EXAMINING TEACHING STRATEGIES FOR IMPROVING THE LEARNING EXPERIENCE OF STUDENTS IN BYU-IDAHO ACADEMIC SUPPORT COURSES

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Michael Gentry

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Major Professor: John G. Cannon, PhD

Authorization to Submit Dissertation

This dissertation of Michael Gentry, submitted for the degree of Doctor of Education with a Major in Education and titled "Examining Teaching Strategies for Improving the Learning Experience of Students in BYU-Idaho Academic Support Courses" has been reviewed in final form. Permission, as indicated by the signatures and dates given below, is now granted to submit final copies to the College of Graduate Studies for approval.

Major Professor _____Date_____
John G. Cannon, PhD

Committee Members _____Date_____
Penny L. Tenuto, PhD

_____Date_____
Bryan S. Austin, PhD

_____Date_____
Devan Barker, PhD

Department Chair _____Date_____
Jeffrey S. Brooks, PhD

Disciplines College Dean _____Date_____
Corinne Mantle-Bromley, PhD

Final Approval and Acceptance by the College of Graduate Studies

_____Date_____
Jie Chen, PhD

Abstract

This dissertation used an action research approach to examine how to improve learning opportunities for students enrolled in academic support courses at Brigham Young University-Idaho (BYU-Idaho). This study focuses on three areas related to teaching and learning: (a) the degree to which knowledge retention is improved through quizzes at delayed intervals following instruction, (b) examining curricula and instruction to achieve engagement in academic support writing courses, and (c) the effect of college academic support courses on students' self-efficacy and achievement. Participants in this research were enrolled in academic support courses at BYU-Idaho.

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Dedication

I would like to dedicate this to my wife Claire and our five children. They were all supportive and understanding, even when I was often gone or stressed. Their support buoyed me and made it possible for me to complete this dissertation. Finally, I'd like to thank God for His love, patience, and power that enabled me to mentally and physically endure.

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Preface

This dissertation was conducted by three doctoral candidates at the University of Idaho as part of a collaborative study examining teaching strategies for improving student achievement in BYU-Idaho Academic Support courses. Each member of the team focused on a different aspect of student learning: engagement, knowledge retention, and self-efficacy. The writing engagement focus, research, and findings can be attributed to Michael Gentry. The engagement portion of the study examined the effect composition writing and creative writing had on student engagement in Brigham Young University-Idaho academic support writing courses.

The knowledge retention focus, research, and findings can be attributed to D.J.Teichert. The knowledge retention portion of the study examined the degree to which knowledge retention is improved through quizzes at delayed intervals.

The self-efficacy focus, research, and findings can be attributed to Siri Pinnock. The self-efficacy portion of the study examined student perspective of self-efficacy and its impact on academic achievement. The findings of this study will produce recommendations to improve student learning in academic support courses at BYU-Idaho.

Chapter 1: Introduction to the Study

Knowledge Retention, Engagement & Self-Efficacy in Academic Support Courses

With increasing enrollments, colleges and universities are admitting a growing number of students who do not meet institutional academic levels. In 2012, just fewer than 30% of America's high school graduates did not meet standardized benchmarks (ACT, 2012). As a result, roughly one third of admitted postsecondary students require remediation before entering college-level courses (Snyder & Dillow, 2011). These students are identified as developmental, and there is an increased likelihood they will not earn a degree (Alliance for Excellent Education, 2006).

Various titles and classifications have been given to students classified as developmental. Hardin (1998) described these students using a seven category typology to explain the characteristics that led to them being placed in developmental courses. These categories include the following:

1. The Poor Chooser—This student has made a decision, or multiple decisions, negatively impacting his or her education. These decisions could include dropping out of high school or not accepting the responsibility for their own learning before college.
2. The Non-Traditional Student—This student is entering college, or returning to college, having been removed for many years from formal education. Competing with younger, more confident peers can be intimidating. In most cases, this student is performing various other roles besides that of student (parent, grandparent, source of primary income, etc.).
3. The Student with a Disability—This student lives with a disability that can complicate the act of learning and retaining information. Often this student enters

college dependent on accommodations once provided in high school that universities may be unwilling to make.

4. The Ignored Student—This student has survived high school without academic deficiencies being detected. He or she was able to make it through high school, but the demands of college coursework may be too great.

5. The Student with Limited English Skills—This student may graduate from high school with deficient skills and may find academic resources scarce to help make the jump to college. This student typically struggles with reading and writing—skills necessary to succeed in college and the workplace.

6. The User Student—This student does not attend college to obtain an education. Ulterior motives may include attending college to get out of the house, to get married, to be with friends, and to have fun.

7. The Extreme Case Student—This student suffers from serious emotional, psychological, physical, or academic issues that inhibit success in college.

The responsibility to help students in developmental courses gain the skills necessary to complete college-level courses and ultimately a degree has rested largely on the shoulders of developmental programs. These programs provide such services as freshman orientation, learning labs, academic support centers, and developmental courses—all of which cater to the academic, cognitive, and non-cognitive factors influencing student success ("2013 Fact Sheet," 2013; Boylan, Bonham, & White, 1999). The term *developmental education* recognizes the need for student development beyond academics to include social, behavioral, and emotional factors, thus encompassing a more holistic approach in helping students reach

their potential. It is common for institutions of higher education to have developmental education programs to assist students who are in need of remediation.

Despite the good intentions of developmental education programs, critics claim remediation in higher education is a "bridge to nowhere" (Complete College America, 2012, p. 2). Each year, 1.7 million freshmen are placed in remediation courses (The National Center for Education Statistics, 2011). Of those students required to take a remedial math course, only 27% went on to earn a bachelor's degree. For those required to take a remedial reading course, only 17% completed a bachelor's degree (Vandal, 2010). In addition, remedial courses represent a cost that taxpayers may pay twice: first for students to learn the material in high school and then again for students to relearn it in college. It is estimated that states and students spent 3.6 billion dollars on remedial courses at public institutions in the 2007—2008 school year alone (Alliance for Excellent Education, 2011). The financial ramifications of educating these students are at the forefront of the debate between those who think higher education should focus on quality and refuse to admit academically deficient students and those who think higher education should focus on access and allow these students the opportunity to be educated (Jehangir, 2002).

Though developmental education has its critics, there are many, like BYU-Idaho faculty and administration, who advocate serving these students. One of BYU-Idaho's overarching missions is to provide a quality education for students of diverse interests and abilities and to prepare these students for lifelong learning ("BYU-Idaho Mission Statement," 2014). At BYU-Idaho, developmental education occurs in the Academic Support Department where students in need of academic support can take preparatory math, reading, writing, study skills, and college success courses. An example of the institution's efforts to serve students of

diverse abilities is an online outreach program called *Pathway*. Students may be accepted into the program without a high school diploma or GED, and an ACT/SAT score is not required for admittance to *Pathway*. Students who enter the program may work towards a professional certificate, an associate's degree, and/or a bachelor's degree. Students in the program receive extensive support such as free tutoring and academic support courses to prepare them for matriculation into college level courses. With just under 3,500 students enrolled as of April of 2013, the *Pathway* program is a prime example of BYU-Idaho's efforts to help students identified as developmental become matriculated students and obtain a degree.

Bailey, Jeong, and Cho (2010) argued that if a national goal is to increase college graduation rates, then this increase must include an additional number of students identified as needing remediation. Business leaders have called for innovation in developmental education, arguing for improved support of academic remediation, which is the single most important factor for increasing the number of students who graduate from college (Gonzalez, 2010). To realize these improvements, more careful and detailed research is needed to understand developmental courses and the variables that affect a positive outcome for student success (Arendale, 2010).

Problem of the Study

The problem of this study is that more and more students are attending BYU-Idaho unable to retain what they learn, disengaged in writing, and with low self-efficacy. This study will address each of these problems further in the following sections.

Knowledge retention.

A primary goal of education is to promote long-term knowledge retention and not just memories that decay quickly after a given lecture (Kerfoot, DeWolf, Masser, Church &

Federman, 2007). Knowledge retention refers to the preservation of learning in long-term memory so it can be recalled quickly and accurately (Sousa, 2001). Though many of today's educators stress higher order thinking skills, knowledge retention should not be discounted in its significance to the learning process (Forehand, 2010). The more one knows or is able to remember, the greater the intellectual competencies one has for problem solving and creativity (Klemm, 2007). Students enrolled in developmental courses often experience greater cognitive overload due to weaknesses in their capacity to process information (de Jong, 2010).

The importance of knowledge retention is closely supported by various learning theories. Cognitive theorists have stressed the learner's ability to retrieve and apply information to new problems is key to evaluating whether learning has occurred (Knowles, Holton, & Swanson, 2011). To be able to retrieve information, behaviorists suggest one of the principle laws governing learning is the "law of exercise," which refers to the strengthening of connections with practice (Hergenhahn, 2013). Frequent repetition or over-learning is important in acquiring skills for retention (Hilgard & Bower, 1966). According to Hilgard and Bower (1966), repetition's desirable and correct responses should be rewarded with reinforcement because feedback confirms accurate knowledge and corrects faulty learning.

Andragogy, a learning theory specific to adult learners, emphasizes that learners need to know how learning will be conducted, what learning will occur, and why learning is important (Knowles et al., 2011). Without a need to know, learners have little reason to retain what is taught. Knowles (1980) stated the role of the andragogical teacher is to help each student diagnose the gap between what he should know and his present level of performance.

By identifying these discrepancies, the learner is better able to focus on those things that need further attention and study.

Another goal of teaching should be to help learners expand their learning abilities through learning-how-to-learn interventions (Knowles et al., 2011). Smith (1982) defined learning-how-to-learn as acquiring the knowledge and skill to learn effectively in whatever learning situation one encounters. As a guideline to the teacher as a facilitator of learning, Rogers (1969) suggested that the teacher should endeavor to organize and make available the widest possible range of resources for learning.

The goal of developmental programs at higher education institutions such as BYU-Idaho is to provide students with the opportunity to develop skills necessary to complete a college degree. BYU-Idaho's mission is to provide a quality education for students of diverse interests and abilities and to prepare these students for lifelong learning ("BYU-Idaho Mission Statement," 2014). Program and course level outcomes of the institution help to accomplish this mission by focusing on three areas of student learning: (a) what students should know, (b) what students should do, and (c) what students should become ("Learning Outcome Taxonomies," 2009). Each of these outcomes will be addressed by the three areas of this study and will discuss the correlation of knowledge retention as it relates to what students should know, writing engagement as it relates to what student should do, and student self-efficacy as it relates to what students should become.

While typically a lower level learning outcome, "to know" has a significant function for learning which is important for the development of higher order thinking skills. To meet the learning outcome of "to know," the BYU-Idaho Learning Model emphasizes that students ponder and prove their learning and that teachers provide students with opportunities to do

both ("Learning Model," 2014). One possible way to facilitate achieving the learning outcome of "to know" is through low-stakes quizzes. Because the focus of this form of assessment is student learning, tests of a small consequence can be effective in providing formative feedback regarding student learning, particularly in fact based courses (McDaniel, Agarwal, Huelser, McDermott & Roediger, 2011; Roediger & Karpicke, 2006a). Stiggins (2009) recommended that effective assessments have clear learning targets, use assessment methods appropriate for the learning targets being assessed, provide timely and clear feedback, and that course instruction have a clear purpose. Low-stakes quizzes are especially useful in providing students with valuable formative feedback about their learning, which has been shown to improve retention of not only low-confidence correct responses but also of high confidence incorrect responses (Butler, Karpicke, & Roediger, 2008; Butterfield & Metcalfe, 2006).

Because "to know" is an important outcome of BYU-Idaho, the common practice by many college students of cramming before tests and forgetting soon thereafter is a defeating study practice to achieving this outcome. Research has demonstrated knowledge retention dramatically drops immediately after class and especially during the following 24 hours (Brown, Neath, & Chater, 2007). Helping students to review in a timely fashion, therefore, is an important learning objective of developmental courses.

Students identified as developmental are often considered as those students least ready for learning, and consequently, with the greatest difficulty retaining what they learn. Smilkstein (1993) stated one of the major barriers that students needing remediation face is that they do not have the foundational knowledge on which to build new knowledge. This may be due to weaknesses in their ability to process and store information in long-term memory.

The focus of this study was to improve the researchers' professional practice by determining the degree to which knowledge retention and achievement was affected by quizzes at delayed intervals following instruction in BYU-Idaho College Success courses.

Engagement.

Another important outcome of BYU-Idaho is "to do," the practice of acquiring and applying skill ("Learning Outcome Taxonomies," 2009). Critical aspects of andragogy include motivation, engagement, and active learning, which directly relate to the acquisition and application of a learned skill (Knowles et al., 2011). Research has proved when students are engaged in skill acquisition, they learn better and retain more, thus achieving the "to do" outcome (Kuh, 2003, 2009; "Learning Outcome Taxonomies," 2009).

Student engagement is important for all learning (Kuh, 2003, 2008, 2009; Astin, 1993; Trowler, 2010; Kuh et al., 2008). Engagement in developmental courses is especially crucial since the students enrolled are often more passive in their academics and display less desire than their college-ready counterparts (Astin, 1993; Connell et al., 1995; Finn & Rock, 1997; Kuh, 2003, 2008, 2009; Kuh et al., 2008; Carini, Kuh, & Klein, 2006; Pascarella & Terenzini, 2005; Trowler, 2010). The lack of interest, active participation, and desire displayed by students classified as being developmental often leads to weak cognitive skills, below average academic abilities, and unhealthy academic results (Terenzini, Springer, Yaeger, Pascarella, & Nova, 1996; McKeachie, 1994; Finn, Pannozzo, & Voelkl, 1995). Scholars have hypothesized that student engagement may provide necessary support for students enrolled in developmental courses, thus narrowing the gap in personal growth and academic achievement between these students and college-ready students (Connell, Spencer, & Aber, 1994; Finn & Rock, 1997; Kuh, 2008, 2009; Trowler, 2010). Research indicated engagement can improve

student academic achievement, represented by grade point average (GPA), for the socially or economically disadvantaged students (Fredricks, Blumenfeld, & Paris, 2004; Carini, Kuh, & Klein, 2006; Trowler, 2010; Kuh, 2007; Kuh et al., 2008). Research further indicated engagement within a college setting can fairly accurately predict growth and achievement (Carini, Kuh, & Klein, 2006; Trowler, 2010). Active, engaging learning is one way to meet the needs of students identified as developmental (Kuh, 2003, 2007; LaNasa, Cabrera, & Transgurd, 2009).

Bailey (2009) found students with low skill levels are often disengaged in their academic experience (Kuh, 2007). Also, what and how students are taught directly impacts engagement (Eccles, 2007; Kuh, 2008; Coates, 2006; Harper & Antonio, 2008). In addition to curriculum and pedagogy, institutional fit and self-efficacy also play a role in student engagement (Kezar, 2005; Kuh, 2009). If students feel confident and capable of success, and they feel a sense of belonging, they are less likely to disengage, withdraw, or lose focus (Eccles, 2007). While Tinto (1975) and Krause and Coates (2008) found students to be most responsible for engaging in their learning, more recent studies emphasized a shared responsibility of student, institution, and instructor for engagement (Quaye & Harper, 2007; Kuh, 2009; Kezar, 2005).

Light (2003) found students identified as developmental wanted to strengthen writing skills three times more than other skills. Light (2003) also indicated more than 90% of college graduates surveyed ranked writing as a skill of great importance. Writing skills play an essential role in academic success and development. But, the number of students entering college deficient in necessary writing skills is increasing (ACT, 2011). Kuh (2007) found first year students write and study less than they thought they would, thus increasing the need for

developmental programs. Academic support writing courses at BYU-Idaho have seen a steady increase in enrollment numbers over the past few years, with a major spike in the last year. BYU-Idaho Academic Support writing courses have increased from 180 students in 2010—2011 to over 1,700 students for 2013, with a majority of this increase in online courses. As numbers increase, evaluation of curriculum and instructional practices promoting engagement become more critical.

In academic support writing courses at BYU-Idaho, developmental writing instructors perceived students as demonstrating a visible lack of interest, not spending sufficient time working on their assignments, not completing assigned readings, not seeking help or advice on their final papers, and not valuing or taking pride in their work. Discussions amongst BYU-Idaho faculty about their observations of student engagement sparked an interest in this research topic. Based on small samples of quality work, BYU-Idaho instructors believed these students identified as being developmental to be capable of more. Most students identified as developmental are cognitively capable, but they lack confidence, interest, and the ability to cope with fear, anxiety, inexperience, and failure (Vilanueva, 1997; Trowler, 2010). Furthermore, research and literature on best practices in undergraduate education suggested learning is best when active learning occurs and students are engaged (Kuh, 2003, 2007, 2008, 2009; Kuh et al., 2008; Harper & Antonio, 2008).

Composition writing curriculums are often focused on structure, critical thinking, and research, providing students with strict guidelines to follow, which typically do not promote active learning (Grace, 2008; Selfe, 2007; Sullivan & Tinberg, 2006). Composition curriculums are vastly different than the creative writing curriculums. Grace (2008) pointed to audience as just one of many differences between composition and creative writing, with

composition writing being written typically for the professor and the class and creative writing being written for a more varied audience. Creative writing curriculums and instruction can engage students in regular, active learning, while promoting deeper commitment and stronger motivation (Austen, 2005; Leahy, 2005; Harper, 2010). The academic support writing instructors have noticed as the curriculum shifts from academic writing to creative and personal writing, a visible change in student engagement and interest has been detected. Research suggested when students are excited and engaged, they find joy in the projects and do not feel the work is as hard, and they ask deep questions hoping for deep answers (De Frondeville, 2009). Very little research has been done with the engagement of students needing additional academic support, especially with writing.

Self-Efficacy.

Self-efficacy is defined as the belief in one's capability to produce given accomplishments (Bandura, 2006). Of self-efficacy, Bandura (2000) stated that among the instruments of human agency, none is more pivotal or encompassing than the belief of personal efficacy. Self-efficacy plays a key role in human functioning because it affects goals and ambitions (Bandura, 2000). The confidence and hopefulness in one's abilities to successfully navigate life's changes is one element of self-efficacy (Chemers, Hu, & Garcia, 2001). Through this element of self-efficacy one may "become" a confident and competent person, another important outcome of BYU-Idaho.

Change can be worrisome. The transition from high school to college can place substantial apprehensions on young adults (Chemers, Hu, & Garcia, 2001). Chemers et al. (2001) reported college life can be challenging and tense for a new student and requires higher levels of independence, initiative, and self-regulation. Low self-efficacy beliefs can

obstruct academic achievement and can lead to failure and learned helplessness that can devastate psychological well-being (Margolis & McCabe, 2006).

Low self-efficacy is characteristic of students who have had a history of failures. Self-efficacy, or the belief in one's ability to take action, can affect future situations (Bandura, 2006). When students are faced with a task, they will exert maximal effort and persist despite failure if they believe they are capable (Bandura & Adams, 1997). Students with higher perceived self-efficacy performed better on proficiency tests and set higher goals for future achievement tests (Cheng & Chiou, 2010). Cheng and Chiou (2010) postulated high self-efficacy can affect student motivation which can then contribute to a student's belief in their abilities. People with little self-motivation have less confidence in their abilities and do not believe they can control learning or that their goals can be attained.

Stiggins and Chappuis (2005) identified two key principles for motivating low-performing students to learn. First, students must be prevented from giving up in despair at the outset by encouraging confidence from their earliest experiences. Second, instructors must reawaken hope among these students who may have lost belief in themselves as learners because of previous experience. Perceived self-efficacy can affect students' choices of activities, how hard they try, and how long they will persist when facing obstacles (Chemers, Hu, & Garcia, 2001). Students who received positive feedback set higher objectives, showed greater ability to solve problems, and achieved higher results than students who received less positive feedback (Chemers, Hu, & Garcia, 2001) which leads to stronger perceived self-efficacy. High self-efficacy can help students better cope with challenges (Bandura, 1977).

