A Look At Grit: Teachers Who Teach Students with Severe Disabilities

Donna Baker Martin

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A Look at Grit: Teachers Who Teach Students with Severe Disabilities

A Dissertation by

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Submitted in partial fulfillment of the requirements for the degree of

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I learned about grit and perseverance from my parents and my grandparents. Throughout my life I watched them experience life’s challenges, through thick and thin, never stopping when it got too hard. So in 2009, when I was faced with a serious medical incident that left me unable to walk, talk, write or type it was grit and perseverance that got me through and through the grace of God I am here today. All the prayers worked. Thank you to my family and friends. My mom and dad were not able to see me scale this mountain but I am sure they are watching down saying “We knew you could do it”.

My husband Louie has endured hundreds of miles on the trail never giving up when it got too hard, he kept going until he finished the race. He has inspired me, supported me with unending love and encouraged me through this whole journey. He has picked up the slack, endured anniversaries without his wife and encouraged me to carry on when I wanted to throw in the towel. Thanks for believing in me!

To my sister who believed in me, always, never stopping and to my children, Jennifer, Kirsten, Suzanne and Erik - I wanted to set an example of how you overcome diversity to achieve great things - I hope I have.

To Terri Hiltell who helped me find my words, Davey Jones who helped me write my words and Mary Shaw who helped me persevere on this dissertation journey.

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ABSTRACT

A Look at Grit: Teachers Who Teach Students with Severe Disabilities

by Donna Baker Martin

This study investigated special education teachers and the grit needed to stay in the field especially for those who teach students with moderate to severe disabilities. The purpose was to explore and describe the impact of Grit on retention as perceived by special education teachers who teach students with severe disabilities. This explanatory, sequential mixed methods study included the Grit-S survey as a locator for special education teachers in five California counties and the target population included special education teachers who taught in California.

Teachers self-reported they were hard workers, diligent and finish what they start and they gave examples. Teachers were asked how they perceived the importance of Grit on their retention of special education teachers. The most frequently mentioned themes (100) were: Diligence, Relationships, Perseverance-Passion, Obstacles and Roadblocks, Hard worker and I love my job. Diligence was the most often mentioned theme and the second ranked survey item.

Findings demonstrate teachers perceive the importance of building and maintaining solid relationships as key to their longevity. They described perseverance as what they did. They encountered setbacks and obstacles all the time and they agreed getting through difficult times was possible because it was for the students. Teachers were hard workers but they did not think anything about the numbers of hours they put into the job. Teachers loved their jobs and they could not think of anything else they would rather be doing.
Contrary to initial presumptions, teacher do not choose to leave because of difficulties in teaching lessons, their relationships with the children or even challenging student behaviors but rather, factors beyond the teacher-student relationship affect retention. Recommended actions include systems wide initiatives focusing on students first and teacher next. Other actions include necessary supports including mentors, professional learning communities, creating a culture of acceptance and inclusion of students and special education staff.

Further research would look at teachers who serve students who have mild disabilities and those who left special education to go to general education. The teacher shortage continues and researchers should continue to find ways to retain special education teachers so that students benefit.
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CHAPTER I: INTRODUCTION

School districts throughout the country are facing teacher shortages in both general education and special education (U.S. Department of Education Office, 2014). Many have noted shortages of special education teachers for years (Billingsley, 1993; Brownell & Smith, 1993; Thornton, Beltier & Medina, 2007). Experiencing shortages in general education at the same time as shortages in special education can cause angst for those attempting to find credentialed special education teachers to fill school district vacancies. Teachers in general are hard to find and the numbers from the U.S. Department of Education validate this thinking (Freedberg, 2013; U.S. Department of Education, Office of Post Secondary Education, 2013, 2014).

At the national level, teacher credential programs are experiencing a drop in the number of students entering programs (Freedberg, 2013; Sawchuck, 2014). In California, specifically, numbers of new teachers entering credential programs continue to plummet causing concern for credential programs and school districts seeking to replace those in the profession who will be retiring in the coming years (Ellison & Fensterwald, 2015; Watanabe, 2013). The decreasing enrollment in teacher preparation programs appears statewide in California. Numbers in teacher credentialing programs went from 52,000 in 06-07 to less than 20,000 in the 2012-13 school year in the state of California (Freedberg, 2014). Some wonder who will take their place.

Many school districts contend with large numbers of retiring teachers and at the same time, smaller numbers of teacher enter the workforce and teacher credential programs (U.S. Department of Education, 2014). This is a problem to both teacher credential programs and school districts that want to fill their openings with qualified
candidates and teachers (Freedberg, 2013; Freedberg & Rice, 2014; Sawchuck, 2014). It is unclear if the problem is due to the numbers of retirees or fewer people wanting to become teachers.

Children go to school to learn; however, sometimes children have disabilities that interfere with their learning and they need specialized services and support in order to make progress. Though common in just about every school now, not too long ago children with disabilities were not allowed to go to school with their typically developing peers (Friend, 2013; Turnbull, Turnbull, Wehmeyer, & Shogren, 2013). They went to separate schools where they received services. Students with special needs were not welcomed in public schools for the most part until parents took action through the courts and this led to the foundation of federal law in 1975 (Turnbull et al., 2013).

Children with disabilities have a right to a Free and Appropriate Public Education (FAPE) as delineated in the Individuals with Disabilities Act of 2004. Students with special needs are given certain safeguards outlined in federal law 94-192, the original piece of law protecting such students in 1975 (Wright, 2010). However the newer piece of legislation in 2004 was specific and outlined specific parts of the Individual Education Program (IEP) including an increase of parental rights (U.S. Department of Education, 2015). The legislation increased special education services also, which in turn increased the need for special education teachers.

Today, special education students are part of the society and are included in all aspects including school (Friend, 2013; Downing, 2010). In order for children with disabilities to benefit from their education, they need teachers appropriately trained in
specific methods and strategies. Not all teachers want to do this kind of work (Friend, 2013; Sadao, 2010).

Although numbers in teacher education credential programs appear larger than the numbers in special education at the university level, the growing national shortage of all teachers overall exists (Freedberg, 2013; Sawchuck, 2014). The latest statistic regarding the numbers of special education students was 13% of all students in k-12 public schools (National Center for Education, 2014; U.S. Department of Education; 2014). This translates into smaller numbers of candidates pursuing special education university programs to obtain their teaching credentials.

Children with challenges are most vulnerable due to their medical, cognitive and behavior issues and with teacher shortages looming, schools are concerned (Downing, 2010; Friend, 2013). Because there are small numbers of special education credential candidates and school districts face teacher shortages, one would wonder what effect this would have on students with special needs.

**Background**

**Special Education**

Changes to special education laws over the past 30 years and increased services available to those who need them, result in difficulty finding special education teachers to do the job (Berry, Daughtrey, & Wieder, 2010; Billingsley, 2005; Freedberg, 2013; Smith, 2012; Thorton et al. 2007; Watanabe, 2013). Students with special needs can go to their neighborhood schools now, uncommon several years ago (Friend, 2013; Thorton, et al., 2007).
Now that school districts can place children in their neighborhood schools, districts have found it difficult to find qualified special education teachers to fill the vacancies (U.S. Department of Education, 2014). At the same time, schools have found it difficult to retain special education teachers when they finally hire those who are qualified. Studies of teacher retention have investigated a variety of factors that influence retention (Nance & Calabese, 2009; Stallone, 2011). The dilemma is retention and attrition.

Regardless of the reasons, children still have to contend with changing teachers and potential lack of academic growth as the result of this attrition. Students with special needs require consistency in order to make academic progress and if there are frequent changes of teacher, it may interfere with academic progress (Billingsley, 2005; Golden, C. & Heflin, J. 2012; Turnbull et al. 2013). Those students with special needs fall into one of thirteen categories of disabilities regardless of where they live in the country (National Dissemination Center for Children with Disabilities, 2012). Children with special needs require qualified teachers and they don't have them. It is a problem.

