do next. For example, the following Screen shot 4.4 shows student's instructions to create a prewrite chart that explained the Beowulf as a hero and their own chosen hero's qualities.

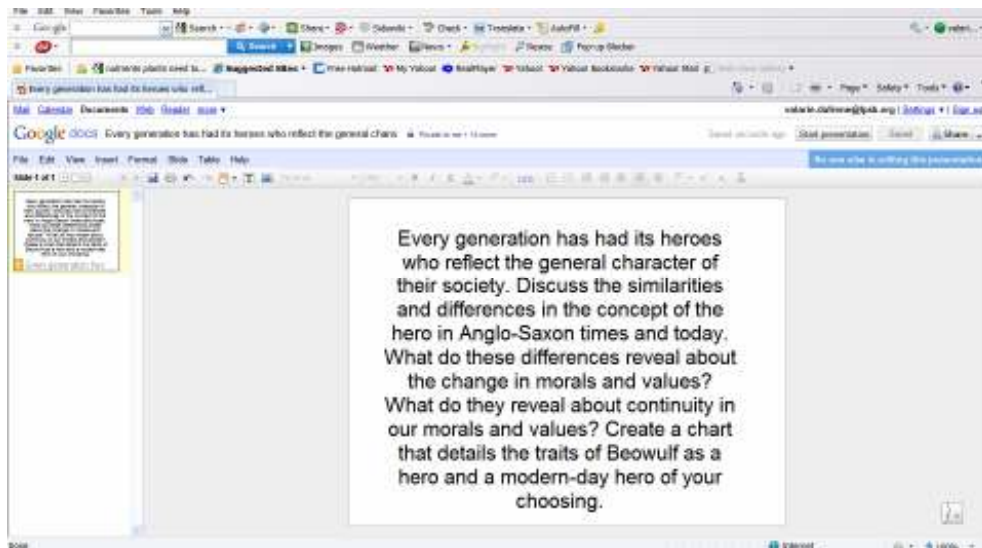


Fig. 4.4 Writing Prompt

From this initial prompt, students created a prewriting chart. Screen Shot 4.5 shows the prewrite, a thesis sentence, and the beginning of an introduction. Students continued to follow instructions and submit their writings through Google Docs. In addition, they often added helpful websites or

writing suggestions (see Screen Shots 4.6, 4.7) for their peers to follow as part of the writing process. The effects of this type of peer editing will be explained in more detail in the interview summaries.

	Hercules	Beowulf	Hector
Hero	Beowulf	Beowulf	Hector
Physical Attributes	Strong and agile	Strong, trained to help people	Strong, trained to help people
Intelligence	Clever	Smart and able to think quickly	Smart and able to think quickly
Responsibilities	Responsible to king and fellow countrymen, required to share spoils of battle, expected to remain fit and honor noble (show debt)	Responsible to those whom people will for help	Responsible to those whom people will for help
Motivation	Recognition and reward, loyalty to king and countrymen	Satisfaction of helping the community	Satisfaction of helping the community
Personal Relationships	Family companion in battle	Other Trojans and family and community members	Other Trojans and family and community members
Ethics	Honor noble	Help others at all times	Help others at all times
Fears and Disappointments	A dishonorable death, lack of a fear of death (maybe)	few	few
Recognition	Immortality through song and story, wealth, women	locals think there is still	locals think there is still
Other Characteristics	Young, noble	Both noble and female	Both noble and female

Think:  
Today's hero for society share many similarities, but also differ in many ways.

In the Anglo-Saxon period, Beowulf protected his people from monsters and shared his wealth and spoils with his followers. He was strong, smart, beautiful and noble. King Beowulf served his people with pride and honor, much like the heroes that we know and love. When Beowulf's noble sword broke from the Sea Dragon, he chose his life to stop the monster of the castle. The heroes of our society have more similarities, but also more differences.

Fig 4.5 Prewriting Chart

For our compare and contrast essay that we're working on, remember that Beowulf is a character in an epic that still exists as a legend.

Beowulf is a noble warrior of his time.

less

Fig. 4.6 Student Writing Suggestions

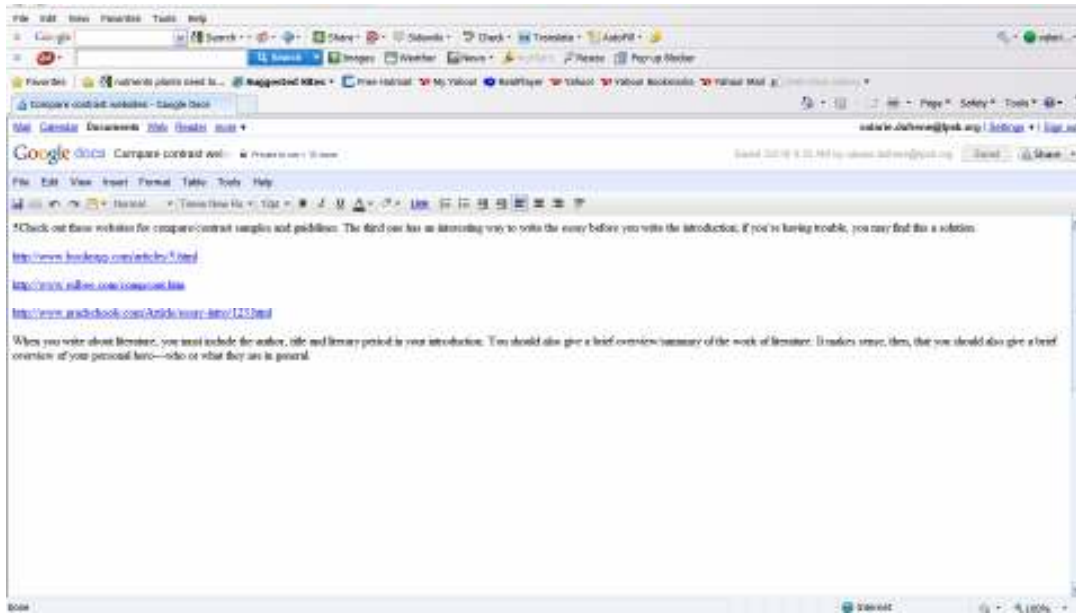


Fig. 4.7. Student Interaction Web Sites

The second semester essays had 1 grade in the *D* grade range, 1 essay in the *C* range, 8 essays in the *B* range, and 5 essays in the *A* range. The average of all scores was 84.27 percent. This shows a gain of 7.27 percent (See Table 4.5). Only one essay garnered a loss of one percent—from an 89 percent on the first essay to an 88 percent on the second. The two scores show a *p*-value of .00, which is a statistically significant improvement in the scores from the first semester to the second semester.

Table 4.5 Essay Scores and Averages

	First Semester	Second Semester	
Student	Essay Score	Essay Score	Gain/ Loss
1	74	80	6
2	86	90	4
3	68	69	1
4	74	81	7
5	77	85	8
6	89	88	-1
7	65	80	15
8	65	80	15
9	82	93	11

(Table 4.5 continued)

10	76	88	11
11	78	90	12
12	78	79	2
13	78	90	12
14	85	90	5
15	80	80	0
Averages	77	84.27	7.27

Most of the students' scores in the first semester remained the same as or lower as the scores in the second semester in two features: grammar and mechanics and style and usage. The essays remained at the *B* level for length and development and for content, purpose, and audience. Students increased in the second essay in areas of formal and rhetorical features of genre, reading of sources, research and documentation, and use of technology.

#### Analysis of Interview Data

In an effort to provide details to the quantitative analysis, interviews of six students were conducted. Based on scores of the English portion of the ACT, two students were randomly selected from each of three preset score ranges: low (18-21); medium (22-25); and high (26-30). These six students were interviewed once at the end of the first semester and once at the end of the second semester. Interviews were conducted during school hours as the researcher could pull students from her own class or from non-core classes. Permission was obtained from both students and their parents for digital recording privileges prior to the start of the interviews. Using the interview protocol (Appendix G), the questions followed in sequential order with emergent questions inserted as needed. The interviews lasted approximately 20 minutes each. The digital recordings were downloaded onto a computer in audio files and were manually transcribed into a word processing document.

Using the survey writing sections as a basis for coding, the interview documents were analyzed in an effort to triangulate data from the survey analysis. Using a cross case analysis provided a description of themes and patterns of writing across all six cases. The frequencies demonstrate the main topics of conversation from students regarding writing over the span of the two interviews and are presented in Table 4.6. The most prevalent topic that emerged from the interview analysis was The Writing Process, with editing codes leading that section. Each code will be discussed in the sections that follow with each question providing the basis for discussion.

Table 4.6 Interview Coding Frequencies

<b>Codes</b>	<b>Occurrences</b>
Writing and Essay Styles **	74
The Writing Process	230
Prewriting and Introduction	66
Citing sources	42
Publishing	32
Peer Editing/Self Editing	100
Writing Challenges and Changes	67
Successes	65
Technology and Writing	62

\*\*Essay styles refer to modes and genres of writing.

### Writing and Essay Styles

In the first semester, more of the students were drawn to the creative writing process because they felt it was easier, reflected their personalities, and needed little to no research. One of the low-level students Benny said that though he felt it was “good to try out a couple different things,” he was drawn to creative writing “because there’s not research involved. You can just put in what you know and go from there.” One other student who felt specifically drawn to

creative writing. Jane, a mid-level student, said creative writing was easy for her because “I knew the most about it.”

However, some of the students were proudest of the paper that required the most time from them—the research paper. Low-level student Lea felt the research paper was her favorite, “because I spent more time on it. I think . . . I benefited more [from this paper] for use in the future.” Only one other student had the same response to the research paper. Laurie said she enjoyed the research paper because she wrote on a topic that was “really good for me because I really enjoy Shakespeare.”

Students were able to point out their writing frustrations. The most common annoyances came with the papers that forced students to do the legwork required with research, a task that happened in the research paper, the position paper, and the persuasive paper. Bennie (low-level) found it frustrating to keep “all the sources straightened out.” The two mid-level students Jane and Zacharty found knowing nothing about a topic quite stressful. As Zacharty put it, “I had trouble writing on different topics.” Jess, who found the research paper “not my favorite thing,” did note one insight: “doing the research paper on a brand new topic opened my eyes to what real research is all about.”

Second semester reflections centered on the use of the wiki and the papers completed via the wiki. The compare/ contrast essay, a position paper on cell phone use while driving, and literary analysis essays were completed via the wiki. Therefore, most of the answers given focused on the use of the wiki technologies, with all the interviewees mentioning it as a part of the second-semester process. Zacharty (mid-level) said: “This semester, I broadened my writing techniques through technologies, such as wiki.” Jane (mid-level) added that the writings completed on the computers were challenging for her as “I don’t do very well with the wiki.”



However, most students indicated a positive wiki connection, such as Lea who said, “I gained valuable insight from all three wiki papers.” These insights will be explained in later interview sections.

### The Writing Process

Student comments about starting the writing process were in five topic areas: prewriting strategies, beginning the introduction, citing sources, editing, and publishing.

#### Prewriting Strategies.

Over the course of the school year, students were encouraged to discover a prewriting style (such as brainstorming, clustering, or outlining) that worked best for their own way of thinking and writing. While the majority of these were introduced in the first semester, their practice was expected in both semesters. In the first semester, prewriting was a positive aspect of writing for five of the students. Most student responses varied according to their personal prewriting choices. For example, Benny (low-level) and Zacharty (mid-level) preferred the bubbles (clustering), so they could “visualize the paper.” Zacharty continued that “bubbles helped me the best with just how my brain works instead of just lines or just words.” Another student Laura (high-level) found the more visual clusters and maps off-putting. Not all students were enamored with pre-writes, however. Mid-level student Jane’s response was, “Pre-writes don’t always help me begin writing my papers. I found it easier to begin writing my paragraphs by just seeing the prompt and not pre-writing.” When prompted to explain how she did start the writing process, Jane said she would “brainstorm in my head. I don’t put anything on paper. I think of what I’m going to write about, and then I just jump into it.” However, she did maintain that if a prewrite was required by the teacher, she preferred the outline “to broaden the topic so you can get down to the nitty gritty of writing the paragraph.”

In the second semester, students were encouraged to continue their prewriting strategy practice with the hopes that by the end of the school year, students would discover they could use several types of prewrites successfully depending on the type of essay required by the assignment. Student responses to prewriting in the second semester were not prolific. This could be because, with one exception, prewriting strategies were not the focus of any particular lesson associated with writing. While students were told they must include a prewrite for each assignment, there was no direct teaching on the accompanying methods. Students were free to choose the style they liked for all but one of the essays they wrote. One prewriting strategy was introduced to the class in the second semester via the wiki: students used a columnar table to chart the similarities and differences between the Anglo-Saxon hero Beowulf and a modern-day hero of their choosing. The purpose behind this was to show students that the Venn diagram they were introduced to in previous grades in school was not the only way to prewrite for a compare/contrast essay. Most of the students felt they had learned a significant amount about prewriting strategies and their importance to the writing process.

#### Beginning the Introduction.

In the first semester, most students found the introduction to be the most challenging part of writing the essay. Laurie (high-level) said:

The introductory paragraph is always the most complicated for me because it sets up the rest of the paper, so I try to think about what is the most important thing that can lead me up to when the paper begins. That's usually the longest part of the process as well.