Another important outcome of BYU-Idaho is "to become," the process of becoming an active participant and steward over one's learning. The personal and affective aspects of

learning are a critical component of good teaching. ("Learning Outcome Taxonomies," 2009). Personalizing learning and reaching an academic goal and success are directly connected to having high self-efficacy (Cheng & Chiou, 2010). Bandura (2002) argued there is little incentive to act or persevere when difficulties arise, whatever the motivation, if one does not have the power to produce desired effects by one's actions. College students are inclined to engage in tasks if they feel competent and confident (Vuong, Brown-Welty, & Tracz, 2010). Vuong et al. (2010) defined college self-efficacy as the degree to which a student is confident in carrying out various college-related tasks to create a desired outcome. If these college students have high self-efficacy they approach difficult tasks as challenges to be won rather than intimidations to be avoided. Self-efficacy has been found to effect academic achievement in college and thus is pertinent to postsecondary academic success.

Bandura (2012) argued efficacy beliefs from past performance can be an influence on the belief of future experiences and achievements. Bandura (2012) also noted that a strong sense of efficacy is often accompanied by high academic motivation and performance. Students who feel capable of learning and performing well in school expect, and usually receive, outcomes proportionate with their high performance (Schunk, 1991). Students must value the goal of achieving in academics to perform well (Schunk, 1991). The belief to succeed is linked to quality performance. One key to inspiring and engaging students in need of academic support is to get them to be certain they can succeed (Margolis & McCabe, 2006). Because one cannot be a master of all things, "people differ in the areas in which they cultivate their efficacy and in the levels to which they develop it even within their given pursuits. Thus, "the efficacy belief system is not a global trait but a differentiated set of self-beliefs linked to distinct realms of functioning" (Bandura, 2006, p. 307).

Purpose of the Study

The purpose of this action research study was to discover how to improve learning and achievement in academic support courses at BYU-Idaho. This study focused on three specific research objectives:

1. Determine the degree to which knowledge retention is improved through quizzes at delayed intervals following instruction;
2. Compare student engagement between the genres of composition writing and creative writing to determine which domain will be most affected and examine potential correlations between engagement and achievement; and
3. Discover the students' perspective of their levels of self-efficacy and its impact on their academic achievement.

Limitations

McCaslin and Scott (2003) stated limitations are influences that the researcher cannot control. They are the shortcomings, conditions or influences that cannot be controlled by the researcher that place restrictions on the methodology and conclusions. The researchers, for example, had no control over the individual backgrounds or characteristics that the students brought with them to the academic support classroom. For example, Brigham Young-University Idaho is a private four-year institution affiliated with The Church of Jesus Christ of Latter-day Saints. The demographics of the students are predominantly white, making up approximately 90% of the population. Married students made up just over a quarter of the students in the fall 2013 semester and returned missionaries made up over 40% of the population. Generalizations should not be made with this population beyond this study.

Another limitation was instructor bias. Though measures were taken to improve reliability and validity, it is possible instructor bias affected the findings. Participant responses on the surveys were another limitation, as researchers had no control over whether the participants responded.

Delimitations

Delimitations define the parameters of the investigation (McCaslin & Scott, 2003). The researchers of this study chose to use an action research approach to discover how to improve learning and achievement for students enrolled in developmental college courses. Specifically, the researchers looked to determine the impact low-stakes quizzes had on student learning and achievement in College Success (a first year experience course), the impact the genres of composition and creative writing had on student engagement in developmental writing courses, and the impact these courses had on student self-efficacy. Students in academic support courses at BYU-Idaho were chosen because of convenience with the focus being to improve professional practice.

Other delimitations included the time frame of the study. The study was performed the duration of the fall 2013 semester. Also, only students from four College Success courses and two Basic Writing courses were invited to participate.

Definition of Terms

Composition writing. Writing that focuses on research, theory, and process. Composition courses are mandated for all students at most universities in the United States.

Creative writing.	Creative writing entails activities and procedures that encourage exploration and creativity with the purpose of communicating and making art.
Desirable difficulties.	Challenges experienced by learners during encoding that lead to superior retention.
Developmental courses.	Courses designed to build upon existing skills and prepare students to college-level coursework (Arendale, 2005).
Developmental education.	Developmental or remedial education focuses on all aspects (social, academic, emotional) of student life for students who place or test into developmental programs. The purpose of developmental education is to prepare students for college credited classes and college life.
Developmental educator.	A professional educator who works with students identified as developmental to prepare them for college-level courses (Arendale, 2005).
Developmental student.	A student recognized to have the potential to succeed in college with the appropriate support. This student is deemed skill deficient in one or more college level courses (Arendale, 2005).
Distributed reviews.	Reviews spaced out over time rather than massing or cramming them together prior to an exam.

Engagement.	To hold one's attention and effort. For this study, engagement will be measured by time on task, participation inside and outside of class, effort, motivation, interest, and satisfaction.
Forgetting curve.	The decline of memory retention over time.
Knowledge retention.	The preservation of learning in long-term storage in such a way that it can be identified and recalled quickly and accurately (Sousa, 2001).
Long-term memory.	The ability to recall and use information after a long period of time (Arendale, 2005).
Motivation.	Stimulating an individual by means of intrinsic and extrinsic ways to execute a task willingly and complete it with continuous passion (Eastridge & Price, 1969).
Placement.	The assignment of a student to a course appropriate to his or her skill level (Arendale, 2005).
Self-efficacy.	The belief in the person's capability to produce given accomplishments (Bandura, 2006)
Skills.	Behaviors and abilities that can be developed through practices and instruction (Arendale, 2005).
Testing effect.	Testing knowledge as a means to increase later retention.

Significance of the Study

This study is significant because it provided the researchers with an in-depth understanding of their professional practice and how to improve the knowledge retention,

engagement, and self-efficacy of students in academic support courses. The findings of this study will produce recommendations to improve student learning in academic support courses at BYU-Idaho. If low-stakes quizzes following each class are shown to improve knowledge retention for students, then it might be recommended that such quizzes be used to facilitate study and increase retention in other academic support courses. If one genre of writing engages students more than the other, then perhaps that form of writing should be more widely used to teach academic support writing courses. Self-efficacy measurement scores will analyze the effectiveness of academic support courses in improving student academic self-efficacy.

Chapter 2: Review of Literature

Framework

This literature review describes the conceptual framework for this study. Topics in this literature review include best practices in developmental education, knowledge retention, engagement in developmental writing, and self-efficacy. Figure 1 provides a conceptual framework for this three-part study, which looks to improve the professional practice of BYU-Idaho Academic Support courses.

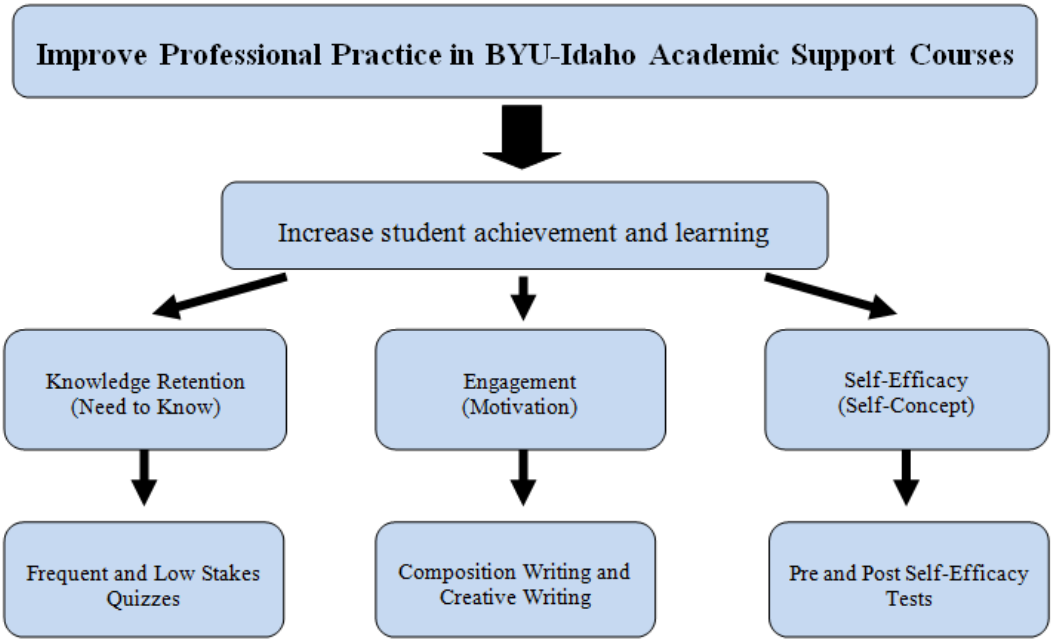

Figure 1. Conceptual framework for improving the academic support courses.

Conceptual Framework

Knowledge retention, engagement, and self-efficacy are important aspects of adult learning (Knowles et al., 2011). The adult learning theory of andragogy, espoused by Knowles, provided a foundation for this study (Knowles et al., 2011). While learning theories are critical for higher education as a whole, a theoretical guideline is even more crucial for

developmental education (Chung, 2005). Human learning theories, such as adult learning theory, provide an appropriate base and support for developmental education (Boylan, 2002). Collins, Casazza, Demarais, and Eaton (1999) argued human development theories can bring consistency and unity to developmental programs. While researchers acknowledge the critical nature of the learning environment, creating such an environment in today's educational setting remains a difficult task (Bradshaw, 2004). Adult learners necessitate an educational experience which promotes responsibility and independence. The need for personalized and individualized educational opportunities is especially important for adult learners (McGovern Billings & Halstead, 2005). When the learning environment is personalized, it facilitates the use of the most important resource in adult education—the learner's experience (Knowles et al., 2011).

Traditionally, theory and practice were considered entirely different and separate—with theory being objective and practice being subjective (Lagemann, 2002; Kessels & Korthagen, 1996). Jarvis (1999) and Schon (1987) refused to fully accept the divide between theory and practice, arguing theory and practice together can improve professional practice in developmental education. Chung (2005) suggested theory and practice together create a practice oriented approach suitable for developmental courses.

Andragogy, a model for teaching practice of adult learners, is at the heart of this theoretical approach. Androgogy consists of six critical assumptions pertaining to the adult learner participants of this study: (a) self concept, (b) experience, (c) readiness to learn, (d) orientation to learning, (e) motivation to learn, and (f) need to know (Knowles, 1984). These assumptions directly apply to developmental education since student needs, experiences, and learning styles vary ("2013 Fact Sheet," 2013).

With a focus on adult learning theory and developmental education, this study will examine the impact of low-stakes quizzes on knowledge retention as they relate to need to know, writing engagement as it relates to motivation, and student self-efficacy as it relates to self-concept.

Best Practices in Developmental Education

Grubb and Cox (2005) outlined four critical aspects for success in developmental education: (a) instructor approaches; (b) student perceptions, attitudes, and needs; (c) course content and curriculum alignment; and (d) institutional setting. Instructor approaches are critical in the success and progress of students in developmental courses (Grubb & Cox, 2005). Trained, committed, and prepared instructors can help students in developmental courses find success and matriculate into college level courses (Smittle, 2003). Grubb and Cox (2005) emphasized the importance for instructors to understand student needs and to tailor curriculum based on those needs. Taking into consideration student needs and best instructional approaches for addressing those needs, Boylan (2002) stated frequent testing opportunities should be considered one of the best instructional practices in developmental courses. Further, Smittle (2003) identified non-cognitive factors that affect learning, such as engagement, motivation, and self-efficacy, as critical components of successful developmental programs. Baker, Jankowski, Provezis, and Kinzie (2012) validated the importance of frequent testing and engagement in education today. The following sections will address these arguments and their relevance to this study.

Knowledge retention.

Toward the end of the 19th century, the German scientist Herman Ebbinghaus performed a landmark experiment on forgetting and how individuals learn and retain

information (Ebbinghaus, 1913). According to Ebbinghaus (1913), a person forgets nearly half of what was originally learned within one hour of learning. Forgetting appears to be the greatest during the 24 hours following initial learning, a time, coincidentally, when students generally do not return to their textbooks or notes (Kornell & Bjork 2007; Hartwig & Dunlosky, 2012).

More recent studies have shown that even highly motivated learners are not immune to forgetting. Medical students forget roughly 25-35% of basic science knowledge after one year, which increases to more than 50% by the next year (Custers, 2010), and 80-85% after 25 years (Custers & ten Cate, 2011). To address the problem of forgetting, researchers have repeatedly found that spaced practice—practice spread out over time—leads to more robust and durable learning as compared to massed practice (Bjork, 1994; Cepeda, Pashler, Vul, Wixted, & Rohrer, 2006; Dempster, 1989; Rohrer & Pashler, 2010). Hattie (2008) identified spaced practice as a teaching approach that has one of the greatest visible affects on learning and achievement.

For the learner or instructor, one of the most important choices to make regarding spaced practice is when these reviews should take place. While some claim that a gap of roughly one day is optimal (Ausubel, 1966; Childers & Tomasello, 2002; Edwards, 1917; Glenberg & Lehmann, 1980), more recent studies assert that the most optimal time to review increases as the delay in testing is increased (Pashler, Rohrer, Cepeda, & Carpenter, 2007). As shown in Figure 2, it has been suggested that the optimal review time be approximately 10% from the point of instruction to final testing. (Rohrer & Pashler, 2010).

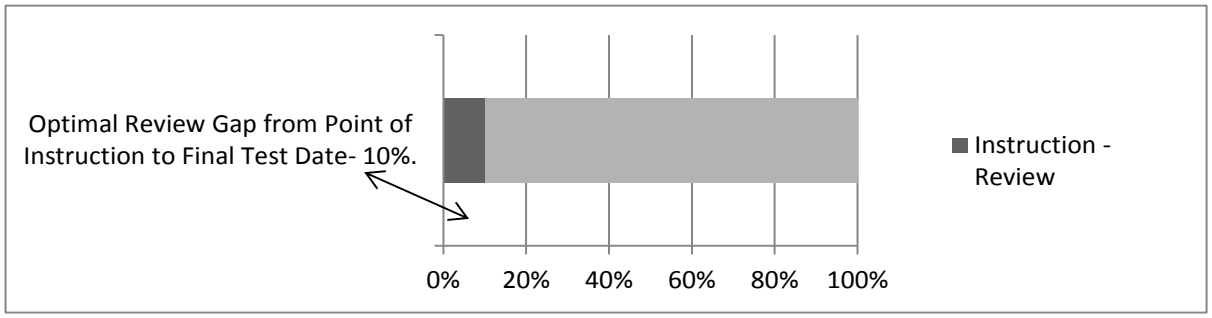

Figure 2. Optimal review gap.

In addition to not reviewing in a timely fashion, Klemm (2007) suggested that poor knowledge retention in education is the result of poor study methods. Karpicke, Butler and Roediger (2009) identified the study strategies most often used by college students, which included rereading their notes or textbook, doing practice problems, reviewing flashcards, rewriting their notes, studying with a group, memorizing, developing mnemonics, making outlines or review sheets, practicing retrieval by self-testing, highlighting, and thinking of real life examples. Of these strategies, repeated reading was the most frequently used study method. Yet recent memory research suggested rereading did little to improve long-term learning (Callender & McDaniel, 2009). Roediger, Putnam, and Smith (2011) indicated that students' predictions about their learning are often inflated when they simply reread their notes, causing them to be overconfident and cease studying those things they perceive to have learned. Of the strategies mentioned, only a small number of these students indicated retrieval by self-testing as their number one strategy (Karpicke et al., 2009). Self-testing is an activity in which students quiz themselves and then check their answers. While each student is unique in his or her learning and study preferences, the research literature has suggested that knowledge retention would be improved if self-testing were utilized more by students (Karpicke et al., 2009).

Neglect of self-testing as a study strategy may be attributed to students not being aware of the retentive benefits of this practice (McCabe, 2011). However, according to Kornell & Bjork (2007), even with this instruction, when given control of their learning, students rarely choose to practice retrieval through self-testing, and learning suffered as a result. Karpicke (2009) opined that when students are free to choose their own study methods, they will often wait until they have reached a level of confidence in their learning before they engage in the practice of self-testing. Students may also not self-test because they mistakenly believe they know the material once they are able to recall a fact, and therefore choose to stop practicing it. In addition, students may also not practice self-testing because they do not perceive the need. Testing in schools is primarily used for the purpose of monitoring learning and assigning students a grade (Dempster & Perkins, 1993). In many circumstances tests are given infrequently and are generally perceived as a bother by faculty and student alike (Roediger & Karpicke, 2006b).

A review of the literature showed students perform better on a final exam if they will first take a practice test of the material rather than merely restudying the lesson (Davis, 2011; Roediger & Karpicke, 2006a; Mayer et al., 2009; Lyle & Crawford, 2011). Higher achievement also occurred in developmental courses where frequent testing was emphasized (Boylan & Saxton, 1998; Kulik & Kulik, 1991). This phenomenon, known as the "testing effect," illustrates how testing prior learning greatly enhances later retention (Roediger & Karpicke, 2006b). Frequent testing permits students to identify what they know so as to focus their study efforts on areas in which their knowledge is deficient. Testing prior learning in this manner thus serves as a formative assessment of student learning by supporting the learning process in addition to improving what students retain (Ainsworth & Viegut, 2006). Because

the focus of this form of assessment is student learning, low-stakes quizzes can be extremely effective in providing formative feedback regarding student learning (McDaniel, Agarwal, Huelser, McDermott & Roediger, 2011). By administering quizzes of a low point value with the primary aim being student retention of learning, test anxiety is reduced and students' attention is focused on important course content (Wolf & Smith, 1995). Similarly, instructors are provided with valuable formative feedback about student learning in the classroom which can guide future instruction (Black & William, 2009).

The research on retrieval practice suggested that the effort expended in retrieving information from memory, rather than simply re-studying, strengthens memory traces (Roediger & Karpicke, 2006a). Bjork (1994) opined that the challenge experienced in retrieval effort produces a condition of "desirable difficulties" which leads to more enduring learning. To best produce this condition, fill-in-the-blank or short-answer formats are recommended, as opposed to multiple-choice questions, which simply require recognition of the correct answers (Pashler et al. 2007). By implementing quizzes in this format, the quizzes serve as a mnemonic tool for aiding later retention. The retrieval hypothesis, which suggests retrieving information from memory improves knowledge retention, will serve as the framework for the knowledge retention part of the study.

Engagement.

Engagement in an academic setting can be defined as active participation, attendance, and motivation (Tucker et al., 2002; Kuh et al., 2008). Skinner and Belmont (1993) explained that engagement typically involves behavioral and emotional components. Students who are engaged show increased passion, excitement, inquisitiveness, devotion, attention, and effort (Marks, 2000; Simons-Morton & Chen, 2009). Newmann (1992) added student engagement is

"the student's psychological investment in and effort directed toward learning, understanding, or mastering the knowledge, skills, or crafts that academic work is intended to promote" (p. 12).

Research has shown higher academic engagement is directly correlated with improved academic achievement and retention (Finn, Pannozzo, & Voelkl, 1995; Ogbu, 2003; Guthrie, Wigfield, & You, 2012; Guthrie, Klauda, & Ho, 2013; Christensen, Reschly, & Wylie, 2012). Student engagement has proved to have a statistically significant effect on the GPA of college students in their first and last years of college (Kuh et al., 2008; Trowler, 2010). Disengagement is believed to be a fundamental cause of low achievement (Newmann, 1992; Finn, Pannozzo, & Voelkl, 1995). Disengagement has been tied to low test scores and student dropout while engagement has shown to directly and indirectly increase academic achievement (Finn & Cox, 1992; Chen, 2005; Zimmer-Gembeck, Chipuer, Hanisch, Creed, & McGregor 2006; Kuh, 2007, 2008, 2009).