**Issues of general education.** Some say teaching is not very lucrative or attractive which could account for the drop in numbers entering the profession (Berry et al. 2010; Cohran-Smith et al. 2010; Wantabee, 2013). Others think a focus on tighter accountability standards, putting extra pressures on teachers, student behaviors, lack of parent involvement, and recent teacher layoffs is the problem (Freedberg & Rice, 2014; Henry et al. 2011). Regardless, retention is an issue.
Issues of Special Education

Students with special needs require consistency, routine and repetition in order to benefit from their education (Billingsley, 2004, 2005; Friend, 2013; Turnbull et al., 2013). They also need teachers highly skilled in using strategies for behavior, academic areas, sensory issues, physical challenges as well as basic skills in order for students to make progress. If students have teachers who either don't stay long or lack the basics of teaching, like some intern teachers, that could lead to more impairment instead of more improvement (Freedberg & Rice, 2014).

It would be easy to fill positions with mere substitute teachers or babysitters and some school districts have done that. However, the consequences are detrimental to the students and parents would not be satisfied with the education their children would receive. As a result, parents would be forced to take legal action to seek appropriate remedies. Schools with trained special education teachers are essential to student success and teacher retention (Atkins, 2012; Billingsley, B.,1993; Billingsley, B., 2004; Cochran-Smith et al., 2010).

Why is it important to retain special education teachers? It is crucial for the student and their families because with constant changes, students are unable to make progress. Most successful special education teachers know the importance of consistency when working with children with special needs. If special education teachers leave their jobs after a short time, that could spell disaster for children and their ability to make progress (Golden & Heflin, 2012; Hallahan et al. 2012). Students with special needs are included more than even several years ago and as a result, more visible as a bigger part of society (Downing, 2010; Friend, 2013). Schools cannot afford to overlook the students
with special needs, because of both societal and legal consequences (Turnbull, et al., 2013; Wright, 2010). The retention of special education teachers is important to school districts, parents, and students.

**Studies on general education teacher retention.** Recent studies have examined general education teacher retention and attrition (Boyd, 2011; Cochran-Smith et al., 2010; Henry, et al., 2011; Nieto, 2003; Robertson-Kraft & Duckworth, 2013). For example, Boyd et al. (2011) stated that in order to address the issues, looking at and understanding the working conditions that result in high turnover rates are necessary. Teacher turnover results in more expenses to the school district every time it occurs. The study looked at teacher turnover and school factors that included policy, administration, staff relationships, student behavior, facilities and safety (Boyd et al., 2011). They found teachers who received significant administrative support were more likely to stay.

A review of literature about teacher retention by Cochran-Smith et al. (2010) revealed several interesting items such as 46% of new teachers left within five years of starting their jobs. When looking at retention, university prepared candidates were more likely to stay in teaching than those who chose other alternative credential programs or routes.

**Studies on special education teacher retention.** A variety of studies looked at special education teacher retention. One person appearing in the literature several times was Bonnie Billingsley, who addressed the issue of special education teacher attrition in 1993 and 2004, then in a book in 2005. In 1993, she first discussed special education teacher’s intent to stay in the field with another researcher (Cross & Billingsley, 1994) and then explored the research on special education teacher retention in a review of
literature (Billingsley, 2004). Finally, she wrote a book focusing on growing and keeping special education teachers, which is relevant to today’s problems with retention (Billingsley, 2005).

Although the Cross and Billingsley (1994) work occurred 21 years ago, retention of special education teachers continues to be an issue (Ellison & Fensterwald, 2015; France, 2008; Frost, 2010; Gersten, et al. 2001; Horrison-Collier, 2013; Kagler, 2011). These studies did not differentiate between special education teachers and general education teachers when it came to intent to stay and the findings were more teachers intended to stay in general education than special education.

Various studies have looked at variables and conditions that promote special education teacher retention. Some retention factors examined sense of job satisfaction, dynamic leadership interventions, professional development, intrinsic work rewards, intangible work conditions, excessive paperwork, mentoring, job embeddedness, and administrative support and commitment (France, 2008; Frost, 2010; Hawkins, 2009; McCusker, 2009; Parrott, 2010; Watson, 2011). There are many ways to measure special education teacher retention and most of the studies provided suggestions to improve administrative and university practices.

Another aspect of teacher retention looked at burnout as a factor. In fact, Brunsting, Sreckovic, & Lane (2014) summarized a synthesis of research spanning some 34 years and found some interesting trends with special education. In their review of the literature, they found age did not have an impact on burnout and the number of years taught was negatively correlated, meaning the number of years taught was not the factor with burnout. Another finding revealed teachers who taught students with Intellectual
Disabilities (ID) or severe disabilities experienced a lower level of burnout than general education teachers (Beck and Gargiulo, 1983).

**Grit**

Grit can be characterized several ways depending on the source. If one looks on the internet, 47,800,000 hits or results would appear within 0.30 seconds from a variety of sources. In the scholarly world, Duckworth (2006) first penned her definition of grit as “perseverance and passion for long term goals” (p. 1087). Duckworth continued to delve into grit in a variety of studies over a number of years (Duckworth & Gross, 2014; Duckworth et al. 2007; Duckworth and Quinn, 2009; Perkins-Gough & Duckworth, 2013; Robertson-Kraft & Duckworth, 2014; Von Culin, et al., 2014).

Others have looked at grit as an essential skill that teachers need to teach their students so that they can have a successful life (Hoerr, 2013, p. 1). Recently, Farrell told the story of World War II nurses who possessed “Pure Grit” as they survived battle and prison camp in the Philippines (2014, p. 133). Regardless of the source, the word “Grit” is an emerging topic of conversation, research and investigation in education and psychology.

For the purpose of this study, grit is defined as perseverance and passion for long-term goals (Duckworth et al., 2007). Duckworth (2009) explained that grit “entails the capacity to sustain both effort and interest in projects that take months or even longer to complete” (p.166). In Duckworth’s other work (2007), her team looked at three groups that included military cadets, undergraduate college students and participants of the National Spelling Bee. Conducting six studies, summarized in one published article, they...
found that grit rather than intelligence was the factor that predicted success (Duckworth et al., 2007).

**Grit and teacher retention.** Several studies on grit in conjunction with other related concepts or attributes have been done. One study on teacher retention and grit was found (Robertson-Kraft & Duckworth, 2013). This study looked at teacher’s personal qualities not usually considered when school districts hire teachers. Those qualities were: working harder than their peers, consistency of interests and goals over time. More specifically, this study looked at beginning teacher retention and effectiveness on the job.

Duckworth (2009) did a longitudinal study of novice teacher’s considering their optimism, grit and life satisfaction through self-report questionnaires. She found all of the traits predicted teacher effectiveness through student academic progress. Other studies suggested grittier people worked harder and were more committed to their passion (Duckworth et al., 2010).

**Grit and special education teacher retention.**

When it comes to sources on special education teachers and grit, there is a void. Looking at attributes similar to grit, Von Culin et al. (2014) began their study of grit and happiness by reviewing the historical roots of grit and noted that, in late 1800s, the words “zeal and hard” work were used to describe passion for long-term effort (p. 306). Although the Van Culin et al. (2014) study did not look at teachers, it proved further insight into grit and relevant concepts or attributes.

Regarding perseverance, an article from The Phi Delta Kappan (Brashears, 2006) explored the power of perseverance when it comes to working with students with severe
disabilities. Other historical documents included “Perseverance” in the Irish Penny Journal (Goodrich, 1840) and a letter written by Abraham Lincoln in 1860 encouraging his son’s friend to persevere as described by Holzer (2006). Also, early references to perseverance were found in books out of print as in “Perseverance, Loyalty, and Ambition - Guideposts to Character” by George Gerwin (1932).

