INCREASING SELF-REGULATION THROUGH THE MYHOMEWORK SOCIAL MEDIA APPLICATION

A dissertation submitted to the Kent State University College of Education, Health, and Human Services in partial fulfillment of the requirements for the degree of Doctor of Philosophy

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The purpose of this quantitative, repeated measures study was to provide traditionally-aged, first-year students with disabilities the opportunity to use a tool they can become proficient with to manage their social and educational independence. The study measured differences in pre- and posttest scores at four different points when a social media app was applied as a tool to encourage and facilitate students’ self-regulation. The research question that guided the current study was: Does the use of a social media application improve self-regulation skills for students with intellectual disabilities enrolled in a post-secondary education program? Secondary goals and research questions for this study included the following: Does the use of the myHomework app improve the scheduling of social activities for students with ID in a post-secondary education program? Does the use of the myHomework app improve the scheduling of course assignments for students with ID in a post-secondary education program? Is there a relationship between students’ level of self-regulation and their perceptions of future use of the social media app myHomework?

Overall the quantitative results found that there was a minimal impact on the participants’ overall self-regulation as a result of using the myHomework app. When examining the impact of the app on the scheduling of course assignments and social activities, there was no significance. In addition, a relationship was not found between self-regulation and the participants’ perception of future use.
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DEDICATION

I would like to dedicate this dissertation to my husband, Jay, and kids: Jakob, Owen, Benny, and Leah. My family has been continuously supportive and never stopped believing in me. Jay and the kids are patient, loving, and encouraging, despite the evenings and weekends I’ve had to work. The kids may not understand what a dissertation is at this point in their lives, but they understand that hard work and determination can lead to great things.
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CHAPTER 1
INTRODUCTION

Students with intellectual disabilities are becoming more prevalent in post secondary education (Gil, 2004). Changing the overall demographics of the college campus was mainly due to the passage of both the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990. As students with disabilities are increasing enrollment in post-secondary education, educators are trying to keep up with the challenges these students face during the transition from high school to higher education (Gamble, 2000). It is essential that educators be more cognizant of the educational environment that students with disabilities experienced in high school as well as the demand colleges place on the students’ self-determination skills (Crosling, Thomas, & Heagney, 2008; Eckes & Ochoa, 2005). In addition, there is not a law mandating higher education staff to support the student’s transition from high school to college, nor does it mandate student and family education about what they may expect in college where the only mandates come from Section 504 and the ADA. There is a clear disconnection between students with disabilities and their transition from high school to post-secondary.

In addition to the lack of support during a student’s transition to post-secondary education, there is also the necessity for the student to be more self-determined. Student’s that are self-determined have a greater chance of success. Deci and Ryan (2000) defines the Self-Determination Theory (SDT) as “an approach to human motivation and personality that uses traditional empirical methods while employing an organismic metatheory that highlights the importance of humans’ development and behavioral self-regulation.” One major aspect of self-determination that deeply impacts transition into post-secondary education for students with disabilities is self-regulation. Students with disabilities struggle with guiding their own thoughts
and behaviors to reach goals. Baumeister (2007) states that the four components of self-regulation include: standards (of desired behavior), motivation (to meet standards), monitoring (of situations and thoughts that precede breaking the standards), and willpower (internal strength to control urges). McCombs (1982, 1984) and Zimmerman (1990) theorize students as metacognitively, motivationally, and behaviorally active participants in their own learning processes.

Newton and Dell (2011) found that students with disabilities like to use mobile devices and social networking applications; however, they have very little assistance with using this as an educational resource. The students felt that using a mobile device and social media applications helps them to fit-in and not stand out as they did when they used assistive technologies. Despite this concept, students with disabilities are not given the opportunity to incorporate mobile devices or social networking applications into the learning process.

Schalock, Luckasson & Shogren (2007) state that intellectual and developmental disabilities are characterized by limitations with problem solving and reasoning, as well as limiting adaptive behavior. According to the American Association on Intellectual and Developmental Disabilities (AAIDD, 2014), an intellectual disability originates before the age of 18 and is prevalent in most day-to-day social and practical skills. The AAIDD states that factors such as linguistic diversity and cultural differences present’s limitations, which could influence conceptual, social and practical skills. In addition, Roth (2010) states that the definition of an intellectual disability, previously called mental retardation, is not standardized and hence limits the validity of research.
Rationale

Research findings show that students with intellectual disabilities who have developed self-determined skills are able to make a more successful transition from high school to adult life (Chambers et al., 2007; Kochhar-Bryant, Bassett, & Webb, 2009). In contrast, students who leave high school without developed self-determination skills are less prepared, and less successful in their transition into adult lives (Algozzine, Browder, Karvonen, Test, and Wood, 2001; Wehmeyer and Palmer, 2003). One specific area of self-determination, self-regulation, is especially an important skill for students with disabilities to learn. Although the literature supports the importance of self-regulation, research studies across special education finds that students with disabilities demonstrate less self-regulation than their nondisabled peers (Wehmeyer, Palmer, Shogren, Williams-Diehm, & Soukup, 2010). However, research shows that educators are not incorporating self-regulation into their lessons (Lee, Wehmeyer, Soukup, & Palmer, 2010). The significance of this study is the opportunity a group of students in transition into post-secondary education to increase their self-regulation skills by using a social media application. No published literature offers the same opportunity, nor does any literature use social media to increase self-regulation with students who have intellectual disabilities.

Purpose of the Study

The purpose of this study is to seek information from young adults with intellectual disabilities, specifically those who are 18-26 years old, to add to the current literature about a social media application being used in education, and an applications effectiveness on students self-regulation during their transition from high school to post-secondary education. More specifically, this study will help to determine how social media can help to increase the self-regulation of time management and organizational skills in both education and social activities.
The scholarly aim of this quantitative, repeated measures research study is to provide traditionally-aged, first-year students with disabilities the opportunity to use a tool they can become proficient with to manage their social and educational independence. The study measured differences in pre- and posttest scores at four different points when a social media app was applied as a tool for increasing the students’ self-regulation of both course work and social activities. It is necessary for traditionally aged, first-year students with disabilities to have strong self-regulation skills in order to be successful in their transition from high school to higher education.

In order to more fully understand the purpose and focus of this study, there first must be an understanding of all that comprises this vast and difficult concept. First, an understanding of the theory of self-determination and the importance of promoting it within students is discussed. Other topics to be reviewed are: (a) the laws set fourth to protect individuals with disabilities, (b) a practical approach to a successful transition into post-secondary education, (c) the definitions of the nine components that comprise self-determination, (d) the evidence base of self-regulation, (e) and multimedia learning, specifically the role of social media.

The transition into post-secondary education is crucial for students with disabilities because of the impact of the experience and the personal growth that occurs and effects future adult events (Shaw et al., 2009). Students with disabilities are already using mobile devices; however, there is a gap in the literature with regard to their interactions with social media applications to support educational and social activities. Through the use of a social media application and by increasing self-regulation skills, the study will support professionals as they develop a more comprehensive and specific transition plan between school districts and post-secondary education to benefit the students.
Conceptual Framework

The conceptual framework of the current study examines the laws and legal challenges governing special education and disability services, Schlossberg’s Transition Theory, Deci and Ryan’s Self-Determination Theory, Bandura’s Social Cognitive Theory of Self-Regulation, and Mayer’s Cognitive Theory of Multimedia Learning. These five concepts were brought together to form the conceptual framework because the study focuses on the adherence to law, student development, an understanding of self-determination and self-regulation, and multimedia learning and how it is and leading to enact the best practice for transitioning students from post-secondary education. The proposed study is situated at the central point of intersection (see Figure 1).

*Figure 1. Conceptual Framework*
Research Questions

The proposed study has one main question and three secondary goals:

- Does the use of a social media application improve self-regulation skills for students with intellectual disabilities enrolled in a post-secondary education program?
- Does the use of the myHomework app improve the scheduling of social activities for students with ID in a post-secondary education program?
- Does the use of the myHomework app improve the scheduling of course assignments for students with ID in a post-secondary education program?
- Is there a relationship between students’ level of self-regulation and their perceptions of future use of the social media app myHomework?

Clarification of Terms

The following are terms used in the study requiring a further explanation or definition for those unfamiliar with the terminology used in the field of special education and disability services. It is important to note, some terms are state specific and may be named differently in other states.

Accommodations: Aids, services, and other supports that are provided in regular education classes, other education related settings, or in extracurricular and nonacademic settings, to enable students with disabilities to be educated with nondisabled students to the maximum extent appropriate (Ohio Department of Education, 2014).

Individualized Education Plan (IEP): a written statement for a student with a disability that is developed, reviewed, and revised in an annual meeting and includes: (a) a statement that discusses the child’s future; (b) a statement of the child’s present
levels of academic achievement and functional performance; (c) a statement of measurable annual goals, including academic and functional goals and benchmarks or short-term objectives; (d) a statement of the special education and related services and supplementary aids and services; (e) an explanation of the extent, if any, to which the child will not participate with nondisabled children in the regular class; (f) a statement of any individual appropriate accommodations that are necessary to measure the academic achievement and functional performance of the child on state and districtwide assessments; and (g) transition services (Ohio Department of Education, 2014).

Modifications: Substantial changes in what the student is expected to demonstrate; includes changes in instructional level, content, and performance criteria; may include changes in test/assignment format (Wright & Wright, 2006).

Transition: The process of moving from high school to a higher educational environment; to plan services to help students reach their educational and career goals related to their needs, interests, and preferences; IDEIA requires transition planning for students with disabilities aged 16 and older as documented on the IEP (Flexer, Baer, Luft, & Simmons, 2013).
CHAPTER II

REVIEW OF THE LITERATURE

The review of literature is divided into five main sections to align with the five topics of the conceptual framework. The first section provides an overview of the present laws governing individuals with disabilities, including the Individuals with Disabilities Education Improvement Act (IDEIA), Section 504 of the Rehabilitation Act, and the Americans with Disabilities Act (ADA). The second section explains Schlossberg’s Transition Theory, a theory used to guide individuals through a life transition. The third section outlines Deci and Ryan’s Self Determination Theory, while the fourth section focuses on one aspect of self-determination, Bandura’s Social Cognitive Theory of Self-Regulation. Finally, the fifth section outlines Mayer’s Cognitive Theory of Multimedia Learning. These five concepts were brought together because the study focuses on the adherence to law, an understanding of young adults with intellectual disabilities, the need for these individuals to practice self-regulation (as part of the overall theory of self-determination), and leading to enact a social media strategy for transitioning students from high school to higher education. The five sections come together to represent the conceptual framework for the study, which has not been investigated in published research.

Legal Overview

High school students with disabilities are not gaining the skills needed to reach post-secondary education successfully (National Center on Secondary Education and Transition, 2003). The National Council on Disability (2004) concurs, stating that youth with disabilities are
not being educated well enough, they are under qualified for jobs, and they are not being prepared well enough for post-secondary education. The National Center on Secondary Education and Transition (2003) identified student access and participation in post-secondary education as a major challenge impacting student transition. A comprehensive study of IDEIA federal monitoring found 44 states failed to ensure compliance in transition related indicators (National Council on Disability, 2004). Secondary education teachers are responsible for non-academic skills for education such as: social skills, self-awareness and self-advocacy, daily functional skills, knowledge of accommodations and modifications, financial concerns, and responsibility (Babbitt & White, 2002). The transition from high school to post-secondary education is essentially the transfer of responsibility from the school and parents to the student (Barnard-Brak et al., 2009; Wolanin & Steele, 2004). For this reason, it is essential students with disabilities achieve the non-academic skills in high school in order to be successful in college.

Three main concerns regarding IEP’s were identified by The National Center on Secondary Education and Transition (2002). The recognized issues include: (1) only focusing on the immediate needs rather than future skills required for higher education, (2) minimal student involvement in the IEP process, and (3) the absence of information provided to both the students and parents regarding federal policy upon graduation. In order to develop self-awareness and self-advocacy skills students need to be involved in the IEP process. Gil (2004) found that students who have developed self-determination become better self-advocates throughout their education. A student with developed self-advocacy skills understand their disability, are aware of their legal rights, and are competent in communicating their rights and needs to authority (Skinner, 1998). In addition, students who have acquired self-advocacy skills are more likely to self-disclose in higher education; thus, more likely to receive accommodations (Gil, 2004).
Legal Challenges

PreK-12 special education is governed by IDEIA, whereas Section 504/ADA applies to both PreK-12 and higher education. Often time the differences between the laws are not communicated to the parents and students; As a result, it becomes the responsibility of a post-secondary education institution to inform parents and students of the differences and how they will impact the services provided in college versus the support they received in high school (Gill, 2004, Stodden & Conway, 2002).

The main difference for students in PreK-12 education is that school is required, whereas college is voluntary and more competitive to get accepted (Wolanin & Steele, 2004). The Individuals with Disabilities Education Improvement Act (IDEIA), has several mandates that districts must follow in order to maintain compliance and obtain funding in order to protect students with disabilities in PreK-12.

**Individuals with Disabilities Education Improvement Act.** The All Handicapped Children Act was written by President Gerald Ford in 1975 for PreK-12 education, and has since been amended four times and is now know as the Individuals with Disabilities Education Improvement Act (IDEIA) (Conroy, Yell, Katsiyannis, Collins, & Metseq, 2010). IDEIA (2004) states that all students with disabilities receive free public education to meet their needs. Infants and toddlers are also protected by this law, giving them access to early interventions.

**Individualized Education Programs.** An Individualized Education Programs (IEP) is developed for a student after an extensive evaluation is completed. The information provided by the evaluation is used to determine if the child qualifies as a student with a disability under IDEIA. An IEP team consists of various staff members and the parent. It is a legally binding
document schools must follow the accommodations and modifications determined by the team (Menlove, Hudson, & Suter, 2001).

**Transition.** In the 1990s IDEIA was amended to include transition services in the IEP for students with disabilities in response to the increasing emphasis in the education field on transitioning from the secondary level to the workplace or postsecondary opportunities (Rothstein & Johnson, 2010; Wolanin & Steele, 2004). IDEIA also mandates that secondary school educators include a transition goal and transition services in the IEP’s of students with disabilities. The Office of Special Education and Rehabilitation Services (2006) state that transition services are based on the individual’s needs, strengths, preferences, and interests.

IEP teams can include postsecondary preparation activities as a transition service. There should be transition goals and activities selected that will help the student prepare for post-secondary education in terms of becoming an independent learner (Shaw, Madaus, and Banerjee, 2009). Webster and Queen (2013) also argue that students should be active participants in the process, stating that the students themselves have the most responsibility in regard to their college experience, and students who take a more active role in their high school education will be in a better position to succeed in a postsecondary program.

Transition planning ideally is implemented over several years. Typically, transition planning occurs around age 14; however, states don’t all mandate that the process begin at that time. In fact, some states start planning transition as early as the age of 12. The law states that the IEP must include measurable post-secondary goals and transition services by the age of 16 (Bartlett, n.d.). Each student requires a different plan for transition; it is not a one-size-fits-all approach. In addition, planning occurs in many environments, not just the transition meeting, and spans over several years to allow time for the planning, implementation, and follow-up.
Transition teams meet regularly, unlike the IEP team that only meets once per year (Baer & Flexer, 2013).