One student Benny felt topic selection was the hardest part of the writing process. For some students it was finding inspiration for different topics that proved challenging. Zacharty particularly was adamant about his need for choice in topic selection: "It's hard to write about topics I'm not interested in." Two students used research as a way to find inspiration in

unfamiliar topic territory. Jane (mid-level) said she would learn about the topic first before trying to start the essay. Jess (high-level) found insight by reading other essays and books about topics, particularly in his research paper.

Some students found parts, such as writing the thesis sentence, more manageable by the end of the first semester: Lea attributed her thesis insight to the very first paper of the semester—the memoir. “[Writing the thesis sentence] has come easier. I don’t have as much trouble as I used to. I guess it’s just age and more practice.” However, two of the students were still working on connecting the thesis to the rest of the paragraph. Zacharty said he “sometimes just [has] trouble relating the thesis sentence to the introduction.” Benny seconded that idea with, “The thesis sentence is pretty easy to write . . . . It’s harder to make it flow, just piecing it together.”

Student replies in the second semester were not as focused as in the first semester in regard to formulating the introduction. Lea (low-level) said she did not gain any real insights into beginning her papers in the second semester that were different from the first semester. Jane (mid-level) returned focus to prewriting when responding to this question, and Jess (high-level) cited outside literary inspiration for creating a strong introduction.

Three of the students linked their insight to introduction writing to their experiences in the second semester. Laurie (high-level) discovered a new method for making her introduction process easier: “I often look at what info I have and get overwhelmed. I realized I had to write an overview as my introduction.” Zacharty (mid-level) realized he was better equipped to “fully develop [a] thesis statement.” Only Benny (low-level) attributed his introduction paragraph success to the wiki:

My insight to beginning my introduction came when working with other students in the wiki assignment for cell phones. I was able to see their prewrites, their thesis sentences, and their introductions and get ideas for myself.

## Citing Sources.

In the targeted school's unique learning environment, teachers have the opportunity to build on skills by teaching the same groups of students for multiple years. All of the interviewees were introduced by the researcher to MLA (Modern Language Association) source citations in the 11<sup>th</sup> grade class of English III. This introduction was reflected in mid-level Jane's first semester interview answer:

Everything we had to cite for this semester, I felt pretty good about it because I already knew how to do it . . . . After our first research paper in 11<sup>th</sup> grade, I had a feel for it.

A key for conquering citations seemed to be having a routine that the student followed throughout the essay. Jess (high-level) was the only student who indicated total confidence in citing sources; he attributed this success to habitual processes:

There's not much new insight to citing sources. It's just when I find them, I put them down. I put them how I'm going to put them in the paper, so when I go back it'll just be to copy them from one page into the works cited. I found

that when I have the book or magazine right in front of me, I write it down right away, so when I start the paper, it's already done.

One part of what could have become a routine was the use of a text mandated by the Early Start 101 guidelines. All students had to use *The Little Brown Handbook* (2008) as a resource in writing. One large section of the handbook contains all the information a student might need for researching a topic in the MLA format. Five of the students mentioned the handbook directly as having been their main source of citation information in the first semester. Laurie (high-level) said the book helped her "substantially." Benny, Lea, and Zacharty all indicated they relied the most on the handbook. Benny added that he "didn't use the internet because you run the risk of finding outdated information or incorrect information." Only two of the students said they did consult the internet to find correct citation formats. Jess would use

Google or Yahoo Answers, sites he “trusted if the information looked like it should be right.”

The other student who turned to the internet was Jane, a self-professed technophobe who answered most of the other interview questions about technology with a negative response. Jane admitted that when she didn’t know the correct citation, she “Googled it.” Unfortunately, Jane also tended to have the most mistakes with citing, probably because she readily trusted the information she found on the internet.

The second semester offered little insight for most students in citing sources. Three of the students (Laurie, Lea, and Jane) directly said they had no new insights to offer, adding they did most of their citing in the first semester papers. Benny, who never got around to finishing his research paper on *Lord of the Flies* in the first part of the second semester, attributed his insight to completing that essay by the end of the second semester. Only Zacharty gave real insight into understanding why the process of citing has to occur:

I understand the importance of citing sources thoroughly. If sources aren’t correctly cited, I could run the risk of plagiarism and get in serious trouble. I really don’t want to do that.

Peer Editing/ Self Editing.

As a recognized part of the current writing process, peer and self editing are steps students often overlook. Student responses focused on four areas: overall editing, grammar and mechanics, drawbacks, and the use of technology.

The first semester reveals a high frequency of positive statements about the editing process as it pertained to peer editing. This could be that during the first semester, more of the direct writing instruction had students in cooperative learning situations that centered on peer and self editing. Students were involved in Reader Response Groups and simply exchanging papers in the classroom setting. All six of the interviewees focused on how *peer* editing had been

a success for them in the first semester. Both students Lea and Benny in the low-level found it helpful to read other students' writings, especially when those papers were at a different level of thought, writing style, or grammar skill. Lea said she felt she:

gained a lot of insight from looking at or reading other people's papers because a lot of times in your own papers, you just skim through it and you miss what you're writing and you don't pay attention to a lot of the little things. . . I think it helps to realize the simple things and be able to say, "Oh, I do that in my paper all the time."

Another low-level student, Benny indicated he found the peer editing systems helpful in finding a particular point of view:

When you have someone edit your paper who is good at writing and expose it to their ideas, they put their point of view on it. . . It helps restructure your own writing to be exposed to different ideas and different topics.

Both students in the mid-level and the high-level found peer editing helpful in finding grammatical errors and content editing. Jane, a mid-level student self-professed at having problems with grammar/ mechanics, and Laurie, a high-level student, felt peer editors could give them insight to "fixing the grammar," especially as it related to comma usage. The other two students, Zacharty (mid-level) and Jess (high-level) said they needed peer editing to help with the "flow and emotions" of their papers. Jess elaborated:

I really like peer evaluations because it gives fresh insight on whoever reads the different works. You know, if you put a paper down and read it the next day, it's not gonna feel that different to you. But when you read somebody else's you see clearly, "Oh, you're repeating yourself here. This is going on a little long. That doesn't make sense." You know, just the cooperativeness of it.

Five students alluded to challenges they faced in peer editing. Zacharty's answer merely mentioned that "everyone has a fault in editing their own papers and other people's papers," but when asked to elaborate, he went into his own errors in writing and not into problems with

editing. Three of the other four students were concerned with peer editors who didn't give enough attention to the process. Lea put it as "some people just read through them [the papers] and say good job. They don't mark anything bad." Jane and Benny offered a solution to the problem: Let the students pick their own editors. Benny said: "I like to have control over who edits because I like to have trust in a person who is good at writing and has good control of the topic and the best insight." The last student's problem focused on understanding the peer editor's markings. Jess remarked:

The drawback is when I don't understand what my peer is trying to tell me. In regards to changing a paper, just the flow of the paper, when they're moving things around. I just didn't or sometimes don't understand where they're going with the paper. I guess it depends on who is reading the paper.

During the second semester, students were introduced to peer editing through the use of Google Docs. All of their answers focused on the use of the wiki in editing. All six students indicated that although they were still working toward mastering the skills involved in editing, the use of the wiki technology was very beneficial in peer editing. On the low end, Benny said that the use of wikis made it "significantly easier to edit each other's papers." Lea said, "I really liked having peer editors to give both negative and positive feedback to help me improve my writing techniques." Mid-level student Zacharty noted that the use of wikis to peer edit made him realize, "I need more than one individual to edit." Jane said the wiki had made her a better editor. Other students also made positive comments about the use of the wiki for more than one person to offer input into a person's writings. Laurie (high-level) indicated the use of the wiki allowed her to look at other examples of writings, while Jess summed up the wiki editing process with: "The wiki process has shown me the importance of peer evaluations."

For the first time in the second semester, two students were made more aware of the need to *self* edit, a keyword missing from the first semester interviews. Both high-level students indicated they could more easily self edit through the use of the wiki. Laurie's comment was about the ease of editing her paper at any time on any computer with an Internet connection. Jess said:

Technologies have improved my writing techniques by being able to freely edit my papers, and I can modify them and go back to it without much effort. . .it has changed the way I will edit my papers.

Publishing.

Students were rather leery about the whole concept of publishing and seemed hesitant to answer or puzzled by the question. The hesitation may have stemmed from a lack of knowledge on their part as to what constitutes a publication.

In the first semester interviews, four of the students needed question clarification, asking what was meant by the word "publishing." Even after a short description of publication, two of the students (Lea and Benny, both low-level) could not think of a single insight. The other student, a mid-level, Jane tied publication into editing, noting that after she had published on paper and traded for peer editing purposes, she "liked seeing other people's ideas. . . . That's what helped me the most." Jess (high level) also tied his answer to editing:

I pulled an all-nighter making sure [my research paper] was published nice and pretty, nice and real neat. The insight for me there was one step at a time, don't do it all at once. There were a lot of careless things that needed to be corrected. I should definitely take it slow and steady and pay attention to detail—that way you don't have to go back and republish.

Laurie (high-level) connected the idea of publishing to her computer skills: "I am very confident in using the computer. I like to make it neat and find mistakes as I type." Zacharty (mid-level) was able to draw real-world experiences he has with publishing in the science field:



With publishing, I know you need to go through many, many drafts and let many, many people evaluate it before you publish the final product. The scientific journal, research journal, it's never a final product. . . .At least that's how the scientific research genre is . . . , but I don't know a lot about the English publishing side of things.

The focus for publishing in the second semester seemed to be on using technology as a means for publication with sharing as the ultimate goal. While only one student mentioned the aspect of sharing (peer editing) in the first semester, every student focused on sharing in the second semester and mentioned the wiki as a perfect forum for sharing. Benny and Lea (both low-level) said they realized they could publish on wiki and then access it from any internet computer site. Laura (high-level) said that though she would often write on notebook paper, she would then "type it and upload to a sharing site." Three of the students learned important lessons about publishing and about themselves. Jess (high-level) pointed at his tendency to procrastinate with: "I should really stop trying to publish at the last minute." Jane (mid-level) indicated that publishing for her was still really hard: "I never feel as if my paper is complete, but it [publishing] has become better in the second semester." Finally, Zacharty added: "It is important to follow the ENTIRE literary process before you think you are ready to publish for everyone to see."

#### Summary.

In reflections of the writing process questions, students were able to respond intuitively to each step. Most of the students felt they had learned a significant amount about prewriting strategies and their importance to the writing process. Their answers also indicated they were moving toward success in beginning their essays; they seemed to need the most work on making the thesis sentence flow with the rest of the introduction. Topic selection was a note of

contention for some students who preferred to write on topics of their own choosing as opposed to teacher-directed topics.

Another discomfort for most students was citing sources. They disliked the constant need to locate the type of citation needed for the different sources they used. All of them depended on the text (*Little Brown Book*) for help with correctly using citations—only two referred to using internet sources. In the first semester, all but one student were puzzled by the idea of publishing. However, the introduction of the wiki in the second semester showed students viable ways to publish outside of the traditional typing a paper method. Students were particularly interested in the wiki aspect that allows them to access their work from any internet connection.

Another key component of the wiki was peer editing. Of all the parts of the writing process, peer editing seemed the most influential. In the first semester, students caught on to how much editing—whether done by a peer, by oneself, or by a teacher—can positively affect future drafts. Most of them noted they considered themselves honest, reliable editors. While they might not always trust the advice of their peers, editors who gave them *some* feedback was preferable to not having peer editing opportunities at all. Students became so enamored of peer editing they began to self-trade and ask for input other than that prescribed by the teacher in the second semester's writings. In the second semester, editing via the wiki altered the way students were able to physically see other students' works. They could view works for self-editing purposes, or they could offer input, both ideas many students indicated would change their writing in the future.

### Challenges and Changes

All students were challenged at some point in the two semesters by either something in the writing process or by their own shortcomings. Interestingly four of the students carried the

same issues from one semester to the next. Jess and Zacharty indicated a continuing battle with topic selection. When allowed to write on their own topic choice, the essays tended to flow easily. Their essay scores further reflect this; essays of their own choosing scored higher than prescribed essays. Benny continued to have problems with procrastination; Jane had ongoing issues with technology.

By the end of the second semester, most of the students had conquered some challenging part or realized something about themselves as both students and writers. Four of the six were able to look at a problem they had faced in writing and figure out a solution for it. Zacharty realized that the more he wrote, the better his writing would become. For all four students, the solution centered on the use of the wiki technology. Lea and Jess realized that the use of the wiki could aid them in both the essay setup and the editing process. Laurie began to rely on the availability of the wiki from any internet connection. Zacharty saw the wiki as a writing technique that would take him to the next level—college.

Laurie was the only student to find the wiki process difficult. Laurie said she would use her notebook to write and then transfer the essay parts to the wiki: “Sometimes I would lose track of where I was with my writing and just go on the internet.” Laurie seemed to get caught up in the editing process and would develop and edit her essays constantly before turning them in for a grade. She would often use free time in other classes to work on her essay development. She found it tricky to balance her need to edit with not having access to a computer anytime she wanted to change something in her essay in Google Docs. In fact, she mentioned, “I always wish I had more time to edit most of my papers and make sure that it reflects me.”

## Successes

The researcher felt it was necessary for students to have an opportunity to focus on their successes in writing. Research by Walters, Hunter and Giddens (2007) and Hjortshoj (2001) underscores the idea that student writers need to share their achievements with readers, in this case the researcher, in order for students to feel supported in their writing endeavors. Student answers about success tended to be what they had focused on the most in that semester. The writings that took the most time and/ or effort were their greatest accomplishments.