**Statement of the Research Problem**

For many years, shortages of teachers in special education have occurred and according to studies done over the past 30 years, this is nothing new (Billingsley, 1993; Cross & Billingsley, 1994; Thorton et al. 2007). School districts have had to contend with filling positions with ill equipped teachers for students with special needs, which makes it difficult to provide a quality education for those who need the most help.

Retaining teachers after they are placed in positions is a problem. Recent studies on general education teacher retention have looked at variables such as administrative support, working conditions and legal requirements (Robertson-Kraft & Duckworth 2013; Shea, 2010). For example, they found that administrative support is a key factor for retention of teachers. At the same time, studies have examined the sources of self-efficacy among special education teachers and the retention of those teachers (Atkins, 2013; Martin, 2010; Ruble, Usher, & McGrew, 2011).

Students with special needs, specifically severe disabilities, face many challenges in their lives because of the nature of their disabilities (Downing, 2010; Sado & Robinson, 2010). Therefore, it is important to employ teachers who can help them achieve their goals. Studies have looked specifically at the retention of special education teachers and the factors that increase retention (Atkin, 2013; Brownell & Smith, 1993;

Many researchers have pointed to important factors in retention (Boyd et al., 2011; Henry et al. 2011) and some have proposed solutions (Cochran-Smith et al., 2010; Freedberg & Rice, 2014). In reality, finding the right formula to increase retention would be difficult and perhaps it is a combination of many factors. Robertson-Kraft and Duckworth (2014) looked at teacher retention and grit proposing that the personality factor of grit might make a difference with retaining teachers. They suggested that the prior research of Duckworth et al. (2010) proposed, “gritty individuals gravitate to learning experiences that are especially challenging and effortful” (p. 166).

Special education teachers, especially those who work with children with severe disabilities, know their students need a great deal of repetition over a long and sustained amount of time in order to make progress (Billingsley, 2005; Downing, 2010; Friend, 2013; Turnbull et al.). It would seem that teachers of these students would need a certain amount of grit as defined by Duckworth et al. (2007) as “perseverance and passion for long term goals” (p. 1087) because if they don't possess grit, they would not stay in the field. Studies focusing on a connection between special education teachers who teach students with severe disabilities and grit were not found in the survey of literature. As a result, this study will examine that connection.

**Purpose Statement**

The purpose of this mixed methods study was to explore and describe the importance of Grit (Duckworth et al., 2007) on retention as perceived by special education teachers of students with severe disabilities.
Research Questions

1. To what degree do special education teachers of severely disabled students perceive their level of Grit as measured by the Grit-S, an eight-item survey (Duckworth & Quinn, 2009)?

2. How do special education teachers perceive the importance of Grit on their retention as teachers of severely disabled students?

Significance of the Problem

Teacher shortages are well documented in recent years due to a number of factors such as the large numbers of retirees and the small numbers of those entering the teaching profession (Billingsley, 2004; Sawchuck, 2014; U.S. Department of Education, 2013, 2014). For years, schools have struggled to find special education teachers and now that school districts struggle to fill general education positions, it’s more difficult than ever. Actually in k-12 education, only 10-13% of the entire student population account for those with special needs, which varies by source (U.S. Department of Education, National Center for Educational Statistics, Institute of Education Sciences, 2014).

With the focus on the overall teacher shortage nationwide recently, the special education shortage, which has existed for the last 30 years, is not getting the attention that it should (Billingsley, 2004; Freedberg, 2014; Henry, 2011). Recent studies have looked at general education teachers as well as the retention of special education teachers. Some have pointed out significant factors in retention while others have examined only one or two factors such as job embeddedness, administrative support or school connectedness to name a few (Atkins, 2013; Parrott, P.L. 2010; Ruble, 2010; Watson, 2011).
Grit is defined as perseverance and passion for long-term goals (Duckworth, et al., 2007) and Duckworth (2009) espoused that grit “entails the capacity to sustain both effort and interest in projects that take months or even longer to complete” (p. 166). Angela Duckworth and her team first looked at grit and perseverance in 2007 to determine if it made a difference in the achievement of certain groups. Later, Duckworth and another team oversaw the development of the Short Grit Scale (Duckworth & Quinn, 2009). Most recently, Duckworth found that several pre-employment factors along with grit could predict retention of novice teachers (Robertson-Kraft & Duckworth, 2013).

This writer would propose that special education teachers who focus on students with severe disabilities by the very nature of their teaching are those who have the ability to sustain effort and interest in projects (their students) and there is a void in research to investigate the retention of special education teachers and the factor of grit.

**Definitions**

- **Attrition**: Teachers who leave the profession of teaching (Atkins, 2012)
- **Disabilities**: Thirteen categories of disabilities for those with special needs as outlined in federal law (U.S. Department of Education, 2015)
- **General Education**: Classrooms that serve all students (Boyd et al., 2011)
- **Grit**: Perseverance and passion for long-term goals (Duckworth et al., 2007)
- **Individual Education Plan (IEP)**: An Individual Education Plan written for every student with special needs that outlines their program and services (Wright, 2010)
- **Retention**: Keeping teachers currently in the profession (Nance & Calabese, 2009; Stallone, 2011)
• **Severe Disabilities or Moderate/Severe Disabilities**: Students with intellectual disabilities, multiple disabilities, autism and low-incidence disabilities (Hallahan, et al. 2012)

• **Special Education**: Students with special needs entitled to services such as special day class, speech therapy, occupational or physical therapy as outlined in federal law (Wright, 2010)

**Delimitations**

There were several delimitations for this body of research:

1. Special education teachers in the counties of Kern, Kings, Madera, Merced and Tulare in California were the focus of this study
2. The only category of teachers studied were special education teachers who work with students with severe disabilities

**Organization of the Study**

This chapter was an overview of the study with a brief summary of grit and special education teacher retention factors and key points. Chapter two will review relevant literature to provide a foundation for the study and chapter three is a description of the methodology of the study. Chapter four will analyze the findings of this research and finally, chapter five summarizes the research, conclusions and recommendations for further research.
CHAPTER II: REVIEW OF THE LITERATURE

This study sought to look at grit and special education teacher retention. There is a shortage of special education teachers and having teachers who can persevere for the long term makes a difference in children’s lives. All over the country, school districts have experienced a shortage of teachers in both special education and general education (Freedberg, 2013; U.S. Department of Education, Office of Post-Secondary Education, 2013, 2014). Many in the field of special education have observed shortages for years, so a shortage of special education teachers now is not surprising (Berry, 2010; Billingsley, 1993; Brownell & Smith, 1993; Thornton, Beltier & Medina, 2007). However, the problem school districts now face with shortages in general education magnifies the issue (Ellison & Fensterwald, 2015; Freedberg, 2013; Tucker, 2015; Rich, 2015).

The goal of the literature review was to explore special education, the teacher shortage and then teacher retention. The study looked at grit and this researcher’s premise that teachers with more grit tended to stay in special education longer. Finally it is important to understand the conceptual framework of grit as defined in the literature to better understand this concept.

The Evolution of Special Education

Students with disabilities were excluded from many schools until the landmark passage of Education of the Handicapped Act (P.L. 94-142) in 1975 (Vaughn, Bos, & Schumm, 2007). This act ensured students with disabilities could attend school and receive appropriate services. However, parents, advocates and others pushed for more services and programs through legal means because they were not satisfied with placement and services (Osborne & Russo, 2006).
Mainstreaming was available under this legislation and students with disabilities attended general education classrooms for limited amounts of time. Full-time placement in general education classes for students rarely occurred in 1989 when parents in Sacramento, California requested that their daughter with mild disabilities be placed in a general education classroom. They were denied access by a fair hearing officer. Through the courts the parents later won a landmark ruling through *Sacramento Unified School District v. Rachel H.* in 1994 and, as a result, their daughter was placed in a general education classroom (Osborne & Russo, 2006).