**Section 504.** Section 504 of the Rehabilitation Act of 1973 is enforced by the Office for Civil Rights (Myers et al., 2013a; Thomas et al., 2009). Regarded as the first national civil rights legislation for Americans with disabilities, Section 504 serves both public and private receivers of federal funding. Jarrow (1993) stated that the main idea behind Section 504 is that individuals with disabilities deserve the same American rights as those without disabilities and these disabled individuals will be protected under this idea by the law. Under Section 504 of the Rehabilitation Act of 1973, someone with a disability is identified as having a physical or mental impairment that impacts major activities in their life. In addition, the disability should be documented and considered an impairment (Section 504 of the Rehabilitation Act of 1973, 1973). Section 504 also protects students from discrimination in regard to college recruitment, admissions, athletic programs, examinations, evaluations, housing, financial aid, counseling, and career planning and placement (West et al., 1993). Despite the protection the only promise is to provide the student with equal opportunities, there is no guarantee that the student will be successful (Kelepouris, 2008; Madaus, 2005). The U.S. Department of Justice (2009) mandates that institutions are responsible for upholding regulations. As a result, post-secondary educational institutions are responsible for ensuring the programs and buildings are accessible and the law is being withheld (Thomas, 2002).

**Americans with Disabilities Act.** The Americans with Disabilities Act of 1990 (ADA) was a result of schools not following the protocol of Section 504. According to the U.S. Department of Justice (2009), ADA specifies that individuals with disabilities be protected in five areas: state and local government services, employment, transportation, public
accommodations, and telecommunications. The idea behind this was that more individuals could be reached under the five areas because they are not required to be recipients of federal funds (Kaplin & Lee, 2009).

The ADA (2009) defines a disability similar to Section 504 as a physical or mental impairment that substantially limits one or more major life activities. More specifically, the disability is determined as severe based on if there is a substantial limitation to one or more major life activities. Examples of this include: caring for oneself, performing manual tasks, seeing, hearing, eating, sleeping, walking, standing, lifting, bending, speaking, breathing, learning, reading, concentrating, thinking, communicating, and working (Americans with Disabilities, 2009).

**Transition into higher education.** The transition from high school to college results in a change of the law as well as educational rights and responsibilities for students (Skinner & Lindstrom, 2003). The IEP, the document outlining the student’s educational program based on the disability, is no longer required, is invalid at the age of 22, and ends on the day of high school graduation. Kaplin and Lee (2009) explain, “Many students who have received special services and other accommodations under IDEIA are now enrolled in college, and due to their experiences with IDEIA services, may have heightened expectations about receiving services at the postsecondary level” (p. 427). To prepare for the transition, students with disabilities need to be well informed of their rights and responsibilities as well as the responsibilities colleges have toward students with disabilities (U.S. Department of Education, 2011).

**Academic support.** Under IDEIA, accommodations are required to provide the students with a disability with the opportunity to access the general education curriculum alongside their peers. When the student starts college and is only protected by Section 504 and the ADA,
academic adjustments, or accommodations, are required to ensure equal educational opportunity but are not required to lower or substantially modify essential program requirements (Kaplin & Lee, 2009; Thomas, 2002; U.S. Department of Education, 2011). The IEP must also contain a statement of appropriate accommodations that are necessary to measure the academic achievement on state and district wide assessments (Wright & Wright, 2006).

Accommodations at the post-secondary level are different for each student and are based on the individual’s needs. The accommodations received are very similar to those provided in K-12, if the student doesn’t receive modifications in post-secondary education. Students with cognitive disabilities in K-12 may have received a modified curriculum; however, that might not be the case in college. Therefore, transition planning is even more important, as the students will need to be prepared for the rigor of post-secondary education. Students that are still test-taking accommodations can consist of format alterations, additional time, readers, or the ability to take the test in a separate room to minimize distractions (Kaplin & Lee, 2009; Stein, 2004). Additionally, accommodations for class support can consist of note-taking services, recording lectures, or flexibility regarding attendance (Stein, 2004).

**Student Development**

Students with intellectual disabilities transitioning from high school to colleges or universities can face additional difficulties. Although transitions provide opportunities for growth and development, a positive outcome cannot be assumed (Evans et al., 2010). The second section of the conceptual framework, Schlossberg’s Transition Theory is an attempt to, “describe the extraordinary complex reality that accompanies and defines the capacity of human being to cope with changes in their lives” (Schlossberg, 1981, p. 160). By applying this theory to the transition of students with disabilities into higher education, professionals can understand the
students in transition and provide the help these individuals need in order to be successful (Evans et al., 2010).

It should be noted that there are two seminal transition models specific to students with disabilities: (a) the Transition Service Integration Model developed by Luecking and Certo (2005), Condeon and Brown (2005), and Certo et al. (2003) and (b) the Transition Supports Model developed by Hughes and Carter (2000). The Transition Service Integration Model requires school districts to contract with a local private non-profit community rehabilitation program so students gain work experience during their last year of school and continues working at the program upon graduation (Luecking & Certo, 2003). The Transition Supports Model has two main components to assist students for successful outcomes in adult life: (1) developing support to increase participation and (2) teaching skills that promote success (Hughes & Carter, 2011). While both of these models directly impact the student’s transition, they are specific to students with disabilities.

Schlossberg’s Transition Theory

The framework of Schlossberg’s Transition Theory simplifies the transition people experience by identifying the type of transition, the degree to which their lives have been altered, and the resources persons can apply to make it a success (Schlossberg, 2011). A transition is defined as, “an event or nonevent that alters the individual’s perception of self and of the world, that demands a change in assumptions or behavior, and that may lead either to growth or to deterioration” (Schlossberg, 1981, p. 14). An event can be an anticipated event that is expected to occur, an unanticipated event that occurs unexpectedly, or nonevents that are expected but that fail to occur (Schlossberg, 2011).
The transition process. According to Schlossberg (1995), transitions consist of a series of phases: moving in, moving out, and moving through. Moving in is the phase in which people move into a new situation and need to become familiar with rules, regulations, norms, and expectations of the new system (Schlossberg, 1995). Moving through is the period that begins when people learn the new rules, regulations, norms, and expectations; moving out is the period of ending one series of transitions and beginning to anticipate what comes next (Schlossberg, 1995). Schlossberg (1995) emphasizes the understanding that people can start in either the moving in or moving out phases.

Figure 2. Schlossberg’s transition theory. From Counseling adults in transition.
**4 S System.** The second piece of the theory is the reality that accompanies and defines the human capacity to cope with change (Schlossberg, 1995). The potential resources or deficits the person brings in coping with the transition can be clustered into four major categories called the 4 S System: situation, self, support, and strategies (Schlossberg, 1995, 2011). The 4 S System identifies the features common to all transition events and nonevents (See Figure 2) and as Schlossberg (2011) explains, “however dissimilar they appear, some of the mystery can be taken out of change” (p. 160). The features in each of the Ss are an interwoven set of variables that help in identifying the potential resources or deficits, with the goal of facilitating optimal adaptation to change (Goodman & Anderson, 2012).

**Situation.** Situation refers to the person’s situation at the time of the transition and relies on the following factors and questions (Schlossberg, 2011): (1) trigger (What set off the transition?); (2) timing (How does the transition relate to one’s social clock?); (3) control (what aspects of the transition can one control?); (4) role change (Does the transition involve role change?); (5) duration (Is the transition seen as permanent or temporary?); (6) previous experience with a similar transition (How has the individual met similar transitions?); (7) concurrent stress (What and how great are the stresses facing the individual now, if any?); and (8) assessment (Does the individual view the situation positively, negatively, or benign?) (p. 53). Each person going through the transition will have a unique situation due to a variety of personal factors.

**Self.** Self looks at what the person brings to the transition (Goodman & Anderson, 2012). Schlossberg (1995) and Goodman and Anderson (2012) explain that people cope and receive transition based on a range of interrelated personal factors, including: socioeconomic status,
gender, age/stage of life, state of health, ethnicity, ego development, commitment and values, spirituality, and overall outlook (optimism and self-efficacy). The relationship between these aspects of self can be complex and professionals need to address the factors most relevant for the person in transition (Goodman & Anderson, 2012).

**Support.** Support is composed of three segments: types, functions, and measurement. The types of support people in transition receive are social support, and four types are identified: intimate relations, family unit, networks of friends, and institutions and communities (Evans et al., 2010). The functions of social support are an incorporation of one or more of the following: affect (expressions of liking, admiration, respect, or love), affirmation (expression of agreement of the rightness of an act of another person), aide (assistance), and honest feedback (reactions offered that might be negative or positive) (Schlossberg, 1995).

**Strategies.** Schlossberg (2011) explains, “There is no single magical coping strategy. Rather, the person who flexibly uses lots of strategies will be better able to cope” (p. 161). Schlossberg’s theory suggests three types of strategies: those that change the situation, those that change the meaning of the situation, and those that manage the stress of the transition (Goodman & Anderson, 2012). In addition to the three categories previously stated, people may also use four coping modes: information seeking, direct action, inhibition of action, and intrapsychic behavior (Evans et al., 2010).

**Application of theory.** In applying Schlossberg’s Transition Theory, the ultimate goal is for the person in transition to move to adaptation. Adaptation from transition, “is the process during which an individual moves from being totally preoccupied with the transition to integrating the transition into his or her life” (Schlossberg, 1981, p. 7). Schlossberg’s theory supports the given study because it is said to be helpful when working with traditionally-aged
students who are dealing with changes in their lives (Evans et al., 2010). Evans, Forney, Guido, Patton, and Renn (2010) agree with Schlossberg (1981):

Schlossberg’s openness to criticism and her willingness to revise and extend her theory since its inception have resulted in a practical resource for assisting college students in dealing with change. Because the structure of the theory places so much emphasis on consideration of the individual’s perspective and the specifics of the situation, Schlossberg has provided a tool that readily allows for the integration of individual and cultural differences. (p. 225)

Deci and Ryan’s Self-Determination Theory

Researchers and policy makers have recognized that the construct of self-determination and learning strategies are ideal educational practices that improves the post-school outcomes of students with disabilities (Algozzine, Browder, Karoven, Test, & Wood, 2001; Field, Martin, Miller, Ward & Wehmeyer, 1998; Wehmeyer & Palmer, 2003). There is a consensus in literature that students with disabilities who are more self-determined and have developed learning strategies are able to make a more successful transition from high school to adult life (Kochar-Bryant, Bassett, & Webb, 2009, Chambers, Wehmeyer, Saito, Lida, Lee, & Singh, 2007). In contrast, students who leave high school without attaining these skills may proceed to the next step of their lives unprepared, and less successful in transitioning to an adult role.

Research shows that good and poor learners have different approaches to learning, which translates into everyone having their own systematic way of transforming information into knowledge. For example, good learners are able to employ a number of positive strategies when learning such as monitoring one’s performance (Naiman et al. 1996; Rubin 1975; Stern, 1975). A
good learner is also more aware of the strategies they use and why they’re using them (O’Malley and Chamot, 1990).

Fostering the self-determination of adolescents with disabilities has become a best practice in secondary education and transition services (Field, Martin, Miller, Ward, & Wehmeyer, 1998). Higher levels of self-determination have been linked to the attainment of more positive academic (Lee, Wehmeyer, Soukup, & Palmer, 2010) and transition outcomes. This includes: increased employment and independent living outcomes (Martorell, Gutierrez-Recacha, Preda, & Ayuso-Mateos, 2008), greater recreation and leisure opportunities (McGuire & McDonnell, 2008), and more positive quality of life and life satisfaction (Nota, Ferrari, Soresi, & Wehmeyer, 2007). In addition, self-determination and control over one’s own life is critical for all individuals, including individuals with intellectual and developmental disabilities (Kennedy, 1996). However, research across special education disability categories has found that students with disabilities are less self-determined than their nondisabled peers (Wehmeyer, Palmer, Shogren, Williams-Diehm, & Soukup, 2010). Furthermore, teachers believe that teaching students to become more self-determined is important, and there is evidence for the efficacy of instruction to promote component elements of self-determined behavior (Test, Karvonen, Wood, Browder, & Algozzine, 2000).

What is considered good learning skills or poor learning skills is based on the individual and how they develop their own systematic way of transforming information into knowledge. Learning strategies are used in various ways during learning. Dombs (1988) and Gibb (1992) stated that by educating learners on the various learning strategies they have an even greater ability to perform well academically and develop life-long learning strategies.
Despite the research showing the importance of teaching learning strategies early on, research shows that this isn’t a common practice. Instead, research shows that learning strategies are being taught to students in courses that are solely for that purpose. In other words, there isn’t a subject matter being taught with learning strategies being applied in the learning process. There are several studies that reveal similar results that the collaboration between introducing learning strategies with specific content will result in a more positive way, especially when the information is taught in a metacognitive, self-regulative context (McCombs, 1984; Weinstein, 1988; Garner, 1990).

Therefore, it is necessary to define a practical approach that will successfully promote the development of self-determination skills and learning strategies throughout the life span of students with disabilities. This will be accomplished by: first defining self-determination and learning strategies, identifying the impact of self-determination, outlining the design aspect of self-determination, and finally by identifying recommended assessments and interventions used for improving learning strategies and self-determined behaviors.

**Self-determination defined.** The concept of self-determination originated in the philosophy field, but gained prominence in the special education field where writers like Nirje (1972) wrote of individuals’ rights to have control over decisions regarding their personal lives and access to information to make those decisions. From that beginning grew an emphasis on the development of a conceptual framework to guide practices that promote self-determination of individuals with disabilities (Deci & Ryan, 2000).

One early definition described self-determination as knowing one’s strengths, limitations, needs, and preferences well enough to evaluate options and goals and determine a clear vision for one’s future (Field & Hoffman, 1994). Self-determined individuals choose their goals, by
assessing their needs, and acting in ways to meet those goals. They are persistent in pursuing them which involves making a presence known, stating needs, evaluating progress toward meeting goals, adjusting one’s performance, and being creative in problem-solving (Martin & Marshall, 1995). The construct of self-determination is further defined when Wehmeyer, Sands, Doll, and Palmer (1996) identified four underlying characteristics of self-determination which are:

1. Autonomous function/behavioral autonomy – when a person acts according to his or her own preferences, interests and/or abilities and independently, free from undue external influence or interference.

2. Self-regulation – when people make decisions about what skills to use in a situation, examine the task at hand and their available repertoire, and formulate, enact and evaluate a plan of action, with revisions when necessary.

3. Psychological empowerment – when people act based on the beliefs that they have the capacity to perform behaviors needed to influence outcomes in their environment and, if they perform such behaviors, anticipated outcomes will result.

4. Self-realization – when people use a comprehensive, and reasonably accurate, knowledge of themselves and their strengths and limitations to act in such a manner s to capitalize on this knowledge in a beneficial way.

In addition to the four underlying characteristics, Wehmeyer (1996) identified eleven component elements that appear particularly important to self-determined behavior. They are: (a) choice-making skills, (b) decision-making skills, (c) problem-solving skills, (d) goal-setting and attainment skills, (e) self-management skills, (f) self-advocacy skills, (g) leadership skills, (h) internal locus of control, (i) positive attributions of efficacy and outcome expectancy, (j) self awareness and (k) self-knowledge. Each of these elements are acquired through specific learning experiences, and it is believed that once an individual reaches that level of the framework that intervention to promote self-determination as an educational outcome occurs (Doll, Sands, Wehmeyer, & Palmer, 1996, Michali, 2014).
Stressing the importance of ability, Field, Martin, Miller, Ward, and Wehmeyer (1998) fortified the definition of self-determination as:

“A combination of skills, knowledge, and beliefs that enable a person to engage in goal-directed, self-regulated, autonomous behavior. An understanding of one’s strengths and limitation, together with a belief of oneself as capable and effective are essential to self-determination. When acting on the basis of these skills and attitudes, individuals have a greater ability to take control of their lives and assume the role of successful adults in our society.” (p.2)

Viewed within a social-ecological approach, self-determination is a construct that is multi-faceted which is based in psychological traits and behavioral skill sets (Cobb, Lehmann, Newman-Gochar, Alwell, 2009). Self-determination includes internal characteristics such as self-awareness and a feeling of empowerment, as well as behaviors, such as goal setting and attaining, decision-making, problem-solving, and finding supports that aide in meeting one’s goals (Eisenman & Chamberlin, 2001).