Most of the responses for the first semester pointed to writing in the first semester in general. Lea and Laurie pointed to their research papers as successes. Both Laurie and Jane (mid-level) said their success was in learning to add details and support to their essays. Two students Zacharty (mid-level) and Jess (high-level) looked at the whole process of writing and how they could use that to further their writing skills. Jess said the most successful part for him was:

Really having to stretch what I thought I knew about writing. Applying what I learned this semester. Trying to make a [sic] English 101 quota paper. I wanted to make really strong papers this year, and I feel this class has really helped.

Second semester answers could be categorized as success in completion and success in writing skills. Two students were satisfied to have finished writing assignments. Benny said his one success was “finishing my *Lord of the Flies* essay,” a research topic chosen in the first semester. A self-proclaimed procrastinator, Jess’s success was in completing his portfolio on time. The other students all alleged that some part of the writing in the second semester attributed to their success. For Jane and Lea, the different essay formats and using them to write in different ways was an achievement. While Laurie did indicate she could develop and edit easily when she had wiki internet access, only Zacharty specifically noted the use of the wiki as his success in the second semester. He noted that the use of the wiki was a tool he could take

with him to college. He also said he felt that using it helped him “develop college level writing skills.”

### Technology and Writing

For the use of technology in the writing process, in the first semester, the technologies were not specified. Students could draw from their personal experiences with technologies from cell phones to personal computers to gaming systems. In classroom activities, students had access to a computer lab for writing purposes. At one point early in the first semester, students were involved in a classroom blog that allowed them to share in a creative writing assignment. Some students allude to the use of the blog in their answers. The Early Start 101 dictates that students and teachers in the course use the university’s BlackBoard site to obtain program information and documents as well as view ideas about teaching/ writing activities. None of the students’ answers use this activity as a technology component as the only time it was used was to access a document the class needed to print for the university program director.

However, in the second semester, the question more closely reflected the use of the wiki and how it had influenced/ changed the student’s writing techniques. Three different GoogleDocs wiki environments were used: one was a practice wiki session using the cell phone essay from the first semester (students simply typed it in to acclimate themselves to the various functions of GoogleDocs); another guided students in the compare/ contrast essay; and the final one involved students in a literary analysis essay.

Overall, the students’ use of technologies in the first semester was of their own choosing and using. Some considered themselves high-tech and quite proficient in most technology uses. They had personal computers and laptops, cell phones and gaming systems. Only one student considered herself un-technology-coordinated. Jane resisted using computers unless they were

absolutely part of an assignment. For writing purposes in the first semester, most students referred to their generalized idea that the sharing aspect of wiki-based collaborative technology activities was a positive one. They enjoyed seeing other students' ideas and writing styles.

Some of the comments from the first semester focused more on not trusting or using certain technologies. Ben (low-level) summed up the use of technology in the first semester: "We mostly worked on all our essays and editing in the classroom. . . . We took notes and had to do things with formats." He also said he didn't use the internet for help because "you run the risk of finding outdated information or incorrect information." Jane (mid-level) admitted that using technology had not done "a whole lot" to influence her writing techniques.

It's really hard for me to type my paper on the computer. I'm more of a sit-down writer on a sheet or paper and then type it. So writing on a computer doesn't help me much. It does help for other students to go in and review it [the paper] and give their input on it.

In keeping with positive tone of the last part of this quote, Jane also commented she liked to use blogs because she "liked seeing other people's ideas."

Other students continued in this vein of using technology to view other's ideas and works. Zacharty (mid-level) looked to the use of technology as a way to provide insight into topics he might not be interested in. Other peoples' writings could guide his own work with those troublesome topic areas. Lea (low-level) continued the positive technology vein:

Technology can help because you have someone else's input constantly, telling you how to do it. Where if you're sitting at home, you just have yourself, you have your own opinion. Having other opinions helped a lot. You can notice what you're doing wrong. Even when they're giving you a heads-up, like, "Hey, you're doing a good job," and encouraged [sic] you, you know you're doing the right job.

Laurie and Jess (both high-level) mentioned accessing anyone in the class including the teacher for feedback and accessing the internet for resource retrieval. Jess said he was looking forward to the second semester of wiki inclusions as a way to perhaps keep him more organized.

With the inclusion of wiki technology through Google Docs in the second semester, students focused more readily on how the use of technology had affected their writing. In the second semester, an additional word was added to the interview question: “How have technologies *such as wikis* influenced/ changed your writing techniques?” For Jane, the response was mixed: It [the wiki] “taught me how to use the computer when writing.” However, she admitted that most of the time she “found it in her best interest to get the info off the wiki and then write on paper.” Lea also found one negative aspect: she said she would forget to focus on the simple things such as spelling and grammar because she was so caught up in the wiki. However, for Lea and the rest of the students, using the wiki opened new technology doors, and in Zacharty’s words allowed the students to further their writing skills. Laurie spoke of the ease of accessing essays stored on a wiki:

Wikis make it easier to upload and edit at any time. For me I work on one computer, but when I need to work on another [computer], the paper isn’t saved there. I can just pull up the internet. . . . It’s easier to develop a rewrite because I can upload charts to write in. Overall the inclusion of the wikis have made writing easier this semester.

Five of the students specified editing (peer and self) as the key success to using wikis in their writing processes. Zacharty introduced this idea by saying, “Wiki allows my classmates and I [sic] to peer evaluate each other . . . and develop new writing techniques with much ease and access.” Ben commented that the wiki use has “made it significantly easier to work with other students and edit each other’s papers.” Lea said:

I really liked having peer editors to give both negative and positive

feedback to help me improve my writing techniques. Being able to see others' writing techniques had a positive influence on my writing and helped me have an open mind toward my writing and see from a different perspective. . . I like what we're doing with Google Docs. I like having other people's suggestions and reading their stuff.

Jess continued this idea by saying that wiki technology had allowed him to "freely edit my papers. . . without much effort. . . .It has changed the way I will edit my papers." Laurie said:

They [wikis] have influenced me to be more open to other people. Usually I'm pretty independent and don't listen to others. But now I've realized their opinions do matter. They'll say something like, it doesn't flow right here, and I'll go back and read it and say, no, that doesn't flow right, and I'll go fix it. So people's opinion is really starting to matter to me in writing.

Laurie further summed up the use of wikis by saying: "It [the wiki] has shown me to think outside the box . . . . Overall, the inclusion of wikis has made writing easier this semester."

In the second semester with the focus on the use of GoogleDocs, students were able to specify how the technology made their writing experiences viable. Most of the students focused on some aspect of editing. Four students were keen on peer editing through the wiki; two students said they learned about self editing through the peer editing they participated in. What the students particularly liked about the editing was the easy access. At any time, they could pull up another student's writing, use it as an example of how to create part of the essay or use it to get ideas about a topic. In addition, they could solicit and/ or offer advice about an essay. Even though students were assigned to a partner, GoogleDocs shows they looked at many other essays during the wiki process. A student who had a reputation for making excellent grades in English would have many of the other students perusing his or her wiki submissions. Having essays at all levels was another thing students found useful about the wiki. They would not hesitate to comment if a student were obviously weak in his/ her writing or reasoning.



## Interview Summary

Students' interview responses seemed to ebb and flow as those parts of essay development were introduced, practiced, or published. When the focus for the semester was on prewriting and thesis or introduction, student responses reflected those and associated words. Therefore, the focus shifted from one semester to the next based on what the students were most recently involved in with their writing. One theme pervaded all of the interview sessions—problems students faced in writing. Most of the students interviewed said they had problems in the areas of interest: beginning the essay, citing sources, editing, and publishing the essay. The second semester saw an increase in the number of essays written about a single work of given literature. Students then focused on the difficulty of completing a literary essay.

Overall the researcher found that students in the low ability grouping tended to be very general, even vague about the specifics of their writing needs and experiences. For example, they could not narrow down their problems in grammar to a specific area of need or identify a need for practice in writing the thesis sentence as a part of beginning the essay. With relation to their experiences, they were mostly unclear about underlying reasons for what they did or did not do. One student, for example, said she disliked and found it hard to cite sources, but she could not specify what gave her trouble with citations.

Students in the medium and high ability groupings were more verbose and could add some explanation to justify their answers. They were able to pinpoint writing strategies that worked for them, areas of grammar that gave them trouble, and technologies they looked forward to using on a regular basis. They were not just able to say what worked or didn't work, but *why* a particular tool worked or didn't work. Students in these levels were also able to make a transfer

of knowledge; they realized what they could carry with them for use in the college world of writing.

However, for purposes of this research project, the researcher was interested in discovering how students rated themselves as writers before and after the wiki collaborations and what challenges and/ or successes they experienced through the use of the wiki collaboration. First of all, not one of the students had participated in a wiki before its inclusion in this experiment. All knew about and had used Wikipedia at some point; they also were aware of how Wikipedia was formed, edited, and maintained by its viewers. At least two of them had collected incorrect information from Wikipedia in their first in-depth research assignment in eleventh grade. As writers before the wiki, most indicated their level to be on-par with both their grades in English classes and their ACT scores in English.

In the second semester and when students were completing writings through GoogleDocs, their focus was on the aspects of writing that were influenced by the use of the wiki. Peer editing had the highest frequency with students mentioning it 100 times. Most of these mentions occurred in the second semester with students connecting the peer editing to the wiki process. Through GoogleDocs, low-level student Benny completed two essays and started work on a third. He also completed his research paper from the first semester, though not through the wiki. He, Lea, Zacharty, Jess, and Laurie found the editing process allowed by the wiki to be beneficial and enjoyed working with other students. They were able to improve the organization, flow, grammar, and wording of their essays. As a result of the wiki, all five saw the benefits of peer editing as something they plan to include in future writings.

The second most mentioned aspect of the wiki inclusion was the ease of access. Four of the five students said they liked the idea of having access to their own and other students' works

from anywhere they had an internet device. Students indicated they could access their work without having to depend on an email account (which is not accessible from most school computers), an external storage device (flash-drive or CD/DVD), or even a printed copy (students often have printer issues at home). Overall students indicated the use of the wiki had changed the way they would write, edit, and store essays they may need for college purposes.

### Case Studies

This section provides detailed descriptions of each case in a within-case analysis, which allows for an information-rich experiment (Yin 1994; 2003). Data sources included open-ended survey responses, writing analysis, interviews, and teacher observation. Six students from three levels of ACT scores in English (low, medium, and high) were randomly selected for interviews to provide explications of the quantitative data produced by the survey data and the essay data. For the case studies, each student was interviewed after a first semester of writing with no specialized technology component. Students were interviewed again at the end of the second semester of wiki-based writing. Each case is described beginning with a description of each student, followed by the student's self rating and the teacher perceptions. Finally each student's improvements and accomplishments are detailed. Student names have been changed to provide anonymity.

#### 4.1 Lea

Lea is 17 years old and has followed an honors curriculum since entering ninth grade at the target school. With an ACT score of 20 and a 3.88 grade point average (GPA), Lea is ranked in the top five percent of her graduating class. Her transcript reveals Lea earned an *A* in all four years of honors English classes (which are scored with a 10 point grading scale).

#### Self Rating and Teacher Perceptions.

When Lea entered English IV in the first semester, she considered herself an average writer. On her first semester personal survey, she rated herself below average (a survey score of 1 or 2) in preparing her writing for publication, using technology to publish, recognizing weaknesses in an essay, peer editing others' papers for grammatical and mechanical errors, writing critiques, and any survey topic dealing with wiki technologies. Lea noted that she typed only her final draft on the computer, indicating a hesitancy to use technology until the last moments of essay construction. All of her rough drafts were completed with pen and paper; Lea was even hesitant to use the Internet for research, preferring to build her knowledge through print text.

Lea did feel she could do several writing tasks at a level 4 (the highest): building knowledge about a topic, communicating ideas to others, giving honest feedback and criticism, thinking creatively, applying knowledge to "real world" situations, experimenting with new writing styles, and writing essays on various topics. Lea was always open to doing the "legwork" that makes an essay better. She took the challenges of new writing styles and powered through to an impressive finish. She struggled most with topic selection, especially when she was allowed a wide range of topics. One of her biggest hurdles occurred when students were allowed to write about any past experience in a mandatory memoir creative-style essay. Lea agonized over her chosen memory, creating prewrites on four possibilities before settling on a topic she would eventually present as her farewell address to the graduating class.

Lea was non-paralleled in self editing. She would produce multiple drafts before turning in the first assignment. What other students considered a rough draft or first draft would have already been rewritten at least once before peers edited or the teacher marked it for corrections. Her answers to the open-ended questions at the end of the survey indicate she felt her successes

for the first semester were in the usage of grammar/ mechanics and being more open-minded with her creative writing (perhaps a result of the struggles she faced in writing the memoir). The most important factors to improving her writing in the first semester were the “peer editing, doing activities with classmates to revise and edit our papers and also discuss them.”