Over time, students with mild disabilities began to integrate into regular classes and those with severe disabilities began attending neighborhood schools (Hallahan et al., 2012). In 2004, the Individuals with Disabilities Education Act (IDEA) described, revised and extended special education to gain access to general education classrooms for students with special needs. The passage of IDEA was helpful but more work was needed to assure equal access because it was poorly enforced.

Currently, parents rarely need lawsuits to ensure their students are included in general education classrooms. Although all students with special needs are not included in general education classrooms full time, the numbers of students who do enjoy full-time inclusion have increased. Specialists accommodate the specific needs of children with disabilities in the general education classroom. There are services by specialists to accommodate for their specific needs. Students with special needs are held to the same standards as typically developing students for statewide assessments, with accommodations. However, in years past they were not held to the standards, included on assessments or given accommodations. (Vaughn et al., 2007).
Now students with special needs can begin their schooling in a general education classroom that provides them with services—rather than beginning in a special education classroom and working toward inclusion in the general education setting (Hallahan et al., 2012). In addition, university credential courses for future teachers use textbooks such as *Academic Instruction for Students with Moderate and Severe Intellectual Disabilities in Inclusive Classrooms* (2010), which suggests that it has an impact on teacher thinking pre-service. University students in general teacher credential programs receive instruction using texts such *Exceptional Learners: An Introduction to Special Education* so that they have a foundation in special education before they begin teaching (Fresno Pacific University Academic Catalog, 2015).

Services for students with special needs have evolved over the past thirty years and inclusion practices have evolved as well (Hallahan et al., 2012). Instead of simply focusing on the differences as was done in years past, we now “we give more attention to what exceptional and non-exceptional learners have in common” (Hallahan et al., 2012, p. 4). Even though services for students have evolved, schools now face a combination of special education teacher shortages as well as general education teacher shortages.

To further understand the challenges of students with special needs, it is important to note the variety of needs and eligibilities included in special education. The Center for Parent Information and Resources (CPIR, 2015) outlined the disability categories, which includes students from birth through 22 years old, including:

- autism,
- deaf-blindness,
- deafness,
• emotional disturbance,
• hearing impairment,
• intellectual disability,
• multiple disabilities,
• orthopedic impairment,
• other health impairment,
• specific learning disability,
• speech or language impairment,
• traumatic brain injury, and
• visual impairment including blindness (CPIR, 2015).

**Special Education and Attrition**

There is a problem with special education and it is two faceted. First, there is the long term a shortage of special education teachers that has been addressed in the literature (Billingsley, 2004a; Cross & Billingsley 1994; Hallahan et al., 2012; Thornton et al., 2007). Secondly, once schools hire special education teachers, they lose them to attrition. Basset Berry asserted the “cost of attrition is greater than the additional expense of continual recruitment” (2010, p. 2).

A review of literature regarding special education offered solutions to address attrition that occurs in many school districts because school districts should not have a “revolving cycle of new teachers who change careers after a few years in education” (Thornton, Peltier, & Medina, 2007, p. 234). Thornton et al. (2007) stated they saw the shortage over two decades further validating and confirming the special education teacher shortage. Attrition negatively affects children and schools because retraining is costly
and students lose valuable instructional time with teacher turnover (Berry, 2010; Billingsley, 2005; Cochran-Smith, Cannady, Pesola McEachern, Piazza, Power, & Ryan, 2010/11; Golden & Heflin, 2012; Henry, et al. 2010; Thornton et al., 2007). The primary reasons special education teachers leave the field include employment issues, personal issues, students, lack of support, retirement, or better paying jobs (Henry et al., 2010; Jones et al., 2013; Nance & Calabese, 2009; Stallone, 2011; Thornton, 2007; Wantabe, 2013).

Shortages of qualified teachers threaten the quality of education that students with disabilities receive (Basset Berry, 2010; Cochran-Smith et al., 2010/2011). Because of the shortages, students receive their education from marginally qualified special education teachers or substitutes (Hallahan, Kauffmann, & Pullen, 2012). For students to benefit from their education, they need teachers with expertise in instruction, management of maladaptive behaviors, technical advances, and knowledge of special education law (Hallahan et al., 2012).

Also, Hallahan et al. (2012) suggested it was not just the instructional content but rather the alteration or adaptation of instruction for the students that made it special. General education teachers teach to the whole group and the special educator alters the instruction so that it is understandable to the student with special needs in whatever setting it is taught. The areas or dimensions of instruction needed for students with special needs included pace, intensity, relentlessness or persistence, structure, reinforcement, class size, curriculum and monitoring and assessment (Hallahan et al., 2012).
Even though teacher preparation has evolved to the point of providing more expertise than ever, it takes time to reach an effective level of competency. If teachers only stayed for short periods of time, they were unable to approach the level of expertise needed for students to make progress. This is the aftermath of the teacher shortage: many new teachers leave before mastering the essential skills of teaching (Hallahan et al., 2012).

**Issues of General Education**

Berry, Daugherty and Wieder (2010) reviewed conditions that affect teachers, their effectiveness and the future of education. They suggest the kind of teacher credentialing pathway (traditional or non-traditional) was not the issue but the more important issue was ensuring teachers were prepared to teach effectively. However, Berry et al. (2010) found mentoring critical for new teachers who need to engage in constant reflection in order to improve their own teaching practice and effectiveness. Additionally, new teacher collaboration and peer learning were essential for teachers as they started out on their educational journey.

Nationwide, teacher shortages exist and school districts have concerns about filling them. They continue to seek new teachers to fill the ever-increasing number of classrooms (U.S. Department of Education, 2014). Even with the teacher shortage, teacher retention has been a problem for districts and some have offered solutions such as teacher mentoring and increased administrative support. In a review of teacher education, practice, and retention, Cochran-Smith et al. (2010/2011) discovered several interesting assertions through their research about retention. For example, credential candidates with higher achievement scores as measured by the ACT (American College
Testing) were not necessarily better teachers though they were more likely to stay in teaching.

Districts with induction programs were more likely to retain teachers and teacher dispositions and commitment to teaching made a difference. It was interesting to note that teachers who were less effective were more likely to leave than more effective teachers. Close links between universities and school districts resulted in higher retention for school districts (Cochran-Smith, et al. 2010/2011). Also, they conveyed what some studies confirmed: programs with high rates of retention focused on teachers who were not afraid to work and strongly committed to the job, coupled with practical experience in the settings where they would eventually teach. In other words, is there a link between retention of teachers, their training, and their practice?

### Issues of Special Education

Districts serving students in k-12 schools today have many challenges when it comes to students with special needs. Because of federal laws such as the Individuals with Disabilities Education Improvement Act of 2004 and earlier federal legislation, students with special needs have the right to a Free and Appropriate Education (FAPE). This means students are entitled to services provided by special education teachers (U.S. Department of Education, 2015). However, due to the low numbers of available special education teachers, providing skilled teachers to students with the most challenging learning needs proves difficult. Downing (2010) postulated that trained teachers with high expectations were necessary to help students achieve their highest potential. If special education teachers are not available, what will become of students?
Golden and Heflin (2012) echoed this sentiment when they investigated aspects of teaching students with special needs especially those with autism, developmental delays, sensory needs and behavior challenges. They recommended best practices including evidenced based teaching methods, interventions and techniques to help students achieve their individual goals.

Through their research on best practices, Golden and Heflin (2012) suggested classroom management had “the greatest effect on student achievement” (p. 7). Their goals for well-managed classrooms were to reduce teacher stress and attrition as well as increase student performance at school. Their research review found that special education teachers were at risk and “two and a half times more likely to leave their teaching positions than were general education teachers” (p. 8). They proposed their research-based strategies promote student achievement, teacher knowledge, and implementation of best practices thereby reducing attrition (Golden & Heflin, 2012).