While engagement is crucial for all students, it can be particularly important for students identified as developmental (Connell et al., 1995; Finn & Rock, 1997; Kuh, 2007, 2008, 2009; Trowler, 2010). Research demonstrated engagement can improve academic achievement for students identified as at risk and developmental (Fredricks, Blumenfeld, & Paris, 2004; Kuh et al., 2008). Students identified as developmental often are in greater need of and benefit more from active learning and engagement than their college ready counterparts (Kuh et al., 2008; Kuh, 2009). Students attending college today could benefit from more challenging, satisfying, and engaging first year and developmental academic programs (Kuh et al., 2008; Obregon, 2013).

There are many categories of engagement, which include academic, cognitive, behavioral, emotional, skills, affective, psychological, etc. (Willims, Friesen, and Milton, 2009). This study will focus on four subcategories:

1. Academic—Academic engagement is measured by quality of work, time on task, completion of work, learning, etc.
2. Cognitive—Cognitive engagement is measured by investment, learning goals, responsibility for learning, self-regulation, etc.
3. Behavioral—Behavioral engagement is measured by participation, attitude, attendance, etc.
4. Emotional—Emotional engagement is measured by actions, reactions, feelings, interest, happiness, boredom, etc.

(Handelsman, Briggs, Sullivan, & Towler, 2005; Appleton, Christensen, Kim, & Reschly, 2006; Fredricks et al., 2004)

Engagement is an important aspect of adult learning theory (Knowles et al., 2011). Astin (1999) suggested that institutional goals include guiding student time and effort in their academics since these factors are two of the most important resources leading to student development and learning (Kuh et al., 2008; Trowler, 2010). Smittle (2003) explained non-cognitive factors are critical for academic success. When students care about and enjoy what they do, they are more likely to desire excellence (Nakamura & Csikszentmihalyi, 2005). Csikszentmihalyi's flow theory provides structure to better understand student engagement. Flow theory examines the outcomes experienced when skill and challenge go above the average (Csikszentmihalyi, 1988). In the flow, students become caught in the moment and

lose track of time and pursue activities for their own enjoyment and interest and not for a grade (Csikszentmihalyi, 1990). In other words, students become deeply engaged.

Two theories served as the foundational structure to tie the non-cognitive effect of engagement to developmental writers. These theories have been, and continue to be, fundamental in all engagement research. These theories include Kuh's (1989 & 1991) engagement theory and Chickering and Gamson's (1987) *Seven Principles for Good Practice*. Engagement is identified by Knowles et al. (2011) as one of the critical learning factors in adult learning theory, since motivated adults learn better and find learning more enjoyable.

Kuh's theory of student engagement focused on two principles: (a) a student's drive to invest will impact the level of engagement reached (b) universities that promote proper engagement principles and activities will have more driven students (Kuh et al.,1991). Kuh (2001) pointed to Chickering and Gamson's *Seven Principles for Good Practice* as guiding measures for the National Survey of Student Engagement (NSSE).

Chickering and Gamson's *Seven Principles for Good Practice* provided a suitable framework of engagement theory. Kuh (2001) stated, "Perhaps the best known set of engagement indicators is the 'Seven Principles for Good Practice in Undergraduate Education'" (p. 1). *The Seven Principles for Good Practice* relate primarily to the instructor and instruction. This framework outlined educational practices that engage students. These seven principles include the following:

1. Good practice promotes student-to-teacher contact.
2. Good practice promotes group learning and interaction.
3. Good practice promotes active learning.
4. Good practice provides prompt feedback.

5. Good practice stressed time on task.
6. Good practice sets the bar high.
7. Good practice values different talents, backgrounds, and learning methods. (Chickering & Gamson, 1987).

Of these seven principles, the most important to this study is number three: good practice promotes active learning. Activities that involve active learning require students to take responsibility of their learning and improve student investment and commitment (Kuh et al., 2008).

Figure 3 provides an overview of the framework for this portion of the study. This study used students from BYU-Idaho Academic Support writing courses to measure writing engagement and achievement from composition writing and creative writing. Kuh's and Chickering and Gamson's works serve as the framework to inform the study in measuring engagement in BYU-Idaho Academic Support writing courses.

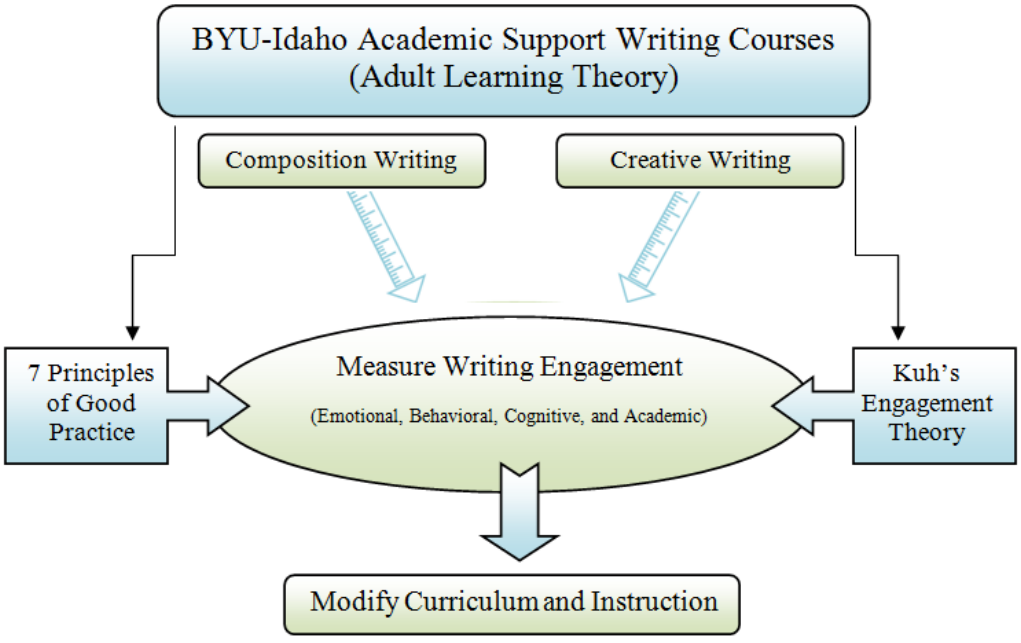

Figure 3. Framework of the engagement portion of the study

Smittle (2003) claimed that students identified as developmental typically come to college with many nonacademic problems (Kuh et al., 2008). Therefore, developmental education programs must address student affective needs in addition to cognitive (Astin, 1984). Engagement is one affective or emotional issue directly impacting achievement and learning. Engagement and motivation are often lumped into the same category. But, Appleton, Christensen, Kim, and Reschly (2006) explained motivation to be the *why* for a behavior and engagement to be the *energy* and *action* of the behavior. Engagement can be addressed in the classroom by incorporating activities that solicit student interests and background knowledge (McCombs, 1991).

Developmental writing courses are typically designed to address the deficiencies demonstrated by students on a placement test. Research has shown remediation is most successful when it is quick and concentrated, with students returning to college level work as quickly as possible (Gulley, 2009). Many developmental writers lack experience in writing to perform the necessary tasks of a first year college writing course. For this reason, they are placed in a remedial or developmental course to learn the skills that will enable them to be successful in college level courses. For most developmental writers, they do not lack the cognitive ability to be successful. Instead, they lack knowledge, skills, understanding, and experience for writing at a college level (Vilanueva, 1997; Adler-Kassner & Glau, 2004; Bernstein, 2006). Developmental writing programs have been established to quickly provide skills and knowledge these students lack, and to help them conquer fear, apprehension, and past academic failures, strengthening self-efficacy.

The objective of freshman composition curricula is to teach academic writing skills. While no two college composition curricula are alike, standards exist to guide programs. The

Council of Writing Program Administrators (2010) identified outcomes for freshman composition courses:

1. Students should have rhetorical knowledge.
2. Students should be able to think critically.
3. Students should have reading and writing skills.
4. Students should understand writing processes.
5. Students should have knowledge of conventions.
6. Students should have knowledge of composing in electronic environments (WPA Outcomes Statement for First-Year Composition).

D'Aoust (1987) detailed the process of composition writing: prewriting, writing, sharing, revising, editing, and evaluating. The process for composition writing adheres to strict, teacher-driven structures and procedures that can disengage students (Grace, 2008; Selfe, 2007; Sullivan & Tinberg, 2006). Tobin (1981) discouraged composition writing that was boring, rules driven, and ignored student interests and needs.

As contemporary thought began to permeate the tradition of the composition classroom, Berlin (1987) argued strongly to protect political and ideological aspects of freshman composition from conforming to contemporary standards. Berlin (1987) envisioned composition classes to prepare students for citizenship and assuming political duties and opined that in composition classes students should learn about themselves while learning methods of order, communication, and relationships (Selfe, 2007; Sullivan & Tinberg, 2006. Schweitzer (2004) stated the purpose for composition courses is to create academic students.

Berlin (1987) stated many English faculty members view freshman composition as a curse and teach it only when they do not have a choice—while tenured faculty avoid it entirely. This could be one reason student engagement is an issue in these courses.

Ponsot and Deen (1982) explained traditional methods used to teach composition are difficult and unfair to students. Though Ponsot and Deen (1982) recognized the importance of teaching structure and power of language in composition curriculums, the traditional methods by which these principles are taught are not conducive to active learning.

Due to its academic history, structure, and process driven roots, composition research and classic studies often view student engagement, talent, and creativity as out of bounds (Bishop & Ostrom, 1994). Elbow (1995) stated academic writing entails reading well-informed literature, struggling through and resolving deep, important questions, while creative writing involves capturing thoughts and feelings on paper, discovering meaning through writing, and communicating ideals.

Smith (2006) argued for the standard five paragraph essay and traditional approaches to composition teaching, ensuring students' master structure and process. Lindemann (1993) felt universities and departments should reserve the first year course entirely for academic discourse, or composition writing, avoiding lawless and confusing types of writing. But, Dirkx (1997) argued promoting imaginative, creative, and intuitive works lead to engagement.

Myers (2006) explained the teaching of creative writing began in a junior high class in the 1920s as an attempt to replace grammar and other mainstay English courses with something more attractive to students. William Hughes Mearns, the man credited with inventing the discipline, claimed the ultimate outcome of creative writing is personal growth (Myers, 2006).

Creative writing's primary criticism is its lack of scholarship (Norton, 2013). Bishop (1992) explained creative writing's limitations in theory and practice condemn the discipline in most English departments. Furthermore, Schweitzer (2004) argued the primary purpose for creative writing courses is to produce writers and is often considered by academics as lighthearted amusement. Creative writing has struggled to find a home in English departments and the academy. But, Elbow (1995) argued students should be comfortable with both genres of writing.

Bishop and Ostrom (1994) stated creative writing offers students an opportunity to discover what they do not know, clarify what they do not understand, protect what they value, and share what they learn. Elbow (1995) explained creative writing courses allow students to read and critique each others' work in a shared, lived, engaged experience.

Creative writing, opposed to other forms of academic writing, creates an excitement within college students that is almost nonexistent in freshman English courses. Students view creative writing as expressive and fun while composition is viewed as drudgery and professor driven (Bishop & Ostrom, 1994).

Knowles et al. (2011) cited relevant, safe, and engaging learning activities and assignments are crucial for the adult learner. Furrow (2011) related adult learning experiences from her undergraduate English course to how she teaches her current English courses: allowing students freedom and making them believe their words are important.

Lamott (1994) argued the very act of writing creatively can, and in most instances will, infuse a feeling of passion into students.

> It is as if the right words, the true words, are already inside them, and they just want to help them get out. Writing this way is a little like milking a cow: the

> milk is so rich and delicious, and the cow is so glad you did it. I want people who come to my classes to have this feeling, too. (Lamott, 1994, p.xxxi).

Lamott (1994) explained as she started writing creatively, her passion and interest for writing grew and increased her desire to be a better writer. Knight (1997) argued creative writing can engage students simply by encouraging the creation of something that has never before existed: a story.

Self-efficacy.

The process of assessing personal self-efficacy has been extensively analyzed in the past (Gist & Mitchell, 1992). Analyzing the Gist and Mitchell (1992) model, a set of evaluative questions can be formed: (a) What does it take to perform the task? (b) Have I experienced it before? (c) Why did I do well in the past? (d) How well can I manage myself and my environment? (e) What are the resources and constraints for performance? This examination, Gist and Mitchell (1992) noted, involves the individual's findings or attributions on past performance. Bandura (1988) argued this type of self-appraisal is a process in which evidence coming from different sources are considered and assimilated to form self-efficacy.

As indicated in Figure 4, Gist and Mitchell (1992) showed this process is continual as circumstances and criticisms are weighed and analyzed to fit the four main sources of self-efficacy (Bandura's 1977): (a) mastery or direct experiences, (b) vicarious experiences, (c) verbal or social persuasion, and (d) physiological state. A person's performance is measured and personal feedback given according to the answers to the evaluative questions. The cycle continues for each situation presented to the individual.

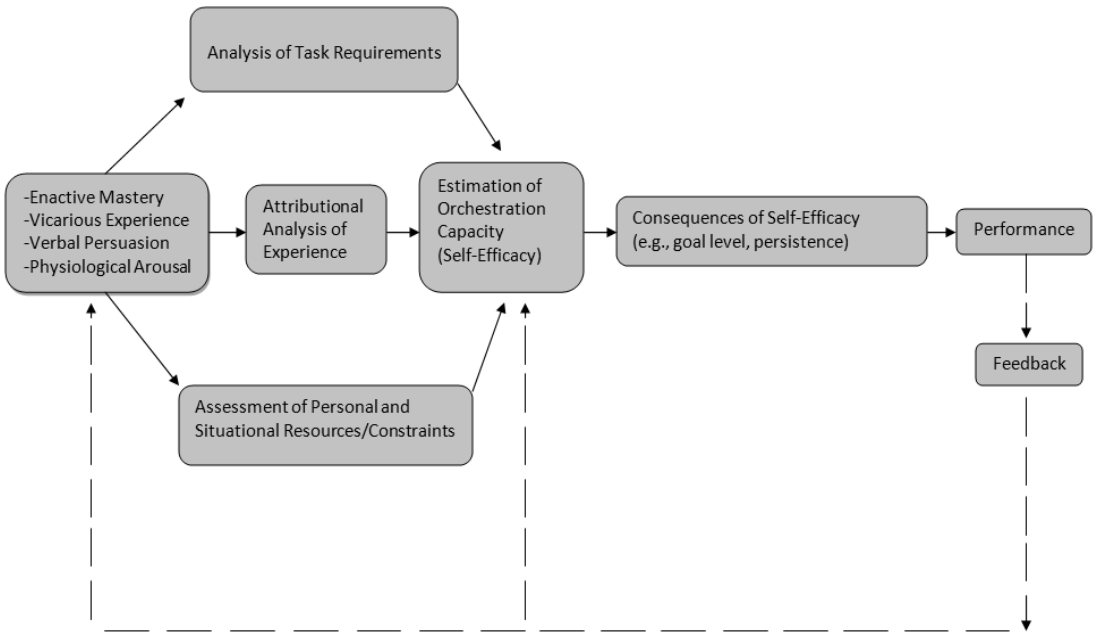

Figure 4. Process of forming self-efficacy (Gist & Mitchell,1992).

Consideration warrants further exploration of Bandura's (1977) reported four sources of self-efficacy for behavior and performance—the four main sources of self-efficacy: (a) mastery or direct experiences, (b) vicarious experiences, (c) verbal or social persuasion, and (d) physiological state. Of these four, mastery experiences is the most influential and dependable source of efficacy because it is based on a person's actual experiences. Tschannen-Moran & McMaster (2009) described self-efficacy as "a dynamic construct that is cyclical in nature" (p. 4). Success can build a strong belief in one's capability to learn and perform in the future. A person's proficiency of a task becomes a new mastery experience and another source of self-efficacy (Tschannen-Moran & McMaster, 2009). Bandura (2012) argued efficacy beliefs from past performance can provide beliefs for future experiences and performances. Bandura (2012) also noted that a strong sense of efficacy is often attended by high academic motivation and performance.

Vicarious experience emphasizes that a person's expectation levels can be raised by seeing other people perform an activity effectively (Schunk, 1991). Much human behavior is established or learned through the influence of example or modeling (Bandura, 1977). Schunk (1991) noted that individuals can gain confidence by observing peers successfully perform a task. Schunk (1991) continued, students can receive information from others suggesting that the students are also capable of performing that task. This can raise self-efficacy, but can be only temporary if future efforts turn out unsatisfactory. Because of this occurrence, this efficacy expectation is noted as the weakest source of self-efficacy (Bandura, 1977).

Verbal or social persuasion means getting responses from associates, for example, administrators, teachers, other students, etc. Bandura (1997) noted that "it is easier to sustain a sense of efficacy, especially in times of difficulty, if significant others express faith in one's capabilities than if they convey doubts" (p. 101). Verbal or social persuasion by itself does not necessarily become an influential source of self-efficacy; however, when partnered with another of the four sources of efficacy it can become a cause for firming a person's belief that the task is possible (Tschannen-Moran & McMaster, 2009). Schunk (1991) explained that students often receive information from others suggesting that they are capable of performing a task.

The physiological or affective state is interpreted through a person's emotions. A person's level of perception, whether alleged positively as anticipation or negatively as anxiety, can affect his or her self-efficacy beliefs concerning a task (Tschannen-Moran & McMaster, 2009). A person may feel threatened and debilitated by a situation if the anticipation brings on negative responses such as an elevated heart rate or sweating palms. Presented with the same type of a challenging situation, a person with high self-efficacy may

have feelings of interest or curiosity. Low self-efficacy and negative reactions may interfere with performance of the task while high self-efficacy and positive reactions can focus attention and energy on the task. Self-efficacy influences an individual's choice of activities, effort, and persistence (Tschannen-Moran & McMaster 2009). Students with a low sense of efficacy for performing a task may not even try it; those who think they are capable will readily attempt it (Bandura, 1977). Success increases efficacy and failure lowers it (Bandura, 1986).

Central to self-efficacy are two theories, social cognitive theory and attribution theory. Attribution theory, first proposed by Heider (1958), is related to how individuals interpret events and how this communicates to their thinking and behavior. According to Heider (1958), a person can make the following attributions, (a) internal attribution, the interpretation that a person is performing in a certain way because of something about the person such as attitude, character, or personality, and (b) external attribution, the conclusion that a person is acting a certain way because of something about the situation he or she is in. Attribution observes the ways in which people perceive the causes of their own actions and presentation. Bandura (2012) suggested the difference between low and high achievers is how they interpret events. The determinations perceived as most responsible for success and failure are: (a) one's level of ability, (b) the amount of effort expended, (c) the magnitude and direction of experienced luck, and (d) the difficulty of the task. All four of these are subjective to self-efficacy (Silver, Mitchel, & Gist, 1995; Cheng & Chiou, 2010). Self-efficacy views influence how well people inspire themselves and persevere in the face of difficulties through the purposes they set for themselves, their outcome goals, and influential attributions for victories and failures (Bandura, 2012).

According to social cognitive theory, failure on a task can reduce an individual's level of self-efficacy, which in turn is connected with lowered motivation and performance (Silver et al., 1995). The effects of previous performance on self-efficacy depend on the perceptive assessment of that performance. People noted as having high or low self-efficacy have different explanations for the causes of their performance and attribute these causes to continue their self-efficacy perceptions for succeeding performance attempts. For example, those with high self-efficacy attributed poor presentation to bad luck, whereas, those with low self-efficacy attributed poor presentation to lack of ability (Silver et al., 1995; Schunk, 1991).

Self-efficacy also influences how much effort is put into performing and trying, which affects achievement (Vuong et al., 2010). When examining academic success models, self-efficacy is the strongest predictor of college GPA, which is often used to measure achievement and educational ability at the college level (Geiser & Santelices, 2007; Kuh et al., 2008). Developing and nurturing a sense of self-efficacy may influence students' GPA and therefore may increase success rates of college students (Vuong et al., 2010). Bandura (2012) argued a strong sense of efficacy is partnered by high educational motivation and performance.