Having its etiology in the normalization and self-advocacy movements of the 1970’s and early 1980’s, the first mention of self-determination in legislation was in the Public Housing Act of 1988. However, it was not until the Rehabilitation Acts of 1992 and 1998 and the Individuals with Disabilities Education Acts of 1990, and 1997 that self-determination became a major component of legislated transition services (Wood, Karoven, Test, Browder, & Algozzine, 2004). The IDEIA reauthorization in 2004 mandated students’ needs, interests, preferences and strengths be taken into account when planning for a student’s transition from school to adulthood. After a decade of developmental and empirical research on self-determination, what its components are, and how it can be taught to students with disabilities, self-determination is now considered a key component of high quality transition services (Field, 2003; Wehmeyer, Bersani & Gagne, 2000). Wehmeyer (2002) found that transition planning allowed students to be taught self-determination skills and the time to practice these skills, including: goal setting,
problem solving, effective communication and listening skills, assertiveness and self-advocacy, and decision-making.

**Impact of self-determination.** Self-determination is important for all people; however many people assume that the presence of an intellectual disability precludes a person from becoming self-determined. The skills leading to improved self-determination, like goal setting, problem solving, and decision making, enable students to assume greater responsibility and control. Research has shown that future outcomes are positively impacted for persons with disabilities when they have the ability and opportunity to shape their own paths (Hadre & Reeve, 2003) and experience an overall higher degree of quality of life (Lachapelle, Wehmeyer, Haelewyck, Courbois, Keith, Schalock, Browder, & Bambara, 2001, Michali, 2014).

As the concepts and components of self-determination have evolved, a number of correlational studies have appeared in the literature that helped build its construct validity. Research by Wehmeyer & Palmer (2003) examined post-graduation outcomes at one and three year increments. They found a strong correlation between high self-determination characteristics in students with disabilities and post-graduation outcomes, such as employment, access to health and other benefits, financial independence, and independent living.

Special education research has shown that students with disabilities who left school more self-determined were more than twice as likely as their peers who were not as self-determined, to be employed one year after graduation and earned significantly more (Wehmeyer, 2002). Three years after graduation, they were more likely to have obtained jobs that provided benefits like health coverage and vacation and were more likely to be living somewhere other than the family home (Wehmeyer & Schwartz, 1997). Ward’s (1988) statement that “while it is important for all people to acquire these traits [self-determination], it is a critical- and often more difficult- goal
for people with disabilities who must first shatter the pervasive stereotypes which imply that they cannot, or perhaps should not, practice self-determination” (p.2). Moreover, when students with disabilities show they can make things happen and take responsibility for planning and decision-making, others change how they view them and what they expect from them (Wehmeyer, 2002). Additional research studies have shown a correlation between self-determination and higher ratings of quality of life and satisfaction with life (Nota, Ferrari, Soresi, & Wehmeyer, 2007).

**Design aspects of self-determination.** The self-determination construct has been viewed primarily in the context of adolescent development and the process of individualization however; the process of becoming a self-determined person begins in early childhood and continues across the lifespan (Doll, et al., 1996). A lifespan approach includes both the developmental stage and the social ecological aspects which depends upon the role of families, friends, and the community environment in supporting and expanding opportunities for people with disabilities to become more self-determined (Heller, Schindler, Palmer, Wehmeyer, Parent, Jenson, Aber, et al., 2011).

Although at this time young children are not emotionally or developmentally capable of acting autonomously, this does not negate the importance of enabling all children, including those with disabilities, to learn and develop the attitudes and abilities needed to become self-determined people. However, a review of child development literature determined that only a few have data-based information on the development of self-determination or have evaluated interventions to promote self-determination in early years (Brotherson, Cook, Erwin, & Weigel, 2008). The data that does exist finds that the support of parents and families for choice-making and other rudimentary abilities related to self-determination is important. Brotherson and colleagues (2008) showed that families of young children with disabilities used engagement,
control and regulation of the home environment, choice and decision-making, and support of self-esteem to increase opportunities for self-determination. There is a substantive and growing amount of literature in the adolescent life stage to conclude that there is sufficient evidence indicating that adolescents with disabilities can become more self-determined, and if they do so, experience more positive adult outcomes (Wehmeyer & Schwartz, 1998), greater independence, and more positive employment outcomes (Wehmeyer & Palmer, 2003).

For adults with intellectual and developmental disabilities, self-determination has been associated with a variety of positive outcomes including enhanced employment outcomes (Fornes, Rocco, & Rosenberg, 2008), improved health, and psychological well being (Johnson & Krueger, 2005), enhanced quality of life (Lachapelle, Wehmeyer, Haelewyyck et al., 2005), and greater independence (Wehmeyer & Palmer, 2003). Research has also shown that these adults place a high value on self-determination (Schalock, Verdugo, Jenaro, Wang, Wehmyer, Xu, et al., 2005). Unfortunately, the reality is that many adults with intellectual and developmental disabilities either live with parents or in supported settings throughout adulthood with rules that restrict choices and staff who may not honor or know their desires.

Issues of self-determination are as important at the end of one’s life as they are at the beginning. Aging is a life-long process and how well one ages in later life depend on events occurring at younger ages (Heller, 2008, Michali, 2014). Historically older adults with intellectual disabilities have had few opportunities to exercise self-determination (Heller, Factor, Sterns, & Sutton, 1996) and often had neither little understanding nor the skills to express their desires. Aging successfully evolves from exercising self-determination to create a successful and productive life with physical, social, and attitudinal environments within the home, community, and society playing a large role in aging well (Heller, et al., 2011). As a person with
disabilities ages these environments change, and it is important to consider aspects of self-determination that provide continued opportunities, with family members playing a large supporting role.

Across the lifespan, people with disabilities face a number of issues that affect both their development and expression of self-determination. At various stages in their lives they may have unique challenges in areas such as abuse and neglect, health and wellness, and employment. A focus on promoting self-determination may be particularly important in those contexts and life stages (Heller, et al., 2011).

Differences exist in the types of interventions that most effectively promote self-determination at different stages. Interventions for youth will be designed differently from those for adults due to life experiences, role expectations, environmental settings, and available supports. Adults with intellectual and developmental disabilities should be treated as adults rather than as children, with activities and settings that are age-appropriate. Interventions to increase self-determination will also change with the age as life goals change.

**Assessment of instructional interventions of self-determination.** Wehmeyer and Abery (2013) stated that there is a need to “develop valid and reliable approaches to actually observe the exercise of self-determination and those actions on the part of others that either facilitate or serve as barriers to it.” Research examining preparation practices to ensure that special educators can implement strategies supportive of self-determination skills in the classroom is lacking. Although much is known about the importance of self-determination, special educators typically fail to apply these practices in the classroom, or to provide opportunities for students to use or develop self-determination skills and behaviors (Thoma et al., 2008).
Bandura’s Social Cognitive Theory of Self-Regulation

The basis to self-determined learning and self-determination theories is the self-regulation theory (Mithaug, 1993; Zimmerman & Pons, 1986). Bandura (1993) discussed his research on self-regulation, stating that in his experiments people initially relied on their past performance to evaluate their regulation and set future goals. Over time, Bandura found that this same group began to show higher performance achievements due to their ability to form a self-schema regarding their regulation through further experience. From this research Bandura concluded that an individual’s perceived self-regulation is influenced by both direct performance and the impact of goal setting and analytic thinking. Therefore, students with disabilities that set personal goals will in turn see an increase in their performance. Zimmerman, Bandura, and Martinez-Pons (1992) agreed that students’ beliefs in their efficacy for self-regulated learning affected their perceived self-efficacy for academic achievement, which in turn influenced the academic goals they set for themselves and their final academic achievement.

Bandura (2006) states that there isn’t a fits-all approach for measuring self-determination and/or self-regulation. In addition, research shows that several conditions co-vary across domains of functioning. For example, higher-order self-regulatory skills partly guide proficient performance. In order to measure the success or failure of instructional interventions aimed at self-determination and all of its components, Bandura (2006) suggests tailoring the object of interest by using scales of perceived self-efficacy. The rating scales seen in Figure 1 (see Appendix A) would be given to the students before instruction and again after. As seen in the example, the measurement is based on the confidence of the student in their own abilities to perform specific tasks related to what they will be and have been taught (Bandura, 2006).
Bandura (1991) wrote that the Social Cognitive Theory of Self-Regulation encompasses the self-efficacy mechanism and is also based on three sub functions, including: self-monitoring, one’s judgment of their own behaviors in relation to their environment and personal standards, and affective self-reaction, one’s ability to re-evaluation his or her goals in conjunction with attainments (Schunk & Zimmerman, 1994). Bandura’s theory is guided by the idea that social factors affect the process of the self-regulative system. In simple terms, the self-regulated learning theory is the ability to control all aspects of one’s learning, from the planning phase to the evaluation phase (Pintrich, 2000; Schunk & Zimmerman, 1994; Winne, 1995; Winne & Perry, 2000; Zimmerman, 2000).

**Developing self-regulatory skills.** An essential part of self-regulation is strategy development. Students learn to encode, represent, and retrieve information to become skilled learners (Zimmerman & Martinez-Pons, 1990; Randi & Corno, 2000). Deci and Ryan (2000) found that one way to teach these strategies is to provide students with choice to facilitate autonomy. More specifically, self-regulatory control affects how individuals adjust to complex patterns of physical, psychological, educational, and social needs. The level of self-regulatory control meets external environments in order to maintain autonomy (Deci & Ryan, 1985).

Teachers need to be very involved in the development of self-regulation skills as well. Research suggests that quality instruction motivates students with intellectual disabilities to learn. Quality instruction is seen through teacher modeling and constant feedback. In addition, students learn to self-regulate through peer observations. Students become self-regulated by seeing other students demonstrate critical learning skills (McInerney, 2000).
Technology to Meet the Needs of Becoming Self-Determined and Self-Regulated

“The field of instructional design and technology encompasses the analysis of learning and performance problems, and the design, development, implementation, evaluation and management of instructional and non-instructional processes and resources intended to improve learning and performance in a variety of settings, particularly educational institutions and the workplace” (Reiser, 2001, p. 53). Andrews and Goodson (1980) suggest that there are at least 60 models of instructional design to help educators design instructional patterns that have proven successful in the past, and all of these models serve four purposes:

- To improve learning and instruction through problem solving and feed characteristics of the systematic approach,
- To improve management of instructional design and development by means of monitoring and control functions of the systematic approach,
- To improve evaluation processes by mean of the sequence of events of the systematic approach, and
- To test or build learning or instructional theory by means of the theory-based design within a model of systematic instructional design.

These models come from industry, education, the military branches, and a variety of other sources. Professionals in the instructional design field many times use systematic instructional design procedures and employ a variety of instructional media to accomplish their goals (Reiser, 2001). Lowe and Schwen (1975) noted that most instructional development is "a systematic process focused on improving the effectiveness and efficiency of learning and instruction in various educational environments" (p. 43). According to Gagne and Briggs (1974), the purpose of the systematic approach is that "it encourages the setting of a design objective,
and it provides a way to know when that objective has been met" (p. 228). Gagne and Briggs observe that the systematic approach is useful in designing lessons and modules as well as instructional systems.

**Mayer’s Cognitive Theory of Multimedia Learning.** Learning theories are designed to describe how people learn; thereby informing educator’s approaches to the development of strategies and assessments to best facilitate learning (Hung, 2001). Although there are several learning theories, one meets the needs and goals of both instructional technology and educational psychology and guides research and implementation of technologies in the classroom, the cognitive theory of multimedia learning. Mayer (2005) states that multimedia instruction involves the use of pictures and words to foster learning. The cognitivist theory has four key concepts:

- Learning is done through the transmission and processing of knowledge and strategies.
- The type of learning is through memorization and application of rules.
- Instructional strategies include planning for cognitive learning strategies.
- Reproduction and elaboration are the key concepts for cognitive development (Hung, 2001).

The cognitive theory of multimedia learning draws from Paivio’s dual coding theory, Baddeley’s model of working memory, Sweller’s cognitive load theory, Wittrock’s generative theory, and Mayer’s SOI model of meaningful learning (Mayer & Moreno, 1998). The theory consists of three cognitive processes with consideration to multimedia learning: selecting, organizing, and integrating. Mayer and Moreno (1998) describe how learners posses both visual and verbal information processing systems. Auditory narration is processed by the verbal system, whereas animation goes through the visual system.
Instructional technology should be used in ways that are grounded in research-based theory of how students learn. Applying new educational technologies to create multimedia-learning environments can be challenging; however, cognitive psychology is integrating instructional technology to foster student learning. Multimedia learning should take place within the learner’s information processing system. The learner selects relevant words and images, organized them into coherent verbal and pictorial representations, and then integrating them with each other and with prior knowledge (Mayer, 2005). Mayer (1997) generated a series of experiments resulting in several principles of how to use multimedia to help students understand a scientific explanation. The five principles that Mayer and Moreno started with in 1998 include:

- **Multiple Representation Principle**, which states that explanations are best presented with more than one mode of representation.

- **Contiguity Principle** explains that the corresponding words and pictures given for a multimedia explanation should be presented at the same time, rather than presenting them at separate times.

- **Split-Attention Principle** describes that when a multimedia explanation takes place it should be heard not written. Animation and visual on-screen text can overload the visual information processing system.

- **Individual Differences Principle** brings attention to the first three principles, stating that the multimedia effect, contiguity effects, and split-attention effects depend on the individual differences of the learner.

- **Coherence Principle** states that very few extraneous words and pictures should be used in a multimedia explanation. By summarizing the information rather than listing it all out in
the presentation the student learns to select relevant information and organize it well (Mayer & Moreno, 1998).

The principles evolved over time and reappeared in detail in *The Cambridge Handbook of Multimedia Learning* (Mayer, 2005). There are three metaphors of multimedia learning: multimedia learning as response strengthening, multimedia learning as information acquisition, and multimedia learning as knowledge construction. These metaphors guide the teachers’ perception of the definition but also the content, the learner, and the goal of the multimedia. It’s imperative that the individual is aware of these metaphors when making decisions about design (Mayer, 2005).

The underlying conception of learning largely influences an individual’s process of making decisions about how to design a multimedia-learning environment. Through the understanding and history of learning theories, instructional technology, educational psychology, and instructional design, research shows a clear link to Mayer’s Cognitive Theory of Multimedia Learning. New technologies are being developed on a regular basis and through the theories’ leading principles these technologies have the potential to make a great difference in schools, if implemented successfully (Mayer, 2005). Although newer to education, social media offers multiple representation, meaning students receive explanations that are presented in more than one mode (audio, video, visual, various organizational tools, etc.). Social media aligns well to Mayer’s Cognitive Theory of Multimedia Learning because it enables a student to select, organize, and integrate information at his or her own pace.

**Handheld and mobile technologies.** With the evolution of mobile devices and their place in the classroom, there are multiple opportunities for students with disabilities. Not only do these devices allow students with disabilities to fit in with their peers, they also provide a number
of built-in assistive technologies. Features that are now commonly being used by students with disabilities include: text-to-speech, easy screen manipulation, and built-in drivers for specialty devices, such as Braillers. The weight and size of these devices also provide students with ID greater opportunities (Gallaway, John & McTaggart, 2015).