**Studies on General Education Teacher Retention.** There have been many studies investigating retention and the findings are varied. In a study of novice teachers in North Carolina, Henry et al. (2011) found teachers increased their effectiveness between the first and second year and perhaps their confidence. The implication was most likely they would have learned skills and gained insight about teaching and their students after the first year. They also found that teacher effectiveness plateaus after three years. Additionally, they concluded teachers who left after one year were less effective than those who stayed longer. Maybe teachers who left after one year had demonstrated less effectiveness than those who stayed for the ensuing years. The suggestion was that those leavers knew the job of teaching was beyond their scope of
comprehension and ability. On the other hand, the effectiveness of novice teachers improved more quickly with assistance thus confirming the work of other studies, which concluded administrative support, was essential to retention (Boyd et al., 2011). After three years, teacher effectiveness did not increase and those who left after three or four years were less effective in their final year (Henry et al. 2011, p. 278).

Boyd et al. (2011) speculated that administrative support was the greatest influence on teacher retention in their study of teachers in New York City. The study started with first-year teachers, followed up a year later with those same teachers and an examination of data for all teachers in the district. They looked at teacher turnover and school contextual factors of teachers influence over policy, administrative support, staff relations, teacher influence, student behavior, facilities and safety. The general findings were school administrators played a part in teacher retention.

Boyd et al. (2011) defined administrative support as teachers feeling they were supported so that they could do their jobs. Staff relationships were noted as positive among teachers where they had a shared responsibility for all students at the school. Teacher influence referred to the teacher’s ability to have a voice in class and the school. Student behavior was defined as discipline and the school’s view and policies on behavior. Facilities were described as building conditions, classes as well as resources like textbooks. Safety conditions included threats to well being because of the potential of actual physical assault and violence from students and neighborhoods (Boyd et al., 2011).

The correlational study found teachers more likely to stay in their positions if they perceived all of school contextual factors in a positive light. Of all the factors examined,
“the administrative factor is the only one that significantly predicted teacher retention decisions” after controlling for school and teacher characteristics (Boyd et al., 2011, p. 323). Characteristics included demographics of schools and the teachers. Another interesting finding acknowledged first-year teacher reports about conditions, as outlined previously, predicted attrition for themselves as well as other teachers in the setting. While this study did not explain why schools had higher turnover, it did describe the conditions that related to teachers staying or leaving.

Other studies looked at school contextual factors that made a difference. Administrative support appeared to be a factor in retention (Billingley, 2004; Demik, 2008; Cross & Billingsly, 1994). Relationships between special education teachers and general education teachers was a factor in retention (Demik, 2008; Horrison-Collier, 2013; Jones, 2013). Other school contextual factors affecting special education retention included teacher influence that reduced ambiguity of roles (Basset-Berry, 2010; Cross & Billingsley, 1994). For example, if teacher roles were clearly defined and teachers played a part in defining them, that made a difference. Delineating roles and responsibilities between teachers reduced ambiguity.

**Studies on Special Education Retention.** Though not recent, some of the studies referenced in the literature reflect themes that persist today. Cross and Billingsley (1994) examined variables affecting intent to stay in special education by studying 658 special education teachers in Virginia through surveys. They looked at several retention variables through a pathway analysis, which is a way to “decompose correlations among variables into causal and non-casual components” (p. 414).
Cross and Billingsley (1994) found high correlations between job satisfaction and commitment to teaching. In addition, they suggested teachers with less stress and role issues or ambiguity and more administrative support were more committed than those with less support and more stress. The results showed more satisfaction among special education teachers, which might influence teacher’s intent to stay. Their findings suggest that school districts can influence teachers’ intent to stay by increasing support, reducing stress and clarifying roles to reduce ambiguity.

In 2004, Billingsley stated that retention factors in special education have existed for more than two decades (2004a). The high numbers of uncertified teachers and the high attrition rate threaten the quality of education for students with special needs. The issue of retention continues in 2016, which means the retention problem has persisted for 40 years. It matters because it has not gotten better. The only difference now is there a shortage in general education now, which compounds the issue. Billingsley reviewed the research on teacher attrition and retention and found several relevant themes that hold true in 2016: new teacher induction mentoring, role ambiguity and overload, work conditions and professional support (2004).

One theme was that special education teachers were more likely to leave teaching than general education teachers. Those who were more likely to leave included those with less experience, those who did not serve as their family's primary breadwinner, and those who were younger in age. Better preparation lead to longevity in the classroom. Teachers with little administrative support more likely to leave as reiterated from previous studies (Boyd et al., 2011; Henry et al., 2011). In addition, carefully designed
mentoring impacted the teacher’s ability to sustain and establish teaching practice and routines in the classroom for years to come (Billingsley, 2004a).

Gersten et al. (2001) examined factors that enhanced special education teachers’ intentions to stay in the classroom. The researchers surveyed teachers in three large urban school districts and they looked at sets of data and their relationships through the use of pathway analysis. They used an explanatory model that provided a full explanation of either phenomena or description of how and why. In this case, they sought to explain special education teacher retention. Their results implied school districts need to address the issue of job design.

Job design included understanding what the job entailed. For example, is the job reasonable within the confines of a school day? Also, is the job something that a well-trained special education teacher should be able to perform adequately? Gersten et al. (2001) maintained job design addressing school and district support and stress was essential to teacher retention.

DeMik (2008) focused on retention by analyzing the narratives of five special education teachers. DeMik used an open discussion of participant perceptions, issues, and concerns to gather a deeper understanding of retention. DeMik divided the participants into two groups:

- **Stayers:** those who have taught for more than five years
- **Leavers:** those who have left the field or transferred to general education

DeMik’s conclusions focused on the importance of collaboration between special educators and general educators to increase understanding of their respective fields. The participants felt collaboration essential for a successful program.
Basset-Berry (2010) examined different kinds of attrition that included transfer to teaching general education, leaving the field of education entirely or transferring to a related area such a non-teaching position in a school. The purpose of the study was to examine support for rural special educators and teachers’ plans to stay in their assignment. The method for the study included surveys that were first reviewed by an expert panel to ensure validity. After that, multiple and open-ended questions were administered to participants through phone interviews.

Basset-Berry made several findings. Peer support was most helpful but limited collaboration with other teachers was an issue. Paperwork demands and lack of parental involvement affected teacher’s decisions to leave their positions. Also, attrition of this group was 29% compared to national attrition levels of 11%. However most of the teachers (90-92%) would choose special education again. Basset Berry found there was a relationship between support, commitment, and satisfaction with the job (2010).

Horrison-Collier (2013) examined the relationship between mentors, job satisfaction, and special education teachers. Their mixed methods study examined state survey results and qualitative interviews. The variables that stood out from others were job satisfaction, and it included “time and opportunity to discuss and share ideas with other teachers” (p. 127). Respondents mentioned them more often during the interviews. The findings identified mentoring and relationships among teachers as the most effective factor for retaining special education teachers.

Jones, Youngs and Frank (2013) hypothesized that retention of novice general and special education teachers was greatly influenced by whether or not they formed relationships with fellow teachers at their schools. New teachers, especially those in
special education, were less likely to access available resources as well as those in general education primarily because of the myriad of responsibilities they had. The relationships developed with other teachers were key to their longevity in the classroom and retention. For special educators the importance of a good fit and a sense of belonging were essential.