Self-efficacy beliefs lead to successful performances and have predicted academic achievement. Motivation and performance are directly and indirectly influenced by self-efficacy (Caprara, Vecchione, Alessandri, Gerbino, & Barbaranelli, 2011). A student's self-efficacy can be stated as an alleged ability to effectively master definite academic subjects such as reading, math, etc., and the perceived ability to govern study and learning habits. Instructors appreciate the potential of students and aim to develop appropriate interventions

for those who are at risk of academic failure. By being aware of and identifying possible calculations of academic performance, instructors can aid in proper interventions (Caprara et al., 2011).

Therefore, as Gist & Mitchell (1992) projected, the process of assessing personal self-efficacy is cyclical, continuous, and dependent on perceived past performance. A person's performance is measured and personal feedback given according to the answers to the evaluative questions. The cycle continues for each situation presented to the individual.

Summary

A review of relevant literature indicated a need to improve the knowledge retention, engagement, and self-efficacy of college students. This is especially the case in developmental courses where students are often most at risk of failure. The literature revealed that knowledge retention is often weak in students due to poor study practices and lack of effective and timely review. The literature also revealed that student engagement can be an issue in developmental writing courses and weighed whether engagement could most likely be achieved through creative writing as compared to composition writing. The literature further shows that low self-efficacy is a characteristic of students who have had a history of failures and is an important predictor of academic achievement.

Though students identified as developmental often enter post-secondary institutions inadequate in their study skills, disengaged, and with low self-efficacy, committed instructors can help students enrolled in BYU-Idaho Academic Support classes find success and matriculate into college level courses.

Chapter 3: Methodology

Overview

The purpose of this study was to evaluate how to improve learning and achievement in academic support courses at BYU-Idaho. To accomplish this, the researchers assessed the impact low-stakes quizzes had on learning and retention in a BYU-Idaho College Success course, student engagement in composition writing as compared to creative writing in a BYU-Idaho Academic Support Basic Writing course, and the extent to which these courses affected student self-efficacy and achievement. This study was completed using a practical action research approach and followed a quantitative methodology.

Action research is utilized by people confronted with everyday challenges to find and implement localized solutions to these problems (Stringer, 2007). The practical action research design is utilized by teacher-researchers to study their own classrooms to improve professional practice which will lead to the ultimate goal: improved student learning (Creswell, 2008). Mills (2007) offered a four-step model for teachers to follow when studying themselves and their practice. In the first phase, the teacher-researcher identifies an area of narrow focus, usually specific to the classroom, to guide the research. This area of focus is identified through self-reflection, review of pertinent literature, and development of an action plan to guide the research. In the second phase, the action is implemented and the teacher-researcher gathers multiple sources of data on students. The third step of the model involves analyzing and interpreting the data. This leads to the fourth step, developing a plan of action. The model is cyclical in nature because the teacher-researcher cycles back and forth between steps in the model (Mills, 2007).

The self-reflection step of action research is critical for improving professional practice (Vaccarino, Comrie, Murray, & Sligo, 2007). Self-reflection will lead to revisions and modifications to improve or fix the problem being studied. Selener (1997) added, "Change does not come about as a result of spontaneous acts, but through reflection on and understanding of specific problems within . . . social, political, and historical contexts" (p. 105). Self-reflection is a form of analysis that dives deeper than the why and how questions of the problem, identifying the foundational assumptions (Sankar, Bailey, & Williams, 2005). While self-reflection can be important to identifying the problem, it is vital when analyzing the data and revising the plan of action (Vaccarino et al., 2007). In this study, self-reflection was imperative for the teacher-researchers to analyze the data and make necessary changes to improve their professional practice.

Though more typically grounded in qualitative designs (Stringer, 2007), scholars have argued action research does not preclude the use of quantitative methods (Guiffrida, Douthit, Lynch, & Mackie, 2011). In fact, quantitative research can provide valuable data and useful information to improve decision making and action planning of professional practice (Stringer, 2007). Guiffrida et al. (2011) stated action research uses methodological pluralism, which allows researchers to choose the most pragmatic method (quantitative, qualitative, or mixed) to best address their particular research question. Stringer (2007) elaborated, "Even within action research, there is a place for some of the methods, procedures, and concepts usually associated with traditional science" (p. 203). Due to the need for analyzing and comparing numerical data, a quantitative method was best suited for this study. Stringer (2007) explained quantitative methods allow researchers to better understand *what* is happening, while qualitative methods focus on the *how*. The teacher-researchers examined the

impact of various teaching strategies and methods to improve BYU-Idaho Academic Support courses. Contrary to traditional quantitative studies, the outcomes of action research apply only to the localized problem (Stringer, 2007). The findings and recommendations of this study will apply only to the BYU-Idaho Academic Support stakeholders, instructors, and students.

Comparative data analysis was used to determine the impact low-stakes quizzes had on student achievement in BYU-Idaho College Success courses. Surveys were used to examine student engagement with composition writing and creative writing genres in BYU-Idaho Academic Support Writing courses. Pre- and post-test surveys were used to measure student self-efficacy as they enter and leave BYU-Idaho Academic Support courses.

Institutional review board (IRB) approval was obtained from the University of Idaho and BYU-Idaho. Student confidentiality was a priority for this study. All data were gathered in anonymity, and personal information was protected. The studies performed had extremely little (1% of overall grade) or no bearing on student grades. All participants were invited to participate and could discontinue participating at any time.

Participants

The participants in this study consisted of 95 students enrolled in four sections of College Success and 45 students enrolled in two sections of Basic Writing. Both are academic support courses taught on the campus of BYU-Idaho, a private four-year institution in the western United States. BYU-Idaho College Success courses are recommended to incoming students with math ACT and SAT sub scores less than 18 or 430, respectively, and English ACT subs scores less than 16. Even though this course is strongly recommended for certain students, it is not mandatory for these students and is open for all to enroll. The BYU-Idaho

Academic Support writing courses are required for students who received an ACT English sub score of less than a 16 or students who did not take the ACT test. The study was explained to the students, and participation was optional.

Knowledge Retention

Instrumentation and procedures.

The action of this study was to give students short-answer, low-stakes quizzes (of a low point value) at delayed intervals following each BYU-Idaho College Success class to determine the impact these quizzes had on student learning and achievement. Quizzes were administered online using BYU-Idaho's course management system. The completion of the online quizzes (not the scores) accounted for 1% of the final course grade for the treatment groups.

The study compared final exam scores between two treatment groups and a control group to measure achievement between students assigned low-stakes quizzes and those who were not. As shown in Table 1, Treatment Group A, comprising two sections of the course, took quizzes during the 24 hours following class.

Table 1

Methodology for Assessing Quizzes at Delayed Intervals

Group	Pretest	Low-stakes online quizzes within 24 hours of class	Low-stakes online quizzes delayed 10% of instruction-final exam	Posttest Final Exam
Treatment Group A (n = 46)	X	X		X
Treatment Group B (n = 25)	X		X	X
Control Group A (n = 24)	X			X

As shown in Figure 5, Treatment Group B took the same quizzes at a time approximately 10% from the point of instruction to final testing. The semester was approximately eighty days in length, so at the start of the semester, students in this treatment group were taking quizzes approximately 8 days after instruction. As the semester progressed, this gap from instruction to quizzing narrowed so that by the end of the semester, students in this treatment group were taking quizzes right after class.

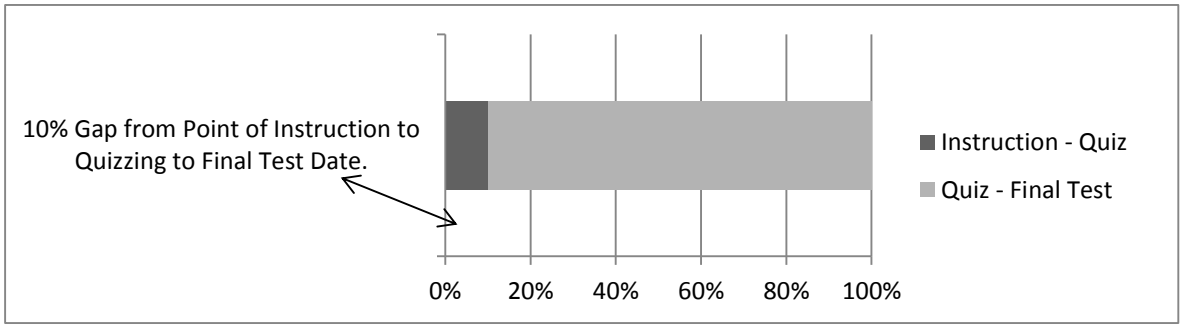

Figure 5. Review quizzes = 10% gap from point of instruction to final testing.

Online quizzes consisted of 5-10 short-answer questions, and students were allowed to take quizzes an unlimited number of times within a 24 hour period.

All students in the course received instruction on the benefits of spaced review and self-testing. Furthermore, all students in the course (*N*=95) completed both a pre- and post-exam consisting of 100 questions that were primarily true/false, multiple choice, or matching. Pre- and post-test questions were variations of the questions seen in the online quizzes. End of semester final exam scores were compared between the control and treatment groups. Achievement was also measured by comparing pre- and post-exam scores.

Upon completing the fall semester 2013 final exam, students in the treatment groups (*n*=71) completed a short open-ended survey where they were asked whether the quizzes were

beneficial in helping them to retain information for the final exam. The post-exam survey can be found in Appendix B.

Participants.

The project was carried out using undergraduate students (*N*=95) enrolled in four sections of College Success at BYU-Idaho during the fall semester of 2013. Because this was a practice-based research study where participants were students in the teacher-researcher's courses, a convenience sample was most practical for this study. One section (*n*=24) served as a control group and did not take online quizzes following instruction. Treatment Group A (*n*=46), consisting of two sections of the course, took online quizzes during the 24 hours following each class. Treatment Group B (*n*=25) took online quizzes at a time approximately 10% from the point of instruction to final testing. The characteristics of the students (age, gender, background, etc) were determined using a survey that accompanied the consent form given at the start of the fall 2013 semester. The consent form can be found in Appendix A.

Validity and reliability.

A quasi-experimental design was found to be most practical for this part of the study because randomization of participants was not possible (Trochim & Donnelly, 2008). Because random sampling was not possible, a pretest and ACT/SAT scores were used to account for variables that might have affected the posttest scores.

To ensure the internal validity of this study, a control and two treatment groups were established to account for confounding variables. In addition, a survey was administered following the final exam to participants in the treatment groups (*n*=71) to determine students' perceptions towards the low-stakes quizzes. The survey served to provide additional data that may better explain the research findings.

Parallel-forms reliability was used to assess the consistency between the quizzes administered and the final exam (Trochim & Donnelly, 2008). To do this, a large set of questions addressing the same construct was developed and then randomly divided into two sets. One set was administered on the final exam while the other set was administered incrementally throughout the semester on the quizzes. The percentage of items answered correctly (mean and standard deviation) on the in-class quizzes by each participant were compared to final exam scores.

Accounting for non-response error on quizzes and surveys was essential to achieving the data necessary to determine the impact of online quizzes given at delayed times. In the first class period of the semester, students were introduced to the study and signed a consent form. Establishing the importance of these quizzes was essential to gathering data from the students. The online quizzes were low-stakes, accounting for only 1% of the students' final course grade. To ensure students took these quizzes seriously, the quizzes appeared as any other assignment task on the online course management dashboard. Completed online quizzes received a score of 100% while uncompleted quizzes received a 0%. As previously mentioned, quiz scores only accounted for 1% of final course grade. A short survey was attached to the final exam providing additional evidence from students on the effectiveness of the quizzes in helping them to prepare for the final.

IRB approval was obtained from the University of Idaho and BYU-Idaho. The study was conducted following IRB guidelines and the confidentiality of the participants was protected.

Engagement

Instrumentation and procedures.

The instrumentation for this part of the study consisted of two writing engagement surveys. The purpose of a survey design is to collect data to analyze and compare across two or more population groups (Cooper & Schindler, 2006). One survey measured engagement from the composition writing unit while the other survey measured engagement from the creative writing unit. At the end of the second survey were four open-ended questions to measure student feelings and perceptions of the two writing units across the four domains of engagement. The composition writing and creative writing surveys contained items measuring each targeted domain of engagement: academic, cognitive, behavioral, and emotional. In addition to measuring and comparing engagement between composition and creative writing, data were collected to determine the effect the genres of writing have on each specific domain of engagement.

The National Survey of Student Engagement (NSSE) and the Consortium for the Study of Writing in College survey (CSWC) guided the creation of the writing engagement surveys. Participants completed a survey measuring student engagement specific to the writing unit taught. The surveys were completed in a reserved computer lab on the BYU-Idaho campus using Qualtrics survey software. The surveys were anonymous and the data were stored online and password protected.

In addition to the engagement instruments, student paper length, grammar grades, and attendance were used to measure aspects of academic, cognitive, and behavioral engagement. Time on task, completion of work, and investment can help determine if students are academically and cognitively engaged (Appleton, Christensen, Kim, & Reschly, 2006). All

students were assigned to write a minimum length of two pages and no maximum length for their final papers—persuasive essay and short story. The average paper length for each final paper was compared to determine student cognitive engagement. This activity measured which type of writing engaged students to write more when writing more was not a requirement. Cognitive engagement can also be defined and measured by students' time on task, readiness to participate, and quality of effort, which was evident through measuring paper length and cross comparing word counts between composition and creative writing (Stovall, 2003; Krause and Coates, 2008).

Each final paper was partially scored using the same grammar/mechanics rubric. Engagement and student achievement were analyzed to identify possible correlations between the two and measure student academic engagement.

Finally, student attendance helped to measure behavioral engagement by cross comparing attendance rates between the two writing units. The number of absences were compared across the two writing units to determine behavioral engagement in the two units.

The data from the engagement surveys were gathered using Qualtrics survey software. All printed data were securely stored under lock and key by the researcher, and online data was password protected. Data from the engagement surveys were quantitatively analyzed to show patterns and statistics of participant responses. Student responses from open-ended questions were collected via Qualtrics survey software. These responses were then coded based on the response to the previous survey question which asked students to indicate the type of writing, composition or creative, that engaged them more. Then, these responses were analyzed by the researchers and other developmental writing faculty members at BYU-Idaho to identify relevant data.

This study obtained approval from the University of Idaho's Institutional Review Board and Brigham Young University-Idaho's Institutional Review Board. All recommendations and guidelines provided by these boards were adhered to.

Participants.

This study was carried out using undergraduate students (*N*=45) enrolled in two sections of Basic Writing at BYU-Idaho during the fall semester of 2013. Because this was a practice-based research study where participants were students in the teacher-researcher's courses, a convenience sample was most practical for this study. One section of the basic writing course included 23 participants while the other included 22 participants. The characteristics of the students (age, gender, background, major, etc) were determined using a survey that accompanied the consent form given at the start of the fall 2013 semester. The consent form can be found in Appendix A.

Validity and reliability.

The population consisted of two sections of academic support writing courses at BYU-Idaho during the fall 2013 semester. All student members of the population had the opportunity to participate. It is possible that the students in the two basic writing sections during the fall 2013 semester were not representative of developmental writing students in general. To improve reliability and validity, the composition writing unit was taught first in one section, and the creative writing unit was taught first in the other section, with the opposite units being taught next. This accounted for potential answer discrepancies from the first of the surveys. Concerns with construct validity were minimized by modifying established engagement surveys. By using tested and proven engagement instruments (NSSE and CSWS) as the foundation for the instruments designed for this study, it improved the

validity of the instruments and the reliability of the participant responses. Expert recommendations from G. Kuh (personal communication, March 21, 2013) and R. Gonyea (personal communication, March 29, 2013) improved the design and quality of the instruments. Based on validity research performed by Pike (2006), NSSE provides a valid measure of student engagement. The Cronbach alpha for the primary instrument, NSSE, was above .8, well into the territory for good reliability ("NSSE 2013 Engagement Indicators," 2013). However, researcher modifications of the engagement instruments used for this study could affect validity. Any modifications to the established instruments were necessary to narrow the focus to student engagement within different genres of writing in a developmental education setting.

Pilot studies of the instrument were performed during previous semesters in academic support writing courses at BYU-Idaho. BYU-Idaho Academic Support writing faculty members provided suggestions for the creation and modifications of the instrument. Also, student suggestions were obtained through "think aloud" activities where student participants orally participated in the survey to improve the survey questions. Based on the data collected from the pilot studies, the value for Cronbach's alpha for the writing engagement instruments used in this study was .86, optimal reliability for an instrument (Santos, 1999). The reliability scores for the two instruments were the same since the surveys used identical questions, differing only to specify which type of writing was being measured. The engagement surveys can be found in Appendices C and D.

Self-Efficacy

Instrumentation and procedures.

Data were collected through the use of two survey instruments adapted from the Self-Efficacy Scale (SES) which measures generalized self-efficacy (Sherer et al., 1982) The SES is a twenty-three item self-report measure of general self-efficacy, assessed by a *1—100* point Likert scale. Zero was used to indicate no confidence in completing the task and *100* if the student felt extremely confident in completing the task. "[I feel confident to] study in appropriate ways, to be able to learn the material in this course" was a representative sample item used in this study. Along with the SES, academic self-efficacy was measured by an adapted version of the College Academic Self-Efficacy Scale (CASES) (Owen & Froman, 1988). The CASES is a self-report measure of academic self-efficacy designed to measure the degree of confidence in performing typical academic behaviors of college students. Each was chosen because of the focus on a different construct of self-efficacy.

These instruments allowed for the researcher to collect data concerning demographics, classroom environment, satisfaction, and personal perceptions. A version of this fifty question survey has been used in previous studies (Eberle, 2011; Choi, 2005; Lent et al., 1984). The data collection instruments are included in Appendices F and G. The instruments also included questions to determine social and academic perceptions of the students.

To ensure confidentiality, there was no identifiable information in the survey and no personal information was collected from the participants aside from their informed consent forms. There was no way to cross-reference the names of the participants on these forms to the individual surveys. This study obtained approval from the University of Idaho's

Institutional Review Board and Brigham Young University-Idaho's Institutional Review Board and strictly followed the procedures outlined by these boards.

A pilot study was performed for face and content validity with a randomly selected group of five students during a previous semester. Suggestions for changes were considered and revisions were made to add clarity and improve statement wordiness and construction to make the instrument more applicable to new college students.

The survey instruments were given to each student in the College Success and Basic Writing academic support courses at BYU-Idaho at the beginning of the semester and again at the end. This survey was preceded by verbal introduction and support by the BYU-Idaho instructors of these classes. These instruments provided a means to collect demographic information as well as perceived information from the students pertaining to their college experiences in the BYU-Idaho Academic Support courses. Excel and Qualtrics were used to compute demographic composition of the participants and overall scores of self-efficacy. Descriptive statistics, including mean and standard deviation, were computed based on the responses from the self-efficacy surveys.

Following action research guidelines for this study, instructor interviews concerning the results of the student surveys were included. The instructors were encouraged to self-reflect and responses were collected and analyzed.

Participants.

This study was carried out using undergraduate students (N=35) enrolled in academic support courses at BYU-Idaho during the fall semester of 2013. A convenience sample was deemed most appropriate for this study and population. One group of participants (n=20) came from a BYU-Idaho College Success course. The other group of participants (n=15)

came from a BYU-Idaho Basic Writing course. Participant characteristics were determined using a survey that accompanied the consent form given at the start of the fall 2013 semester. The consent form can be found in Appendix A.

Validity and reliability.

Reliability is considered the degree to which a measure is consistent or dependable (Trochim & Donnelly, 2008). Reliability testing is used to know whether the same set of items would elicit the same responses if the same questions are recast and readministered to the same respondents. Variables derived from test instruments are declared to be reliable only when they provide stable and reliable responses over a repeated administration of the test ("Cronbach's alpha," 1999). Cronbach's alpha is a numerical coefficient of reliability. Computation of alpha is based on the reliability of a test relative to other tests with the same number of items, and measuring the same construct of interest. Cronbach's alpha determines the internal consistency or average correlation of items in a survey instrument to gauge its reliability. An overall raw alpha of .70 is the cutoff value for being acceptable ("Cronbach's alpha," 1999). The survey instruments for this study were chosen because of their acceptable Cronbach's coefficient alpha score and were based on previous studies (Iman, 2007; Schwarzer & Jerusalem, 1995).