In her second survey, Lea tended to mark herself with a lower score on many of the items in the section on the Writing Process. This could be because of the timing of the survey. It followed one of the hardest pieces of writing the students did. While Lea never visibly struggled with any of the expository topics, kept a very clear vision of her opinions, and was able to provide support to back up each one, she struggled with the essays that were literary based. The final essay about the Wife of Bath was hard for Lea to write—she even spoke of it in her interview as being the most challenging part of writing for her in the second semester. Her focus on that would explain why she marked such entries as “extracting and using information from an author’s work as evidence” and “building knowledge about a topic” one scale lower than the pre-survey’s marks. However, Lea’s marks in all of the technology-based items rose one to three marks on the post-survey. She felt she maintained at the highest score of four on the class wiki items, such as accessing the wiki site for information, submission of papers, and discussion forums. She also felt she had improved her use of other word processing software from a score of two to a score of three. However, she did state she still only typed the final draft on the computer when she was not participating in the class wiki.

#### Improvements and Accomplishments.

Her improvements for the second semester were in being able to set up an outline, creating the structures of her papers, writing a thesis sentence, and finding/ correcting grammatical mistakes. Lea passed the portfolio assessment, even including one of her Google

Docs essays in her portfolio. She was quite proficient at applying what she had learned to other situations (an area in which she marked herself as a 4). In her own words, she backs this up:

I think the most important contributing factor to my writing improvement was being able to receive comments from other students, having access to their papers to get ideas on different styles of writing, and giving or getting a wide variety of feedback.

Real-world application also played a role in Lea's ACT score. Although she started the school year with an English ACT score of 20 and an overall ACT score of 20, she ended the school year with an English ACT score of 28 and a composite ACT score of 26.

Writing scores for Lea's essay reveal improvement, though not on a statistically significant scale. Her first paper garnered an average score of 85 percent out of a possible 100 from three raters. This paper scored above average (A/B) in all areas of the rating chart except in grammar and mechanics and in style and usage. This means Lea had no substantial problems with content, writing features, research, source utilization, technology use, and development (for detailed description, see Appendix C). For the second essay rating, Lea's score rose to an 89.7 percent, a gain of 4.67 percent. This essay, completed through Google Docs scored average on only one rater's score sheet with three C-level markings in documentation, source use, and technology.

#### 4.2 Benny

The second student in the low ACT category with an English score of 20 was Benny, an 18-year-old student who transferred to the target school after two years in a northwestern United States school setting and one year in a southeastern school. Benny's transfer grades and his overall GPA of 3.08 allowed him to take honors level classes at the target school. His transcript reveals a mixture of grades in his English classes, ranging from A's to D's. His ACT composite score was above 25, a score that is attributed to Benny's expertise in math and science.

### Self Rating and Teacher Perceptions.

When Benny entered English IV, his writing abilities were not in question. What he seemed to lack was the self-motivation to complete assignments on time. He marked himself low in areas of creativity, directly stating that as a weakness in the interviews. He also low-rated his abilities to pick appropriate essay formats and participate in the wiki assignments. Although he confessed to completing about half of his writing on paper and half on the computer, he rated himself highly in other areas of technology use: source collections via the internet, technology modes of communication, and publication using word processing programs. He did seem to have quite the grasp of technology-based applications. A parent interview with his mother indicated Benny spent hours playing interactive video games. He also rated highly his abilities to peer and self edit, giving himself five rankings of four out of eight analysis prompts. However, much of these strengths were not visible during the first semester as Benny wrote only part of one full essay to trade with other students or even to show the instructor. Benny knew procrastination was his weakness, mentioning it directly in three of his first semester interview responses. It was also reflected in his score of *D* in the first semester of English IV.

Benny would appear to work in class on the assigned essay. He would always have bits and pieces of the essay completed, usually the prewrite, the thesis, and some of the introductory sentences. However, when it came to finding support and weaving those sources into his own writing, Benny bogged down. His survey answers for the first semester revealed he had been introduced to the idea of citing outside sources during the previous school year and found the whole process “kind of a hassle.” He did find peer editing helpful—not in correcting his essays but in seeing other students’ points of view, ideas, and topics. He did seem to have a problem selecting a topic, something he alluded to as a challenge in the first semester interview. With his

tendency toward procrastination, Benny produced only one short paper in the first semester, while the rest of the students completed four essays. One of his short but apt answers on the pre-survey focused on this challenge: “My problems with writing seem to stem more from a lack of effort and motivation than any lack of ability.” His successes in the first semester centered not on writing but on his reading and comprehension and grammatical/ mechanical improvements.

Benny did continue in the second semester to note that his problems in writing stemmed from his own procrastination. When asked what he would change about his writing experiences, he noted, “I’d procrastinate less.” His biggest challenge according to the open-ended question on the second-semester survey was “laziness.” He also marked the post-survey items that related to his using input to change writing drafts and preparing his works for publication at a lower rating. He seemed to realize it was difficult to apply any suggestions or to publish if there was no essay to edit or publish. While he noted his creativity level had increased by one level and that he still did about half of his writing on paper and half on the computer, he marked the most improvements in the areas of using the class wiki site. It was during the wiki assignments that Benny was especially keen to write. The use of the wiki motivated him to complete the two essays that were the focus of the wiki assignments. Using the wiki, he completed an essay on Beowulf vs. a modern-day hero and an essay on cell phone use. He stated the wiki had allowed him to “create more clearly organized essays.” He was also quite eager to give feedback to his assigned partner(s). He was intentionally paired during the wiki assignment with two different students—each was a stickler for getting assignments done early and for “pushing” those around them to do the same. Benny was prompted on a daily, sometimes hourly basis, to edit and offer support. That prompting combined with Benny’s love of cutting-edge technology proved successful for him in the wiki writing exercises.



### Improvements and Accomplishments.

It wasn't until some time into the second semester that Benny decided to address his dearth of material for the English 101 portfolio. Even though he was behind by six papers, he focused rather narrowly on his research paper, which had been due in December of the first semester. He finally finished it in April of the second semester, two weeks before the portfolio was due. He completed only two more essays in the second semester.

Benny's second-semester epiphany earned him a *B* in English IV. He also retook the ACT, earning a score of 23 in English. However, Benny did not have enough essays to complete the portfolio process; the instructor had to withdraw him from the college portion of the class the day before the portfolio was due. Benny received a grade of AU (audit) on his transcript.

In terms of this experiment, the researcher had the entire class complete a practice essay exam early in the second semester. As it was not completed through Google Docs, it was used as Benny's pre-essay. The score on this was 78.33 percent. All of Benny's raters scored this essay with above average marks in documentation, source utilization, and using technology. His lowest markings were in rhetoric and development. Benny's second essay rated a 79.33 percent, a gain of 1 percent. Marks for this essay were within the same range as the pre-essay; only the technology score increased, with all raters marking this as a top mark of 4. Benny's lack of significant improvement is perhaps the result of not enough practice on Benny's part. While his essay grades are average, he could have probably made more progress in writing if he had consistently worked on his essay development.

### 4.3 Jane

Jane was randomly selected from five students who attained a mid-level ACT English score of 22-25. Jane, a 17-year-old student, made a 22 on the English portion of the ACT. Jane,

17 years old, has been in honors classes for the duration of her high school career. She maintained a 3.98 GPA, earning only one *B* in a science class. As part of the top one percent of her graduating class, Jane entered English IV self-assured in her writing abilities.

#### Self Rating and Teacher Perceptions.

She felt more successful in writing creatively, preferring to “put part of myself into my writing.” A self-professed technophobe, Jane did all of her writing in the first semester on paper. She often turned in even the final draft on lined paper. Her lowest marks on the pre-survey were all technology-based. For the 10 survey items that dealt specifically with technology, Jane marked seven with the lowest score of 1. She truly seemed intimidated by the use of the computer as a writing instrument. In fact, she noted the only writing she felt comfortable in using technology was texting on her cell phone. Her first-semester interview response to a question about using technologies such as wikis or blogs was:

They haven't done a whole lot. It's really hard for me to type my paper on the computer. I'm more of a sit-down writer on a sheet paper and then type it. So writing on a computer doesn't help me much.

This difficulty explains why Jane marked “publishing” as one of her lowest scores. She alluded to the challenge in the interview by saying “publishing for me is really hard. I never feel as if my paper is complete.”

Jane's pre-survey responses revealed not one mark in the highest category of 4. She marked 10 statements with a 3: the statements covered topics on discussions and communication with peers, thesis sentence formulation, knowledge building, critical response, creative writing approaches, soliciting writing advice, and using the internet to find sources. Her pre-survey open response indicated Jane felt her success in these areas could be attributed to “the constant essays.

Writing many essays has helped me write more successfully.” In addition, she stated she had improved in the areas of grammar and researching in a more in-depth way.

In her second survey, Jane continued her critical bend with no marks in the category 4 area. While she did mark improvements in all but four survey statements, she seemed overly critical of her English abilities. Upon discussing this with Jane, the researcher discovered Jane felt her abilities lay more in the science and math subject areas. At graduation ceremonies, Jane received awards in both math and science as a testament to her proclivities. Her excellent grades in English were a result of dedication and hard work, not because of any innate abilities in writing, grammar, or literature. Jane pointed to her dislike for reading as the foundation for any weaknesses she had.

Jane’s lowest marks in the post-survey were different from her lowest marks in the pre-survey in that she did not mark any wiki technology entry lower than a three. She still felt that publishing her papers was difficult and gave the four survey entries that dealt with publication a score of 2. She also felt less capable of evaluating other students’ writings and of extracting evidence from authors’ works to use as support.

Jane was reluctant to participate in the class wiki—“I don’t do very well with the wiki”—but once she tried it, she was able to see its validity, especially in having someone available to provide feedback on a regular basis. She marked all of the wiki survey entries as 3’s and stated in her second interview that she felt the wiki had “taught me how to use the computer when writing” and had “helped me understand what way is best for me to write.” While she still tended to prefer pen and paper essay construction, she indicated that by the end of the second semester she was completing about half of her essays on paper and half on the computer.

### Improvements and Accomplishments.

Even so, Jane felt her writing had improved in the second semester. Again, she noted the many types of writings, the varied writing topics, and the high frequency of writing assignments were the contributing factors that led to improvement. She stated her grammar and mechanical abilities had also improved and that she “felt comfortable expressing my ideas.” Her essay scores show only minimal improvement, with an overall gain of 1 percent (pre-essay score of 68.66 percent and a post-essay score of 69.66 percent). Raters indicated Jane’s essays scored lowest in several areas: purpose and audience, rhetorical features, style, documentation, sources, and development. The same areas rated consistently low on the pre-essay ratings. Jane seemed to let the problems she had with technology affect her essay skills. She did pass the portfolio assessment, but she only put in essays she had completed outside of the Google Docs wiki technology.

### 4.4 Zacharty

The other student to fall in the mid-level ACT category with an English ACT score of 22, Zacharty was a 17-year-old student who had moved to Holden in his ninth grade year as an honors student. He ranked in the top five percent of his class with a 3.88 GPA. He received *A*’s and *B*’s in English I and English II, but maintained all *A*’s in English III and English IV.

### Self Rating and Teacher Perceptions.

A self-professed “numbers guy,” Zacharty stated his interests in his interview at the end of the first semester:

The way my brain works, I’m good at math and science and English is a subject I’ve never been good at. I’ve found myself liking to write since I’ve been in your class from last year. Before that I hated anything to do with writing and English, but I’ve learned to like it. Now, I just have to get better at it.

In the pre-survey, Zacharty rated himself the lowest in publishing and editing his writings. The wiki-based entries all received the lowest ratings of 1, while the entry for publishing received a 2. The only other entries that Zacharty marked as a 3 were recognizing editing needs in his own papers, helping others correct the grammar and mechanics of their essays, and trusting the input other classmates gave him in peer editing sessions. Zacharty tended to question everything. It was his way of finding out what he had done wrong, why he had done things wrong, and what needed his focus the most. His tendency to question things served him well in writing expository-style essays. He was always able to take essays he could create an argument or find support about an issue and work well in that environment. However, he did not do well with creative topics. He even directly said in both interviews that writing creatively was difficult for him: “The emotions part are [sic] my downfall. I have trouble linking emotions.” Zacharty also conveyed strong feelings about topic selection. He was adamant that he wrote better on topics that he could choose—“I have trouble writing about topics I’m not interested in. I am interested in a lot of things, but I feel it’s hard to write about certain topics I am assigned to write.” What Zacharty was especially interested in was anything connected with the medical field, his intended area of study. His first paper was a result of his interest in medicine and how technology plays a role in medicine. As far as his personal technology, Zacharty’s pre-survey answer indicated he did half of his writing on paper and half on the computer. Before the class assignments, he had no idea that anyone could write an essay using wiki technologies.

In the second semester, Zacharty reached two epiphanies with writing: even if the topic was one in which he had no interest, he could complete the writing. What was especially interesting for Zacharty was the effort he gave to the Google Docs exercises. He embraced the writing process through the wiki, even directly stating that the wiki had helped him “develop

college level writing skills.” What he found helpful about the wiki environment was the ease with which he could develop writing skills and have peers evaluate his essays. While he had marked all of the technology entries in the pre-survey with the lowest rating, he marked all of them with the highest rating at the end of the second semester. He also indicated he did all of his writing process on the computer.