**Social networking sites and social media applications.** Social network sites (SNSs) serve various purposes. Examples of social networking are the connections with colleagues on LinkedIn or Google+, which allows individuals to create and maintain personal and business relationships online. Many times people use social networking for shared interests. Participants may use the sites to interact with people they already know offline or to meet new people (Ellison, Steinfeld, & Lampe, 2007). Social networking sites are defined as web-based services that allow individuals to do the following:

- Construct a public or semi-public profile within a system
- Articulate a list of other users with whom they share a connection
- View their list of connections and those made by others within the system. SNSs support both the maintenance of existing social ties and the formation of new connections (Boyd and Ellison, 2007).

Early research on SNSs found that people were using these sites to connect with people they did not know to build online communities, rather than a pre-existing social group. In other words, people were joining groups of friends outside of their pre-existing social group in order to form communities around shared interests, eliminating the issue of location all together (Wellman et al., 1996).

Social media applications are commonly referred to as social networking sites, and the terms are often used interchangeably. For the purpose of this study, social media applications are
the focus; however, the terms share many common themes and for this reason will be used interchangeably (Joosten, 2012). Web 2.0 tools are commonly referred to as social media applications. Graham (2005) states that they are user-centered, and they encourage interaction, collaboration, and democracy. Other examples of Web 2.0 technologies used in education include blogs, wikis, and social bookmarking, all of which have social media applications. Individuals, businesses, and educational institutions are taking advantage of the ease of using this new technology because it’s often free and accessible. Compared to traditional institutional applications, Web 2.0 tools have increased functionality and have a wider reach to accomplish tasks (Joosten, 2012).

**SNSs and post-secondary education benefits.** There has been an increase over the last several years in the research of social cues in the classroom (Campos, Laferriere & Harasim, 2001). Encouraging contact between students and faculty, developing cooperation among students, and encouraging active learning are all examples of positive interactions. In addition, Campos, Laferriere & Harasim (2001) found that frequent student-faculty contact in and out of the classroom is important and influential on student motivation and involvement. There’s also evidence to suggest that students who participate in learning communities have increased engagement (Berge, 1999, Shapiro & Levine, 1999; Zhao & Kuh, 2004).

Technology and education has evolved to allow people to communicate in ways that never seemed possible. At one time face-to-face meetings were the only way to conduct class. There is now the capability to communicate synchronously or asynchronously, and be separated geographically (Joosten, 2012). Mobile devices, such as the smart phone and iPad, play a large role in facilitating the use of SNSs for teaching and learning. Most SNSs have functions that allow students to receive and send text messages or updates through mobile applications (apps).
Researchers report that 90 percent of 18-29-year-olds use their mobile phones to send and receive text messages (Smith, 2010). Joosten (2009) reports high use of text messaging with mobile devices at 88.4 percent, and 70.5 percent said they desire to receive text messaging updates of course information. Researchers have spent the last 50 years studying the differences in the process and outcomes when communicating through a technology-enhanced channel, when they compared face-to-face communication with telephone communication (Sinaiko, 1963). Much of this research is guiding the exploration of the effectiveness of online learning, online pedagogy, and course design (Joosten, 2012).

Shirky (2008) suggests that there are four stages to mastering the connected world: sharing, cooperating, collaboration, and collective action. Sharing is the key to connecting online and it's a fundamental skill of network literacy. People share because they want to connect with others around their passions, not simply to communicate. It leads to connecting, which is the starting place for network building and cooperation. Cooperating in networks is done through the sharing of ideas and resources, but without much accountability, action or follow-through on the ideas. As one shares and connects with other educational leaders, you begin to build a collective identity and efficacy. Collaboration requires the best efforts of those involved to build something together. Collaboration within a community can lead to outcomes that affect society for the greater good and result in projects or efforts that display the wisdom of crowds at its best. Collaboration within a school allows educators to approach goals as connected learners who are reliant on the skills and knowledge of each other as a means for meeting the needs of today's students. And lastly, collective action in a community may result in positive global change. SNSs offer educators the tools to connect in ways that can change society for the better. For instance, students and teachers become co-learners in the creation of projects that align with curricular
goals, and can create an awareness of social justice issues and how to solve these problems in our society (Nussbaum-Beach, 2012). Joosten (2012) states three reasons as to why educators should use SNSs in their teachings. First, it has the potential to enhance learning and meet pedagogical needs because of media characteristics and functionality. Secondly, many instructors and students are already using SNSs in their personal and professional lives, and therefore are familiar with them. And, lastly, the ‘social’ in SNS can help facilitate the creation and sharing of information, and also it has the potential to enhance dialogue and collaboration.

Instructors that have implemented SNSs have reported many benefits, noting its ability to increase interactions between instructors and students. Students reported that social media facilitated better communication between the instructor and students (74 percent), made interacting with the instructor more effective (64 percent), and increased the frequency of student participation in the course (43 percent) (Joosten, 2012). In order to develop a richer learning experience, many instructors are using SNSs as a means to meet certain learning outcomes, build 21st century literacy skills, make the most of students’ diverse abilities, and provide learning opportunities to meet students’ way of learning. Faculty and students can use SNSs to gather resources, such as videos, images, playlists, bookmarks, and news items to enhance the course. Traditional classroom materials, such as textbooks, can become outdated quickly and are costly. SNSs can provide students access to current content. Because the content exists, educators can spend more time building active and collaborative learning strategies and less time developing and delivery content, such as lectures. YouTube, a video-sharing site, has put forth the effort to meet the educational needs of instructors and students with websites such as www.youtube.com/education and www.youtube.com/teachers. Since there are an abundance of already created educational videos, the instructor can easily share these videos with students
(Joosten, 2012). Moore (2011) reports that 71 percent of online Americans use video-sharing sites, such as YouTube. More than 30 years ago Vygotsky (1978) stated that learning is social. Today, learning is still social and SNSs can support activities that allow students to take ownership of their learning, reflect on the knowledge they are acquiring, and interact with their peers (Joosten, 2012).

**SNSs and education challenges.** Mobility and access to education is now occurring at a speed that was difficult to predict just a few years ago. The increased use of smart phones and similar devices has created new possibilities for providing learning and the development of ‘education on the go’ that offers just-in-time learning moments in synchronous mode. However, this can sometimes backfire, as some people do not believe that ‘learning on the go’ can provide deep learning. With the move from teacher-centered to learner-centered environments there is urgency for teachers to redesign instruction to retain intellectual depth in a new, technological, mobile environment. While mobile technologies provide convenient access there are some barriers that can hinder learning and the experience (Rajasingham, 2011). There are technical aspects that can impede the learning process with SNSs and mobile phones, such as battery life, and those students who cannot afford a smart phone or other mobile device (Sharples, 2010). Also, placing the full course on what is a small screen is neither convenient nor pedagogically sound. Wagner (2005) states that “…complicated key controls and difficult to read screen presentations will be tolerated only under certain very limited conditions. …For broad and long-term adoption, the experience really does matter.”

There are other issues to consider such as online behavior, information privacy, student identities, and cost. Since many SNSs are not institutional systems, instructors may be hesitant to use them in the classroom. Many of these tools are free, however there can be costs associated
with SNSs implementation on campus. These costs may not be of the financial nature, but rather they can come in forms of time, human resources, infrastructure, and faculty support. With the increase use of mobile devices on campus, there is an increased demand on the wireless networks and power infrastructure of the campus. Also, for student and faculty projects involving the use of large file sizes, such as videos, pictures and audio, the costs of the university can increase. When creating original content people possibly will need access to special hardware and software, and campuses may need to purchase these tools. Therefore, it’s important to have administration buy-in when starting to adopt these tools for learning. Administration needs to ensure that policies are in place that not necessarily focus on the technology being used at the time, but instead focus on addressing the behaviors and activities they want to deter, such as cyber bulling (Joosten, 2012).

Kaleta, Skibba, & Joosten (2007) found that lack of time to redesign courses and the technology and financial rewards or stipends are some barriers educators state when considering to implement emerging technologies into the classroom. For the most part, SNSs have a low learning curve and the time and skill for training and support is minimal, however it is still required. There is a need for campus showcases or demonstrations to help illustrate these models and best practices in using SNSs for teaching and learning (Joosten, 2012).

Despite the challenges schools face in implementing social media into education, there are enough benefits that outweigh them and allow students to thrive in an online social environment. Joosten (2012) states that to successfully implement social media into teaching and learning in post-secondary education one must develop training with a pedagogical approach, provide research to support the training, provide examples, provide one-on-one support, and evaluate and document the impact the social media has on the classroom.
**Future trends.** Parker and Banerjee (2007) found that students in post-secondary education could encounter barriers if they don’t develop self-regulated, strategic approaches to using technology. In addition, many colleges and universities require students to be technologically competent. In order for students with disabilities to be successful in a post-secondary education program they need to be prepared for mainstream technologies in their transition planning and beyond.

There is little to no research about future trends with SNSs and education, and even less for this technology in relation to students with ID & DD. Partly, because we don’t know what will be the next Facebook or Twitter. We don’t know what the future holds, however we do know that technology is changing at a rapid pace. And, we do know that training and support of new technologies on campus is imperative. Therefore, universities and colleges should prepare by having hands-on training opportunities for its faculty to learn how to use new technologies and implement into their teachings. In addition, workshops, documentation, videos, and pedagogical models with proven benefits can be provided to help students with ID & DD to continue setting up and maintaining their social media accounts independently. Also, a system that provides continued technical support to answer questions that arise throughout the semester or student support issues also should be in place (Joosten, 2012).

**Summary**

Students’ needs, interest, and readiness are the root of instructional objectives. This idea alone creates a pattern. First, the teacher selects the suitable teaching methods to be used and in turn the appropriate learning experiences and materials, equipment and facilities are selected. The effective use of learning resources is dependent on the expertise of the teacher, the motivation level, responsiveness, and the involvement of the students in the learning
process. Keeping the instructional objective in mind, the teaching method, learning activities, and learning materials assist with the implementation of the planned instruction.

An area with many gaps is the legislation related to students with disabilities and their technology needs. The Individuals with Disabilities Education Improvement Act (IDEIA) states that children with disabilities will receive the services they need and it governs state and public agencies. The agencies provide services such as early intervention, special education, and related services; however, these services are limited to youth and don’t pertain to the population of interest (Building the Legacy: IDEIA, 2004).

The American Disability Act (ADA, 2010) provides clear laws for communication services, including: signs, telephones, two-way communication systems, and assistive listening systems. However, with the growing number of technologies in schools there needs to be more accommodations for students with disabilities in an online environment. The Rehabilitation Act of 1973, section 508, states technical standards but these are outdated (last amended in 2001). Social networking would create many opportunities for students with ID and DD, but unfortunately there aren’t currently any ties to this application and legislation.

The literature on the cognitive theory of multimedia learning is the best guide for educators in relation to educational psychology and instructional technology. The main principles of multimedia design, as defined by Mayer and Moreno (1998), were formed through focused research. The research was driven by starting with a theory of how learners process multimedia information, which resulted in a successful learner-centered approach to educational psychology and instructional technology. Although the principles require further testing, they’ve already contributed a great deal to the field. Instructional technologies engage students with disabilities in many ways, and there are many avenues yet to be explored. Technology is being
used in the classroom at a growing rate, and students with and without disabilities are in favor of real-time technologies (Shaw, Madaus, & Dukes, 2010).

Due to absence of professional standards in facilitating transition, the study will investigate how incorporating social media strategies in Schlossberg’s Transition Theory and Deci and Ryan’s Theory of Multimedia Learning will assist in increasing self-regulation skills to improve students’ transitions into post-secondary education.
CHAPTER III

METHODOLOGY

Through a thorough and comprehensive review of the literature, there was a distinct void in the use of social media applications as self-regulation strategies for traditionally aged, first-year students with intellectual disabilities (ID) during their transition to higher education. The goal for this research was not only to contribute to scholarly literature but also to provide an opportunity for students with intellectual disabilities to increase their self-regulation during their transition from high school to higher education through the use of a social media application (app).

The purpose of this quantitative, repeated measures study was to provide traditionally-aged, first-year students with disabilities the opportunity to use a tool they can become proficient with to manage their social and educational independence. The study measured differences in pre- and posttest scores at four different points when a social media app was applied as a tool to encourage and facilitate students’ self-regulation. It is essential for traditionally aged, first-year students with disabilities to have strong self-regulation skills in order to be successful in their transition from high school to higher education (Shaw, Madaus, and Dukes, 2010).

The chapter includes details about the methodology of the study, including: the purpose, research questions, research design, identification of the independent and dependent variables, participants and setting, intervention, and materials. In addition, validity of the study and procedures for data analysis were included based on the explanation of the independent and dependent variables, and a description of how results of the intervention were measured across
and between the experimental group. The research question that guided the current study was: Does the use of a social media application improve self-regulation skills for students with intellectual disabilities enrolled in a post-secondary education program? Secondary goals and research questions for this study included the following: Does the use of the myHomework app improve the scheduling of social activities for students with ID in a post-secondary education program? Does the use of the myHomework app improve the scheduling of course assignments for students with ID in a post-secondary education program? Is there a relationship between students’ level of self-regulation and their perceptions of future use of the social media app myHomework?

**Research Design**

The main purpose of the study was to measure differences in students’ self-regulation when the myHomework social media application is incorporated into their social and educational experiences. To assess the effects of the intervention, the researcher used a form (Appendix A) that the students were already familiar with completing. The form was designed as self-report based on student participation. For the purpose of this study, the format of the self-report included basic multiple-choice questions that each had correlating points, depending on the student’s level of participation using the app. It also allowed for students to leave open-ended responses to particular questions. Students continued using the forms created for their other classes. At the start of the study students began completing an additional form (the self-regulation participation form) during their Academic Support Lab. Students were given the participation form that was adapted to measure self-regulation at four different points throughout the study.
The student-reported participation form measured two broad self-regulation components, capacity, and opportunity. Capacity refers to the student's knowledge, abilities, and perceptions that enable them to be self-determined. Opportunity refers to the student's chances to use their knowledge and abilities. The participation form captured these components through two headings: self-regulation and preparation and self-regulation and performance, in addition to the open-ended questions.

The researcher used a repeated measures design with a same subjects group, pretest and posttest at four different points over a four-week period. A repeated measures design was chosen for several reasons, including:

1. Allowed the researcher to exclude the effects of individual differences that could occur if two different people were used instead.
2. Reduced error variance due to the individual differences, resulting in more sensitivity/power for the treatment main effect.
3. More economical and efficient since each subject is their own control and fewer subjects are required in comparison to independent groups.
4. Ability to track an effect over time.

The selection of study participants was non-random, and was a convenience group with observations before, during, and after the treatment. A convenience sample is a statistical method of drawing representative data by selecting people because of the ease of their volunteering or selecting units because of their availability or easy access. The advantages of this type of sampling are the availability and the quickness with which data can be gathered. In the state of Ohio there are only five post-secondary programs in a university setting for students with intellectual disabilities. Of those five institutes of higher learning, only one provides a
technology course in which this research can be conducted. Hence, the convenience sample will be comprised of participants from this course.

Having an existing technology course required for these particular participants was both convenient and a good starting point for the type of research being conducted. The inclusion of a technology course strengthened the study by eliminating the stress of learning both course content and technology. Participants were taught the uses of the social media application and how they would apply it to their courses and everyday lives. The other four institutes with post-secondary programs for students with disabilities may incorporate a technology course into their programs as a result of this research.

**Setting**

The study was conducted in a four-week fall semester Technology Workshop course offered as a requirement of a program at a large mid-Western public university. The only data used were of those who signed consent forms (Appendix B and Appendix C) that were provided by the Institutional Review Board (IRB) to participate in this study. Students were in a computer lab setting, in case they forgot or did not have access to their smart phone or tablet.