The instruments for this self-efficacy study were adapted from the Self-Efficacy Scale (SES) which measures generalized self-efficacy (Sherer et al., 1982). The SES is a twenty-three item self-report measure of general self-efficacy, assessed by a five-point Likert scale. The coefficient alpha reported by Sherer et al. (1982) was .86 with a college sample. The overall alpha coefficient observed in the current study was .86 as well (Choi, 2005). Along with the SES, the academic self-efficacy was measured by the College Academic Self-

Efficacy Scale (CASES) (Owen & Froman, 1988). The CASES is a self-report measure of academic self-efficacy designed to measure the degree of confidence, college students have in performing typical academic behaviors. The thirty-three item instrument was built on a 5 point Likert scale. The authors reported an alpha coefficient of .90 and a test-retest reliability of .85. Part of the adaptation of these surveys was changing from a five-point Likert scale to a *0—100* scale.

Summary

This action research study followed a quantitative methodology. For the knowledge retention portion, a quasi-experimental study was used as students in two treatment groups took online short-answer quizzes at a delayed time following each BYU-Idaho College Success course to see what impact these low-stakes quizzes had on student learning and achievement. The study compared final exam scores between students who took these quizzes and those who did not. The study also compared the posttest scores with the pretest scores. Quizzes were administered online using BYU-Idaho's course management system. A short survey accompanied the final exam to measure students' perceptions as to whether quizzes following each class improved learning and achievement. In the engagement part of the study, two writing engagement surveys, guided by The National Survey of Student Engagement (NSSE) and the Consortium for the Study of Writing in College Survey (CSWC), were utilized. The first survey measured engagement from a composition writing unit, and the second survey measured engagement from a creative writing unit. The second survey included open-ended questions to measure student feelings and perceptions of the two writing units. In the self-efficacy part of the study, a survey instrument was utilized to assess the extent to which BYU-Idaho Academic Support courses affected students' self-efficacy and

achievement. The survey instrument was given to students in targeted academic support courses at the beginning of the semester and end of the semester.

Chapter 4: Findings

The purpose of this action research study was to discover how to improve learning and achievement in academic support courses at BYU-Idaho. Several factors were examined to determine how to improve the knowledge retention, engagement, and self-efficacy of students in these courses. This chapter examines the findings of this action research study. It begins by reintroducing the research objectives. It then reports the findings from each portion of this three-part study: knowledge retention, engagement, and self-efficacy.

Research Objectives

The specific research objectives were to:

1. Determine the degree to which knowledge retention is improved through quizzes at delayed intervals following instruction;
2. Compare student engagement between the genres of composition writing and creative writing to determine which domain will be most affected and examine potential correlations between engagement and achievement; and
3. Discover the students' perspective of their levels of self-efficacy and its impact on their academic achievement.

Knowledge Retention

This section provides findings for the first research objective: *Determine the degree to which knowledge retention is improved through quizzes at delayed intervals following instruction*.

Participant characteristics.

The project was carried out using undergraduate students (N=95) enrolled in four sections of College Success at BYU-Idaho during the fall semester of 2013. Twenty-five

percent of the participants in the course had English ACT sub scores below 19 and 40 percent had math ACT sub scores below 19. Participants were between the ages of 18 and 23 with the average age being 18.5 years with females making up just over two-thirds of the participants. A vast majority of the participants were White (88.4%), which is very similar to the BYU-Idaho student body ("Ethnicity of BYU-Idaho," 2013).

Treatment Group A results.

Table 2 provides the results for the pretest, posttest, and the quiz score averages for Treatment Group A. As the larger of the two treatment groups (*n*= 46), Treatment Group A took quizzes within twenty-four hours following each class. Of the 22 quizzes given during the course, on average, students completed 20.11. Treatment Group A had the greatest mean difference from the pretest to the posttest (23.98%) and had the highest quiz score average of the two treatment groups at 81.88%. The minimum improvement from the pretest to the posttest was six points for one student while the maximum improvement was 58 points for another.

Table 2

Treatment Group A—Pretest, Posttest & Quiz Results

Assessment	*n*	*M*	*SD*	*Min*	*Max*
Pretest	46	56.07	10.76	21.00	76.00
Posttest	46	80.04	5.70	58.00	88.00
Difference	46	23.98	10.60	6.00	58.00
Quiz Score	46	81.88	14.61	45.00	98.63

Treatment Group B results.

The assessment results for the pretest, posttest, and the quiz score averages for Treatment Group B are found in Table 3. The mean difference from the pretest to the posttest for this group was 21.76 points. As the smaller of the two treatment groups (n= 25),

Treatment Group B took each quiz at a time approximately 10% from the point of instruction to final testing. The semester was approximately eighty days in length, so at the start of the semester, students in this treatment group were taking quizzes approximately 8 days after instruction. As the semester progressed, this gap from instruction to quizzing narrowed so that by the end of the semester, students in this treatment group were taking quizzes right after class.

Table 3

Treatment Group B—Pretest, Posttest & Quiz Results

Assessment	*n*	*M*	*SD*	*Min*	*Max*
Pretest	25	55.52	10.04	32.00	72.00
Posttest	25	77.28	8.07	57.00	91.00
Difference	25	21.76	7.60	6.00	36.00
Quiz Score	24	77.50	13.34	47.20	100.00

Control Group A results.

A final section of the College Success course, consisting of 24 students, made up Control Group A. Table 4 shows that this group had the lowest pretest mean scores of all three groups yet it had the highest mean difference (26.54)from the pretest to the posttest. This group also had the highest standard deviation for both the pretest and posttest scores.

Table 4

Control Group A—Pretest & Posttest Results

Assessment	*n*	*M*	*SD*	*Min*	*Max*
Pretest	24	52.33	11.43	25.00	72.00
Posttest	24	78.88	8.41	53.00	89.00
Difference	24	26.54	10.39	8.00	42.00

Table 5 provides responses from Treatment Groups A and B to the posttest survey question of whether the low-stakes quizzes were helpful in preparing for the final posttest. Just fewer than 90% of the students indicated that low-stakes quizzes were helpful.

Table 5

Perceived Usefulness of Low-Stake Quizzes

Were quizzes helpful?	*n*	*M*
Yes	56	88.89
No	4	6.35
Undecided	3	4.76

Table 6 shows a comparison of gains in scores from the pre to posttest for Treatment Groups A & B and Control Group A. Control Group A had 70.83% of the students with gains ≥20 points from the pre- to post-test while Treatment Group A had 82.61% of participants with gains of ≥15 points from the pre- to post-test.

Table 6

Comparison of Gains from Pre- to Post-test

		Gains			
Group	*n*	*≥ 20*	*M*	*≥15*	*M*
Treatment A	46	26	56.52	38	82.61
Treatment B	25	17	68.00	19	76.00
Control A	24	17	70.83	19	79.17

Engagement

This section provides findings for the second research objective: *Compare student engagement between the genres of composition writing and creative writing to determine which domain will be most affected and examine potential correlations between engagement and achievement.*

This section examines the findings of the writing engagement portion of the study as they relate to the purpose and objectives. Engagement surveys, student attendance, student grammar grades, student final paper length, and student responses to open ended engagement questions were used to measure emotional, behavioral, cognitive, and academic engagement.

The characteristics of this group included gender, race/ethnicity, age, major, and ACT scores, as shown in Table 7. Male students comprised just over half of the population. A vast majority of students were white (78%). Hispanic/Latino (7%), Asian/Pacific Islander (4%), Native American (4%), and Black (2%) made up the rest of the population. Almost half of the participants were 18 years old, and it is interesting to note that 21 and 22 year olds comprised almost one-third of the population.

Table 7

Characteristics of the Class (*N*=45)

Variable	*N*	*f*[a]
Gender		
Male	25	56
Female	20	44
Race/Ethnicity		
White	35	78
Asian/Pacific Islander	2	4
Hispanic/Latino	3	7
Native American	2	4
Black	1	2
Other	2	4
Age		
18	22	48
19	2	4
20	1	2
21	7	16
22	7	16
23	3	7
24 or older	3	7

[a]Percentage of total

Declared majors amongst this group varied greatly, with just over a quarter of the participants undecided. Table 8 includes all majors as indicated by the students.

Table 8

Majors of the Class (*N*=45)

Variable	*N*	*f*[a]
Declared Major		
Undecided	12	27
English/Humanities	4	9
Computer Science	2	4
Biology	1	2
Education	2	4
Health Science	4	9
Exercise Physiology	2	4
Child Development	2	4
Nursing/Para medicine	4	9
Political Science	1	2
Physics	1	2
Culinary Arts	1	2
Landscape Design	1	2
Animal Science	1	2
Engineering	2	4
Psychology	2	4
Business	3	7

[a]Percentage of total

Table 9 displays the ACT English sub scores of the population. The vast majority of ACT scores reflect the academic support nature of the course, with 64% of scores comprising tests not taken and 15 or lower. Scores 16 and higher comprised 35% of the participants.

Table 9

ACT Scores of the Class (*N*=45)

Variable	*N*	*f*[a]
ACT Score		
Test Not Taken	9	20
11	1	2
12	2	4
13	1	2
14	7	16
15	9	20
16	3	7
17	1	2
18	1	2
19 and Above	11	24

[a]Percentage of total

Emotional engagement.

The findings for emotional engagement from the composition and creative writing engagement surveys are presented in Tables 10, 11, 12, and 13. A two-sample proportions z-test was used to compare the two data sets in Table 10. Results showed that students in the creative writing unit had slightly higher engagement scores when answering questions about motivation, enjoyment of in-class and out-of-class assignments.

Table 10

Emotional Engagement Survey Results (*N*=45)

Item	Composition			Creative		
	M[1]	*SD*	*f*[a]	*M*[1]	*SD*	*f*[a]
Students were motivated to do their best	4.00	.89	75.6%	4.07	.90	76.7%
Students enjoyed in-class activities and group work	3.85	1.1	57.8%	4.07	1.0	76.7%
Students enjoyed out-of-class assignments	3.04	1.27	42.2%	3.3	1.34	46.5%

[1]Scale of *1=Rarely, 2=Sometimes, 3=Often, 4=Very Often, 5=Always*.
[a]Frequency of students who indicated positive engagement (*Often, Very Often,* and *Always* responses)

Table 11 indicates the emotional engagement levels from two types of writing. Based on the survey question measuring interest, the findings show that students had a higher interest in creative writing than composition writing.

Table 11

Emotional Engagement Survey Results (*N*=45)

Item	Composition			Creative		
	M[1]	*SD*	*f*[a]	*M*[1]	*SD*	*f*[a]
Students overall interest in the type of writing	3.09	.91	31.1%	3.72	1.29	60.5%

[1]Scale of *1=Very Low, 2=Low, 3=Moderate, 4=High, 5=Very High*.
[a]Frequency of students who indicated positive engagement (*High* and *Very High* responses)

Table 12 displays student satisfaction with the two writing units based on the survey responses. Results show creative writing slightly satisfied students more than composition writing.

Table 12

Emotional Engagement Survey Results (*N* = 45)

Item	Composition			Creative		
	M[1]	*SD*	*f*[a]	*M*[1]	*SD*	*f*[a]
Students overall satisfaction with the writing process and final product	3.98	.67	86.4%	4.17	.76	88.4%

[1]Scale of *1=Very Dissatisfied, 2=Dissatisfied, 3=Neither Satisfied or Dissatisfied, 4=Satisfied, 5=Very Satisfied*.
[a]Frequency of students who indicated positive engagement (*Satisfied* and *Very Satisfied* responses)

The findings regarding interest and excitement were statistically significant toward creative writing, as shown in Table 13. Over 80% of the population indicated they were more interested and excited in creative writing than composition writing.

Table 13

Emotional Engagement Survey Results (N = 45)

Item	Composition	Creative	
	f[a]	*f*[a]	*p* value
The unit that interested and excited students more	15.9%	81.8%	0.00

[a]Percentage of the population

An open-ended survey question asked students to compare emotional engagement between the two writing units. A vast majority of student (*N*=45) comments indicated creative writing emotionally engaged them more so than composition writing. Responses mentioned the freedoms and creation processes as reasons why they felt creative writing emotionally engaged them more than composition writing. One student said, "Creative writing excites me, and I feel like I have no limits . . ." Another student said, "I really like the freedom and also the time to think about a non realistic world." A third student added, "I really feel like creative writing helps me fully express myself better than composition writing."

It is important to note that not all students felt creative writing engaged them emotionally more than composition writing. One student said, "I liked the composition writing section because it was harder than the creative writing section." Another student stated, "I personally have a hard time trying to express myself in a more creative or artistic way."

Behavioral engagement.

The results from the behavioral engagement tests with composition and creative writing appear in the following tables. The data were compared using a two-sample proportions z-test for Tables 14, 15, and 16, and a two-sample t-test for Table 17.

Table 14 shows data from survey items measuring attentive listening and active participation from each writing unit. The findings show students listened attentively slightly better with creative writing, while they participated more actively during composition writing.

Table 14

Behavioral Engagement Survey Results (*N* = 45)

Item	Composition			Creative		
	M[1]	*SD*	*f*[a]	*M*[1]	*SD*	*f*[a]
Students listened attentively in class	3.98	.98	75.6%	4.23	.88	76.7%
Students participated actively in class	2.98	1.31	37.8%	2.99	1.21	32.6%

[1]Scale of *1=Rarely, 2=Sometimes, 3=Often, 4=Very Often, 5=Always*.
[a]Frequency of students who indicated positive engagement (*Often, Very Often*, and *Always* responses)

The findings about students sharing their work are shown in Table 15. The results show students were more likely to share their final paper from the composition writing unit than the creative writing unit.

Table 15

Behavioral Engagement Survey Results (*N* = 45)

Item	Composition			Creative		
	M[1]	*SD*	*f*[a]	*M*[1]	*SD*	*f*[a]
How likely students were to share their final paper with a classmate, friend, or family member?	3.73	.97	68.9%	3.89	1.08	65.1%

[1]Scale of *1=Very Unlikely, 2=Unlikely, 3=Undecided, 4=Likely, 5=Very Likely*.
[a]Frequency of students who indicated positive engagement (*Likely* and *Very Likely* responses)

Based on the results from a two-sample proportions z-test, Table 16 represents statistically significant data indicating creative writing behaviorally engaged these students

more than composition writing. Results showed students were almost twice as likely to listen, participate, and engage in creative writing as composition writing.

Table 16

Behavioral Engagement Survey Results (*N* = 45)

Item	Composition	Creative	
	f[a]	*f*[a]	*p* value
During which unit did students listen, participate, and engage more actively?	34.1%	63.6%	0.006

[a]Percentage of the population

The behavioral engagement attendance results are found in Table 17. Student (*N*=45) attendance was taken each class, with each unit meeting nine times. Over the course of both units, there were 16 more student absences during the composition unit than there were during the creative writing unit. These findings show student absenteeism was nearly twice as high during the composition writing unit as it was during the creative writing unit.

Table17

Behavioral Engagement Attendance Results (*N* = 45)

Item	Composition	Creative
	A[a]	*A*[a]
Attendance	34	18

[a]Total student absences from each unit (each student [*N*=45] meeting 9 times per unit)

An open-ended survey question asked students to directly compare behavioral engagement between the writing units. A vast majority of student (*N*=45) comments indicated creative writing as more behaviorally engaging. One student said, "[The creative writing] unit interested me more, which made me want to pay more attention in class and participate more fully with the class assignments," and "[During the creative writing unit], I used more of my

own personality in my writing, so it was more enjoyable for me to participate." Another student said, "[Creative writing] interested me more, and I even posted on Facebook asking people to please read my paper. The composition, I just wanted to get over and done with." A final student said, "I really enjoyed [creative writing] because it made me think of ideas that I could write about, and it was cool to see what my classmates would come up with."

Though a majority felt creative writing aided behavioral engagement more so than composition writing, the responses were not unanimous. One student mentioned, "I felt like I needed to improve the most in composition writing, and I needed to be more engaged in it."

Cognitive engagement.

The results from the cognitive engagement tests appear in the following tables. A two-sample proportion z-test was used to compare the two data sets in Tables 18 and19.
A two-sample t-test was used to compare the two data sets in Table 20. The results from tables 19 and 20 were statistically significant.

Results from Table 18 show students sought feedback and proofread their final papers more with composition writing than creative writing. These items included feedback sought by a respected peer, family member, or professional and self-editing of their paper.

Table 18

Cognitive Engagement Survey Results (*N* = 45)

Item	Composition			Creative		
	M[1]	*SD*	*f*[a]	*M*[1]	*SD*	*f*[a]
Students sought feedback before turning in Assignments	4.04	1.17	62.2 %	3.59	1.25	53.5%
Students proofread their draft before turning it in	4.07	.97	79.5 %	4.02	1.09	74.4%

[1]Scale of *1=Rarely, 2=Sometimes, 3=Often, 4=Very Often, 5=Always*.
[x]Frequency of students who indicated positive engagement (*Often, Very Often,* and *Always* responses)

A two-sample proportion z-test was used to compare student investment and responsibility between composition and creative writing. The results from Table 19 show over half of the students indicated they were more cognitively engaged during the creative writing unit.

Table 19

Cognitive Engagement Survey Results (*N* = 45)

Item	Composition	Creative	
	f[a]	*f*[a]	*p* value
During which unit did students fully invest themselves and take responsibility of the outcomes?	36.4%	63.6%	0.011

[a]Percentage of the population

Table 20 represents the total word count for the students' final papers. Students were given a 500 word minimum amount with no maximum word amount for their final paper in each unit. A two-sample t-test was used to compare the frequency of the survey responses. The creative writing final papers yielded an average 497 more words per paper.

Table 20

Cognitive Engagement Paper Length Results (*N*=45)

Item	Composition	Creative
	M[a]	*M*[a]
Word Count	920	1417

[a]Average word count on the final paper

An open-ended survey question asked students to directly compare cognitive engagement between the writing units. Student (*N*=45) responses to this question support the

statistical data. One student said, “I was really excited about [creative writing], and I wanted it to be perfect.” A second student stated, “I was really into creative writing. I spent way more hours on the creative writing than the composition. If it didn’t turn out well, I would’ve been upset and tried to fix it again.” Another student said, “In [the creative writing] unit I feel that I did a little more work than in the composition unit, even though my creative writing story is a lot shorter than my persuasive essay. I put more emotion into it, and it was a lot harder to make my reader understand me.” One other student said, “I invested more time and effort when I was writing the creative story. I actually went to the writing center and had multiple people look at it.”

While many students indicated creative writing cognitively engaged them more than composition writing, some student responses did not support this claim. One student said, “I felt I took a lot more time and put in a lot more effort in my composition writing . . . For some reason, I felt a lot more passionate about putting forth my argument and defending it.” Another student echoed these feelings: “The composition writing unit is when I fully invested in myself to take responsibility of the outcomes because I was more interested in the topic.”

Academic engagement.

Based on two-sample proportions z-tests and two-sample t-tests performed, the academic

engagement results yielded no statistically significant data. The following tables detail the findings from these tests.

Table 21 shows student responses as to the frequency with which they

completed the assigned readings in each unit. Students were more likely to read all of the assigned readings in creative writing.

Table 21

Academic Engagement Survey Results (*N* = 45)

Item	Composition			Creative		
	M[1]	*SD*	*f*[a]	*M*[1]	*SD*	*f*[a]
Students read all of the assigned readings for class	4.04	1.06	68.9%	4.13	1.09	76.7%

[1]Scale of *1=Rarely, 2=Sometimes, 3=Often, 4=Very Often, 5=Always*.
[a]Frequency of students who indicated positive engagement (*Often, Very Often, and Always* responses)

Table 22 shows the results of time spent outside of class for each final paper. Results show students spent slightly more time working on their final paper outside of class during the composition writing unit as compared to the creative writing unit.