**Grit**

Duckworth, Peterson, Mathews, and Kelly (2007) defined grit as “perseverance and passion for long-term goals” (p. 1087). Others explored grit and perseverance by examining teachers, students and other learners (Brashears, 2006; Duckworth, 2006; Duckworth & Gross, 2014; Duckworth & Quinn, 2009; Duckworth & Seligman, 2005; Hoerr, 2013; Perkins-Gough & Duckworth, 2013; Robertson-Kraft & Duckworth, 2013; Slack, 2014; Von Cullin et al., 2014), military cadet retention (Maddi, Matthews, Kelly, Villarreal, & White, 2012), college students (Bowman, Hill, Denson, & Bronkema, 2015; Strayhorn, 2014;) and the workplace (Meriac, Slifka, & LaBat, 2015; Suzuki, Tamesue, Asahi, & Ishikawa, 2015). The next section includes several historical references.

**Historic Roots of Grit and Perseverance**

Goodrich (1840) explains perseverance by using examples of historical figures like Timour The Tartar Tamerlane and Robert Bruce of Scotland. Timur the Tartar Tamerlane was a 15th century Asian warrior who became the subject of stories in the 1500’s to inspire children and adults when times were especially challenging in Europe and England (Knobler, 2001). He was believed to be a vicious conqueror but in reality was a Christian, and there were many great stories told about him. Goodrich (1840) related one story: Timour the Tartar was once locked in a dungeon for a long period when
he became entranced by an ant attempting to scale the wall. Over and over the ant fell but finally—on the 60th attempt—the ant succeeded. The monarch exclaimed, “I will never despair—Perseverance conquers all things!” (Goodrich, 1840, p. 32).

A similar story was told about Robert Bruce, the fierce defender of Scotland who “had occasion to sleep at night in a barn” (p. 32) before a famous battle (Goodrich, 1840). He, too, observed a small creature—a spider—that stuck to the task of climbing a tall beam reaching to the top of the barn and did not give up after the first failed attempt. This spider tried and fell 13 times until it finally succeeded in reaching the top. The fighter exclaimed, “This despicable insect has taught me perseverance” and then he went on to victory, saving all of Scotland in the coming battle (Goodrich, 1840, p. 32). These two illustrations demonstrate the power of perseverance and grit from a historical perspective.

Another historical reference to grit came from Holzer (2006) who related an anecdote about Abraham Lincoln writing a letter to his son’s childhood friend, George Clayton Latham, in 1860 about persevering despite being rejected by Harvard. Lincoln assured the young man “in the end, you are sure to succeed” (Holzer, 2006, p. 48). Lincoln understood the importance of grit and perseverance.

Farrell (2014) examined the grit of nurses who survived the battles in the Philippines during World War II (1940-1945), relating many examples in the book True Grit. Through interviews of surviving nurses, Farrell demonstrated and exemplified grit. Some attributes listed included making do, willpower and acceptance, encouragement, endurance, faith, keeping busy, coping, just doing their job, courage, strength, giving of one’s self, caring for others, and doing one’s best. She summarized the way the nurses
endured this way: “When events much larger than they could control took over their lives, they chose to summon pure grit, moment by moment” (p. 133). The nurses who survived the horrific experience of being held captive for three years in the Philippines in World War II understood the concept grit and perseverance.

Finally, consider the example of the Lakota tribe, indigenous to South Dakota, as a long history of grit and perseverance (Marshall, 2006). Stories told by Lakota elders exemplify the attributes needed to endure insurmountable odds. One story recounted by Marshall (2006) explains the way of the Lakota:

A small village surrounded by mountains had a villager who once made the treacherous climb to the summit to view the village from high above. His discovery of the magnificent beauty led others to attempt the climb, and some died as a result. A local stonemason decided to carve steps into the mountain so all could climb and see the village from above. The stonemason built steps that were “half the height of a man, and just as wide and as deep” (p. 113). It took the stonemason ten years to carve three steps. Over the years, others took up the task to complete the steps subjecting themselves to ridicule for doing something that appeared to be so unimportant and futile. Over many decades nearly 50 stonemasons worked on the steps, and the villagers were now the great-great-grandchildren of the original stonemasons. Finally, the steps were completed, and two photographers scaled the summit, taking pictures of each step as they went. When the photographs were displayed, all of the villagers were quick to notice one thing: “At the base of each step, there were two carved words: KEEP GOING” (p. 111-117).
The Lakota epitomized grit and perseverance through their stories preserved by elders’ storytelling. Though Duckworth et al. (2007) did not review culture in the research, it is important to remember that many cultures such as the Lakota value “perseverance and passion for long-term goals” (Duckworth et al. p. 1087).

**Grit Research**

Before delving into grit research, it should be noted Duckworth and Seligman first addressed the relationship between self-discipline and academic achievement, which is closely related to drive and perseverance, in 2005. They found that “self-discipline predicted academic performance more robustly than did [intelligence]” (Duckworth & Seligman, 2009, p. 942). Based on this finding, they recommended schools focus more on teaching and developing self-discipline to increase academic performance. This research was a precursor to the work on grit and perseverance that followed (Duckworth, 2006; Duckworth et al., 2007; Duckworth & Kirby, 2011; Duckworth & Quinn, 2009; Maddi et al., 2012; Perkins-Gough, 2013; Slack, 2014; Strayhorn, 2014). Each of these is summarized in the body of this text.

In 2006, Duckworth completed a dissertation that focused on predictors of achievement other than intelligence. For that work, Duckworth did not conduct research in a typical manner with questions to be answered. The dissertation included three chapters, each focusing on a different aspect of achievement that included grit and self-control. She defined grit as “perseverance and passion for specific, high goals, sustained over years” (Duckworth, 2006, p. 73). Chapter 1 of her work included two studies of adolescence, which were published earlier in Duckworth and Seiligman (2005). Chapter 2 focused on gender differences using the same cohort of adolescents as Chapter 1 and
for the sake of completing two additional studies. Finally, Chapter 3 introduced grit through five studies published later as Duckworth et al. (2007).

**Student grit.** Duckworth focused on gender differences among high school students in two studies for Chapter 2 of her dissertation (Duckworth, 2006). She concluded that girls outperformed boys with grade point averages primarily because they demonstrated more self-control. Girls had superior self-control though boys’ performance on intelligence tests scored higher, albeit not to a significant degree. It was unclear if these findings persisted into adulthood. Duckworth argued that “women are more self-disciplined than men, but beyond college, other psychological, social, and cultural factors swamp the self-discipline edge” (p. 46).

Duckworth and Quinn (2009) revisited the study by Duckworth et al. (2007) because they thought the “differential predictive validity” of the traits of “stamina in dimensions of interest and effort” (p. 166) deserved fuller exploration. They examined whether one trait predicted outcomes better than the other. Part of the examination was to develop the Grit-S, which, was a shorter version of the original grit survey (Grit-O) developed by Duckworth et al. (2007). Also, they described Grit-S as a more reliable and stable measure of grit than the Grit-O.

To further explore the concept of grit, Duckworth et al. (2011) considered the Scripps National Spelling Bee and the traits of finalists in the competition. Questions for the investigation included questions about preparation, effectiveness and practice:

- How effective are the preparation activities?
- Are the most effective prep activities enjoyable and effortless?
• What traits enable spellers to accumulate more of the most effective types of practice?

The researchers put forth that these questions were relevant “to academic learning in general” (p. 174). They defined deliberate practice as focused, planned activities to improve skills. The spellers were divided into three areas depending on their types of practice:

• Practice through verbal leisure activities- reading for pleasure or incidental learning with games,

• Practice through quizzing by people or computer quizzing

• Practice through solitary study of words and origins – deliberate practice (p. 175).

Duckworth et al. (2011) asserted that solitary deliberate practice in other disciplines proved to be more effective than other kinds of practice. Essentially, being alone in a solitary setting was the best way to prevail in a spelling bee. However, practicing in this way took more effort and was less enjoyable than other kinds of practice. People who accumulated more hours of deliberate practice than other kinds of practice were likely to engage in the activity because they wanted to improve and not because it was inherently more satisfying.