**Participants**

One group of nine participants was included in this study. The program participants attended a college-based, transition, non-degree program to prepare students with intellectual and developmental disabilities (ages 18-26) for adult life through academic pursuits, peer socialization, and career discovery and preparation. The program integrates inclusive classes, a typical college experience, and a transition curriculum to assist students in achieving adult roles and a quality of life in a community of their choice. Students in the program must maintain a 2.5
grade point average in order to remain in good academic standing. The participants’ genders, ages, hometown, and living status are all displayed in Table 1.

Table 1

*Demographics of Participants*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Gender</th>
<th>Age</th>
<th>Local/Out-of-State</th>
<th>Living On/Off Campus</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>M</td>
<td>19</td>
<td>Local</td>
<td>On-campus</td>
</tr>
<tr>
<td>2</td>
<td>M</td>
<td>19</td>
<td>Local</td>
<td>On-campus</td>
</tr>
<tr>
<td>3</td>
<td>M</td>
<td>19</td>
<td>Local</td>
<td>On-campus</td>
</tr>
<tr>
<td>4</td>
<td>M</td>
<td>20</td>
<td>Local</td>
<td>Off-campus</td>
</tr>
<tr>
<td>5</td>
<td>F</td>
<td>19</td>
<td>Local</td>
<td>On-campus</td>
</tr>
<tr>
<td>6</td>
<td>F</td>
<td>19</td>
<td>Local</td>
<td>Off-campus</td>
</tr>
<tr>
<td>7</td>
<td>F</td>
<td>19</td>
<td>Local</td>
<td>On-campus</td>
</tr>
<tr>
<td>8</td>
<td>F</td>
<td>19</td>
<td>Local</td>
<td>Off-campus</td>
</tr>
<tr>
<td>9</td>
<td>F</td>
<td>21</td>
<td>Local</td>
<td>On-campus</td>
</tr>
</tbody>
</table>

The first year of the program was designed as a foundation with courses covering disability issues, personal development, health and wellness, and literacies. Year two allows students to extend their knowledge and skills in participating in college-level courses and other campus environments. The last two years focus on career-field specialization with courses in independent living, life-long learning competencies, and career development and employment, as well as internships in the community where students apply their learning in jobs of choice.

The program is limited to 9-12 students each fall. Students participating in the program have been identified as having intellectual and developmental disabilities (IDD), Traumatic Brain Injuries (TBI), and Autism Spectrum Disorders (ASD) that typically affect some intellectual functioning and adaptive behavior. Requirements for admission into the program included completing an application, reference letters and an in-person interview with the program’s admission review committee.
Variables

The independent variable was the social media application as an intervention to measure the changes in pre-and posttest scores of self-regulation. The dependent variable was students’ levels of self-regulation. There were necessary equipment needed in order for the study to run smoothly.

Equipment.

The materials included in the independent variable were smart phones (or any other device with Internet access), the myHomework application, myHomework information sheet, and an operational definition of self-regulation. Pre-and posttest scores for this independent variable were analyzed at four separate points to determine if participants showed an increase in self-regulation skills.

Independent variable. Students in the CCS program are required to have a smart device (phone, computer, or tablet) as a means to stay organized and to encourage independence. Independence is defined as the ability to direct your own life. Fixing your car yourself or knowing who to call for help are both examples of independence. Unfortunately, as discussed in chapter 2, majority of students with intellectual disabilities don’t know how to use these devices in a beneficial way and are often not given the opportunity to do so. Social media, specifically the myHomework application (app), was used to provide the students with an opportunity to practice and develop self-regulation skills. Due to the lack of research on social media applications in education, specifically for students with disabilities, the app was selected based on online reviews for the top educational and/or organizational apps found on iTunes. In addition, Cheryl Temple (2013) identified benefits to using the app, myHomework, which was selected based on the following criteria:
5. Leading cross-platform student planner

6. Positive online reviews of students with ID using this app
   1. Students can add homework, tests, projects, lessons or goals and benchmarks
   2. Able to scheduling tasks, include attachments, receive and send announcements, and work offline.

Regular usage of myHomework can promote better organization, accountability, and self-discipline resulting in improved academic performance (Temple, 2013). Students were provided with a one-page information sheet (Appendix D) about myHomework at the time of the consent process to ensure they fully understood the requirements of the study.

![myHomework student interface](https://myhomeworkapp.com/)

*Figure 3. myHomework student interface [Screen capture]. Retrieved from [https://myhomeworkapp.com/](https://myhomeworkapp.com/), November, 2015.*
Dependent variable. Self-determination is defined as one’s abilities to control their own life. There are several components that all relate to each other to form self-determination. While the dependent variable of this study is self-regulation, this variable is one of the components that comprise self-determination. As a result, this warranted an operational definition for each of the nine components of self-determination, as they all relate to each other. These components included: problem solving; choice making; decision-making; goal setting and attainment; self-regulation; self-advocacy; self-awareness; and self-efficacy. In addition, each skill has multiple steps that identify the degree to which a person is utilizing that skill. These definitions were created from the literature of Wehmeyer and Schwartz (1998) that defined each component of self-determination (see Table 2 for details).
Table 2. Operational Definition of Self-Regulation

<table>
<thead>
<tr>
<th>Self-Regulation</th>
<th>Self-Regulation Operationally Defined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-regulation refers to the human response system that enables individuals to examine their environments and their repertoires of responses, and to revise their strategies as necessary. Teaching self-regulation skills includes teaching students to solve problems or employ self-management strategies (e.g., anger control).</td>
<td>Participants were to add all course assignments and social activities when they originated into the myHomework social media app. In order to measure self-regulation, the researcher gave the students a self-reported participation sheet once a week in their technology workshop. Depending on the response given by the participant, they were given a score. The scale was coded as follows: 3-“On my own”; 2-“When I saw someone else doing it”; 1-“When someone told me to”; 0-“I did not.”</td>
</tr>
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</table>

**Intervention**

The experimental treatment consisted of the subjects attending one 60-minute instructional session during the first day of the study. The 60-minute session included a hands-on demonstration of the myHomework application. The session was performed by the researcher on an iPad displayed on the large screen in the classroom. The session (see Appendix E for training schedule outline) began with getting the myHomework application, a free app available on iTunes, on all of the students’ devices. Next, the students watched as the researcher showed them how to navigate the application. Once the students had a good understanding of how the application worked, they were presented with how to add their class requirements, schedules, and social activities into the application.

Following the 60-minute training session, the researcher was available every Monday for approximately 5-7 minutes during the technology workshop to discuss any challenges or questions they had about the myHomework social media application. The study length spanned over a four-week period. Over the course of this period students: (a) learned how to use the app; (b) learned how to apply the app to their education and social environment (lunch dates, exercise,
etc.) in order to practice and develop self-regulation skills; (c) learned how to use the app independently, demonstrating self-regulation. With regard to self-regulation, the students were only taught these skills once, during the initial training. Their instructor of the technology course, independent from the current study, taught other content.

**Procedure**

Once the participants were taught the application they were asked to add course requirements and social activities to the application during their classes. Participants were only required to add course requirements for their Technology Workshop that takes place for an hour on Monday mornings; however, they were encouraged to use the app in their other courses as well. The researcher had access to the information being inputted in the app by the participants, in order to compare how the student self-reports to their actual actions within the app. The researcher was the only individual with access to this data within the myHomework app. Participants completed the self-report form during their Academic Support Lab (ASL) hours on Thursday mornings. The instrument, the self-reported participation form, was given to students once a week in ASL, with a total of four sets of data.

Throughout the four-week period participants utilized the myHomework app in several ways, including: adding assignments, tests, quizzes, and social activities to their calendar. Participants used the app on a regular basis to monitor their homework and other important course-related and/or time-sensitive tasks.

**Data Analysis**

Data was collected on four separate occasions over the four-week period and then entered in the Statistical Package for the Social Sciences (SPSS) for Windows. SPSS is a comprehensive statistical analysis program that is widely used by behavioral researchers. The program can
calculate virtually any univariate or multivariate statistic and can also create charts and tables for presentation of data (Stangor, 2004). Once the data were entered into SPSS, it was be analyzed in multiple ways.

**Triangulation**

Triangulation is the combining of methods in order to strengthen a study (Patton, 2002). It also provides a verification or extension of information from other sources (Hatch, 2002).

There are four types of triangulation: (1) data triangulation, (2) investigator triangulation, (3) theory triangulation, and (4) methodological triangulation (Patton, 2002). My study will employ data triangulation by using a variety of data sources to which Creswell (2014) agrees will help to build a case for the themes extracted from the data. Creswell (2014) also argues, “If themes are established based on converging several sources of data or perspectives from participants, then this process can be claimed as adding to the validity of the study” (p. 201).

**Dependability**

Dependability refers to the reliability of the data in similar conditions through reporting, in detail, to allow for replication (Cope, 2014; Shenton, 2004). Merriam (2002) further explains, “rather than insisting that others gent the same results as the original researcher, reliability lies in others’ concurring that given the data collected, the results make sense—they are consistent and dependable” (p. 27). In order to demonstrate dependability, the researcher employed Shenton’s (2004) recommendations by:

a) Describing the research design and its implementation by explaining what is planned for the study and what will be executed on a strategic level;

b) Addressing the operational detail of data gathering;

c) Evaluating the effectiveness of the process of inquiry.
Internal and External Limitations

The limitation of this study was, essentially, the design used: repeated measures. Historically, repeated measures design induced threats to internal validity, the researchers ability to draw correct inferences from the data about the population in an experiment. These internal threats include: history, maturation, regression, selection, mortality, diffusion of treatment, compensatory/resentful demoralization, compensatory rivalry, testing, and instrumentation. The most common external threats to validity include: interaction of selection of treatment, interaction of setting and treatment, and the interaction of history and treatment (Creswell 2014). Tables 3 and 4 indicate the potential threats to the study and the measures taken by the researcher to respond to each threat.

Table 3

<table>
<thead>
<tr>
<th>Threats to Internal Validity</th>
<th>Researcher Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>History – time passed and events occur that influence the outcome of the experiment.</td>
<td>The participants of the study were in a single-group and experienced the same external events.</td>
</tr>
<tr>
<td>Maturation – participants mature over time influencing the results.</td>
<td>The participants of the study all had intellectual disabilities and mature at a similar rate.</td>
</tr>
<tr>
<td>Testing – participants remember the measure and responses for later testing. Instrumentation – changes to the instrument occur between pre- and post-testing impacting outcome scores.</td>
<td>A longer length of time was given between admirations of the measure. The researcher used the same instrument for the repeated measures.</td>
</tr>
</tbody>
</table>

### Table 4

**Threats to External Validity**

<table>
<thead>
<tr>
<th>Threats to External Validity</th>
<th>Researcher Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interaction of selection and treatment – narrow characteristics of participants means the researcher can’t generalize to individuals without the characteristics of the participants.</td>
<td>The researcher acknowledges that the results are specific to transition-aged students with intellectual disabilities. In addition, the researcher recommends future research of the findings in relation to groups with different characteristics.</td>
</tr>
<tr>
<td>Interaction of setting and treatment – the settings of participants means the researcher can’t generalize to individuals without the characteristics of the participants.</td>
<td>The researcher recommends future studies in different settings to see if the same results occur.</td>
</tr>
<tr>
<td>Interaction of history and treatment – results of an experiment are time-bound, which means the researcher can’t generalize to individuals without the characteristics of the participants</td>
<td>The researcher recommends future research to replicate the study at later times in order to determine if results stay the same over time.</td>
</tr>
</tbody>
</table>


### Summary

Despite the possible threat to both internal and external validity, a repeated measures design was the most effective method for this study. Wiersma and Jurs (2009) found that variables, mainly educational, could present challenges to estimating the exact duration necessary to enable the variable to take effect. Variables manifest at different times and when the duration was unknown based on the uniqueness of the study additional observations were necessary. The repeated measures design provided the necessary time for the social media to take it’s effect on the students’ self-regulation.
CHAPTER IV

ANALYSIS OF THE FINDINGS

The results of the statistical analyses are presented in this chapter. The analyses are organized by the research questions presented in chapter one. There is one primary research question and three secondary questions addressed in this quasi-experimental research study. As discussed previously, the preparation and performance thrusts of self-regulation were examined in the survey using a four-point scale. For the following analyses, the scale was coded as follows: 3-“On my own”; 2-“When I saw someone else doing it”; 1-“When someone told me to”; 0-“I did not.” In addition, participants answered open-ended questions on what they liked about using the myHomework app, what they disliked about using the myHomework app, and reasons for why they would or would not continue using the app in the future.

Research Question One

Does the use of a social media application improve self-regulation skills for students with intellectual disabilities enrolled in a post-secondary education program?

To evaluate participants’ self-regulation over time, both descriptive statistics and aggregated plots are reported to show any changes in the participant’s self-regulation over a four-week period. Three plots were created for each of the nine participants, in order to represent individual change in self-regulation over the course of the study. The plots represent change in three specific areas: course assignments, social activities, and overall. In addition, three aggregated plots were created to represent self-regulation at the group level. The following analyses of plots are a visual representation of participant usage. The ratings for the amount of
usage of the app ranges from 3 (very), 2 (moderate), 1 (minimal), and 0 (not at all). The plots were first calculated for each participant and then combined into one aggregate plot. The individual plots are included; however, the analyses are based on the aggregated plots. The aggregated plot shows the participants overall self-regulation and their self-regulation of course assignments and social activities as an average. The results of the individual participant visual analyses of the plots are labeled by numbering the participants 1-9 (P1, P2, P3, etc.). Individual participant plots are presented in Figures 5, 6, 7, 8, 9, 10, 11, 12, and 13. The results of the aggregated plots for course assignments, social activities, and overall self-regulation are presented in Figures 14, 15, and 16.
Figure 5. Visual representation of participant 1 (P1) usage of the myHomework app
Figure 6. Visual representation of participant 2 (P2) usage of the myHomework app
Figure 7. Visual representation of participant 3 (P3) usage of the myHomework app
Figure 8. Visual representation of participant 4 (P4) usage of the myHomework app.
Figure 9. Visual representation of participant 5 (P5) usage of the myHomework app
Figure 10. Visual representation of participant 6 (P6) usage of the myHomework app
Figure 11. Visual representation of participant 7 (P7) usage of the myHomework app
Figure 12. Visual representation of participant 8 (P8) usage of the myHomework app
Figure 13. Visual representation of participant 9 (P9) usage of the myHomework app
Figure 14. Visual analysis of aggregated plots to see changes over time in average rating of using MyHomework Application to self-regulate course assignments, social activities, and overall. Mean scores are shown to the left for each week and then plotted over a 4-week period.

The aggregated representation of the usage of the myHomework app for course assignments displayed that most students added to their app when they saw someone else doing
it. The same stood true for social activities; however, there was a slight difference in the mean score of social activities (M = 1.67) compared to course assignments (M = 1.17) during week 4. Through the examination of the aggregated plots of overall self-regulation, many of the participants self-reported that they started out using the myHomework app either on their own or when they saw someone else doing it (M = 2.36). After the first week, however, the majority of participants struggled to continue using the app unless someone told them to (week 4, M = 1.47).

The scale was coded as follows: 3-“On my own”; 2-“When I saw someone else doing it”; 1-“When someone told me to”; 0-“I did not.” The ratings for the amount of usage of the app ranged from 3 (very), 2 (moderate), 1 (minimal), and 0 (not at all). Based on the visual analysis of the aggregated plots, the social media application, myHomework, had a minimal impact on self-regulation skills for students with intellectual disabilities enrolled in a post-secondary education program.

**Research Question Two**

Does the use of the myHomework app improve the scheduling of social activities for students with intellectual disabilities in a post-secondary education program?