Table 22

Academic Engagement Survey Results (*N*=45)

Item	Composition		Creative	
	M[1]	*SD*	*M*[1]	*SD*
Number of hours spent outside of class on the final paper	3.32	.9	3.24	1.14

[1]Scale of *1=0 hours, 2=1–2 hours, 3=3–4 hours, 4=5–6 hours, 5=7–8 hours, 6=9 or more hours*

Table 23 displays the results from the survey item regarding which unit helped students to become more proficient writers. Based on the survey responses, the findings show creative writing helped students to become more proficient writers better than composition writing.

Table 23

Academic Engagement Survey Results (*N*=45)

Item	Composition	Creative	
	f[a]	*f*[a]	*p* value
Which unit better helped you to become a more proficient writer?	43.2%	56.8%	.201

[a]Percentage of the population

In comparing grammar scores across the two units, no significant data were found, as shown in Table 24. A two-sample t-test was used to compare the two data sets. The results show creative writing yielded slightly better grammar score averages than composition writing.

Table 24

Academic Engagement Grammar Score Results (*N*=45)

Item	Composition	Creative
	M[1]	*M*[1]
Grammar score from final paper	41.5	43.2

[1]Score out of 50 possible points

An open-ended survey question asked students to directly compare academic engagement between the writing units. Student (*N*=45) responses were mixed. One student said, "[Creative writing] helped me to know and fix grammar mistakes." Yet, a different student said, "Composition writing helped me to become a more proficient writer because I discovered different ways to find information and to have more supporting evidence for my argument." A third student stated, "I think [both units] helped me, but with classes that I will have to take in the future, the composition writing unit probably helped me more."

Self-Efficacy

This section provides findings for the third research objective: *Discover the students' perspective of their levels of self-efficacy and its impact on their academic achievement.*

Characteristics of the population for this study are reported in Table 25. The majority of the participants in the College Success (*n* = 20) classes were female (60%). The vast majority of students were white (90%). In Basic Writing (*n*=15), two-thirds of the students were male. As with College Success, most of the students were white (73%). All of the participants in the College Success course took either the SAT or ACT assessments. Six students took both. The average ACT composite score for those in College Success was 21.6 with the average composite score for the SAT at 1113.25.

Table 25

Respondents by Various Characteristics

	College Success (*n*=20)			Basic Writing (*n*=15)		
Variable	*n*	%[a]	*M*	*n*	%[a]	*M*
Male	5	25		10	67	
Female	15	75		5	33	
Employed	3	15		3	20	
Not Employed	17	85		12	80	
Ethnicity						
American Indian	0	0		1	7	
Asian	0	0		1	7	
African American	0	0		0	0	
Pacific Islanders	0	0		1	7	
White	18	90		11	73	
Hispanic	2	10		0	0	
Non-responding	0	0		1	7	
Average ACT Composite Result	16		21.60			
Average SAT Composite Result	13		1113.25			
English ACT Sub score				11		16.3
English SAT Sub score				6		494

[a]Percentage of total of participants.

Data summaries for the BYU-Idaho College Success course.

Table 26 shows the findings from the pre- and post-tests in the College Success course. Changes in student self-efficacy were highest in response to the statements regarding learning how to take Cornell notes (+37.4), knowing where to go on campus for basic services, (+ 31.2), and succeeding in taking an online course (+24.1). For the statement, "I can put in enough effort that I will understand the course material," the least amount of change was shown (+0.75). In regards to the statement concerning attending class regularly, results showed a negative difference from the pretest to the posttest (-3.1). This mean was the only negative result from the survey. Instructor response to the results of this item is included in a later chapter.

Table 26

Findings for College Success

Item	Pretest		Posttest		
	M	*SD*	*M*	*SD*	*M Difference—pre and post surveys*
1. I accept full responsibility for the choices and outcomes of my life.	88.8	10.73	93.70	8.21	4.90
2. I can successfully transition from high school to college life.	72.0	25.66	87.15	14.53	15.15
3. I recognize breakdowns in my own learning.	71.4	24.05	76.55	16.54	5.15
4. I can succeed in taking an online course.	49.5	28.62	73.60	17.84	24.10
5. I can manage my time so that the most important activities are always done first.	72.3	21.50	79.95	17.31	7.65
6. I comprehend and extract the most important points from a college textbook.	65.1	21.57	74.50	22.03	9.40
7. I can take notes in the Cornell format and use these for reviewing	51.1	36.76	88.50	15.26	37.40

course material.					
8. I can adapt my learning style to any type of teaching style and still learn.	60.0	23.55	79.05	17.58	19.05
9. I space reviews of course material to happen immediately after class, 24 hrs, and 1 week.	52.3	23.07	71.75	20.63	19.45
10. I can manage effectively my personal finances.	70.2	25.97	84.6	16.84	14.40
11. I can obtain financial assistance if needed.	70.2	31.51	85.7	16.93	15.50
12. I can obtain help from qualified students "who know."	71.6	27.20	90.45	15.14	18.85
13. I know where to go on campus for basic services.	58.8	31.42	90	17.40	31.20
14. I get involved in student activities.	59.4	33.36	74.6	27.50	15.20
15. I can study in appropriate ways to be able to learn the material in this course.	75.2	19.07	88.6	12.21	13.40
16. I can receive an excellent grade in this class.	88.3	15.72	95.1	10.35	6.80
17. I can learn the concepts taught in this course.	90.0	12.72	93.15	12.67	3.15
18. I can put in enough effort that I will understand the course material.	91.2	10.05	91.95	11.76	0.75
19. I can do an excellent job on the assign. and tests in this course.	83.9	16.82	91.05	14.08	7.15
20. I can participate in class discussions.	81.3	25.39	90.5	17.44	9.20
21. I can succeed at most any endeavor to which I set my mind.	87.4	16.98	91.8	11.59	4.40
22. I can do well on my exams.	77.6	22.50	82.3	15.68	4.70
23. I can talk to my professors.	81.1	20.09	91.8	14.19	10.70
24. I can make new friends at college.	81.5	23.44	91.35	14.99	9.85
25. I can perform well even when things are tough.	71.2	23.24	84.8	12.37	13.60
26. I can get along with others.	91.2	11.27	93.05	8.29	1.85
27. I can perform effectively on many different tasks.	81.7	17.83	89.05	10.07	7.35
28. I can keep up to date with my	80.9	19.36	89.6	11.10	8.70

schoolwork.					
29. I can do most tasks very well (compared to other people.)	79.5	17.85	84.8	12.75	5.30
30. I can attend class regularly.	94.4	13.38	91.3	17.96	-3.10

Note. N=20

Data summaries for the BYU-Idaho Basic Writing course.

Table 27 shows the findings from the pre- and post-tests in the BYU-Idaho Academic Support writing courses. Changes in student self-efficacy were highest in response to statements regarding feeling comfortable writing a good introduction on a given topic (+14), writing good transitional sentences from one idea to another (+ 11.3), and organizing the paper appropriately (+ 11.3). The least amount of change was in reference to concentrating on writing even if there are many distractions around (+1.6).

Table 27

Findings for Basic Writing

Item	Pretest		Posttest		
	M	*SD*	*M*	*SD*	*M* Difference—pre and post surveys
1. I can start working assigned essays without any difficulty.	65.7	25.0	79.4	16.09	13.7
2. Even if I don't like the topic, I can write a good essay about it.	65.3	23.08	73.7	20.97	8.4
3. I am good at the prewriting process.	55.0	20.88	62.7	19.79	7.7
4. I feel comfortable writing a good introduction on a given topic.	62.9	21.90	76.9	18.38	14.0
5. I can find and correct all grammatical errors in my essay.	57.7	19.45	63.9	19.12	6.2
6. I can organize my paper appropriately.	67.2	22.61	78.5	16.61	11.3
7. If I get stuck while I am writing, I can find ways to overcome the problem.	71.2	25.84	80.1	16.48	8.9
8. When writing a persuasive essay, I can think of good reasons to persuade the reader.	72.4	16.20	83.2	14.69	10.8

9. I can write good quality essays.	73.1	19.99	82.5	14.93	9.4
10. I can rewrite my confusing sentences clearly.	72.3	20.04	75.9	19.68	3.6
11. When writing an essay, I can think of arguments for both sides of the topic.	77.9	17.19	83.9	13.10	6.0
12. I can revise my first drafts to make better-organized essays.	74.6	20.0	83.4	13.29	8.8
13. I can write good transitional sentences from one idea to another.	64.9	20.43	76.2	15.57	11.3
14. I am able to manage my time effectively to finish a writing assignment on time.	76.3	28.19	80.6	19.32	4.3
15. I can concentrate on my writing even if there are many distractions around me.	63.7	28.47	65.3	29.22	1.6
16. I can find someone to give me ideas about how to make my paper better.	76.7	24.54	87.0	16.09	10.3

Note. *N*=15

At the conclusion of the study, instructors were interviewed and their responses concerning the results of student surveys were coded and analyzed following action research protocol. According to Auerbach and Silverstein (2003), the central idea of coding is to move from raw information to useable and meaningful ideas, themes, or theoretical constructs. Interviews with the instructors of these courses allowed the researcher to see patterns of teaching and learning which could help these instructors develop a plan of action (Mills, 2007) with the ultimate goal to improve student learning (Creswell, 2008). Interview questions adapted from Danielson (2012) were utilized to focus on the successes or failures in the semester. Additional questions were asked in response to each of the findings from the survey items. Instructor responses included, “I need to make sure that each [student’s] learning needs are being met” and “I firmly believe students learn when they are engaged.” These comments revealed categories that focused on teaching styles and learning styles.

Table 28

Summary of Instructor Self-Reflection

	Teaching styles	Learning styles
College Success Instructor	1. The importance of giving quizzes right after class—aids in retention. 2. Teaching approaches are significant to meet learning needs. 3. Participation is important—not spoon fed. 4. Mode of instruction incorporates best practices in teaching. 5. Encourage journal writing which can become a means of preteaching. 6. Tailoring teaching to encourage students to choose to learn. 7. The teacher's role is to mentor students and introduce them to the qualities, skills, and resources to achieve college success.	1. Taking quizzes right after class becomes a study skill. 2. Failure to achieve reflects behavioral habits from high school. 3. Inner qualities impact learning behavior. 4. Learning and modes of learning can include visual, hands on, and auditory. 5. Students choose to learn. 6. Students focus on the becoming prospective of learning not just the doing.
Basic Writing Instructor	1. Teaching philosophy—students learn better when engaged (referred to the 4 domains of engagement). 2. Reflect on teaching and be willing to change to meet the needs of the students. 3. Be able to reflect and change curriculum to meet goals of the course if needed. 4. Give students every chance for success and knowledge. 5. The goal of a teacher of an academic support writing class is to prepare developmental writers for the rigors of college writing.	1. Students think more positively about writing. 2. Students take advantage of the resources, such as Teaching Assistants, the Writing Center, online resources, and instructors to be successful learners. 3. The students' role is to come to the college classes with a learning attitude. 4. The students should be willing to learn the art of college success through developing skills such as being responsible for their own learning, creating good study habits, and being willing to learn from peers and instructors.

Summary

This chapter has provided a presentation of the findings as they relate to the purpose and specific objectives of the study. Statistical data which included frequencies, means, and standard deviations were presented. Results from specific tests used for the analysis of those statistics were also presented in the findings.

Chapter 5: Conclusions, Reflections, and Recommendations

This chapter includes a summary of the research problem, objectives, and limitations. It also includes conclusions that can be drawn from the study's results, reflections on these results, recommendations and implications for future research and practice, and a summary of the study.

Research Problem Summary

The mission of BYU-Idaho is to provide a quality education for students of diverse interests and abilities and to prepare these students for lifelong learning. There is an increasing number of students needing academic support courses attending BYU-Idaho. These students may have difficulty retaining what they learn, may be unengaged in their writing, and may have a low self-efficacy. The following sections include the results and discussion from the findings of this study.

Research Objectives

This study focused on three specific research objectives:

1. Determine the degree to which knowledge retention is improved through quizzes at delayed intervals following instruction.
2. Compare student engagement between the genres of composition writing and creative writing to determine which domain will be most affected and examine potential correlations between engagement and achievement.
3. Discover the students' perspective of their levels of self-efficacy and its impact on their academic achievement.

Limitations

This study included only students at BYU-Idaho, a private four-year university, and was limited to academic support courses with small sample sizes. In the portion of the study on knowledge retention and low-stakes quizzes, the control group did not take low-stakes quizzes but was free to study in whatever manner desired, including self-testing. For ethical reasons, students in both treatment and control groups were free to use other study methods besides simply taking low-stakes quizzes. Thus, a limitation of this study is that the internal validity may have been compromised for ethical purposes (Trochim & Donnelly, 2008).

Another limitation of the knowledge retention portion of the study is that BYU-Idaho College Success courses are recommended to incoming freshmen with math and English ACT and SAT subscores that are below established university benchmarks. However, the course is not mandatory for these students and is open for all to enroll. Based upon ACT and SAT scores, most students in these BYU-Idaho College Success courses would not be classified as developmental.

In the engagement portion of the study, the questionnaires were modified from tested surveys, yet researcher modifications may have introduced bias or impacted instrument reliability. Also, due to the nature of action research, this study was conducted over the course of one semester. Conducting this study over the course of several semesters may provide more accurate data. Another limitation is researcher error. Though tests and steps were taken to improve reliability and validity of the instrument and research, it is possible researcher error impacted this study. Instructor bias and participant responses were also limitations, as bias for material taught could have been unintentionally portrayed and participants could discontinue participation at any time.

The limitations which impacted the self-efficacy section of this study were sample size, access to participants, and constraints of the data. Increasing the scope of this study to include more students could have impacted the results. The researcher for this section of the study was not a faculty member of BYU-Idaho and had limited access to the students. If the researcher would have been an instructor more access to the students would have been possible. The self-efficacy pretest was administered to the Basic Writing participants several weeks after the beginning of the semester, potentially affecting the findings.

Knowledge Retention and Low-Stakes Quizzes

Conclusions.

Being able to remember relevant knowledge is essential to higher-order learning and to the successful completion of a college degree (Forehand, 2010). Unfortunately, many students employ ineffective study methods or do not review in a timely manner to aid them in retaining what they learn (Klemm, 2007; Karpicke, 2009, McCabe, 2011). Typically, how students study is left to the discretion of the student. This study took a proactive approach to engage students in a timely review of the course content by having two treatment groups take free-recall, low-stakes quizzes at delayed intervals following instruction. Data were gathered to determine the degree to which knowledge retention of students in BYU-Idaho Academic Support courses could be improved through these quizzes.

Findings showed that students who completed low-stakes, short-answer quizzes were meeting the course learning outcomes and had favorable perceptions towards low-stakes quizzes as a type of study aid. However, insufficient evidence existed to show low-stakes quizzes made a significant difference on a summative assessment compared to those who did

not take these quizzes. Further research is needed to determine the significance of low-stakes quizzes on learning and knowledge retention.

Reflections.

As a study skills instructor, I have observed that many students do not review their course material until assessment time approaches. My desire for performing this study was to identify whether giving students low-stake quizzes shortly following instruction would improve knowledge retention, study practices, and ultimately the students' academic achievement. The statistical findings of this study were surprising to me and challenged my belief that at least one of the treatment groups would show a visible difference in achievement on an end of semester exam over that of the control group. Reflection on the data has provided several considerations for why the benefits of low-stakes quizzes were not apparent.

The pretest mean scores for Treatment Group A (M=56.07), Treatment Group B (M=55.52), and Control Group A (M=52.33), though failing, could be considered unusually high for material to which students presumably had not yet been exposed. Higher pretest scores may indicate students had stronger background knowledge of the course content than anticipated, and that the learning outcomes of the course need to be adjusted to meet the learning needs of the students. These findings have caused me to revisit the learning outcomes of the course, to consider whether students are learning what they need, and to adapt my instruction according to these needs.

Higher pretest scores also suggest that the questions on the pretest were not rigorous enough. Both the pre- and post-test were primarily made up of cued recall questions (multiple-choice, true/false, and matching) which may have contributed to the high pre- and post-test scores for both the treatment and control groups. As a result of this action research, I

have learned that if the aim of testing is to assess learning, then the questions given on summative assessments should not only be aligned to the intended learning outcomes but be written in a way so students are able to best demonstrate their learning. Pashler et al. (2007) suggested that quizzes with short-answer questions improved subsequent performance on tests that used multiple-choice and true/false items, but that was not the case in this action research study. Stiggins and DuFour (2009) recommended that effective assessments have clear learning targets and to use assessment methods appropriate for the learning targets being assessed. To do this, future action research will look at using free-recall (short-answer) questions for both quizzes and summative assessments to observe whether learning and knowledge retention is best measured by aligning the learning and testing conditions (Goldstein, 2007).

A third possible reason why the treatment groups did not outperform the control group could be that the low-stakes short-answer quizzes did not attend to the motivation or learning styles of students in the treatment groups. In both Treatment Groups A and B, the minimum improvement score observed from the pre- to post-test was just 6%. For other students in these same sections, the low-stakes quizzes may have had a significant impact. Treatment Group A saw one student make a 58% improvement in score from the pretest to the posttest while Treatment Group B saw one of its students achieve a 36% improvement. From Control Group A, one student's score improved 42% from the pre- to post-test even without using the low-stakes quizzes. These percentages suggest that low-stakes, short-answer quizzes may not have met the motivation and learning styles of some students in the treatment groups while for others they did. Because students in the Control Group were free to choose a review method according to their preferred learning style, including self-testing, these students saw a

significant mean difference from the pretest to the posttest over Treatment Group B. These findings reveal a need to provide options or choice when it comes to how students study. Typically, how students study is left to the discretion of the student. To address the problem of forgetting, this study took a proactive approach to engage students in one form of review practice. However, to students, this form of review may have come across as prescriptive, when providing various options for review could allow students to choose the method best suited for his or her learning style. This finding has opened my eyes to new possibilities in how I, as an instructor, could facilitate studying by providing a variety of tools which students could choose from for review. Goldstein (2007) suggested that deeper processing occurs through the use of various encoding strategies such as elaborating, generating, organizing and associating. Thus, the more options made available, the greater possibility that students will find a review strategy that best suits their learning style. Because students were allowed multiple retakes of quizzes, a natural concern this study raised was why students would not retake quizzes until a 100% score was achieved. In Treatment Group A, the mean score on the quizzes was 81.88%, while the mean score for Treatment Group B was 77.5%. Where these low-stakes quizzes only accounted for 1% of the students' overall course grade, perhaps these quizzes did not motivate students to do multiple retakes to achieve a perfect score. It might be inferred that students did not see the benefit of these quizzes as a study practice but merely as a weighted assessment of their learning. It might also indicate that the low-stakes nature of these quizzes did not provide the andragogical principle of "need to know" for students to continue retaking these quizzes until a 100% score was achieved (Knowles et al., 2011). This thought has caused me to consider whether the "low-stakes" nature of these quizzes is the best approach to take, especially where each student is given multiple opportunities to take the

quiz until a level of proficiency is achieved. Future action research will look to compare how high- versus low-stakes quizzes, as review tools, impact the level of proficiency attained on multiple retake quizzes and the subsequent results attained on summative assessments.

This research study has enhanced my professional practice because it has provided multiple new avenues of exploration using the vehicle of action research to improve student learning in my courses. This has caused me to realize that each exploration will lead to new paths of study in my professional practice and that action research is more than a methodology but a way of being (Stringer, 2007).

Recommendations.