#### Improvements and Accomplishments.

Zacharty’s improvements in the second semester linked the use of the wiki technologies to his writing process. His accomplishments in English are evident in his ACT English score increase from a 22 to a 26. He was one of the top scorers in the portfolio process, with the raters commenting his work was on par with college-level essays. Zacharty’s first essay scored an average of 79.67 percent, with his highest scores falling in the use of technology, the development, the documentation, and the source utilization. His lowest scores were in grammar and mechanics and in style and usage. This first essay is a true reflection of Zacharty’s interest—the medical field. This interest is displayed in the thoroughness and development Zacharty was able to put into the essay. The second essay shows a gain of 1.33 percent, up to an 81 percent score. Although this essay was completed through Google Docs, which seemed to pique Zacharty’s interest and attention, it was not totally a topic of his choosing. He was assigned to write about one hero, but he could pick a second hero as his foil; he picked members of the medical profession. Ratings for this essay were marked lower in documentation and source citation. This could be because Zacharty already had so much self-knowledge of the medical profession that he did not use external sources for support. Like Lea, Zacharty was able to take his writing experiences and link them to real-world experiences. He worked with a local

university's medical research facility to produce research reports. He also wrote numerous essays on his own to gain admission into college and to secure additional funding for college.

#### 4.5 Jess

Only three students in the class had English ACT scores that fell in the highest category of 26-30. Jess, an 18-year-old honors' student, had a 28 English ACT score. Jess graduated with a 2.96 GPA. His transcript reveals he tended to do medial-level work in English classes, earning five *B*'s, two *C*'s, and one *A*.

##### Self Rating and Teacher Perceptions.

Jess considered himself a better-than-average-writer, an opinion he based on his love of reading. On his first survey, the only areas that Jess marked below average (2's and 1's) were in publishing and using wiki-based technologies. Jess noted that he only typed his final draft on the computer. All of his rough drafts were completed on paper. While he loved to peruse the internet, he did not consider himself a very accomplished typist. His first interview underscores this idea when Jess noted he had trouble putting papers in the "proper format." Jess also lacked organization and motivation. He tended to misplace items and had trouble seeing a writing task through to its finish. All of his essays were turned in at least a week after their original due date, a flaw Jess termed as "challenging for me to get them [the essays] out on time."

Jess rated himself at the highest level for most of the writing process, at level three for all but one area of the editing process, and at level three for all but one area of writing styles. He proved to be quite a proficient writer, especially when it came to adding supportive details. While he struggled at times with topic selection, a process he called "challenging," once he had a topic, he could elaborate and add necessary details. When a new paper was introduced, Jess would start strong; however, he would lose momentum mid-way through the writing process.

The teacher would often get an excellent prewrite and introductory paragraph but would have to wait for a finished product. Jess just couldn't turn his essays in by the deadlines.

Often, the paper tardiness was the result of procrastination. Many times, Jess would get so immersed in the topic, he couldn't stop researching long enough to get his thoughts collected and down on paper. He thoroughly enjoyed getting "knee-deep in information," and his survey open-ended questions indicate he felt he had strengthened his research skills in the first semester. In addition, he felt he had gained knowledge in essay structure and in grammar and mechanics.

In the second survey, Jess marked only two items less than the highest level of 4. He felt he had improved substantially from the first semester to the second in all areas except helping others edit their works and shaping ideas into a proper essay format. The former area is probably due to Jess's feeling his grammar and mechanics were still lacking. The second mark was probably due to the then-most-recent emphasis on literary analysis formats, one with which most students struggled. Jess indicated that by the end of the second semester, he was completing about half of the writing process on paper and half on the computer. He also felt he had become more versatile in expressing his viewpoints and composing a "well-rounded" essay. He further indicated that using Google Docs had "improved my writing techniques" in regard to editing. Instrumental in Jess's use of the wiki was his realization that the wiki had shown him the "importance of peer evaluations."

#### Improvements and Accomplishments.

Jess's self-realization about editing and writing techniques through the use of Google Docs is backed up by various scores from the second semester. He increased his English ACT score, earning a 30 in the second semester. Jess also passed the portfolio assessment with the highest evaluation in the class. The university graders commented that his portfolio showed the



highest levels of writing accomplishment, with his work receiving perfect scores across the board. This accomplishment level is seen again in his writing scores for this research assessment. Jess's first essay rated an overall score of 76.6 percent. Raters indicated he lacked control of some features: style, grammar and mechanics, development, source utilization, and documentation. Each of these was marked below average by all of the raters. Jess's final essay score, however, rose to an 88.3 percent, a gain of 11.67 percent, the highest gain of all the essays from the six case study participants.

Ratings for Jess's second essay were marked low in only two areas: documentation and use of technology. The latter feature is a result of the two raters seeing only a typed final draft of the paper. They had no knowledge this particular paper was created through the use of a wiki. According to Jess, the main difference behind his work improvement in the second semester was that the use of Google Docs gave him an instrument for staying on task. He was motivated to see what other students were writing, to submit his ideas for their essays, and to receive their comments about his own writing. His lack of motivation from the first semester seemed to turn around when the wiki was introduced. He consistently logged in to participate in the assignments. He seemed to need some external tool to keep him interested in the writing process.

#### 4.6 Laurie

Laurie came into English IV with a very high English ACT score (28). An excellent student overall, Laurie maintained a 4.0 GPA throughout high school and graduated the top student in her class.

##### Self Rating and Teacher Perceptions.

Laurie had a clear vision of herself as a writer. She knew her strengths and weaknesses and was determined to increase her writing knowledge. Laurie tended to follow every step of the

writing process. She would always begin with a prewrite and always end with several rounds of editing—both peer and self. Her first interview revealed her feeling that the introductory paragraph gave her the most problems in writing. She felt setting the introduction up correctly was “the most important thing” and “the longest part of the writing process as well.” On her pre-survey, she also gave herself a rating of 2 in areas of publication, pointing out weakness in an essay, grammar and mechanical editing, and all parts of the wiki process. Her first interview backs these numbers: Laurie indicated feeling uncomfortable giving advice on grammar and mechanics “because I don’t want to mess them up.” She also said that while she felt slightly more comfortable editing for content, she tended to use peer editing for substantial issues in her own essays. While Laurie indicated in the interview that she was “very confident with typing and using the computer,” her survey revealed she only typed the rough draft on the computer.

Laurie’s writing strengths according to her pre-survey lay in the areas of building knowledge, adding support, using computer programs such as Microsoft Word, being honest in her peer editing, applying others’ comments to her own writing, thinking creatively, “real world” applications, writing essays on various topics, and using the internet to collect sources/ resources. Laurie was especially adept at the editing process. She was constantly checking her essays and having others read and comment on them. She was a rare student who did not just accept what others told her; she always verified the information with either the text book or the teacher before she accepted the changes. According to her pre-survey, Laurie felt she had improved in her writing styles, in her documentation strategies, and in her vocabulary usage.

In her second semester survey, Laurie gave only one feature a rating of 2 (the same rating as in the first semester): helping others correct grammar mistakes. Her previous features that rated a 2 had increased to either a 3 or a 4. Laurie marked two features lower in the second

semester: appropriate essay formats and “real world” applications, perhaps because her focus had shifted away from these in the second semester’s writing assignments. While she still admitted to typing only the final draft on the computer, Laurie’s marks for all of the wiki features rose to ratings of 3 or 4. She felt she could successfully navigate all aspects of the class wiki. What she particularly enjoyed with the wiki was the editing features, especially as she “enjoy[s] developing and editing my papers.” In addition, she liked the ease of access—being able to “work on another computer and pull up her paper”—and the editing features, such as “developing a rewrite” and “looking at other examples.” She further indicated that the wiki “has shown me to think outside the box.” She found it much easier to look up information and upload needed charts. She did find it challenging to continue her previous mode of writing in her notebook and typing in a final copy. “Sometimes I would lose track of where I was with my writing and just go on the internet.” However, she ended her interview with, “Overall, the inclusion of wikis have [sic] writing easier this semester.”

#### Improvements and Accomplishments.

Laurie’s improvements for the second semester were in developing her papers, using Google Docs, learning minor grammar rules, and working with the criticisms to improve her writing. Laurie included her Google Docs essay on heroism in her portfolio and passed it. Her essay writing scores for this research project were the highest of any of the case study participants and also reveal improvement. Her first semester essay received an overall score of 86.33 percent. She garnered only three average (C-level) markings in source incorporation, grammar and mechanics, and use of technology (probably because her rough draft was handwritten). For the second semester essay, Laurie’s score was 90.67 percent, one of the few *A* level papers from the participants. This score shows a gain of 4.33. For the second rating, Laurie

scored above average in all areas from two of the raters; the third rater included two C-level scores in documentation and in use of technology. In an effort to create some objectivity in scoring, this rater was not aware the essay had been completed via Google Docs.

### Summary

Overall, students were on par with their personal assessments as writers. The two lowest students felt they were better at writing creative essays than they were at writing expository essay. Lea progressed significantly at writing before the wiki incorporation. She gave much time and effort to all parts of writing process and consistently improved her writing. She would only type her essays on the computer if the assignment prompted her to do so. By the end of the first semester, Lea was much more accomplished at both creative and expository writings. The other low-level student Benny was fully capable of writing in-depth essays; however, his procrastination caused him *not* to complete any of the writing assignments in the first semester. While he maintained he could write, he did not show progress as a writer because he did not have the evidence to support improvement. Benny said he preferred writing all of his essays on the computer. Perhaps his lack of completion in the first semester was due to a lack of assignments on the computer.

The two mid-level students indicated they were average writers. Zacharty saw himself as a better writer of expository essays. He particularly enjoyed writing that included a scientific focus. He struggled with the first essay on creative writing, but improved steadily throughout the first semester as the topics were more open-ended and expository. Zacharty saw growth in writing with correct grammar and mechanics. On the flip side, Jane flourished at creative writing but struggled through expository writing. She indicated her strengths in writing at being able to add personal examples; this perhaps became the reason expository writing was a challenge. Jane

had troubles, however, adding sensory details to her writing and supporting her claims with evidence. Jane's growth occurred in learning through the practice of writing to add details and support to all types of essays. She also said that she had improved her grammar throughout the semester's work.

High-level students Jess and Laurie both indicated they felt "pretty good" about their abilities in writing. Both felt equally capable of writing creatively or expositoryly with no real preference for either style other than Laurie's enjoyment of writing about her family. Jess tended to procrastinate. While he did finish all of the assignments in the first semester, he turned them in a week or two after their assigned deadline. He would usually have all or part of a rough draft for peer editing purposes; it was his final drafts that were late. His only negative comment toward writing was not getting to pick all of his own topics. He felt assigned topics forced him to "contrive" the information, and the essays ended up not really being a reflection of his interests. His greatest insights in the first semester were in citing sources and creating a citation routine that worked for him. He was quite proud of that accomplishment and of learning to stretch himself as a writer for each assignment. Laurie's accomplishments in the first semester were with every paper. She saw the need for each type and allowed herself to grow as a writer with each essay. Her comments indicate she felt much of the growth occurred in her use of grammar and in her editing. The latter one is probably because she never felt finished with an essay. She was always trying to improve something about it right up to the deadline.

## **CHAPTER 5**

### **DISCUSSION**

The use of technology in the writing classroom has been a staple since the early-1990's when the personal computer made its way onto the desks of teachers and students across America. Since that time, the challenges have been for educators to incorporate the most recent technologies in an effort to stimulate student writing, to find funding for the technology programs, and to set aside the time needed for such programs to be successful. This study examined the effects the use of a web-based wiki technology can have on the writings of high school students.

The primary goal of this study was to explore how the web-based collaborative technology in Google Docs and used in a secondary English IV classroom can impact the writing skills of twelfth grade students dually enrolled in a freshman level writing class of a local university. Specifically, the study explored how students writing levels and processes were affected, how they perceived themselves as writers, and the challenges and successes they faced through the wiki-style inclusion.

A mixed methods case study design was used. One intact twelfth grade English IV classroom was used for the study (n=15). During the Fall 2009 and the Spring 2010 semesters, data were collected from observations, student interviews, a two essays, and two student surveys. Quantitative data were collected from all the 15 class members via student perception surveys and rubric-based assessments of two essays. Qualitative data included open-ended questions on the writing surveys from all of the students; teacher observations of student interactions with each other, the wiki, and the writing; and interviews with six students at three ability levels.

Results showed that wiki-based technologies can impact students' writing processes and their essay results. Strategies inherent to the wiki process can motivate students to be better participants when they know someone else is depending on their input. Another factor was the ease of access. Finally, what seemed especially prevalent in student comments and observation was how peer editing may have contributed to students' writing progress. The findings of this study support those of previous research. They also underscore the importance of continuing to incorporate modern technologies into the classroom. Other implications for practice are also discussed. Key findings from the study reveal themes that support the use of wikis in the writing process. These include motivation, access, and collaboration. Each of these themes is discussed in relation to the existing literature. Other implications for practice are also discussed.

### Motivation

One of the earliest research findings for using technology in education was the idea that students are motivated by and excited about using various technologies. Students in the present study were motivated to use Google Docs for a variety of reasons. Two students who had problems completing assignments used Google Docs as an impetus to complete assignments in a timely fashion. Benny and Jess directly stated they used Google Docs to keep them "on track." Benny, the student who had finished none of the essays from the first semester before the Google Docs inclusion, was faithful to log in, complete his own assignments, and comment on assignments completed by his writing partners. The motivation to stay on task could stem from the addition of an audience to the writing assignment. According to The National Commission on Writing (Lenhart, Arageh, Smith, and Macgill, 2008), a primary motivation for teens who publish a web-based document is to "write and write well." Finishing and posting the web-based

document seemed a priority for students, as they did not want to inconvenience their peers who had been assigned to peer edit for them or who might be expecting comments from them as well.