To evaluate participants’ level of self-regulation of social activities, two questions were asked. The participants reported on their level of involvement in social activities by answering, “I checked myHomework app for social activities.” The possible responses to this question included:

- (3 points) On my own to make sure my social activities were all there.
- (2 points) When I saw someone else to make sure my social activities were all there.
- (1 point) When someone told me to check myHomework app to make sure my social activities were all there.
• (0 points) I did not check myHomework app to make sure my social activities were all there.

The other question was, “to better manage my social activities, I add each of the social activities in myHomework app on the day the activity was made.” The possible responses to this question included:

• (3 points) On my own I added my social activities to the app.
• (2 points) When I saw someone else was adding his/her social activities to the app.
• (1 points) Someone had to tell me to add my social activities to the app.
• (0 points) I did not add my social activities to the app.
• (N/A) I did not have any social activities to add to the app.

Next, the responses were coded by the researcher, based on a scale of 3 (very), 2 (moderate), 1 (minimal), or 0 (not at all), depending how the participant self-reported their participation in regard to using the myHomework app to manage social activities.

Before the analysis was run, ratings from the two questions were totaled for each participant to generate a “social activities” self-regulation index at each of the four time points. Next, two separate repeated measures ANOVA were conducted on each of the two social activity questions. Descriptive statistics are displayed in Table 5 and the results are presented in Table 6.
Table 5

Descriptive statistics for questions about social activities (n=9)

<table>
<thead>
<tr>
<th>Pretest</th>
<th>Question</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I checked myHomework for social activities:</td>
<td>2.11</td>
<td>1.17</td>
</tr>
<tr>
<td></td>
<td>To better manage my social activities, I add each of the social activities in myHomework app on the day the activity is made:</td>
<td>2.67</td>
<td>0.52</td>
</tr>
<tr>
<td>Posttest</td>
<td>I checked myHomework for social activities:</td>
<td>1.67</td>
<td>1.58</td>
</tr>
<tr>
<td></td>
<td>To better manage my social activities, I add each of the social activities in myHomework app on the day the activity is made:</td>
<td>2.00</td>
<td>1.55</td>
</tr>
</tbody>
</table>
Table 6

*Results of Repeated Measures ANOVA on Social Activities (n=9)*

<table>
<thead>
<tr>
<th>Question</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
<th>g</th>
</tr>
</thead>
<tbody>
<tr>
<td>I checked myHomework for social activities:</td>
<td>3</td>
<td>.70</td>
<td>.41</td>
<td>.75</td>
<td>.16</td>
</tr>
<tr>
<td>To better manage my social activities, I add each of the social activities in myHomework app on the day the activity is made:</td>
<td>3</td>
<td>.71</td>
<td>.42</td>
<td>.75</td>
<td>.08</td>
</tr>
</tbody>
</table>

* p < .05. ** p < .01.

The repeated measures ANOVA found that there was no statistical significance (*p* = .75 for both questions regarding social activities). Indicating that the participants’ self-regulation did not change over the 4 weeks in regards to social activities. Results are presented in Table 6.

**Research Question Three**

Does the use of myHomework app improve the scheduling of course assignments for students with intellectual disabilities in a post-secondary education program? To evaluate participants’ level of self-regulation of course assignments, two questions were provided. The participants reported on their level of involvement in adding course assignments in myHomework app by answering, “I checked myHomework app for course assignments.” The possible responses to this question included:
• (3 points) On my own to make sure my course assignments were all there.

• (2 points) When I saw someone else doing it to make sure my course assignments were all there.

• (1 points) When someone told me to check myHomework app to make sure my course assignments were all there.

• (0 points) I did not check myHomework app to make sure my course assignments were all there.

The other self-reported question was, “to better manage my course assignments, I add all of my assignments in myHomework app on the day it is assigned.” The possible responses to this question included:

• (3 points) On my own I added my course assignments to the app.

• (2 points) When I saw someone else was adding his/her course assignments to the app.

• (1 points) Someone had to tell me to add my course assignments to the app.

• (0 points) I did not add my course assignments to the app.

• (N/A) I did not have any course assignments to add to the app.

Next, the responses were coded by the researcher, based on a scale of 3 (very), 2 (moderate), 1 (minimal), or 0 (not at all), depending how the participant self-reported their participation in regard to using the myHomework app to manage social activities. Before the analysis was run, ratings from the two questions were totaled for each participant to generate a “course assignments” self-regulation index at each of the four time points. Next, two separate repeated measures ANOVA were conducted on each of the two course assignment questions. Descriptive statistics are displayed in Table 7 and the results are presented in Table 8.
Table 7

*Descriptive statistics for questions about course assignments (n=9)*

<table>
<thead>
<tr>
<th></th>
<th>Question</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pretest</strong></td>
<td>I checked myHomework app for course assignments:</td>
<td>2.33</td>
<td>1.12</td>
</tr>
<tr>
<td></td>
<td>To better manage my course assignments, I add each of the course assignments in myHomework app on the day the activity is made:</td>
<td>2.75</td>
<td>.50</td>
</tr>
<tr>
<td><strong>Posttest</strong></td>
<td>I checked myHomework app for course assignments:</td>
<td>1.00</td>
<td>1.50</td>
</tr>
<tr>
<td></td>
<td>To better manage my course assignments, I add each of the course assignments in myHomework app on the day the activity is made:</td>
<td>2.25</td>
<td>1.50</td>
</tr>
</tbody>
</table>
Table 8

*Results of Repeated Measures ANOVA on Course Assignments (n=9)*

<table>
<thead>
<tr>
<th>Question</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P</th>
<th>g</th>
</tr>
</thead>
<tbody>
<tr>
<td>I checked myHomework for course assignments:</td>
<td>3</td>
<td>2.78</td>
<td>1.64</td>
<td>.21</td>
<td>.17</td>
</tr>
<tr>
<td>To better manage my course assignments, I add all of my assignments in myHomework app on the day it is assigned:</td>
<td>3</td>
<td>.25</td>
<td>.18</td>
<td>.91</td>
<td>.06</td>
</tr>
</tbody>
</table>

* p < .05.  ** p < .01.

The repeated measures ANOVA found that there was no statistical significance ($p=.21$ and $p=.91$) for both questions regarding course assignments. Indicating that the participants’ self-regulation did not change over the 4 weeks in regards to course assignments. Results are presented in Table 8.

**Research Question Four**

Is there a relation between students’ level of self-regulation and their perceptions of future use of the social media app myHomework?

Each self-regulation question was correlated with the question, “Will you continue to use the myHomework app to help you throughout the rest of college and beyond?” This was done in order to determine the strength of the relation between participants’ level of self-regulation and their perception of future use of the myHomework app. This question was asked because the participants, students with intellectual disabilities, have trouble generalizing skills. The question
measures their capacity, will the participants recognize that they could and should use the myHomework app in other classes and in the future. A strong relationship would indicate that the participant had a high capacity. A Pearson Correlation was used to analyze the results. Correlation is used to measure strength and direction of the relationship between two continuous variables. The results of this indicated that even though there was statistical significance found in the earlier weeks (as late as week 3 at 1.00**), there was no significance during the final week of the study. Therefore, there is not a relation between students’ level of self-regulation and their perception of future use of the social media app myHomework. Results are presented in Table 9. It’s important to note that participants were not required to answer every question on the survey each week, and as a result, the correlation analyses could only be performed where valid responses were provided for both questions. A pairwise deletion was used so that the questions that didn’t have a valid response were not included in the analysis. Respective sample sizes are presented in parentheses below the Pearson correlation coefficient.
Table 9

*Pearson Correlation of Self-Regulation and Future Use of myHomework App (n=9)*

<table>
<thead>
<tr>
<th>Question</th>
<th>Week 1</th>
<th>Week 2</th>
<th>Week 3</th>
<th>Week 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>I checked myHomework app for course assignments</td>
<td>.42</td>
<td>.28</td>
<td>.75</td>
<td>.10</td>
</tr>
<tr>
<td>(n=9)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I checked myHomework app for social activities</td>
<td>.05</td>
<td>.91**</td>
<td>.75</td>
<td>-.18</td>
</tr>
<tr>
<td>(n=9)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To better manage my course assignments, I add all of my assignments in</td>
<td>.95**</td>
<td>.78*</td>
<td>1.00**</td>
<td>.61</td>
</tr>
<tr>
<td>myHomework app on the day it is assigned</td>
<td>(n=8)</td>
<td>(n=8)</td>
<td>(n=6)</td>
<td>(n=6)</td>
</tr>
<tr>
<td>To better manage my social activities, I add each of the social activities in myHomework app on the day the activity was made</td>
<td>.91**</td>
<td>1.00**</td>
<td>.61</td>
<td>-.28</td>
</tr>
<tr>
<td>(n=9)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < .05. ** p < .01.

There was a positive correlation of the question “I checked myHomework app for social activities,” p < 0.00, during week 2. Strong significance was also found for the question “To better manage my social activities, I add each of the social activities in myHomework app on the day the activity was made,” during weeks 1 (p < 0.00) and 2 (p < 0.00). The question that found
the greatest significance was “To better manage my course assignments, I add all of my assignments in myHomework app on the day it is assigned.” This question found the strongest relationship with self-regulation of course assignments and perceived future use of the myHomework app: week 1 (p < 0.00), week 2 (p < 0.02), and week 3 (p < 0.00). Despite the earlier significance, there was no relation found for any of the questions during week 4 (r = .10, -.18, .61, and -.28, p < .05. Therefore, there was not a relationship between participants’ level of self-regulation and their perception of future use of the myHomework app.

**Open-Ended Question Results**

In addition to the quantified data used to answer research question four, regarding the participants’ perception of future use, open-ended questions were asked of the participants. Participants were asked the following open-ended questions to help determine if there was change in their perception of future use of the myHomework app:

1. I like to use myHomework app because…

2. I don’t like to use myHomework app because…

3. Will you continue to use the myHomework app to help you throughout the rest of college and beyond?
   Yes___ No___

   If yes, please give two reasons why you want to continue using the myHomework app.

   If no, please give two reasons why you do not want to continue using the myHomework app.

   The self-reported responses were not edited, for authenticity. Responses to each question were entered into Tables 10, 11, 12, and 13.
Table 10

Open-ended responses to the question: “I like to use myHomework app because...”

<table>
<thead>
<tr>
<th>Participant</th>
<th>Pre-Test Response</th>
<th>Post-Test Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>It reminds me what is do</td>
<td>No response</td>
</tr>
<tr>
<td>2</td>
<td>It help me stay in order and remid me what I'm doing for homework and whatever I put down.</td>
<td>I only use it for social. I would use it when I have more class</td>
</tr>
<tr>
<td>3</td>
<td>Help me on homework</td>
<td>Used it until 9/22, but stopped. It is confusing</td>
</tr>
<tr>
<td>4</td>
<td>I really like to ask my parent what are doing. Homework, Events, Test and exam good to studies</td>
<td>The same thing feels old but okay</td>
</tr>
<tr>
<td>5</td>
<td>It seies me uo tsings</td>
<td>seing me rememser stuff</td>
</tr>
<tr>
<td>6</td>
<td>I won't forget my homework plans this weekend</td>
<td>I don't use it.</td>
</tr>
<tr>
<td>7</td>
<td>dont know how</td>
<td>To make sure that my homework assignments</td>
</tr>
<tr>
<td>8</td>
<td>Its pointless</td>
<td>I dont use it</td>
</tr>
<tr>
<td>9</td>
<td>because its easier for me to keep organized in a wrtten planner better</td>
<td>I like it to stay organized</td>
</tr>
</tbody>
</table>
Table 11

*Open-ended responses to the question: “I don’t like to use myHomework app because...”*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Pre-Test Response</th>
<th>Post-Test Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>It may not tell you the truth</td>
<td>Its hard to use it</td>
</tr>
<tr>
<td>2</td>
<td>No response</td>
<td>Because I can write the pop up and I use my planner and I like write it down</td>
</tr>
<tr>
<td>3</td>
<td>It is very to do</td>
<td>I don't get it. If someone explained it better I would use it</td>
</tr>
<tr>
<td>4</td>
<td>none</td>
<td>I don't like because bored app geeting old</td>
</tr>
<tr>
<td>5</td>
<td>I don't need a reminder to do stuff</td>
<td>It doesn't help me</td>
</tr>
<tr>
<td>6</td>
<td>I haven't been using it</td>
<td>I use my planner book and I don't know how to use it</td>
</tr>
<tr>
<td>7</td>
<td>Can use myhomework for assignments</td>
<td>No response</td>
</tr>
<tr>
<td>8</td>
<td>I don’t</td>
<td>I have the remind me app</td>
</tr>
<tr>
<td>9</td>
<td>It helps to keep track of my events and social events</td>
<td>I like using a planner better</td>
</tr>
</tbody>
</table>

The participants were instructed on the self-reported survey that if they selected “yes” to the question “Will you continue to use the myHomework app to help you throughout the rest of college and beyond?” they should explain two reasons why. Then, if the participants answered “no” they would explain two reasons why not. Several participants didn’t follow these instructions and answered both why and why not.
The pre-test questions regarding why or why not would the participant choose to use the myHomework app in the future demonstrates a contradiction. There were a few participants that didn’t like the app and didn’t use it from the start. Many of the others in the group, however, stated that they would use it, but then on the same day and same self-reported survey, they stated that they don’t use the app.

Table 12
*Open-Ended Pre-Test Responses to the Question: “Will you continue to use the myHomework app to help you throughout the rest of college and beyond? Why or why not”*

<table>
<thead>
<tr>
<th>Participant</th>
<th>Pre-Test Response to Yes/No Question</th>
<th>Pre-Test Response to Open-Ended Question: “Why”</th>
<th>Pre-Test Response to Open-Ended Question: “Why not”</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A. To remend me what do</td>
<td>A. It may tell me to do smomthing what I dont have</td>
<td></td>
</tr>
<tr>
<td></td>
<td>B. And aleat me a houre befor</td>
<td>B. And it may bethier me in classe</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>A. It help me to tune stuff in on time</td>
<td>No response</td>
<td></td>
</tr>
<tr>
<td></td>
<td>B. I kown what event what im doing that day</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>A. It help my remide for homework</td>
<td>No response</td>
<td></td>
</tr>
<tr>
<td></td>
<td>B.apper on my homework</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>A. To have all subject calendar</td>
<td>No response</td>
<td></td>
</tr>
<tr>
<td></td>
<td>B. love the app color</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>No response</td>
<td>I dont need an app to remined me to do stuff</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>No response</td>
<td>A. Takes too much more time</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>B. Its too hard to remember</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>so that I can do my assignment</td>
<td>No response</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>No response</td>
<td>because I dont know my assignments</td>
<td></td>
</tr>
</tbody>
</table>
A. It helps me to stay organized  
B. It helps me to remember events and assignments

A. Because I already have the reminder app on my phone  
B. It takes up storage space

Table 13

Open-Ended Post-Test Responses to the Question: “Will you continue to use the myHomework app to help you throughout the rest of college and beyond? Why or why not”

<table>
<thead>
<tr>
<th>Participant</th>
<th>Post-Test Response to Yes/No Question</th>
<th>Post-Test Response to Open-Ended Question: “Why”</th>
<th>Post-Test Response to Open-Ended Question: “Why not”</th>
</tr>
</thead>
</table>
| 1           | No response                          |                                               | A. Because of my Flashline on my Ipad  
B. And it may not work sometimes |
| 2           | I use it for social stuff            |                                               | A. Because I can swip the pop up awary  
B. I like use to write stuff down |
| 3           | No response                          |                                               | No response |
| 4           | Social                               |                                               | No response |
| 5           | No response                          |                                               | It doesn't help me do anything |
| 6           | No response                          |                                               | A. My planner book was easier than myHomework app.  
B. It was confusing |
| 7           | No response                          |                                               | No response |
| 8           | No response                          |                                               | A. I have the remind me app  
B. I don't use it |
| 9           | A. To stay organized  
B. To keep track of events |                                               | I like using a planner better |
In order to determine if the participants’ perception of future use of the myHomework app changed throughout the experiment, the pre-test comments were examined in contrast to the post-test results. The responses to the questions varied; however, the response rate was much lower to the question of why the participant will continue to use the myHomework app in the future (33% response rate) versus the question of why they would not continue using the app in their future (67% response rate). Despite the difference, there were three participants (33% of the population) that said they would continue to use the myHomework app in the future. In contrary, the main reason given by the other 67% of participants for why they would not continue to use the app that was that they prefer a different type of means to manage their social activities and course assignments, mainly a planner or a different app.
CHAPTER V

DISCUSSION

Research identifies that students with intellectual disabilities (ID) are less self-determined than peers without disabilities (Wehmeyer, Palmer, Shogren, Williams-Diehm, & Soukup, 2010). Studies also identify students with ID struggle to manage time and to complete daily activities (Schalock, Luckasson & Shogren (2007). The ability to complete these tasks with greater independence it requires that a person be able to self-regulate behavior - which is one of the skills comprising self-determination. Furthermore, there is a rising research interest of the ways that assistive technology may be used to accommodate the needs of this population (Newton & Dell, 2011). Therefore, the scholarly aim of this quantitative, repeated measures study was to determine if assistive technology is an effective tool to assist adult students with intellectual disabilities to increase independence in managing (self-regulating) social and educational activities. The study measured differences in pre- and posttest scores at four different points over a four-week period of time.