While the data showed insufficient evidence to support widespread adoption of low-stakes quizzes as a means to increase knowledge retention, the results from this action research will inform the evaluation and modification of future course offerings. Because many students served by academic support courses may not have previously developed the study skills needed for achieving the learning objectives and in turn earn a college degree (Snyder & Dillow, 2011), it is recommended that instructors of these courses engage students in such learning activities as creating concept maps of their learning, writing for retention, and taking low-stakes quizzes to facilitate study practice and learning. By allowing students to choose a strategy that best suits their learning style, a greater likelihood exists that academic success will be achieved (Ting & Chao, 2013).

It is also recommended that low-stakes quizzes not only be used to increase knowledge retention but also help students apply a variety of study skills to demonstrate their content knowledge in more than one format, thus providing a valid and reliable formative assessment tool Goldstein (2007).

Future research should look at whether low-stakes, short-answer quizzes have a greater impact on learning when summative assessments requires retrieval practice and not simply recognition of the correct answer. To do this, it is recommended that a rapid assessment process be utilized over units of learning and not an entire course so that more time is allowed for reflection and attempting new methods (Beebe, 2001). These methods might include looking at how learning styles of students correlate to different review strategies. Similarly, future research should look at how providing various options for review impacts knowledge retention.

In my professional practice, I have added low-stakes quizzes to my teaching toolbox to aid students in achieving the learning outcome of "to know" and to assist students in developing the skills necessary to complete a BYU-Idaho bachelor's degree. With the increasing availability of study tools accessible through educational software and websites, BYU-Idaho Academic Support instructors have access to a wide range of resources which can be used to not only improve study practice in an effective and timely fashion but also in a way that meets the unique learning styles of today's students.

Engagement

Conclusions.

Engaged students learn more because they care more, are more invested, behave more responsibly, and perform better (Simons-Morton & Chen, 2009). This is particularly true with students in developmental courses (Kuh, 2003). Finding ways to engage students in BYU-Idaho Academic Support courses is crucial to their academic success.

The findings of this study were mixed. Many of the survey items showed no statistical significance from the two-sample proportion z-tests and two-sample t-tests performed. Yet,

some survey items and student responses yielded significant results indicating students were more emotionally, behaviorally, and cognitively engaged during creative writing.

When students were asked which writing unit excited and engaged them more, just over 80% of them responded in favor of creative writing. If an instructor can consistently engage a vast majority of students enrolled in academic support courses, it provides a solid foundation from which to build necessary writing skills.

Additionally, a survey item measuring emotional engagement asked students to rate how well they enjoyed in-class activities and group work from each unit. Just over three-quarters of the group indicated creative writing highly engaged them, while just over half of the group indicated composition writing highly engaged them. This item was close to showing significant statistical evidence that creative writing emotionally engages students more so than composition writing, though it was visibly evident students enjoyed in-class activities and group work more in the creative writing unit than the composition writing unit. At times, it was difficult to get them to stop working on a specific activity as they discussed and planned for their creative works.

The attendance and paper length tests, measuring behavioral and cognitive engagement, showed that these students preferred creative writing. Students in the creative writing unit wrote on average 497 words, or roughly two pages, more on their final paper than the same students wrote on the composition final paper. Hergenhahn (2013) explained the "law of exercise" means students will improve a skill through repeated practice. With writing being a learned skill, the more students enrolled in BYU-Idaho Academic Support courses write, the better chance they have to improve their writing.

It was also interesting to note the difference in student absenteeism between the two units. Naturally, absences rose toward the end of the semester. But, by teaching composition writing to one section while teaching creative writing to the other, then flipping for the next unit, the end of semester absences should have affected both units equally. But, during the final units, composition writing students missed just over twice as many days of class as the creative writing students. Overall, students missed 34 days of class in the composition writing unit and 18 days in the creative writing unit. The disparity in absences between the two units is clear. Research showed that students who attend class regularly perform better than students who do not attend class regularly (Lyubartseva and Mallik, 2012). And from these findings, these students attended class more frequently, wrote more, and were more engaged during the creative writing unit.

The questions measuring academic engagement showed no statistical evidence between composition and creative writing. A two-sample t-test was used to compare grammar grades between the two units. The grammar grade test showed no statistical difference in academic engagement between the two writing units.

The student responses from the surveys' open-ended questions supported creative writing in the domains of emotional, behavioral, and cognitive engagement. Academic engagement responses still leaned toward creative writing, but not nearly as heavily as the other domains of engagement. Overall, many students were eager to write, revise, and share their creative works. Yet, no students asked me to look at his or her persuasive essay before they turned it in, while five students asked me to read their creative short story before the due date. This may be due to the fact they were less comfortable and familiar with the genre. Or, it may be that they cared more. The data showed both of these variables could be accurate.

From this research, the researchers concluded creative writing most significantly impacted these students' emotional, behavioral, and cognitive engagement. Students attended class more frequently, wrote more on their final papers, indicated engagement through survey questions, and visibly demonstrated qualities of engagement during the creative writing unit. Ultimately, the study did not provide any significant evidence that either type of writing impacted student academic engagement.

Reflections.

Throughout the engagement portion of this action research study, my perceptions and paradigms were challenged. Traditional college freshman English courses focus heavily on academic writing, research, and critical thinking. As an English instructor with an academic and creative background, I was open to utilizing whichever writing method would engage students best. From visual observations it was evident a vast majority of these students engaged more actively during the creative writing unit. In this unit, students participated more actively with comments and questions, and they had higher attendance and longer papers.

During traditional composition activities and lessons such as research, critical analysis, and the use of library resources, a vast majority of the students disengaged. During the composition unit, students were commonly observed sleeping, texting, surfing the web, and talking to a neighbor. While this behavior was not completely absent from the creative writing units, it was visibly less prevalent.

Finally, student grammar scores were comparable across the two writing units. While this may initially seem insignificant, it was fascinating to see creative writing grammar scores were not only comparable to composition writing scores, but they were, in fact, a little higher. One of the greatest arguments against creative writing is that the discipline is not academic

enough and is unsuitable for the masses (Bishop, 1993; Norton, 2013). For these students, it appears creative writing was at least on par with composition writing to learn basic grammar and mechanics of writing.

These variables helped me to understand two primary principles. First, engaged, active learning is beneficial, if not essential, for students in BYU-Idaho Academic Support courses. Second, the creative writing unit engaged these students more than the composition unit. Having observed student behavior and analyzed the data, it is clear students enrolled in academic support courses need to be positively engaged in active learning, and creative writing offers these students a potential avenue to fuller engagement and growth.

Although precautions to ensure validity and reliability were taken, it is possible my bias or perception toward the writing units impacted the student surveys and responses. I worked tirelessly to make certain the units were equal in rigor, relevance, and point value. Being an enthusiastic teacher, I tried my best to show equal enthusiasm for each unit. The engagement instruments were checked by engagement professionals, academic support instructors, and students to eliminate any potential bias. Yet, even with these precautions, it is possible my preference for creative writing was in some way perceived by my students.

As a result of this action research study, I have learned some valuable lessons to help improve my professional practice. I better understand how critical it will be for me to find assignments that best promote engagement and active learning. My future classes will include activities and projects to make composition writing more engaging. My students can read and analyze academic writing and literature and use creative writing assignments to make a connection. Also, I could be better at allowing composition writing more liberties and freedoms for students to use personal experience and voice.

In the future, I will attempt to overcome any personal bias and weakness toward composition writing by blending composition and creative assignments. This can happen by being more open to loosening the reins on a persuasive essay to incorporate experience, values, and convictions in the form of an opinion essay.

Through this study I've discovered some flaws in my curriculum design and instruction. In my past teaching experiences, and with this study, I was trying to find a solution to engagement. By following the guidelines of adult learning theory, I thought creative writing might engage students by personalizing learning. The findings show I was moderately successful in doing so. Yet, not all students felt a personal connection to this type of writing. I have learned that with the diverse student population in my courses, there is no single solution. Each student may be emotionally, behaviorally, cognitively, and academically engaged in a completely different way. So, if I can identify and prepare activities and assignments that are hands-on and involve active learning, I can provide students with various assignment alternatives from which they can choose. In doing this, I will not be prescribing a solution, but instead, I will be allowing students to explore, find the most engaging alternative to express themselves, and demonstrate learning.

During the entire process of conducting this action research study, I became more aware of the unique circumstances under which each student learns. Even if a majority of students are better engaged with creative writing, there is a minority of students better engaged by some other form of writing. When I started this study, I felt I could determine which form of writing engaged students better, and then, I would change the way I went about teaching my courses. But, having deeply reflected on the process and findings, I learned students will always be different and prescribed instruction will never engage all.

Ultimately, I realize, it is not the students who should be flexible, but it is me. I can adapt how I teach. I can change what I assign. I can employ different activities. And in doing so, I will have a better chance to engage all students because I more fully recognize my deficiencies and the engagement deficiencies of a prescribed curriculum.

I have come to a somewhat startling realization. I have always tried to allow my students the freedom to explore and stretch the limits of assignments. In doing this, I have found they end up exploring within themselves and stretching their own limits. In ways I never imagined, this engagement study allowed me to reflect and stretch the boundaries of my own teaching and philosophy. I have a good grasp of the content. But, my teaching methods, assignments, and curriculum have to evolve with each new wave of students. At first, this made me feel vulnerable and weak. However, I have learned, in much the same way I have always tried to get my students to learn, that I, the master teacher, need to be an ongoing master student to continually be effective in the classroom. Having had an opportunity to reflect on this whole process, I feel empowered. Like my students who thrive in their writing once provided the necessary tools, I have had an awakening, and I know better now than I ever have, that this will not be my last rebirth.

Recommendations.

The research performed in this study guided the recommendations. It is recommended that BYU-Idaho Academic Support writing courses offer students opportunities to write about past experiences and to think and write creatively by incorporating creative writing activities, assignments, and larger works to better emotionally, behaviorally, and cognitively engage them. This is not a new principle, since Elbow (1995) argued students should be comfortable with both composition and creative writing.

Knowles, Holton, and Swanson (2011) cited relevant, safe, and engaging learning activities and assignments are critical for the adult learner. The students serve in BYU-Idaho Academic Support courses need relevant, safe, and engaging instruction. Elbow (1995) explained creative writing courses allow students to read and critique each others' work in a shared, lived, engaged experience. William Hughes Mearns, the man credited with inventing the discipline, claimed the ultimate outcome of creative writing is personal growth (Myers, 2006). Bishop and Ostrom (1994) added creative writing offers students an opportunity to discover what they do not know, clarify what they do not understand, protect what they value, and share what they learn. From the findings of this action research study and literature on creative writing, it has become apparent creative writing can satisfy the need for relevance and engagement for some students but not all.

Another recommendation is that BYU-Idaho Academic Support writing courses focus on engaging students through personal and creative assignments and activities, without the concern of learning how to research and cite properly, understanding that these skills will be taught in subsequent courses. If academic support writing students understand the primary goal of the course, to improve basic writing skills and abilities, not to master advanced academic writing skills such as research, citation skills, and logical fallacies, they will be more apt to engage and learn.

Future research could include examining academic engagement more thoroughly to determine if composition writing or creative writing can have an impact on this domain of engagement. Also, future action research studies could measure college engagement amongst BYU-Idaho Academic Support writing students to determine how to better engage them in their college experiences as a whole.

A qualitative action research study analyzing the perceptions and influences of composition writing and creative writing could be very beneficial to determine exactly which changes to make and how to make them. A study measuring student engagement when students are given various options for writing would be valuable to determine how student choice affects engagement.

Self-Efficacy

Conclusions.

The objective of this section of the study was to discover the academic self-efficacy of the students who attended two BYU-Idaho Academic Support courses with the intention of giving recommendations for plans of action to the instructors. The conclusions and reflections will address two principles: (a) student self-efficacy findings and (b) instructor and researcher self-reflections.

In this action research study, student self-efficacy increased from the pretest to the posttest. Particular increase was shown in the areas of learning to take notes in the Cornell format (a two column note taking method), successfully transitioning from high school, and being able to learn concepts presented in the course. From the analysis of the survey results, a higher level of self-efficacy was shown for starting a writing assignment, but engagement was not consistent between creative and composition writing. The level of student confidence improved in areas of organizing writing, starting a writing assignment, and prewriting. One finding from the college success course noted a negative result—students perceived their self-efficacy for attending class higher at the beginning of the course than at the end. Interview responses from the instructor of this course revealed his perception as, “All this tells us is that [the students] are more confident in their ability to attend class when the class first started.”

The instructor continued by suggesting students experiencing pressures from other classes, sickness, staying up late, sleeping in, or even taking an "emotional vacation."

Since studies have shown the transition from high school to college can be worrisome, challenging, and tense for the new college student (Chemers, Hu, & Garcia, 2001), preparation for this transition into college while students are still in high school could alleviate some of these obstructions to learning (Margolis & McCabe, 2006). Bandura (2006) found that students who have a high level of self-efficacy in the area of anticipating their college experience will more likely be able to transition into college and have the belief they can succeed (Cheng & Chow, 2010).

In considering the pretest results from the two survey instruments, areas were noted that could be addressed at the high school level to better prepare students for their college experience. First, with online learning becoming more common in secondary education, more students should be prepared for online learning at the post-secondary level. Anderson (2008) reported distance education has become a significant way of instructing students even at the middle school level. Next, knowing where to go for basic services on campus and becoming acclimated to campus life and activities is crucial for new students. Kuh, et al. (2010) stated the greatest impact on college student engagement includes a total level of extra-curricular involvement which can impact interpersonal and academics as well. Finally, responses from the pretest survey indicated a need to engage students and prepare for the demands of college writing. Skills mentioned were pre-writing, organizing, creating transitional sentences, and correcting grammatical errors. The Common Core State Standards for English Language Arts and Literacy, newly adopted by most states, have as the focus college and career readiness in literacy no later than the end of high school (English Language Arts, 2012). The literacy

section of these standards proposes writing preparation intended for grades starting at the kindergarten level. It is the design of the creators and adopters of these standards to have students better academically prepared for college by high school graduation.

Reflections.

Frymier and Houser (2000) emphasized the importance of student-teacher relationships. Self-efficacy and the potential for student success can be dependent on teacher administrators and their ability to use self-reflection to meet the needs of their students. Self-reflection can also be important in identifying problems and is vital for analyzing data (Vaccarino et al., 2007). Self-reflection is also beneficial for revising plans of action to improve students' perceptions of their academic self-efficacy.

Because the self-reflection step of action research is critical for improving professional practice (Vaccarino et al., 2007), it was imperative for the instructors to self-reflect as part of analyzing the data for potential changes to improve their professional practice. At the conclusion of the study, and after reviewing the results of the pre- and post-surveys, the instructors reflected on the semester. The process of self-reflection allowed the teachers to explore their feelings and beliefs as they read the data. This also allowed these instructors to provide their own interpretative account of the experiences of their students.

During the discussion following the self-reflection, it was noted that continually improving the teaching and learning in these courses was meaningful to these teachers and helped meet the guidelines of the BYU-Idaho mission statement. One instructor noted the confidence students showed on the College Success course pre-survey, perhaps viewing the course as an easy "A," may have led to minimal increase in self-efficacy. The change in their

self-efficacy at the end of the semester may have reflected the possibility of a reality check students may feel concerning the demands of college academics.

One instructor wondered if the questions from the self-efficacy pre-survey in his course were rigorous enough or if the BYU-Idaho course management system was intimidating to the students as they progressed through the process of taking quizzes. This instructor decided to vary the quiz formats in the future to help students demonstrate their learning by answering different types of questions, thus potentially increasing the student academic self-efficacy.

The other instructor noted that providing choices when it comes to assignments can increase student engagement, and that practice can develop a skill—both factors which can lead to higher perception of academic self-efficacy (Chemers, Hu, & Garcia, 2001). Both instructors suggested student learning styles and engagement be considered when planning for instruction.

Changes in course instruction can be a part of the self-reflection of action research (Vaccarino et al., 2007). The instructors both noted changes that could be implemented in their courses that could lead to increased student academic self-efficacy. The writing instructor indicated he would consider allowing students to write from personal experience and use creative writing to teach the grammar and mechanics of writing. The college success instructor specified including more self-mastery focus into his college courses. Both instructors felt student failure was influenced by non-cognitive factors.

Through personal reflection, I better understand the importance of implementing college and career ready programs into the curriculum for my school district. The demand is evident and programs are available to better prepare students for post-secondary education

and a successful career (English Language Arts, 2012; Students: Live, Work, and Succeed, 2014). I need to better evaluate current goals for the students with whom I work and advocate for better college and career preparation programs.

Research has shown that students involved in high-school-offered college credit are more likely to graduate from high school ready to be successful in college (Townsend, 2001, & Bailey, Hughes, & Karp, 2002). Some states such as Idaho have implemented high school programs designed for students to receive college credit while still in high school and give these students a "jumpstart" on their college educational while still in high school. The Dual Credit for Early Completers Program in Idaho, allows students to take dual credit (college credits) during their junior and senior years. The 8-in-6 Program helps students get ahead in middle school so they can take advantage of dual credits in high school. The goal of these programs is to help students succeed in college ("Students: Live, Work, and Succeed," 2014). High school classes which can give college course experiences, and even college credits, can increase the students' academic self-efficacy through mastery experiences (Bandura, 1977). Increased efficacy can improve students' chances of being successful and engaged in their college experience.

Benjamin Zander provided self-reflecting questions that can fuel competence in leadership: "Who am I being, that my [teachers'] eyes are not shining?" and "How do I prevent you from reaching your full potential?" (Zander, 2008). Going through the process of reflecting and analyzing the teaching practices of these two BYU-Idaho instructors has caused me to self-reflect on my administrative practices with teachers, specifically in the areas of leadership and relationships. As an instructor, teacher self-efficacy plays a vital role in the student's academic self-efficacy (Caprara et al., 2011). Boyd et al. (2011) reported building

good relationships in a school building is vital to teacher morale and retention. Kouzes and Posner (2010) suggested five practices of exemplary leadership for building relationships: (a) model the way, (b) inspire a shared vision, (c) challenge the process, (d) enable others to act, and (e) encourage the heart. Relationships are vital to help others reach their potential. Positive relationships are critical in order for administrators to effectively give counsel to teachers concerning their teaching practice.

I have found in my reflection process, building relationships comes from three areas: being trustworthy, being dependable, and showing true concern for the teachers with whom I work. Educators regard trust as critical and the framework to support all relationships (Cosner, 2009; Kouzes and Posner, 2010). When teachers trust me they are taking a chance that I will handle the information and feelings they communicate with confidentiality. Trust can happen when I as the leader take the first step and entrust those with whom I work to do their part, be who they should be, and competently perform their jobs. I am trustworthy by the same process. In working with the two BYU-Idaho instructors for this study, it was important to have trust established. These instructors needed to know the information I gleaned from them concerning their teaching practices, their students, and their personal lives was safe and would be used in an appropriate way. They also needed to know I would be true to my word, be who I needed to be, and be competent in my job. Being dependable and trustworthy builds relationships.

Kouzes and Posner (2010) reported when a leader is reliable and consistent, others know they can count on the leader, and the leader's words and actions will have greater power to influence. When I attend meetings, classroom observations, and school functions with a consistent behavior, I create a degree of successful predictability and a platform of belief for

teachers in my district. In working with the two BYU-Idaho instructors, my behavior needed to be consistent and dependable to build the relationships needed during the process of completing this study.

Concern for what is happening in the classroom is also important. Kouzes and Posner (2010) reported that administrators who show true concern put teachers at the center, give them attention, and respond to their needs. More strategically planned observations at shorter intervals between classroom visits may have provided a clearer picture of the course curriculum and goals. Administrators can influence teacher instructional self-efficacy which can impact student self-efficacy (Henson, 2001; Skaalvik & Skaalvik, 2008). By influencing the value teachers place on student outcomes, positive teacher instructional self-efficacy can contribute to student success (Skaalock & Skaalock, 2008). This can influence the teacher's actions and instruction in the classroom which can impact student beliefs, outcomes, engagement, motivation, achievement, and ultimately effect student self-efficacy (Tschannen-Moran & McMaster, 2009).