Another motivation for students was the feedback offered by the teacher and peers through Google Docs. The National Commission of Writing names detailed, timely feedback as the “single most important motivator.” Students of the present study were eager to discover the feedback when they knew it was due or impending. They would often ask for extra computer lab time during the wiki inclusion experiment to check the editing status or to edit for themselves or another student. Research by Breen (2006) indicates that technology inclusions such as wikis or blogs help to create a “community of writing” in which students and teacher are motivated to share, revise, and share again through “all the various stages of the writing process using technological communication.” Students actually look forward to the opportunities inherent in the wiki environment to collaborate. This backs up research by Wu (2006) and Johnson and Card (2007), who found technology inclusions helped students be responsible and dependable in meeting deadlines and offering editing advice. Other research by Warschauer (1996) points to online writing technologies as a “less threatening” mode of communication, which can enhance student motivation to write. The research completed for the present research reinforces these studies by offering improved essay scores, student insights, and survey results that indicate students were motivated by the wiki to write, write, write.

#### Access

One statement many of the students made about the wiki was about the ease of access. While one student saw this as a possible drawback (she was trying to hang on to the pen-and-paper writing method even as the instructions called for writings completed on Google Docs), she eventually stated that being able to access the wiki from any computer with internet access



was a positive aspect of writing with a wiki. This student was one who saw her grade on the pre and post essay jump 12 percent from a score of 78 on the pre-wiki essay to a score of 90 on the wiki writing essay. Research by Leibowitz (1999) shows that the communication, the collaboration, and the accountability offered by an online writing forum is “extremely useful” for students. Students from the present study commented they liked knowing they could access their documents anytime they needed, a notion that backs research by Wu (2006). Wu found that such Web 2.0 instruments as blogs are “time-independent” and “place-independent” writing approaches that students can easily and freely use to create, edit, and share with others in the writing group.

The idea of access also works in a slightly different way and has connections to motivation. Students tend to work harder when they realize people other than the teacher will have access to their work. This could be the underlying reason student procrastinators in the present study were more involved in the wiki writing process than they were in the pre-wiki one. Johnson and Card (2007) found that students became more responsible for meeting deadlines when they knew other students would have access to their work. Research conducted by Leibowitz and Wu (1999) found that on-line publication access improves student writings. Students pay more attention and will write more carefully when they have to publish online for a wider audience who may see shortcomings in their writings and comment on them.

A third aspect of access was the ease with which students could see samples of others’ works in progress. These works could come from teacher-placed samples (scaffolding) or from peers. Four of the six students interviewed for the present study indicated they liked knowing they could go online to see sample work at anytime in their own writing process. The interaction provides students with access to writing samples at all levels of competence and all levels of the

writing process. This indicates a need for students to “see” examples and to know what is expected of them in every type of writing. Research into this area of access is limited to the general uses of scaffolding and modeling in the classroom.

### Collaboration

The foremost theme for students was the benefits they felt they received from the collaborative aspects of the wiki. All of the students for the present study indicated they felt the editing done through the wiki helped them revise their papers to the extent they felt their wiki-produced paper was superior. Grades for this essay bear this out in all essays except two. One student had a loss of one percent on the wiki essay, and one student maintained the same score across both essays. However, statistical testing on the essays reveals a significant amount of improvement from the first essay to the second. The collaborations in which students were participants covered the writing spectrum from prewriting through multiple revisions to final publication. Of particular note is peer editing collaboration. Students indicated their surprise at how much peer editing can influence writings. One student, who perhaps felt she had previously written in a bubble, said in interviews that she was unaware that peer editing could do so much to change her writing perspective. The editing drew her attention to writing lapses and habits she had developed and needed to change. Another student said that peer editing had forever changed the way he would edit his papers. All of the students pointed out in interviews that the wiki inclusion made editing their papers more feasible simply because there were so many other readers/writers giving feedback and making suggestions for improvements. Students learned through idea exchange, became more aware of the reader’s perspective, and learned from their own mistakes as well as the mistakes of their peers.

These findings bear out the multiple studies that point to editing as one of the primary positive aspects for using technology in the writing process. Research by the National Commission on Writing (2008) found teens were “more inclined to edit and revise their texts” when they are allowed to use technology. Peer editing through any means, but specifically through a wiki-type instrument, puts students in what Luce-Kapler (2007) terms a “distributed cognitive network.” Student writers are part of a group dynamic that, thanks to the nature of wiki editing, can produce writing that is both reflective of and evolving to meet a higher standard. Warschauer (1996) found technology facilitated student revisions and collaborative writing. The use of the wiki provides ample opportunities for what NIEW (National Institute of Education) called “a fluid exchange of ideas and better reception of feedback and comments.” Johnson and Card (2007) found through their research that over half of their participants credited peer editing with being the change agent for improving student writing. Johnson and Card noted the creation of multiple drafts interspersed with student commentary/ critique/ editing gave students the opportunity to correct writing problems and habits formed over years of writing. This type of “active learning” is also pointed out in research by Van Dusen (1997), who indicated its usefulness in the “virtual classroom.”

### Implications and Recommendations

Technologies continue to find their place in the writing education of students. For the process to be wholly effective, educators must continue to incorporate the latest writing technologies into their instruction, being careful to provide scaffolding, models, and rubrics as well as opportunities for students to access one another’s writings in online forums. The latter instance will provide more writing samples and the peer editing prospects that students in this study came to value so much. Access to such writing instruments as writing wikis or blogs can

positively impact a students' desire to produce writing that is submitted on time and of higher quality.

Some textbook companies are beginning to see the need for wiki-styled writing components offered as part of their textbook package at the college level. The researcher feels such companies should begin to include secondary-level grades as part of their audience. Many high schools are now offering college credit to 11<sup>th</sup> and 12<sup>th</sup> grade students. If instructors have access to the same writing tools students will be expected to know and use at the college level, the students can move into college English classes with the knowledge that comes from both the practice of writing well and of using a wiki-based collaborative writing system.

Although this study was small and bound by the restrictions that come with a case-study format, the results indicate there is a continued need to investigate how current technologies can be used to impact student learning. Combining survey data with observations, adding supporting essay materials to a range of responses and student comments provides a more complete awareness of how the inclusion of wiki-technologies into the writing classroom can positively influence writing achievement. While it may be argued that this could simply be a case of practice making perfect, the researcher points to the fact that between the pre-wiki essay and the wiki essay there was only one other opportunity (an in-class practice essay exam) for students to write an essay for the English 101 environment. However, more research is needed to understand *how* the inclusion of scaffolding materials and the opportunities to view writing samples at all levels of the writing process impacts student writings.

One recommendation for further study would be to run the same study on other campuses with students of classes involved in a similar Early Start 101 program. With a larger sample size, the data will prove more generalizable. While the researcher is not stating that a wiki will do

what no other technology can do, she is suggesting it as a mode of recent technology an educator may use to motivate students to write, offer students access to their writing assignments outside of the English classroom, and provide ongoing peer/ instructor support until the essay's final publication.

## REFERENCES

- Allen, J., et al, eds. (2008). *McDougal Littell Literature*. Evanston, IL: McDougal Littell.
- Bailey, E. K., and Cotlar, M. (1994). Teaching via the Internet. *Communication Education*, **43**, pp. 184-193.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychology Review*, *84*: 191-215.
- Bandura, A. (1988). Organizational application of social cognitive theory. *Australian Journal of Management*, **13** (2), pp. 275-302.
- Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist*, **44**, pp. 1175-1184.
- Bangert-Drowns, R. L. (1993). The word processor as an instructional tool: A meta-analysis of word processing in writing instruction. *Review of Educational Research*, **63** (1), pp. 69-93.
- Beach, R., Anson, C., Breuch, L., and Swiss, T. (2009). *Teaching writing using blogs, wikis, and other digital tools*. Norwood, MA: Christopher-Gordon Publishers.
- Beers, P. J., et al. (2008). Cognitive load measurements and stimulated recall interviews for studying the effects of information and communications technology. [Electronic version]. *Education Tech Research Dev*, *56*: 309-328.
- Bell, A. (2009). *Exploring Web 2.0: Second generation internet tools*. Georgetown TX: Katy Crossing Press.
- Beyer, F. S. (1992, April). Impact of computers on middle-level student writing skills. Paper presented at the *Annual Meeting of the American Educational Research Association* at San Francisco, CA. (ERIC Document Reproduction Service No. ED 345 297).
- Bloom, Benjamin. (1984). *Taxonomy of educational objectives*. Boston, MA: Allyn and Bacon.
- Bonk, C.J., and Reynolds, T. H. (1992). Early adolescent composing within a generative-evaluative computerized prompting framework. *Computers in Human Behavior* **8** (1), pp. 39-62.
- Booth, J. (2008). *Cognitive Writing Process*. Retrieved April 19, 2009 from University of Maryland University College Web site:  
<http://www.umuc.edu/writing/conference/archives>
- Brandt, D. (1992). The cognitive as the social. An ethnomethodological approach to writing process research. *Written Communication*, *9* (3): 315-355.

- Breen, M. (2007). Technology and peer conferencing on student writing performance. Paper presented at *Teachers Network Leadership Institute*.
- Carroll, T. G. (2001). Do today's evaluations meet the needs of tomorrow's networked learning communities? In R. E. Clark (Ed.) *Learning from Media: Arguments, Analysis, and Evidence* (pp. 3-14). Greenwich, CT: Information Publishing.
- Clements, D. H., and Nastasi, B. K. (1988). Social and cognitive interactions in educational computer environments. *American educational research journal*, **25**, (1), pp. 87-106.
- Cochran-Smith, M. (1991). Word processing and writing in elementary classrooms: A critical review of related literature. *Review of Educational Research*, **61**, (1), pp. 107-155.
- Creswell, J. (2005). *Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research*. Upper Saddle River, NJ: Pearson Prentiss Hall.
- Daiute, C., and Dalton, B. (1993). Collaboration between children learning to write: Can novices be masters? *Cognition and Instruction*, **10** (4), pp. 281-333.
- DeBourgh, G.A. (2002). Simple elegance: Course management systems as pedagogical infrastructure to enhance science learning.
- DeLisi, R. (2006). A developmental perspective on virtual scaffolding for learning in home and school contexts. In A. M. O'Donnell, C. E. Hmelo-Silver, and G. Erbes (Eds.) *Collaborative Learning, Reasoning, and Technology* (pp. 99-125). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Dunlap, L. (1981). *Writing groups: Reader response group process*. Retrieved November 10, 2008, from University of Virginia Teaching Resource Centers Program: Teachers as Writers site [http://trc.virginia.edu/Programs/PAW/WG\\_RRGP.htm](http://trc.virginia.edu/Programs/PAW/WG_RRGP.htm)
- Dybdahl, C. S., Shaw, D. G., and Blahous, E. (1997). The impact of the computer on writing: No simple answers. *Computers in the Schools* **13**(3-4), pp. 41-53.
- Emig, J. (1971). *The Composing Processes of Twelfth Graders*. Urbana, IL: National Council of Teachers of English.
- Flowers, L, and Hayes, J. R. (1981). A cognitive process of writing. *College Composition and Communication*, **32** (4), pp. 365-387.
- Follansbee, S., Hughes, B., Pisha, B., and Stahl, S. (1997). Can online communications improve student performance? Results of a controlled study. *ERS Spectrum*, **15** (1): pp. 15-26.
- Gardner, J., Morrison, H., and Jarman, R. (1993). The impact of high access to computers on learning. *Journal of Computer Assisted Learning*, **9** (1), pp. 2-16.

- Glaser, B.G., and Strauss, A.L. (1967). *Discovery of grounded theory: Strategies for qualitative research*. Chicago: Aldine.
- Glogoff, S. (2005). Instructional blogging: Promoting interactivity, student-centered learning, and peer input. *Innovate: Journal of Online Education*. 1(5). Retrieved October 10, 2010, from <http://www.innovateonline.info/index.php?view=articleandid=126>.
- Goldberg, A., Russell, M., and Cook, A. (2003). The effect of computers on student writing: A meta-analysis of studies from 1992-2002. *Journal of Technology, Learning, and Assessment*, 2(1). Available from <http://www.jtla.org>
- Google docs. (2009). Retrieved from Google docs wiki:  
<https://www.google.com/accounts/ServiceLogin?service=writelyandpassive=trueandnui=1andcontinue=http%3A%2F%2Fdocs.google.com%2Fandfollowup=http%3A%2F%2Fdocs.google.com%2Fandtmpl=homepageandrm=false>
- Grehda, G. F., and Hannafin, M.J. (1992). Effects of word processing on sixth graders' holistic writing and revisions. *Journal of Educational Research*, 85 (3), pp. 144-149.
- Hartwell, P. (1985). Grammar, grammars, and the teaching of grammar. *Cross-Talk in Comp Theory*, pp. 205-233.
- Hawisher, G. E. (1989). Computers and writing: Where's the research? *English Journal*. 78 (1), pp. 89-91.
- Heap, J. L. (1989). Writing as social action. *Theory into Practice*. 28 (2), pp. 148-153.
- Heinecke, W. F. and Blasi, L. (2001). *Methods of Evaluating Educational Technology*. Greenwich, CT: Information Age Publishing.
- Hmelo-Silver, C. (2006). Design principles for scaffolding technology-based inquiry. In A. M. O'Donnell, C. E. Hmelo-Silver, and G. Erbes (Eds.) *Collaborative Learning, Reasoning, and Technology* (pp. 147-170). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Homicz, K. (2000). Virtual arenas: Students' computer interactions shape their perceptions of themselves as writers. *The Journal of Midwest Modern Language Association*. 33 (2), pp. 39-57.
- Hughes, J. M. (2007). *Teaching Language and Literacy, K-6*. Retrieved April 20, 2010 from University of Ontario Institute of Technology Web site:  
<http://faculty.uoit.ca/hughes/writing/writing>
- Johnson, E.J., and Card, K. (2007). The effects of instructor and student immediacy behaviors in writing improvement and course satisfaction in a web-based undergraduate course. *MountainRise, International Journal of the Scholarship of Teaching and Learning*, 4 (1), 2-21.