This study sought to understand how the effectiveness of social media applications’ in increasing management of course assignments, social activities, and overall self-regulation. To date, there is a lack of research to answer these questions about the use of Social Networking Sites (SNSs) as a tool to increase self-regulation for this population. The implications of the study findings are presented, along with recommendations for future research, and the limitations of the study
Research Questions

The proposed study has one main question:

• Does the use of a social media application improve self-regulation skills for students with intellectual disabilities enrolled in a post-secondary education program?

Three secondary goals:

• Does the use of the myHomework app improve the scheduling of social activities for students with ID in a post-secondary education program?

• Does the use of the myHomework app improve the scheduling of course assignments for students with ID in a post-secondary education program?

• Is there a relationship between students’ level of self-regulation and their perceptions of future use of the social media app myHomework?

Research Findings

The research objectives of this study were to determine if participants’ self-regulation would change as the result of a social media application. The quantitative results provided evidence that the four-week intervention minimally helped to create changes in the participants’ overall self-regulation skills. Although, when looking at the relationship between self-regulation and the participants’ perception of future use of the myHomework app, the results showed a strong relationship for the first three weeks, but week 4 did not show any significance. Therefore, there was not a relationship between self-regulation and the participants’ perception of future use. In addition, the quantitative results revealed that the myHomework app did not help to improve the scheduling of social activities or course assignments. The open-ended questions that were reported on pages 73-78 answered the following questions:
1. I like to use myHomework app because…

2. I don’t like to use myHomework app because…

3. Will you continue to use the myHomework app to help you throughout the rest of college and beyond?
   Yes___ No___

If yes, please give two reasons why you want to continue using the myHomework app.

If no, please give two reasons why you do not want to continue using the myHomework app.

The responses to the open-ended questions demonstrated that many of the participants did not follow the directions and answer either why or why not continue using the app. Instead, many of them answered both and contradicted themselves. It was also observed that the response rate was much lower for the post-test reasons for why they would continue to use the app (33%) versus why they would not use the app (67%). This implies that more participants did not want to use the app in the future. Although, two students did report that they would like to continue using the app for social activities, and one participant said they would use the app in the future to stay organized.

Overall, these findings of little to no change are consistent with other studies using SNS environments in education (Joosten, 2012). The combined findings state that there is limited evidence that SNSs may be effective. However, this field of research is in its infancy, and therefore more interventions are needed to determine how to maximize self-regulation so it can be sustained in the longer term (Maher et al., 2014a).
Interpretation and Context of Findings

The overall findings in this study were that students with intellectual disabilities did not demonstrate improvement of self-regulation through the use of a social media application. The aggregated plots in chapter IV (page 71) demonstrate that the participants started out using the myHomework app either on their own or when they saw someone else doing it. However, the first week was when they were taught the app, and many of the participants added course assignments and social activities during the training. When looking at weeks 2, 3, and 4, it can be seen that the participants did not self-report the use of the app for scheduling course assignments or social activities. Additionally, the study found that there was not a strong relationship between self-regulation and the participants’ perception of future use of the myHomework app.

The findings of the current study contributed to the empirical support to related arguments. Many state that students with ID transitioning from high school to post-secondary education lack many of the necessary skills in order to successfully self-regulate their course assignments and social activities (Algozzine, Browder, Karvonen, Test, and Wood, 2001; Wehmeyer and Palmer, 2003). In addition, the findings support the related arguments that students with ID are not getting the experience they need in order to be successful in post-secondary education.

Schlossberg’s Transition Theory

The participants were incoming freshman, with no time to adapt to the post-secondary education environment. Through the existing literature on the transition process, Schlossberg (1995) was able to determine that transition consists of a series of phases moving in, moving out, and moving through. Moving in is the phase in which people move into a new situation and need to become familiar with rules, regulations, norms, and expectations of the new system.
(Schlossberg, 1995). Moving through is the period that begins when people learn the new rules, regulations, norms, and expectations; moving out is the period of ending one series of transitions and beginning to anticipate what comes next (Schlossberg, 1995). Relating this to the current study, the participants were learning many new rules, regulations, norms, and expectations, while also being measured on self-regulation. In applying Schlossberg’s Transition Theory, the ultimate goal is for the person in transition to move to adaptation. Adaptation from transition, “is the process during which an individual moves from being totally preoccupied with the transition to integrating the transition into his or her life” (Schlossberg, 1981, p. 7). When considering the reported descriptive visual analysis of each of the participants (pages- 62-71), there was a lot of variation in the mean scores throughout the 4 weeks of the study. For instance, one participant self-reported that during week one they used the app on their own (a score of 3), week two they reported they used the app when someone told them to (a score of 1), and week three they reported that they used the app when they saw someone else doing it (a score of 2). Then, during week four, the participant went back down again in their use of the app for course assignments, but not for social activities. This caused the overall self-regulation plot a lower point; however, the participant was likely by the fourth week moving into adaptation (Schlossberg, 1981). The individual participant visual plot is displayed in Figure 15.
Figure 15. Visual representation of participant 2 (P2) usage of the myHomework app

The study took place at the very beginning of the semester and didn’t allow time for the students to go through the transition into adaptation. Due to the lack of time that the participants were given at the start of the semester in relation to the timing of the study, the lack of time to
adapt is likely an explanation for the lack of growth in the self-regulation of scheduling course assignments and social activities. One way to avoid this issue in future research would be to allow adequate time at the start of the semester for incoming freshman to learn all of the necessary information needed to guide them into adaptation.

**Deci and Ryan’s Self-Determination Theory**

The study contributed to the existing literature of self-determination. Research across special education disability categories have found that students with disabilities are less self-determined than their nondisabled peers (Wehmeyer, Palmer, Shogren, Williams-Diehm, & Soukup, 2010). The current study may have found a greater increase in self-regulation if all of the components of self-determination were taught first. Wehmeyer (1996) identified eleven component elements that appear particularly important to self-determined behavior. They are: (a) choice-making skills, (b) decision-making skills, (c) problem-solving skills, (d) goal-setting and attainment skills, (e) self-management skills, (f) self-advocacy skills, (g) leadership skills, (h) internal locus of control, (i) positive attributions of efficacy and outcome expectancy, (j) self-awareness and (k) self-knowledge. Each of these elements are acquired through specific learning experiences, and it is believed at this level of the framework that intervention to promote self-determination as an educational outcome occurs (Doll, Sands, Wehmeyer, & Palmer, 1996). Self-determined individuals choose their goals, by assessing their needs, and acting in ways to meet those goals (Deci & Ryan, 2010). Based on the outcome of the current study, the data advances the field by demonstrating how new technology; social media in this case, has allowed changes in how research is conducted in these fields. The myHomework app could be a tool that the participants rely on in their future. After further developing their self-determination skills,
they may see the app on their cell phone and decide to give it another try. A social media application has never been applied to increasing self-determination skills through research.

**Bandura’s Social Cognitive Theory of Self-Regulation**

Bandura (1991) wrote that the Social Cognitive Theory of Self-Regulation encompasses the self-efficacy mechanism and is also based on three sub functions, including: self-monitoring, one’s judgment of their own behaviors in relation to their environment and personal standards, and affective self-reaction. Bandura’s theory is guided by the idea that social factors affect the process of the self-regulative system. The quantitative results of the current study provided evidence that the four-week intervention minimally helped to create changes in the participants’ overall self-regulation skills. In addition, in relation to the current study, it is evident that it was difficult to change self-regulation without thinking about other skills comprising self-determination, specifically self-awareness. Wehmeyer & Palmer (2003) found that a lack of self-awareness makes accuracy of self-reporting questionable. Again, the current study may have resulted differently if the participants had enough time to develop a self-regulation strategy.

Students learn to encode, represent, and retrieve information to become skilled learners (Zimmerman & Martinez-Pons, 1990; Randi & Corno, 2000). Deci and Ryan (2000) found that one way to teach these strategies is to provide students with choice to facilitate autonomy. Deci and Ryan’s suggestion was considered in the development of the study by allowing the participants to choose what they needed to add to the myHomework app. However, because of the assumption that the population lacked self-awareness, it is possible that the participants were unable to determine what should go into the app (Wehmeyer, Palmer, Shogren, Williams-Diehm, & Soukup, 2010).
Mayer’s Cognitive Theory of Multimedia Learning

Mayer and Moreno (1998) describe how learners possess both visual and verbal information processing systems. Auditory narration is processed by the verbal system, whereas animation goes through the visual system. Parker and Banerjee (2007) found that students in post-secondary education could encounter barriers if they don’t develop self-regulated, strategic approaches to using technology. The empirical evidence to related arguments that mobile technologies allow students with disabilities to fit in with their peers and allows them easy access to built-in assistive technologies was not evident in the current study. In addition, Parker and Banerjee (2007) stated that in order for students with disabilities to be successful in a post-secondary education program they need to be prepared for mainstream technologies in their transition planning and beyond. The current study found a very minimal relationship between self-regulation and the participants’ perception of future use of the myHomework app. These results indicate that the social media app was not necessarily the reason for why the students did not increase the self-regulation of course assignments and only a minimal increase in the self-regulation of social activities. It is possible that the participants would continue to use the app after they developed self-regulation.

Limitations of Study

Experimental validity is not an all-or-nothing outcome. Possible limits to validity should be acknowledged and countered through the design and the way the experiment is conducted (Wiersma & Jurs, 2005). The study has limitations that further explain the anticipated limitations discussed in chapter III (pages 55-57). The study was conducted and applied with students with intellectual disabilities during their transition into post-secondary education in only one program. Thus, the results cannot be generalized to all students. Furthermore, the study was conducted and
applied with only students with intellectual disabilities, so the results cannot be generalized to students without disabilities or other types of disabilities. Other limitations in the study center on the possibility that additional time was needed for participants to practice and hone self-regulation and self-determination skills, as seen in the modest gains. To do this, the researcher could have had the program work with the students on self-determination skills during their first semester and then applying the study for the entire second semester (15 weeks).

Measurement was another limitation to this study. The self-reported instrument used could not be pre-tested, due to the unique population. However, the instrument could have been pre-tested with students without disabilities. A focus group could have been used as well to determine if the instrument reads clearly. This would have allowed the researcher insight into how the students interpret the questions and if there were any necessary changes needed.

A final consideration given to the limitations was the design of the study. The study did not include a control group; hence, there was no way to compare if the social media app might have made a difference in self-regulation or if it was coincidence. For a more effective design it may have been beneficial to conduct a comparison by including a control group. Another possibility would be to have the same group start out using a paper/pencil calendar for the first part of the semester, and then switching to the myHomework app on the cell phones the second half of the semester. This may have helped to determine other causes for the self-reported results.

**Implications and Future Directions**

It is beneficial to study SNSs as a tool to change people’s awareness, behaviors, and attitudes because the descriptive data in this study and the data in other studies (Brenner, 2013;
A. Smith, 2011; Vaterlaus et al., 2015) supports that young people are using social media daily, and often. Because the findings in the research literature are not particularly robust, there are reasons to conduct further research. Longitudinal studies are needed and should include not only a larger sample of college students in different geographic regions, but also non-students from diverse socioeconomic groups to add to the literature on this topic. Although the literature supports the importance of self-regulation, research studies across special education finds that students with disabilities demonstrate less self-regulation than their nondisabled peers (Wehmeyer, Palmer, Shogren, Williams-Diehm, & Soukup, 2010). However, research shows that educators are not incorporating self-regulation into their lessons (Lee, Wehmeyer, Soukup, & Palmer, 2010). The significance of this study is the opportunity that was given to a group of students in transition into post-secondary education to increase their self-regulation skills by using a social media application. No published literature offers the same opportunity, nor does any literature use social media to increase self-regulation with students who have intellectual disabilities. Despite the minimal increase in self-regulation, participants commented during their technology course (to the researcher) that they enjoyed using their phones for school purposes. Based on the finding of the current study, this implies that if the students were given a full semester to transition and adapt to post-secondary education and learn self-determination, they may be more successful with using a social media application to self-regulate their course work and social activities. In addition, the open-ended questions revealed that two students planned to continue using the app for social activities and one planned to continue using the app to stay organized.
The following section offers suggestions that might be considered for future research based on what was found in the current study. These implications could be used with quantitative, qualitative, and mixed methods of research as follows:

1. The present study was conducted at a large university in northeastern Ohio for students with intellectual disabilities. It is recommended that studies related to increasing students with ID’s self-regulation be conducted elsewhere in the United States and other nations.

2. A suggestion for future research would be to replicate the study and use a different social media app.

3. It is suggested that the study be replicated with the teaching coaches completing the survey/instrument, in order to account for inaccurate self-reported data.

4. It is advised that a study explore understanding and awareness of self-determination among practicing teachers in elementary, middle, and secondary education.

5. It is suggested that a longitudinal study is necessary in order to explore the impact on self-regulation skills among the students of those teachers who put into practice global self-determination strategies in their classrooms.

6. It is advised that a longitudinal study be conducted in order to determine increased teacher abilities to recognize self-determined behaviors within their students.

7. It is recommended that a study look at ways that teachers provide opportunities within their classrooms to promote self-determined skills in their students.

8. It is suggested that a study be conducted to look at self-regulation of students with and without disabilities.
9. It is suggested that longitudinal study be conducted in order to incorporate a paper/pencil calendar during the beginning of the study and then using a social media app the second half, in order to increase the self-regulation of course assignments and social activities.

10. More demographic information may be asked to determine if there are associations between age, gender, or those who live on or off campus.

Conclusion

The research question driving the study was: Does the use of a social media application improve self-regulation skills for students with intellectual disabilities enrolled in a post-secondary education program? The results suggested a small overall growth of self-regulation in students with ID through the use of a social media application. However, there was no significant change in the self-regulation of scheduling course assignments and social activities.