Recommendations.

The recommendations and conclusions of this section of the study may particularly pertain to stakeholders within the BYU-Idaho Academic Support setting. With the paradigm shift in higher education from focusing on teaching to focusing on learning (Whetten, 2007), recommendations from this study will reflect this change. The findings of this portion of the study reinforce good teaching—engage students, give timely feedback, promote active learning, and regularly assess learning outcomes. Further, recommendations would be to encourage instructors to include self-reflection in their instructional planning and be empowered to change teaching practices that are not working. This would allow for deeper

analysis and reflection of student learning. Better relationships with students and colleagues will ultimately lead to better teaching and learning environments and help to build self-efficacy. A working relationship between the secondary level instructors, administrators, and post-secondary leaders is recommended and could provide valuable insight for student preparation.

For this study, the data were collected from only two BYU-Idaho courses. Because of this limitation, it is recommended that further research be conducted on student academic self-efficacy in more BYU-Idaho courses and on other campuses.

Summary

BYU-Idaho's mission to provide a quality education to students of diverse interests and abilities (BYU-Idaho Mission Statement, 2014) is achieved through program and course level outcomes that focus on three areas of student learning: (a) what students should know, (b) what students should do, and (c) what students should become (Learning Outcome Taxonomies, 2009). These outcomes were addressed by the three areas of this study—knowledge retention, writing engagement, and student self-efficacy.

The learner's ability to retain what is learned is vital to meeting the outcome of "to know." Low-stakes quizzes are one teaching tool that can be utilized to reinforce what students should know (Davis, 2011).

Engagement and active learning are crucial aspects of the "to do" outcome in skill acquisition (Kuh, 2003, 2009). When students are engaged, they learn better, as evidenced with higher GPA, and they are better equipped to apply what they have learned (Kuh et al., 2008; Trowler, 2010).

Student self-efficacy has been shown to improve through mastery and vicarious experiences, verbal persuasion, and physiological coaching (Bandura, 1977). By improving a student's self-efficacy, students may "become" more confident and competent. As self-efficacy increases, students are more likely to achieve academic success and continue on to degree completion (Cheng & Chiou, 2010).

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Appendix A

Consent Form for Participants

The University of Idaho and Brigham Young University-Idaho Institutional Review Boards (IRB) have approved this project. The purpose of this action research study is to discover how to improve learning and achievement in College Success and Basic Writing courses at Brigham Young University-Idaho.

Your participation in this study may require that you take 5-10 question, short-answer, low-stakes quizzes following each College Success class which will account for 1% of your overall course grade. You may also be asked to take two self-efficacy surveys pertaining to college writing or achieving college success. Or, you may be asked to respond to two engagement surveys pertaining to different genres of writing. Your decision to participate or not in the self-efficacy and engagement surveys will have no impact on your grade. The estimated time of completion for these surveys is 5 minutes. You are free to discontinue participation in these studies at anytime; however, your participation in these studies will help determine instructional approaches in future versions of these courses.

Minimal risk is associated with this study. Potential risks to participants may include stress, discomfort, invasion of privacy, and embarrassment. The benefits of the study will be an increased awareness of factors that improve your learning. Upon request, you will be provided a copy of the results upon completion of the study.

You are free to discontinue participation in the study at any time with the opportunity of completing alternative activities. Questions about the study may be asked at any time by contacting the principal investigators listed below. Data will be stored in a locked file cabinet with access only by the researchers. Pseudonyms will be used for people in the study to provide for confidentiality, unless you specifically request to be named in the published article.

By consenting to participate in this study you are also demonstrating consent to use the information for research purposes.

Principal Investigators:

David James Teichert	Michael Gentry	Siri Pinnock
McKay 120E	McKay 278	6533 W. 6000 N.
Rexburg, ID 83460-0421	Rexburg, ID 83460-0421	Rexburg, ID 83440
Phone: 208.496.4284	Phone: 208.496.4287	208.356.3338
teichertd@byui.edu	gentrym@byui.edu	siri.pinnock@gmail.com

University of Idaho Institutional Research Board
Office of Research Assurances
875 Perimeter Drive, MS 3020
Morrill Hall 114
Moscow, ID 83844-3020
Phone: 208.885.6162
irb@uidaho.edu

Thank you very much for your participation. It is much appreciated.
Signature of Principal Investigator _____ Date _____

I have reviewed this consent form and understand and agree to its contents.

Participant Name and Signature _____ Date _____

Appendix B

Post Exam Survey of the Effects of Quizzes

What grade do you think you will get on this exam?
□ A
□ B
□ C
□ D
□ F

Did you take the *BrainHoney* quiz at least one time after each class?
□ YES

About how many times did you take each quiz on *BrainHoney*?
About _____ times

Do you think the online quizzes given within 24 hours of class helped you do better on this exam? Why or why not?

□ NO

Why didn't you take the BrainHoney quizzes after each class?

Do you think the quiz would have helped you do better on this exam (if you had taken it)? Why or why not?

**Please answer the following questions.

What is your current age? _____ What is your gender? Male Female Which of the following best describes your academic status? 1st semester freshman 2nd semester freshman 1st semester sophomore 2nd semester sophomore 1st semester junior 2nd semester junior 1st semester senior 2nd semester senior	What is your race/ethnicity? (Circle One) Native Hawaiian White (Not Hispanic) Hispanic Black (Not Hispanic) Asian/Pacific Islander American Indian/Alaskan Native Unknown/Unspecified

Appendix C

Writing Engagement Survey for Composition Writing

Directions: The purpose of this study is to explore the effect composition writing has on student engagement. You are free to discontinue participation of this anonymous survey at any time. However, your feedback on writing engagement is truly valuable. Your participation in this survey demonstrates consent to use the information for research purposes.

Thank you! Michael S. Gentry

Q1 What is your gender?

- ❍ Male
- ❍ Female

Q2 Would you describe yourself as:

- ❍ American Indian/Native American
- ❍ Asian
- ❍ Black/African American
- ❍ Hispanic/Latino
- ❍ White/Caucasian
- ❍ Pacific Islander
- ❍ Other

Q3 What is your major? If undecided, please write undecided.

Q4 What is your age?

- ❍ 18
- ❍ 19
- ❍ 20
- ❍ 21
- ❍ 22
- ❍ 23
- ❍ 24
- ❍ 25
- ❍ Older than 25

Q5 What is your career goal? If undecided, please write undecided.

Q6 What was your overall ACT score?

- ❍ Below 13
- ❍ 13
- ❍ 14
- ❍ 15
- ❍ 16
- ❍ 17
- ❍ 18
- ❍ 19
- ❍ 20
- ❍ 21
- ❍ Above 21
- ❍ Didn't Take the ACT

Q7 During the composition writing unit (persuasive essay), how often did you . . .

Q7 During the composition writing unit (persuasive essay), how often did you . . .

	Rarely (1)	Sometimes (2)	Often (3)	Very Often (4)	Always (5)
-Listen Attentively in class	❍	❍	❍	❍	❍
-Participate in class by asking questions or contributing to course discussions in other ways such as commenting, answering questions, explaining principles, etc.	❍	❍	❍	❍	❍
-Read all of the assigned readings for class	❍	❍	❍	❍	❍
-Feel motivated to do your best	❍	❍	❍	❍	❍
-Seek feedback from a classmate, friend, or family member on your assignments before turning them in	❍	❍	❍	❍	❍
-Proofread your draft for errors before turning it in	❍	❍	❍	❍	❍
-Enjoy in-class activities and group work	❍	❍	❍	❍	❍
-Enjoy out-of-class assignments	❍	❍	❍	❍	❍

Q8 How many times did you visit the Writing Center or your professor to get help with your persuasive essay assignments before turning them in?

- ❍ 0
- ❍ 1
- ❍ 2
- ❍ 3
- ❍ 4
- ❍ 5 or more

Q9 About how many hours per week did you spend outside of class on your final persuasive paper (planning, writing, revising, etc.)?

- ❍ 0
- ❍ 1-2
- ❍ 3-4
- ❍ 5-6
- ❍ 7-8
- ❍ 9 or more

Q10 Overall, how would you rate your interest in composition writing (persuasive essay)?

- ❍ Very Low
- ❍ Low
- ❍ Moderate
- ❍ High
- ❍ Very High

Q11 Overall, how satisfied were you with the composition writing process and final product?

- ❍ Very Dissatisfied
- ❍ Dissatisfied
- ❍ Neither Satisfied or Dissatisfied
- ❍ Satisfied
- ❍ Very Satisfied

Q12 How likely are you to share your final composition writing paper with a classmate, friend, or family member?

- ❍ Very Unlikely
- ❍ Unlikely
- ❍ Undecided
- ❍ Likely
- ❍ Very Likely

Q13 Which unit interested and excited you more?

- ❍ Composition Writing
- ❍ Creative Writing

Q14 Please take a moment to explain why you answered the previous question like you did.

Q15 Which unit better helped you to become a more proficient writer?

- ❍ Composition Writing
- ❍ Creative Writing

Q16 Please take a moment to explain why you answered the previous question like you did.

Q17 During which unit did you more fully invest yourself and take responsibility of the outcomes?

- ❍ Composition Writing
- ❍ Creative Writing

Q18 Please take a moment to explain why you answered the previous question like you did.

Q19 During which unit did you listen, participate, and engage more actively?

- ❍ Composition Writing
- ❍ Creative Writing

Q20 Please take a moment to explain why you answered the previous question like you did.

Appendix D

Writing Engagement Survey for Creative Writing

Directions: The purpose of this study is to explore the effect creative writing has on student engagement. You are free to discontinue participation of this anonymous survey at any time. However, your feedback on writing engagement is truly valuable. Your participation in this survey demonstrates consent to use the information for research purposes.

Thank you! Michael S. Gentry

Q1 What is your gender?

- ❍ Male
- ❍ Female

Q2 Would you describe yourself as:

- ❍ American Indian/Native American
- ❍ Asian
- ❍ Black/African American
- ❍ Hispanic/Latino
- ❍ White/Caucasian
- ❍ Pacific Islander
- ❍ Other

Q3 What is your major? If undecided, please write undecided.

Q4 What is your age?

- ❍ 18
- ❍ 19
- ❍ 20
- ❍ 21
- ❍ 22
- ❍ 23
- ❍ 24
- ❍ 25
- ❍ Older than 25

Q5 What is your career goal? If undecided, please write undecided.

Q6 What was your overall ACT score?

- ❍ Below 13
- ❍ 13
- ❍ 14
- ❍ 15
- ❍ 16
- ❍ 17
- ❍ 18
- ❍ 19
- ❍ 20
- ❍ 21
- ❍ Above 21

Q7 During the creative writing unit (short story), how often did you . . .

	Rarely (1)	Sometimes (2)	Often (3)	Very Often (4)	Always (5)
-Listen Attentively in class	❍	❍	❍	❍	❍
-Participate in class by asking questions or contributing to course discussions in other ways such as commenting, answering questions, explaining principles, etc.	❍	❍	❍	❍	❍
-Read all of the assigned readings for class	❍	❍	❍	❍	❍
-Feel motivated to do your best	❍	❍	❍	❍	❍
-Seek feedback from a classmate, friend, or family member on your assignments before turning them in	❍	❍	❍	❍	❍
-Proofread your draft for errors before turning it in	❍	❍	❍	❍	❍
-Enjoy in-class activities and group work	❍	❍	❍	❍	❍
-Enjoy out-of-class assignments	❍	❍	❍	❍	❍

Q8 How many times did you visit the Writing Center or your professor to get help with your creative writing assignments before turning them in?

- ❍ 0
- ❍ 1
- ❍ 2
- ❍ 3
- ❍ 4
- ❍ 5 or more

Q9 About how many hours per week did you spend outside of class on your final creative writing assignment (planning, writing, revising, etc.)?

- ❍ 0
- ❍ 1-2
- ❍ 3-4
- ❍ 5-6
- ❍ 7-8
- ❍ 9 or more

Q10 Overall, how would you rate your interest in creative writing (short story)?

- ❍ Very Low
- ❍ Low
- ❍ Moderate
- ❍ High
- ❍ Very High

Q11 Overall, how satisfied were you with the creative writing process and final product?

- ❍ Very Dissatisfied
- ❍ Dissatisfied
- ❍ Neither Satisfied or Dissatisfied
- ❍ Satisfied
- ❍ Very Satisfied

Q12 How likely are you to share your final creative short story with a classmate, friend, or family member?

- ❍ Very Unlikely
- ❍ Unlikely
- ❍ Undecided

- ❍ Likely
- ❍ Very Likely

Q23 Which unit interested and excited you more?

- ❍ Composition Writing
- ❍ Creative Writing

Q24 Please take a moment to explain why you answered the previous question like you did.

Q25 Which unit better helped you to become a more proficient writer?

- ❍ Composition Writing
- ❍ Creative Writing

Q26 Please take a moment to explain why you answered the previous question like you did.

Q27 During which unit did you more fully invest yourself and take responsibility of the outcomes?

- ❍ Composition Writing
- ❍ Creative Writing

Q28 Please take a moment to explain why you answered the previous question like you did.

Q29 During which unit did you listen, participate, and engage more actively?

- ❍ Composition Writing
- ❍ Creative Writing

Q30 Please take a moment to explain why you answered the previous question like you did.

Appendix E

College Success Appraisal Inventory

This survey is designed to help get a better understanding of the kinds of things that are difficult for students. Please rate in each of the blanks in the right hand column how certain you are that you can incorporate principles of college success.

Please be aware *general self-efficacy* relates to one's estimate of one's overall ability to perform successfully in a wide variety of achievement situations, or to how *confident* one is that she or he can perform effectively across different tasks and situations.

Rate your degree of confidence by recording a number from 0 to 100 using the scale given below:

0 10 20 30 40 50 60 70 80 90 100

Cannot do at all **Moderately can do** **Highly Certain can do**

Confidence (*0-100*)

1. Accept full responsibility for the choices and outcomes of my life. _____
2. Successfully transition from high school to college life. _____
3. Recognize breakdowns in my own learning _____
4. Succeed in taking an online course _____
5. Manage my time so that the most important activities are always done first. _____
6. Comprehend and extract the most important points from a college textbook. _____
7. Take notes in the Cornell format and use these for reviewing course material. _____
8. Adapt my learning style to any type of teaching style and still learn. _____
9. Space reviews of course materials to happen immediately after class, within 24 hours and again within 1 week. _____
10. Manage effectively my personal finances. _____
11. Obtain financial assistance if needed _____
12. Obtain help from qualified students "who know". _____
13. Know where to go on campus for basic services _____

14. Get involved in student activities.
_____
15. Study in appropriate ways, to be able to learn the material in this course.
_____
16. Receive an excellent grade in this class.
_____
17. Learn the concepts taught in this course.
_____
18. Put in enough effort that I will understand the course material.
_____
19. Do an excellent job on the assignments and tests in this course.
_____
20. Participate in class discussions.
_____
21. Succeed at most any endeavor to which I set my mind.
_____
22. Do well on my exams.
_____
23. Talk to my professors.
_____
24. Make new friends at college.
_____
25. Perform well even when things are tough.
_____
26. Get along with others.
_____
27. Perform effectively on many different tasks.
_____
28. Keep up to date with my schoolwork.
_____
29. Do most tasks very well (compared to other people).
_____
30. Attend class regularly.
_____

Q2 What is your gender?
- ❍ Male
- ❍ Female

Q3 What is your marital status?
- ❍ Now married.
- ❍ Never married.
- ❍ Widowed.
- ❍ Divorced
- ❍ Separated.

Q4 What is your employment status?
- ❍ Employed
- ❍ Not employed

Q5 Please specify your race.
- ❍ American Indian or Alaska Native
- ❍ Asian
- ❍ Black or African American
- ❍ Native Hawaiian or Other Pacific Islander
- ❍ White
- ❍ Hispanic or Latino
- ❍ Prefer not to say

Q6 Please provide your I# for coding purposes.

Appendix F

Basic Writing Appraisal Inventory

This survey is designed to help get a better understanding of the kinds of things that are difficult for students. Please rate in each of the blanks in the right hand column how certain you are that you can incorporate principles of college success.

Please be aware *general self-efficacy* relates to one's estimate of one's overall ability to perform successfully in a wide variety of achievement situations, or to how *confident* one is that she or he can perform effectively across different tasks and situations.

Rate your degree of confidence by recording a number from 0 to 100 using the scale given below:

0 10 20 30 40 50 60 70 80 90 100

Cannot do at all **Moderately can do** **Highly Certain can do**

Confidence (*0-100*)

1. Think, speak, and write critically about meaningful topics that affect your life.

   _____

2. Discover truth, beauty, and enjoyment through writing.

   _____

3. Share your thoughts and writings with fellow classmates, thus creating a real sense of audience (and community) while developing interpersonal skills.

   _____

4. Analyze examples of effective and ineffective writing in order to emulate what works and avoid what doesn't work.

   _____

5. Understand how audience and purpose guide style, content, and organization in writing.

   _____

6. Generate a thesis and organize relevant support using rhetorical strategies appropriate for the context.

   _____

7. Use principles of free writing, drafting, revision, and editing to achieve polished prose.

   _____

8. Identify and correct common sentence level errors.

   _____

9. Accept full responsibility for the choices and outcomes of my life.

   _____

10. Successfully transition from high school to college life.

    _____

11. Recognize breakdowns in my own learning

    _____

12. Manage my time so that the most important activities are always done first.

    _____

13. Manage effectively my personal finances.
_____
14. Obtain financial assistance if needed
_____
15. Obtain help from qualified students "who know".
_____
16. Know where to go on campus for basic services
_____
17. Get involved in student activities.
_____
18. Study in appropriate ways, to be able to learn the material in this course.
_____
19. Learn the concepts taught in this course.
_____
20. Put in enough effort that I will understand the course material.
_____
21. Do an excellent job on the assignments and tests in this course.
_____
22. Participate in class discussions.
_____
23. Succeed at most any endeavor to which I set my mind.
_____
24. Do well on my exams.
_____
25. Talk to my professors.
_____
26. Make new friends at college.
_____
27. Perform well even when things are tough.
_____
28. Get along with others.
_____
29. Keep up to date with my schoolwork.
_____
30. Attend class regularly.
_____

Appendix G

IRB Letter: University of Idaho

University of Idaho

October 17, 2013

To: John Cannon

Office of Research Assurances
Institutional Review Board
875 Perimeter Drive, MS 3010
Moscow ID 83844-3010

Phone: 208-885-6162
Fax: 208-885-5752 irb@uidaho.edu

Cc:

Siri Pinnock, DJ Teichert, Michael Gentry

From: Traci Craig, PhD
Chair, University of Idaho Institutional Review Board
University Research Office
Moscow, ID 83844-3010

Title:

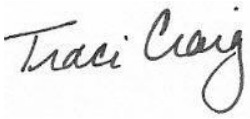
'Improving the Learning Experience of Developmental Education Students'

Project: 13-243

Approved: 10/16/13
Expires: 10/15/14

On behalf of the Institutional Review Board at the University of Idaho, I am pleased to inform you that the protocol for the above-named research project is approved as offering no significant risk to human subjects.

This approval is valid for one year from the date of this memo. Should there be significant changes in the protocol for this project, it will be necessary for you to resubmit the protocol for review by the Committee.



Traci Craig

Appendix H

IRB Letter: BYU-Idaho

BYU
IDAHO

November 11, 2013

Dear DJ,

Your request to use human subjects for the study entitled *Improving the Learning Experience of Developmental Education Students* is approved for 12 months from the date of this letter.

Please notify the IRB if you intend to make any significant modifications to the study's design or implementation.

Good luck with your study.

Regards,

Scott J. Bergstrom

Scott J. Bergstrom, Ph.D.
Chair, BYU-Idaho Institutional Review Board

Scott J. Bergstrom *Director, Institutional Research & Assessment, Kimball 290C*
Phone (208) 496-1136 Fax (208) 496-5136 E-mail bergstroms@byui.edu