- Johnson, B and Christensen, L. (2008). *Educational Research: Quantitative, Qualitative, and Mixed Approaches*. Los Angeles: SAGE Publications.
- Kiefer, K. (2009). *Why consider collaborative writing assignments?* Retrieved October 25, 2009, from Colorado State University, The WAC Clearinghouse Web site: <http://wac.colostate.edu/intro/pop21.cfm>
- Kerchner, L. B., and Kistinger, B. J. (1984). "Language processing/ word processing: Written expression, computers and learning disabled students." *Learning disability quarterly*. 7 (4), pp. 329-335.
- Kulik, J. A. (2003). *Effects of using instructional technology in elementary and secondary schools: What controlled evaluation studies say*. Paper presented at SRI International. Retrieved September 11, 2008 from [http://www.sri.com/policy/ested/reports/sandt/it/Kulik\\_ITinK-12\\_Main\\_Report.pdf](http://www.sri.com/policy/ested/reports/sandt/it/Kulik_ITinK-12_Main_Report.pdf)
- Learning Theories Knowledgebase (2008, November). Social learning theory (Bandura) at Learning-Theories.com. Retrieved November 25, 2008 from <http://www.learning-theories.com/social-learning-theory-bandura.html>
- Leibowitz, W. R. (1999, November 29). Technology transforms writing and the teaching of writing. *The Chronicle of Higher Education*. Retrieved September 18, 2010 from <http://www.lexisnexis.com.libezp.lib.lsu.edu/hottopics/lnacademic/?verb=srandcsi=171267>
- Lenhart, A., Arafeh, S., Smith, A., and Macgill, A. R. (2008). Writing, technology and teens. *The National Commission on Writing*. Retrieved April 29, 2009 from <http://www.pewinternet.org/>
- Li, N. K. (1990, July). *Writing with pen or computer? A study on ESL secondary school learners*. Paper presented at the Fifth Annual World Conference on Computers in Education in Sydney, New South Wales, Australia. (ERIC Document Reproduction Service No. ED 322 720).
- Louth, R. (1996, June). *Using reader-response groups for writing success*. Poster session presented at the annual workshop of the National Writing Project, Hammond, LA.
- Luce-Kapler, R. (2007). Radical Change and wikis: Teaching new literacies. *Journal of Adolescent and Adult Literacy*, 51(3), 214-223.
- McManus, B. (1998). *Reader-response Criticism*. Retrieved November 10, 2008, from The College of New Rochelle, English 028: Introduction to Literary Theory, Criticism, and Research site: <http://www.cnr.edu/home/bmcm Manus/readercrit.html>
- Miller, N. E., and Dollard, J. (1941). *Social Learning and Imitation*. New Haven: Yale University Press.

- Mitchell, I. (2002). Learning from Teacher research for teacher research. In J. Loughran, I. Mitchell and J. Mitchell (eds.) *Learning from Teacher Research*. Australia: Allen and Unwin.
- Moore, M (1989). Three types of interaction. *The American Journal of Distance Education*, 3, Retrieved April 8, 2007, from [http://www.ajde.com/Contents/vol3\\_2.htm#editorial](http://www.ajde.com/Contents/vol3_2.htm#editorial)
- Moran, C. and Selfe, C. L. (1999). Teaching English across the technology/wealth gap. *The English Journal* **88**, 6, pp. 48-55.
- Nix, C. A. B. (1998). The impact of e-mail on fourth graders' writing skills. (Doctoral dissertation, University of Texas at Arlington, 1998). *Dissertation Abstracts International*, 60, 0726.
- Omrod, J. E. (2007). *Educational Psychology: Developing Learners*. Upper Saddle River, NJ: Prentice Hall.
- Owston, R. D. and Wiseman, H.H. (1997). Word processors and children's writing in a high-computer access setting. *Journal of Research on Computing in Education*, 30 (2), 202-220.
- Pajares, F. (1997). Current directions in self-efficacy research. In M. Maehr and P. R. Pintrich (Eds.). *Advances in motivation and achievement* (pp. 1-49). Greenwich, CT: JAI Press.
- Pajares, F. (2002). *Overview of social cognitive theory and of self-efficacy*. Retrieved November 25, 2008 from <http://www.emory.edu/EDUCATION/mfp/eff.html>
- Pajares, F., and Schunk, D. H. (2001). Self-beliefs and school success: Self-efficacy, self-concept, and school achievement. In R. Riding and S. Rayner (Eds.). *Self-perception* (pp. 239-266). London: Ablex Publishing.
- Patton, M. Q. (1990). *Qualitative evaluation and research methods* (2nd ed.). Newbury Park, CA: Sage.
- PB Works. (n.d.). Retrieved from the PB Works Wiki: <http://pbworks.com/>
- Schieber, C. E. (1999). Information technology and education: An evaluation of a school laptop computer program. (Doctoral dissertation, Seattle Pacific University). *Dissertation Abstracts International*, 60, 9923680.
- Skaaf-Molli, H., Ignat, C., Rahhal, C., and Molli, P. (2007). New work modes for collaborative writing. In *International Conference on Enterprise Information Systems and Web Technologies EISWT-07*. Orlando, FL.
- Selfe, C. L. (1988). Computers in the classroom: The humanization of computers: Forget technology, remember literacy. *The English Journal*. **77** (6), pp. 69-71.

- Smith, K. L. (1990). Collaborative and interactive writing for increasing communication skills. *Hispania* 73, pp. 77-87.
- Sommers, E. (1986). The effects of word processing and writing instruction on the writing processes and products of college writers. *Dissertation Abstracts International*, 47, 2064A.
- Southavilay, V., Yacef, K., and Calvo, R. (2009). WriteProc: A Framework for Exploring Collaborative Writing Processes. *Australasian Document Computing Symposium*, Sydney, 2009.
- Spiegel, D. L. (1996). The role of trust in reader-response groups. *Language Arts*, 73, (5), pp. 332-339.
- Stone, R. (1999). The effect of using guided internet writing activities on students' writing. (Doctoral dissertation, University of Massachusetts Lowell). *Dissertation Abstracts International*, 60, 1524.
- Strang, S. (2001). *The Writing Process*. Retrieved November 25, 2008, from MIT Online Writing and Communication Center Web site: <http://web.mit.edu/writing/Resources/Writers/process.html>
- Thompkins, J. P. (1980). *Reader-response Criticism: From Formalism to Post-structuralism*. Baltimore: Johns Hopkins University Press.
- Traubitz, N. (1998). A semester of action research: Reinventing my English teaching through technology. *The English Journal* 87 (1), pp. 73-77.
- Tryon, C. (2006). Writing and citizenship: Using blogs to teach first-year composition. *Pedagogy*, 6 (1), 128-132.
- Walters, M., Hunter, S., and Giddens, E. (2007). Qualitative research on what leads to success in professional writing. *International Journal for the Scholarship of Teaching and Learning*, 1(2), Retrieved from <http://www.georgiasouthern.edu/ijostl>
- Wang, H. (2007). Weblog-mediated peer editing and some pedagogical recommendations: A case study. *Jalt Call Journal*, 5(2), 29-44.
- Warschauer, M. (1996). Motivational aspects of using computers for writing and communication. In Mark Warschauer (Ed.), *Telecollaboration in foreign language learning: Proceedings of the Hawai'i symposium*. (Technical Report #12). (pp. 29-46). Honolulu, HA: University of Hawai'i, Second Language Teaching and Curriculum Center. Retrieved October 10, 2010 from <http://www.lll.Hawaii.edu/nflrc/NetWorks/NW1/>
- West, J. A., and West, M. L. (2009). *Using wikis for online collaboration: The Power of the read-write web*. San Francisco, CA: Jossey-Bass.

- West, K. (2008). Weblogs and literary response: Socially situated identities and hybrid social languages in English class blogs. *Journal of Adolescent and Adult Literacy*, 51(7), 588-598.
- Wu, W. S. (2006). The effect of blog peer review and teacher feedback on the revisions of EFL writers. *Journal of Education and Foreign Languages and Literature*, V (3), 125-139.
- Yin, R.K. (1994). *Case study research- Design and methods*. (2<sup>nd</sup> ed.). Thousand Oaks: Sage Publications.

## **APPENDIX A PEER REVIEW SHEET**

Avoid one word responses (yes, no, etc)

**Writer:**

**Paper Title:**

**Evaluator:**

1. What are the strengths of the paper? What about the paper works well?
  
2. Does the title fit the essay? Why or Why not? Suggestions?
  
3. Does the introduction grab the reader's attention? Why or Why not? Suggestions?
  
4. What is the author's thesis? Does the paper support the thesis? Explain.
  
5. Is the draft effectively organized? Could it be organized differently? Suggestions?
  
6. Are the paragraphs unified? Are there clear topic sentences? Does every sentence in the paragraph support the topic sentence? Are there clear, effective transitions? Suggestions?
  
7. Is the conclusion effective? Does it adequately conclude the essay? Suggestions?
  
8. Where would the paper benefit from additional support and examples?
  
9. Does the author appropriately address the audience? Are the voice and tone appropriate for the audience? Why or why not? Suggestions?
  
10. Make two suggestions for the next draft.



## APPENDIX C ENGLISH 101 GRADING RUBRIC

This grading rubric describes in detail specific characteristics of student writing at each grading level. Like all generalized grading rubrics, the descriptions that follow represent tendencies, both within and across writing samples. Even the best student writing cannot be equally outstanding in every respect. Nor will the weakest writing be equally lacking for each feature. A related, but much briefer “Feature Checklist” is on the reverse side of this sheet.

Grade	DESCRIPTION
<b>CREDIT</b>	<p>Form and content demonstrate focused attention to purpose and audience. The writing exhibits all or most important formal and rhetorical characteristics of the genre(s) represented. Varied and complex strategies of development are used effectively. Few if any errors in grammar and mechanics occur.</p> <p><b>A</b> Style and usage are consistently effective, conveying a strong sense of clarity and coherence that enhances content. Research is well executed, with appropriate and varied sources types and few if any errors in integrating and documenting sources. Critical reading of sources is consistently evident. Mastery of the technologies required for writing and research is shown. The writing is consistently well developed, meeting or exceeding all minimum length expectations.</p>
	<p>In most cases form and content show careful attention to purpose and audience. The writing demonstrates most or many of the important formal and rhetorical features of the genre(s) represented. Varied and modestly complex strategies of development are used effectively in most cases. A few minor and mainly random errors in grammar and mechanics are evident. Style and usage are generally effective, conveying an overall sense of clarity and coherence. Research is generally competent and appropriate, with some variety of source types and infrequent, minor errors in integrating and documenting sources. Reading comprehension is generally strong, with some critical understanding of sources evident. A clear facility with most technologies required for writing and research is shown. The writing is generally well developed, meeting or exceeding minimum length requirements in most cases.</p>
	<p>Form and content exhibit a modest, but inconsistent attention to purpose and audience. The writing utilizes some but not all-important formal and rhetorical characteristics of the genre(s) represented. Occasional, but inconsistent use of a limited number of basic strategies of development is shown. Grammar and mechanics are competent but unimpressive, with mainly random and minor errors evident. Style and usage are generally adequate, but unremarkable. Research is competent, but with little variety of source types and a number of errors in integrating and documenting sources. General reading comprehension of sources is demonstrated, but only occasional critical insight. The most common writing and research technologies needed are used adequately. Minimum expectations for length and development are generally met, but not exceeded.</p>
	<p>Form and content demonstrate little and inconsistent attention to purpose and audience. The writing exhibits few of the important formal and rhetorical characteristics of the genre(s) represented. Infrequent or ineffective use of a very limited number of strategies of development is shown. Frequent, systematic, and sometimes major errors in grammar and mechanics are evident. Style and usage are inconsistent and sometimes inappropriate, at times challenging understanding. Research is inconsistent, with occasionally inappropriate or limited source types and regular errors in integrating and documenting sources. Reading comprehension of sources is inconsistent, with very little critical insight. The writing exhibits weak use of basic writing and research technologies. The writing generally struggles to meet basic expectations for length and development.</p>

Form and content show no clear attention to purpose and audience. The writing exhibits few formal or rhetorical characteristics of the genre(s) represented. Little ability to use even the most basic strategies of development is evident. Grammar and mechanics are consistently weak, with major systematic errors occurring frequently. Inappropriate style and non-standard usages often obscure meaning. Research is weakly executed, with inappropriate or limited source types and frequent errors in integrating and documenting sources. Reading comprehension of sources is severely limited. The writing shows limited facility with the basic technologies of writing or research. Writing consistently fails to meet basic expectations for length and development.