Duckworth et al. (2011) found that deliberate practice time predicted those who would prevail in the final competition of the National Spelling Bee. Also, as spellers got more experience with competitions, they tended to engage in deliberate practice more than other types of practice. In conclusion, those who were practicing for a spelling bee would be well served if they worked in solitude instead of receiving quizzes from family members or computers, played word games or engaged in other leisure activities.
Grit, self-control and happiness. Duckworth and Gross (2014) explored grit and self-control using a “hierarchical goal framework” (p. 319). They explained studies that showed that self-control predicts outcomes such as IQ and social economic status. Grit, on the other hand, predicts goal attainment in spite of obstacles. People who show up and work hard for years and years would be an example of grit. Duckworth and Gross found grit and self-control were highly correlated and thought of as one by many laypeople and researchers.

Their framework included “superordinate goals” (Duckworth & Gross, 2014, p. 321) at the top of the hierarchy followed by lesser goals related to the superordinate goals placed in the middle followed by actions needed to attain goals. Both grit and self-control involved actions but the difference was a person showing grit emphasized the “dominate superordinate goal” (p. 321) at the top of the hierarchy. This person did not stop when encountering obstacles, but rather looked for viable alternatives to continue working on the big goal. Self-control involved conflicts between actions that would interfere with attainment of short-term goals leading to the overarching goals. A grittier individual would keep an eye on the ultimate goal and not lose sight of it over years and years.

Von Culin et al. (2014) examined happiness that included meaning, pleasure, and engagement. In a study of adults, the participants completed online psychological self-assessments. The researchers found that grittier people were more likely to seek happiness through engagement or connections with others. Essentially, they found “pursuit of engagement and meaning, as opposed to a desire to please, comprised motivational correlates of grit,” (Von Culin et al., 2014, p. 311).
**College grit.** Embracing the grit construct put forth by Duckworth et al. (2007), Strayhorn (2014) sought to determine the relationship between grit and grades for black male college students because two-thirds of them leave before graduating. He found no studies adding validity to the academic success of black male college students at primarily white institutions (PWIs).

Strayhorn used an ex-post facto design—one based on information previously collected—which was part of a larger study of black male college students in the country. The questions for Strayhorn’s study included:

- What is the relationship between grit, as measured by the Grit-S questionnaire and Black male college students’ grades?
- Does grit add incremental predictive validity for explaining college grades over and beyond traditional measures, controlling for age and a battery of potentially confounding variables?

Strayhorn found students with higher ACT scores and high school grade-point averages were grittier than other students for his population. Also, those who scored higher in grit received better college grades when controlling for age, year in school, transfer status, activities, aspirations and prior achievement. The conclusions were that grit accounted for college success.

Strayhorn stated that the results showed “compelling evidence that grit influenced grades in college for black men at PWIs (p. 7). He believed that finding was an important “extension of grit research” (p. 7) that should be explored further. This exploration should focus on encouraging black male students to exert themselves and work to persevere because research shows it makes a difference.
Slack (2014) agreed that the topic of black students was worthy of investigation when he examined self-efficacy and grit or perseverance of black college students enrolled in remedial programs. The intention was to inform college personnel about ways to retain such students. The mixed methods study used the Short Grit Scale (2009) and the Academic Self-Efficacy Scale based on Bandura’s (1997) work on self-efficacy. The results revealed positive correlations between grit and self-efficacy in certain subtests. They found college students with a more positive outlook had a higher retention rate among respondents.

In other research involving college students, Bowman et al. (2015) examined two dimensions of grit: perseverance of effort and consistency of effort over time. They used an Internet survey targeted to a sample of college students at two universities. Perseverance of effort was a stronger predictor than consistency of interest for academic and non-academic outcomes.

They found that grit predicted student outcomes for academic and non-academic aspects of college. The outcomes included GPA, intent to persist, satisfaction, and sense of belonging and academic adjustment. Perseverance of effort predicted GPA increase over time (Bowman et al., 2015, p. 644). Recommendations for further study included observer reports of grit rather than self-reports and longitudinal survey data to investigate changes in career.

**Workplace grit.** Recent research on grit and the workplace added further to the body of research on grit. Meriac et al. (2015) considered the overlap of grit and work constructs. They studied employed university students who were given six measures at two points in time. The analysis of the data revealed:
• work ethic and grit were positively related,
• grit positively correlated with hard work,
• grit did not positively correlate with delay of gratification,
• work ethic positively correlated with conscientiousness,
• grit positively related to conscientiousness,
• grit was more related to conscientiousness than work ethic,
• work ethic demonstrated job satisfaction beyond grit, and
• work ethic and grit were empirically distinct (p. 403-404).

To further explore grit and the workplace, Suzuki et al. (2015) investigated grit and orientations towards happiness in their study in Japan. The study sought to replicate Duckworth et al.’s (2007) study but addressed additional questions regarding work engagement, happiness, conscientiousness and self-control. The Japanese Grit Scale was used as well as Orientations to Happiness, Japanese Big-Five Scale, Self-Control Scale, and a work engagement scale.

Through data analysis, they found “happiness significantly associated with grit” (p. 5). In examining several variables including age, sex, income and education, they found that women were grittier than men. Another finding showed grit positively associated with work engagement. The researchers stated that Japanese people are “grittier if they seek happiness through meaning rather than engagement” (p. 11).

Suzuki et al. (2015) also claimed that grittier employees “were more likely to engage with their work than less gritty” workers (p. 11). Also, Suzuki proposed that those who sought happiness through meaning and engagement more likely connected to
work. Further study might include worker retention or even teacher retention to see if grit, engagement, and happiness could be a retention factor.

**Grit and Teacher Retention**

As noted previously, teacher retention has been an issue for schools for many years (Berry, Daugherty, & Wieder, 2010; Boyd et al., 2011; Henry et al., 2011). Duckworth, Quinn and Seligman (2009) suggested there were differences of opinion when some researchers attempted to determine the most important qualities of effective teachers. Most studies on teacher effectiveness and essential teacher qualities based their work on teacher ratings, but few have considered student progress in addition to teacher characteristics. The implication is looking at both factors may result in higher student achievement. Duckworth et al. (2009) looked at grit, life satisfaction, and optimistic explanatory style when they considered novice teachers in Teach for America (TFA). The hypotheses included:

- Positive traits of grit, life satisfaction, and optimistic explanatory style would independently predict teacher performance;
- TFA teachers would be higher than other adults for the three traits;
- Positive traits were stronger predictors of teacher effectiveness

Participants included novice teachers placed in various parts of the country and low-performing schools. The researchers administered the Short Grit Scale, Satisfaction with Life Scale (SWLS) and the Attributional Style Questionnaire (ASQ). Also, teachers were ranked on student academic gains based on a rubric.

The results of the study demonstrated that all three positive traits predicted student performance as measured by academic gains. However, no one trait
demonstrated teacher effectiveness by itself. Only novice teachers were included in the sample, which might affect the grit score. The grit scores were based on the school only and not prior gritty experience. This could mean school districts could use grit as a hiring practice to improve retention. Some say grit could be improved through intervention (Duckworth et al., 2007; Duckworth & Quinn, 2009), an interesting concept considering the potential for improving teacher effectiveness.

Robertson-Kraft and Duckworth (2013) noted that less effective teachers were placed in low performing schools, and this was problematic because teacher effectiveness was an important variable in student learning. Also half of all teachers left their jobs in the first five years. This factor may affect student learning in as much as consistency of instruction would be disrupted for students. In their study, Robertson-Kraft and Duckworth (2013) looked at teacher grit levels to see if retention could be predicted based on biographic data.

Previous work by Duckworth et al. (2009) claiming that grit predicted teacher effectiveness used a self-report method thought to be questionable. To address this shortcoming Robertson-Kraft and Duckworth gathered biographical data on novice teachers in low-income schools through the use of coders’ blind to the research questions. They compared grit scores with variables that included college GPA, interviewer ratings of leadership skills and demographics.