This study added to the literature about SNSs, and demonstrated the need for more research to examine the use of SNSs to increase self-regulation. Additionally, it helped to validate the popularity of social media as a medium to reach college-age students. However, as a standalone medium, SNSs only produced modest changes in increasing self-regulation. This study also agrees with other similar studies (Derzon & Lipsey, 2002; Webb, Joseph, Yardley & Michie, 2010), which found that the average effect on behavior change using Internet-based interventions was statistically small. Therefore, this study, along with other studies (Webber, Tate, Ward, & Bowling, 2010; Williams et al., 2014) implies that researchers should not assume that the target audience will be engaged with a topic solely based on the premise that social media is popular and widespread. In order for social media applications to make a difference, engagement or high social capital, may help to create positive change in people’s behaviors. Researchers Freeman, Potente, Rock, & Mciver (2015) found common themes in nine social
media case studies to help provide a summary of successful factors to help cut through the online clutter, and identify key lessons learned. The themes include using social media campaigns in conjunction with traditional media campaigns, using simple and familiar tools to encourage participation, building online communities by tapping into existing networks, developing engaging content with a clear call to action, enhancing appeal to participate with personal benefits, actively driving traffic through continuous promotion, and being diligent and timely moderation and monitoring of pages. In this study, one way that may have helped to increase the use of the myHomework app and add engagement would have been to enhance the appeal of participation by offering a reward to students, such as extra credit points awarded.

Moving forward, teachers and school administrators can play a big role in affecting student’s behaviors. Teachers in K-12 schools should be preparing students with ID for a future in post-secondary education. The transition from high school to college is a challenging time for many students with disabilities, and through the use of technology, teachers can help them ease the stress. According to the program director, the participants in the current study all had a smartphone prior to coming to college; however, none of them were using the devices for school. Rather, they communicated with friends and parents through text or other social media apps. If the students were exposed in high school or earlier to the use of mobile technologies, specifically apps that encourage self-determination skills (such as myHomework) they would likely have experienced a smoother transition into college. With these best practices taken into consideration for future social media application use in education, it may help to make significant differences in many people’s lives and society as a whole.
APPENDICES
### Appendix A

**SELF-REPORT SURVEY**

**Self-report survey will be given online in Qualtrics.**

<table>
<thead>
<tr>
<th><strong>Self-Regulation &amp; Preparation</strong></th>
<th><strong>Researcher’s Rate</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student’s Rate</strong></td>
<td><strong>Checklist:</strong></td>
</tr>
<tr>
<td><strong>1.</strong> To be prepared for Technology Workshop to begin:</td>
<td></td>
</tr>
<tr>
<td>___ I had my device.</td>
<td></td>
</tr>
<tr>
<td>___ My device was charged (if they don’t have their device this question won’t be asked).</td>
<td></td>
</tr>
<tr>
<td><strong>2.</strong> I checked myHomework app for course assignments:</td>
<td></td>
</tr>
<tr>
<td>___ On my own to make sure course assignments were all there.</td>
<td>___ 3</td>
</tr>
<tr>
<td>___ When I saw someone else doing it to make sure my course assignments were all there.</td>
<td>___ 2</td>
</tr>
<tr>
<td>___ When someone told me to check myHomework app to make sure my course assignments were all there.</td>
<td>___ 1</td>
</tr>
<tr>
<td>___ I did not check myHomework app to make sure my course assignments were all there.</td>
<td>___ 0</td>
</tr>
<tr>
<td><strong>3.</strong> I checked myHomework app for social activities:</td>
<td></td>
</tr>
<tr>
<td>___ On my own to make sure my social activities were all there.</td>
<td>___ 3</td>
</tr>
<tr>
<td>___ When I saw someone else to make sure my social activities were all there.</td>
<td>___ 2</td>
</tr>
<tr>
<td>___ When someone told me to check myHomework app to make sure my social activities were all there.</td>
<td>___ 1</td>
</tr>
<tr>
<td>___ I did not check myHomework app to make sure my social activities were all there.</td>
<td>___ 0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Self-Regulation &amp; Performance</strong></th>
<th><strong>Researcher’s Rate</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student’s Rate</strong></td>
<td><strong>N/A</strong></td>
</tr>
<tr>
<td><strong>4.</strong> To better manage my course assignments, I add all of my assignments in myHomework app on the day it is assigned:</td>
<td></td>
</tr>
<tr>
<td>___ On my own I added my course assignments to the app.</td>
<td>___ 3</td>
</tr>
<tr>
<td>___ When I saw someone else was adding his/her course assignments to the app.</td>
<td>___ 2</td>
</tr>
<tr>
<td>___ Someone had to tell me to add my course assignments to the app.</td>
<td>___ 1</td>
</tr>
<tr>
<td>___ I did not add my course assignments to the app.</td>
<td>___ 0</td>
</tr>
<tr>
<td>___ I did not have any course assignments to add to the app.</td>
<td><strong>N/A</strong></td>
</tr>
<tr>
<td><strong>5.</strong> To better manage my social activities, I add each of the social activities in myHomework app on the day the activity was made:</td>
<td></td>
</tr>
<tr>
<td>___ On my own I added my social activities to the app.</td>
<td>___ 3</td>
</tr>
<tr>
<td>___ When I saw someone else was adding his/her social activities to the app.</td>
<td>___ 2</td>
</tr>
<tr>
<td>___ Someone had to tell me to add my social activities to the app.</td>
<td>___ 1</td>
</tr>
<tr>
<td>___ I did not add my social activities to the app.</td>
<td>___ 0</td>
</tr>
<tr>
<td>___ I did not have any social activities to add to the app.</td>
<td><strong>N/A</strong></td>
</tr>
<tr>
<td><strong>6.</strong> I check my schedule on myHomework app:</td>
<td></td>
</tr>
<tr>
<td>___ On my own I check my schedule on myHomework app.</td>
<td>___ 3</td>
</tr>
<tr>
<td>___ When I see someone else check his/her schedule on myHomework app.</td>
<td>___ 2</td>
</tr>
<tr>
<td>___ Someone has to tell me to check my schedule on myHomework app.</td>
<td>___ 1</td>
</tr>
<tr>
<td>___ I do not check my schedule on myHomework app.</td>
<td>___ 0</td>
</tr>
</tbody>
</table>

**Please turn the page over to complete the questions.**
Self-report survey will be given online in Qualtrics.

7. I like to use myHomework app because...

8. I don't like to use myHomework app because...

9. Was this app helpful in managing your time? Yes ___ No ___

10. Was this app helpful in keeping you organized? Yes ___ No ___

11. Will you continue to use the myHomework app to help you throughout the rest of college and beyond? Yes ___ No ___
   If yes, please give two reasons why you want to continue using the myHomework app.
   A.
   B.

If no, please give two reasons why you do not want to continue using the myHomework app.

A.
B.
Appendix B

PARTICIPANT INFORMED CONSENT
Appendix B

PARTICIPANT INFORMED CONSENT

Informed Consent to Participate in a Research Project

Study Title: Increasing Self-Regulation Through The myHomework Social Media Application
Principal Investigator: Dr. Bradley Morris, PI and Julie Henry, Co-investigator

What is the purpose of this research?
I would like to learn more about how young adults with disabilities use technology to help them keep track of their daily lives and schedules. For this project you will have an opportunity to learn how to use an app on your Smart Phone called myHomework app. Learning how to use this app may help you to reach your course and social goals by helping you to keep track of what you need to do. This is called self-regulation. I will be monitoring through administrative access within the myHomework app to see if the app is helping you to stay organized in your college classes and in your social activities.

What will you need to do if you agree to participate?
1. You will participate in a one-hour training activity to learn how to use the myHomework app. This activity will be in your Technology Workshop II class.
2. First I will teach you how to download the myHomework app to your smart phone. The app is free.
3. Next, you will learn how to use the app.
4. Once you know how to use the app, you will add your class information and schedule into the app.
5. After the training activity, I will be available each week at the beginning of Technology Workshop to answer any questions you may have about the myHomework app.
6. The project will last for four weeks. During this time you will:
   a. Learn how to download the app onto your smart phone;
   b. Learn how to use the app to manage your classes and social activities (lunch dates, exercise, etc.);
   c. Complete a participation sheet that lets me know how well you are using the app.
   d. Use the myHomework app independently which will help you to be better at self-regulating.
7. When the project is done, you can decide for yourself if you want to continue to use the myHomework app or go to using a paper and pencil calendar.

Benefits to You
You may benefit from this study in many ways, including:
• Get better with managing your time
• Increase your self-regulation skills
• Use your smart phone to keep track of your work and social activities

Benefits to Others
By participating in this project you will help me to learn what is most useful to young adults with disabilities as they self-regulate and manage their daily schedules. This information may be used to help other young adults with disabilities.
Risks
There are no risks involved in participating in this project. As the co-investigator, I will be working with you at the beginning of the study, showing you how to use the myHomework application and answer any technical questions you may have. Your teacher will be there the entire time and will answer class related questions. The PI and Co-PI of this study will not be meeting with you during the study.

Privacy
Your name and other personal information will be kept private. Information will be stored in a safe place and only the researchers will be able to see it. Information about how you used the myHomework app might get put into a journal but your name will not be used. This is how we protect your privacy.

Information that will be included in the project are your age, gender, and race. I permit the CCS Program to share my age, gender, and race with the researchers.
YES: ___
NO: ___
INITIAL: ___

Volunteering to Participate
You don’t have to be in this research project if you don’t want to be. Or you can agree to be in the study now but change your mind later. And that is okay too. Your decision will not affect your grades or any of your classes. Nobody will be upset with you.

Contact Information
If you have any questions about this project, you may contact Dr. Bradley Morris at 330-672-0590 or Julee Henry at 330-672-2277. The Kent State University Institutional Review Board has approved this project. If you have any questions about your rights as a participant or complaints about the project, you may call the IRB at 330-672-2704.

Consent Statement and Signature
I have read this consent form and have had the opportunity to have my questions answered. I agree to participate in this study. I understand that a copy of this form will be given to me to keep.

Participant Signature: __________________________________________  Date: __________

INCREASING SELF-DETERMINATION THROUGH SOCIAL MEDIA  Page 2 of 3
Appendix C

PARENTAL INFORMED CONSENT
Appendix C

PARENTAL INFORMED CONSENT

Informed Consent to Participate in a Research Study

Study Title: Increasing Self-Regulation Through The myHomework Social Media Application
Principal Investigator: Dr. Bradley Morris, PI, Dr. Pena Bedesem, Co-PI, and Julie Henry, Co-investigator

Your child is being invited to participate in a research study. This consent form will provide you with information on the research project, what your child will need to do, and the associated risks and benefits of the research. Your child’s participation is voluntary. Please read this form carefully. It is important that you ask questions and fully understand the research in order to make an informed decision. You will receive a copy of this document to take with you.

What is the purpose of this research?

I would like to learn more about how young adults with disabilities use technology to help them keep track of their daily lives and schedules. For this project your child will have an opportunity to learn how to use an app on their Smart Phone called myHomework app. Learning how to use this app may help your child to reach their course and social goals by helping them to keep track of what they need to do. This is called self-regulation. I will be monitoring through administrative access within the myHomework app to see if the app is helping your child to stay organized in his or her college classes and in their social activities.

What will your child need to do if you agree they can participate?

1. Your child will participate in a one-hour training activity to learn how to use the myHomework app. This activity will be in your child’s Technology Workshop II class.
2. First, I will teach how to download the myHomework app to their smart phone. The app is free.
3. Next, your child will learn how to use the app.
4. Once the student knows how to use the app, they will add their class information and schedule into the app.
5. After the training activity, I will be available each week at the beginning of Technology Workshop to answer any questions they may have about the myHomework app.
6. The project will last for four weeks. During this time your child will:
   a. Learn how to download the app onto their smart phone;
   b. Learn how to use the app to manage their classes and social activities (lunch dates, exercise, etc.);
   c. Complete a participation sheet that lets me know how well they are using the app;
   d. Use the myHomework app independently which will help your child to be better at self-regulating.
7. When the project is done, your child can decide for itself if they want to continue to use the myHomework app or go to using a paper and pencil calendar.

Benefits to Your Child

Your child may benefit from this study in many ways, including:

• Increase their self-regulation skills
• Use their smart phone to keep track of their work and social activities

Benefits to Others
By participating in this project your child will help me to learn what is most useful to young adults with disabilities as they self-regulate and manage their daily schedules. This information may be used to help other young adults with disabilities.

Risks
There are no risks involved in participating in this project. As the co-investigator, I will be working with your child during the early phases of the study, demonstrating to them how to use the myHomework application and answering any technical questions they may have. Their teacher will be present the entire time and will answer curriculum questions. The PI and Co-PI of this study will not have any direct contact with your child throughout the study.

Privacy
Your child’s name and other personal information will be kept private. Information will be stored in a safe place and only the researchers will be able to see it. Information about how your child used the myHomework app might get put into a journal but their name will not be used. This is how we protect their privacy.

Demographic information relevant to the study will be used as a baseline, including age, gender, and race. I permit the CCS Program to release the following demographic information about my child to the investigators: age, gender, and race.
YES: ___
NO: ___
INITIAL: ___

Volunteering to Participate
Your child doesn’t have to be in this research project if they don’t want to be. Or they can agree to be in the study now but change their mind later. And that is okay too. Their decision will not affect their grades or any of their classes.

Contact Information
If you have any questions about this project, you may contact Dr. Bradley Morris at 330-672-0590 or Julee Henry at 330-672-2277. The Kent State University Institutional Review Board has approved this project. If you have any questions about your child’s rights as a participant or complaints about the project, you may call the IRB at 330-672-2704.

Consent Statement and Signature
I have read this consent form and have had the opportunity to have my questions answered to my satisfaction. I voluntarily agree to grant permission for my child to participate in this study. I understand that a copy of this consent will be provided to me for future reference.

Parental Signature

Date
Appendix D

INTRODUCTION TO MYHOMEWORK APP
Appendix D

INTRODUCTION TO MYHOMEWORK APP

myHomework

What is myHomework?

myHomework is a tool that you can use with your phone in your classes to stay organized and do your homework and other class goals.
How would you use the myHomework application?

Every day you will add days and times into your myHomework app on your smartphone. You will add dates and times for events like:
- Homework assignments
- Quizzes and tests
- Meetings

Then, you will use the app to easily know what to work on and cross items off in the app once they are finished. This will help you be able to keep track of your time better and will help you earn better grades.

How would my teacher use the myHomework application?

Your teacher will use the myHomework app to share:
- Class details
- Schedule
- Attachments & resources
- Announcements
- Contact information
- Teacher profile

What are the possible benefits for using the myHomework application?

- Increase skills needed to reach your goals
- Help you to learn better on your own
- Improve classroom efficiency
- Support planning and organizational skills
- Save money, time and the environment
- Learn technology skills
- Homework and test reminders
You don't have anything due on this day.

Classes

You don't have any class times for this day.
Appendix E

MYHOMEWORK TRAINING OUTLINE
Appendix E

MYHOMEWORK TRAINING OUTLINE

60-Minute, Hands-on Training

The facilitator will use the following steps as a guide during the training:

1. The researcher will connect a smartphone to the large display screen in the classroom.
2. Students will be paired with a mentor.
3. Students Open iTunes on smartphones.
   1. Prior to the study, students created iTunes accounts with their mentor.
4. Students will download the application, myHomework, by following along with the researcher from the teacher station.
5. The researcher will then do a demonstration of the myHomework application for approximately 30 minutes.
6. The researcher will leave approximately 10 minutes for questions.

Researcher notes:

Over the next 4 weeks students will meet every Monday in their Technology Workshop and utilize the myHomework app for both their educational and social needs. In addition, students will attend an Academic Support Lab every Monday and spend approximately 5-10 minutes completing the myHomework participation form.
REFERENCES


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