### Freshman English Grading Rubric: Feature Checklist

Some teachers will find the following checklist of features a useful tool for applying the Freshman English Grading Rubric in their assessments of students' writing. For each feature, teachers might record a simple checkmark indicating their assessment of that feature. Alternative, some teachers may wish to record their assessments as point values, perhaps even weighting some features more heavily, then using a total score to determine paper grades. Please see the "Detailed Descriptions" of the following features on the reverse side of this sheet.

Features	Grade Scale (with Possible Point Values)					Weighting Examples	Weighted Tallies
	A (4 pts.)	B (3 pts.)	C (2 pts.)	D (1 pt.)	F (0 pts.)		
Content, purpose, and audience						20%	
Formal and rhetorical features of genre						10%	
Grammar and mechanics						10%	
Style and usage						10%	
Research and documentation						20%	
Reading of sources						10%	
Use of technology						10%	
Length and development						10%	
<b>Final Grade (or Total Score)</b>							



## **ES101 FINAL PORTFOLIO FEEDBACK SHEET (FOR FAILING FOLDERS ONLY)**

Dear Early Start English 101 Student:

Please review this feedback resulting from our final assessment of your ES101 portfolio. The feedback reflects our “holistic” review of the writing you submitted—the overall merits of your work in your folder. You will see numerically scaled evaluations of your writing for several specific features, including your performance in following directions. Fuller descriptions of these features are outlined on our “English 101 Grading Rubric,” which you can find on our “Early Start English 101” Blackboard site for students. You will also see a checkmark indicating whether you will receive three university credits for your work in the course, entered on your transcript with a grade of “Pass,” or whether you will receive a non-credit grade of “Audit.” Finally, our feedback also may include a very brief commentary. Please speak with your classroom teacher if you desire any additional explanations of this assessment. Thank you for participating in Southeastern’s Early Start English 101 Program. We hope to see you on campus soon!

W-NUMBER (LAST 4 DIGITS)	TEACHER CODE NAME	CONTENT / DEVELOPME NT	LANGUAGE / FORM	SOURCES / DOCUMENTATI ON	FOLLOWS DIRECTIONS	PASS (3 CREDITS)	AUDIT (NO CREDIT)
		SCALE 0-----5 (WEAK)                      (STRONG)				CHECK ONE	

**Brief Comments:**

**APPENDIX D**  
**STUDENT SURVEY OF WRITING ADVANCEMENTS**

First Semester Analysis

With 4 being strong and 1 being weak, please mark your responses to the following statements.

The Writing Process	4	3	2	1
1. I can contribute ideas to group discussions.				
2. I can formulate a thesis sentence.				
3. I can build my knowledge about a topic or issue.				
4. I can extract and use information from an author's work as evidence in my own paper.				
5. I can shape ideas into an essay format appropriate to the topic.				
6. I can revise my thoughts and writing about a topic or an issue.				
7. I can prepare my writing for publication.				

Peer Editing/ Self Editing	4	3	2	1
1. I can help others edit their writings.				
2. I can communicate ideas to others through my writing.				
3. I can give honest feedback and/or criticism to other students about their writings.				
4. I can recognize weak points in an essay.				
5. I can apply my instructor's or other students' feedback comments to my writing.				
6. I can evaluate the writings of others.				
7. I can help others edit their writings to be grammatically and mechanically correct.				
8. I can trust the contribution of classmates when offered suggestions about writing.				

Writing and Essay Styles	4	3	2	1
1. I can exercise creativity or creative thinking in my writing approach.				
2. I can write a critique of a piece of writing.				
3. I can apply what I learn to "real world" problems or issues.				
4. I can experiment with a writing style that is new to me.				
5. I can communicate ideas to others by using different modes of information (i. e., combining visual and written text, writing with hyperlinks, or using wikis or blogs).				
6. I can write essays for different subject matter.				

7. I can ask other students for comments on my writing.				
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Technology and Writing	4	3	2	1
1. I can use the class wiki site to access class syllabus, assignments, announcements, and schedules.				
2. I can use the class wiki site to submit assignments and receive results.				
3. I can search for answers to questions using the information on the class wiki site rather than verbally ask the instructor or other students.				
4. I can use websites (including the class wiki site) to collect or find sources of information to help support ideas for my writing.				
5. I can use the class wiki site as well as word processing software to write more clearly without excessive errors in language structure or mechanics.				
6. I can use the class wiki to discuss ideas and concepts in this course with other students.				

Please answer the following questions to the best of your knowledge and experience:

1. How do you typically write an essay?
  - a. I do everything on the computer.
  - b. I write out everything on paper.
  - c. I do about half of it on paper and half of it on the computer.
  - d. I only type the final draft on the computer.
  
2. Do you feel your writing skills have improved this semester? \_\_\_\_\_  
 In what way(s)?
  
3. What do you think was the most important contributing factor(s) to your writing improvement or challenges his semester? Please explain briefly.

## APPENDIX E VALEDICTORY MEMOIR ASSIGNMENT

### EARLY START ENGLISH 101 VALEDICTORY MEMOIR ASSIGNMENT

All students registered for Early Start English 101 credit at Southeastern Louisiana University must submit as one part of their final writing portfolio a 3-5 page valedictory memoir. A memoir tells a story about the past, but tells it in a way that helps us reflect on the significance of that story for the present. That is, a memoir uses story to make a point worth making. A “valedictory memoir” is a special type of writing that uses the memoir form to bid a fond and thoughtful farewell. The valedictory memoir you submit in your portfolio, then, will demonstrate your ability to write engaging narrative and to communicate a significant point that says “goodbye,” both to the events and experiences being retold, and also to an audience with whom you wish to share the significance of that experience.

Please use the following prompt, adapted from your text, *Roots to Branches* (Chapter 4), in writing your valedictory memoir.

**Prompt.** *Imagine yourself graduating from high school, and imagine that you have been selected to give a short speech at your school’s upcoming graduation ceremony. In the audience will be your classmates, teachers, family, and friends. You have decided to write your speech as a kind of memoir. In your memoir, you will recall an event from your past time at school or in your home community that you believe will engage your audience, represent a kind of collective experience in which everyone in your audience can find personal significance. You will want to use detail and sensory impression to recreate the moment for your listeners. Remember that the point of a memoir, as you have seen [in Chapter 4, *Roots to Branches*], is to reveal the meaning of the past so that your audience can understand the significance your memories hold for the present and future. As a final valediction to your high school years, your memoir should communicate as well a fond sense of farewell.*

Your teacher will help you develop strategies for completing your valedictory memoir, as well as provide ample opportunities to draft and revise your writing. Your teacher may help you review the characteristics of some of the excellent sample memoirs in *Roots to Branches*. She or he may assign one or several of the useful planning, drafting, and revising activities in the text. And your teacher may ask you to share your developing memoir with classmates. This process may unfold over a period of days, weeks, or even months, depending on your teacher’s preferences.

The one thing your teacher cannot do is collect your valedictory memoir and respond to or grade that document prior to its submission in your Early Start English 101 portfolio. Rather, this memoir assignment is intended to allow you to show the quality of writing you can produce more independently, but still with adequate opportunity to plan and revise your work.

**APPENDIX F**  
**ENGLISH 101 COURSE ASSUMPTIONS, GOALS, AND PERFORMANCES**

**SUMMARY EVIDENCES: ENGLISH 101 COURSE ASSUMPTIONS, GOALS, AND PERFORMANCES**

Please complete the following table of brief “Summary Evidences” to help confirm the variety and focus of the four to six main assignments you submit as part of your course plan. Include your completed table of brief “Summary Evidences” as part of the course plan you submit for approval.

<b>Teacher</b>	<b>School</b>	<b>Date of Submission</b>
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***Our Common Foundational Assumptions (Background)***

**In every Freshman English class students will**

1. read and write on a variety of topics using diverse genres representing a range of purposes and audiences;
2. attend to their writing both as process (prewriting, drafting, response, revision, and editing) and as product (genre and document formats, organization, grammar, mechanics, and style);
3. support their writing with critical reading and thinking skills and research; and
4. explore both the pragmatic (academic, professional, civic) and humanistic (expressive, interpersonal, imaginative) value of writing and reading in their lives.

***Our ENGL 101 Goals and Performances (Please complete column 3.)***

<b>Goals</b>	<b>Performances</b>	<b><i>Summary of Course Plan Evidences</i></b> <b><i>(Complete this portion of the table to submit.)</i></b>
1. <i>Students will write and read texts reflecting a variety of increasingly complex range of purposes and writer-reader relationships</i>	a. Read and write texts moving from concrete personal experience and familiar readerships to more abstract and public topics directed to less familiar, more distant audiences (e.g., comparison and contrast, cause and effect, and persuasion written for future students, major professors, and public figures)	
2. <i>Students will read and write texts</i>	a. Read and write in genres moving from personal, public, and affective	

<b>Goals</b>	<b>Performances</b>	<b>Summary of Course Plan Evidences (Complete this portion of the table to submit.)</b>
<i>representing a variety of increasingly complex non-literary, literary, and public genres.</i>	experience (e.g., letters, memoirs, writing about short fiction, visual images, and film) to more challenging expository and academic forms (e.g., reports, commentaries, personal essays, writing about short fiction and poetry)	
3. Students will read and write texts using a variety of increasingly complex strategies of development.	<ul style="list-style-type: none"> <li>a. Compose documents using narrative, descriptive, and increasingly challenging expository and argumentative strategies</li> <li>b. Focus mainly on paragraph development, paragraph-to-paragraph coherence, and “closed form” (i.e., deductive) thesis- and theme-driven essay formats</li> <li>c. Focus on MLA guidelines for page layout and document design</li> </ul>	
4. <i>Students will read, react to, and integrate into their writing a variety of pre- and self-selected texts utilizing increasingly complex interpretive and rhetorical strategies.</i>	<ul style="list-style-type: none"> <li>a. Read, analyze, and apply a variety of increasingly challenging pre- and self-selected texts in the context of their own purposes as writers, with emphasis on rhetorical reading strategies and understanding the writer’s craft and on practical reading strategies (annotating, note-taking, response journaling)</li> <li>b. Understand the genre-based and rhetorical choices available in increasingly-challenging non-literary (mainly narrative, expository, and public) and literary (mainly fictional and poetic) text types</li> </ul>	
5. <i>Students will use increasingly complex and diverse information resources to develop their ideas</i>	<ul style="list-style-type: none"> <li>a. In one or more essays integrate information from a variety of pre- and self-selected primary and secondary source types, with emphasis on analyzing and synthesizing the information used</li> </ul>	

<b>Goals</b>	<b>Performances</b>	<b>Summary of Course Plan Evidences (Complete this portion of the table to submit.)</b>
<i>for writing.</i>	<ul style="list-style-type: none"> <li>b. Use in-text citation and Works Cited lists, with some emphasis on the more complex details of each in MLA form</li> <li>c. Use increasingly formal field research techniques (e.g., observations, interviews)</li> </ul>	
<p>6. <i>Students will use computer technologies appropriate to their needs and purposes as writers, readers, and researchers.</i></p>	<ul style="list-style-type: none"> <li>a. Use the university's electronic indexes and databases</li> <li>b. Use ancillary electronic resources, including originality software, diagnostics/study plans, and grammar/spell checkers</li> </ul>	
<p>7. <i>Students will read and write texts using language that is grammatically accurate, increasingly complex, and rhetorically and stylistically effective.</i></p>	<ul style="list-style-type: none"> <li>a. Focus on principles of clarity, conciseness, sentence-to-sentence cohesion, and coherence</li> <li>b. Attend to language choice as an expression of individual voice and writer reader relationships—rhetorical grammar</li> <li>c. Examine stylistic differences in the writing of home, school, and community</li> </ul>	
<p>8. <i>Students will write four to six formal and fully revised essays (rough and final drafts) ranging from two to seven pages in length, along with frequent informal and exploratory writing.</i></p>	<ul style="list-style-type: none"> <li>a. Draft and revise five to six essays totaling 15-18 pages (roughly two-to three-page essays at 250 words per page)</li> <li>b. Complete frequent in-class writing mixed with increasing independent writing for homework</li> </ul>	

## **APPENDIX G INTERVIEW QUESTIONS**

For use with six, randomly selected students: two with minimally acceptable ACT English scores of 18-20; two with medial ACT English scores of 22-25; two with high ACT English scores of 26-30.

1. Talk about the writing you have done this semester.
2. Can you describe an experience when you have gained insight into:
  - a. Creating a prewrite?
  - b. Beginning your introductory paragraph?
  - c. Citing sources?
  - d. Editing?
  - e. Publishing?
3. What has been the most challenging part of writing in this semester?
4. What has been the most successful part of writing in this semester?
5. How have technologies such as wikis influenced and/or changed your writing techniques?
6. What would you change about this semester's writing experiences?
7. How do you think the wiki inclusion has affected your writing process?



## VITA

Valarie Dillon Dufrene is a resident of Holden, Louisiana, in Livingston Parish. She graduated from Franklinton High School in 1986, and from Southeastern Louisiana University in 1990, with a Bachelor of Arts in English/ Journalism Education. She began teaching at Holden School in January 1991. She received her master's degree in secondary teaching from Southeastern Louisiana University in 1997. Valarie enrolled in the doctoral program in educational technology at Louisiana State University in 2005. She continues to teach English, journalism, web design, and fine arts at Holden School.