Robertson-Kraft and Duckworth found that grit and teacher retention and effectiveness had an effect on novice teachers. Specifically, teachers “with evidence of sustained passion and perseverance in activities prior to entering teaching were more likely to be retained through the school year and to improve their student academic
performance” (p. 19). Because of the challenges of teaching, the researchers thought it “logical that grit would positively impact teacher performance and persistence” (p. 20). They found that several pre-employment factors along with grit could predict retention of novice teachers (Robertson-Kraft & Duckworth, 2014). This study, however, did not address special education teachers and the grit they need to help their students achieve goals over long periods of time. For students with severe disabilities, having a teacher who could sustain passion over a long period would be essential to student achievement.

**Grit and Special Education Teacher Retention**

Hoerr (2013) wrote about grit in education and the ways in which teachers could foster grit in their students. He was a school administrator and his book was directed to teachers. Teachers may have students who learn easily but do the students have grit or resilience when it comes to carrying on despite failure? He proposed that teachers could foster grit in their students by designing learning experiences where students struggle to achieve long term goals. Additionally, he developed a teacher grit survey that he used with his teachers in a school setting.

However, Hoerr did not address teachers who teach students with severe disabilities where the teacher must sustain grit and perseverance over a long period because the students take that long to achieve their goals. It may take a student numerous repetitions or trials over months or years to master tasks that most people take for granted. Brashears (2006), for example, related a situation in which she worked with a student with severe disabilities who needed repetition after repetition to make even minuscule progress. Through her work with a particular student, she learned to persevere. Brashears’s experience is not unlike thousands of teachers who have
dedicated their teaching careers to work with those who are the most challenging learners.

Duckworth and Gross (2014) explained grit involves having long term goals and working “assiduously toward” …… “through thick and thin” for long periods of time, even years (p. 319). Unbeknownst to Duckworth and Gross, their definition of grit described teachers who work with students with severe disabilities. There is a void in the literature regarding the grit of special education teachers who work with students who have severe disabilities. This study will fill that void.

**Conceptual Framework**

A conceptual framework is an important part of a dissertation. Roberts proposed it is critical to set the foundation for a dissertation (2010). Without a framework, a study is just like pieces of a puzzle that are not connected. As a result, they are separate parts with no real connection to a topic being studied. This conceptual framework outlines and summarizes some previously review work as well as adding substance to the conversation on grit and teacher retention.

Early research by Duckworth (2006) examined non-IQ predictors of achievement that included self-discipline and grit. The results supported grit as a predictor of achievement. It is important to note part of the Duckworth dissertation was published as Duckworth et al. (2007). Duckworth et al (2007) postulated grit was more important than intelligence when it came to prevailing over obstacles in the long term. They developed the grit construct by using five different scales or assessments based on research of Williams James in 1907 and Francis Galton in 1892. The Grit Scale (Grit-O) resulted
from development and validation that transpired over the course of six studies. The six studies are reviewed here.

**Grit study 1.** This was purposed to develop and validate a measure of grit using adults, 25 years and older. Researchers wanted to know why some people with similar intelligence levels achieved more than others. Initial interviews of high achieving adults such as lawyers, doctors and professionals allowed researchers to test survey questions. Also, they wanted items that could be used for both adolescents and adults. Researchers predicted “more educated adults were higher in grit” than those with less education and the same age (p. 1091). Some of the variables were education and age. Results showed post-college adults were “higher than most other groups”(p. 1091) regarding grit.

**Grit study 2.** Study 2 investigated whether or not grit provided “incremental predictive validity over and beyond Big Five traits” (p. 1093). The Big Five model was a framework regarding traits that predicted success and personality: conscientiousness, extraversion, openness to experience, neuroticism and agreeableness. Initially developed as a personality inventory, the Big Five model was further described by Srivastava, John, Gosling and Potter (2003) as well as Barrick and Mount (1999).

Duckworth et al. (2007) wanted to find out if the relationships with age and educational attainment would hold steady if they controlled for the traits of the Big Five model. Participants completed the Big Five Inventory and the grit survey that researchers revised after Study 1 (Srivastava, et al., 2003). Results showed grit was related to conscientiousness more that neuroticism. Predictive validity of grit for education and age “beyond conscientiousness and other Big Five traits were supported” through the
research (p. 1093). In addition, grit predicted life job changes more than Big Five constructs.

**Grit study 3.** Because Study 1 and Study 2 showed a relationship between grit and educational attainment with different groups, researchers investigated grade point averages (GPA) for undergraduate students to discover new information about grit. The study involved 139 psychology students attending the University of Pennsylvania who took the Grit Scale through a web site. Findings revealed gritty students had higher GPAs than other students. Smarter students, as measured by SAT scores, were less gritty than their peers. Duckworth proposed the brightest students were not the most determined but rather gritty students had more determination and worked harder to compensate (Duckworth et al., 2007).

**Grit study 4.** The United States Military Academy at West Point was the subject of Study 4 and the focus was summer retention for new cadets. The summer experience was quite tough and many were unable to complete the grueling regiment. Duckworth et al. (2007) expected grit to be unrelated to SAT scores or physical achievement. At the beginning of the summer, the group completed the Grit Survey among a battery of other tests.

Results were interesting. The Whole Candidate Score—which was used for all candidates at West Point and included high school rank, SAT, leadership potential and physical aptitude—did not predict retention whereas the Grit Scale did. In addition, grit also predicted the Military Performance Score, which was calculated from summer program activities. Overall, grit predicted retention for candidates in the summer program (Duckworth et al., 2007).
**Grit study 5.** Researchers tested whether or not grit “had incremental predictive validity for summer attrition over and beyond Big Five Conscientiousness” (Duckworth et al. 2007 p. 1096). Researchers assessed candidates who started in the summer of 2006. They took the Grit Scale and the conscientiousness subscale of the Big Five Inventory. Additionally, Whole Candidate scores and retention data for September were obtained.

Results indicated that the Whole Candidate score was related to conscientiousness but not to grit. On the other hand, grit and conscientiousness were highly related. As with Study 4, summer retention of candidates was predicted by grit. When all predictors (grit, Whole Candidate Score and conscientiousness) were entered into the statistical model of binary logistic regression, only grit predicted retention.

**Grit study 6.** The final study in the Duckworth et al. (2007) research endeavor explored the essential components for grit. But this time the focus included students in the Scripts National Spelling Bee instead of older people. Researchers wanted to know the importance of grit in an ambitious task like winning a spelling bee and they wanted to know what it took to accomplish such a feat.

Finalists in the Spelling Bee (175 students) completed and returned a self-report questionnaire prior to the final event. In addition, 79 students with their parents, completed additional telephone verbal IQ measures. The measures included the Grit Scale, Self Control (BSCS) and the similarities subtest of the Wechsler Intelligence for Children-III (WISC). Additional factors examined study time and prior competitions.

Results demonstrated older students advanced and grittier students advanced farther than their less gritty peers of the same age. One interesting finding was self-control did not predict advancement in the spelling bee competition but grit and age did.
Researchers were unable to show effects of verbal IQ data because not enough students volunteered for this part of the study. Study 6 indicated that grittier students studied longer, worked harder and studied for longer periods over weekends (Duckworth et al., 2007).

Over the six studies, Duckworth et al. (2007) demonstrated that grit accounted for achievement more than IQ. Older students were grittier than younger ones and those with higher IQ were not the grittiest or most successful. The conclusion endorsed consistency of effort over time, even in the face of obstacles, as the key to achievement of goals.

**Grit scale validation study.** After completing the Grit Scale validation in the previous study, Duckworth and Guinn revised it to create the Short Grit Scale also known as the Grit-S (2009). The new scale includes four fewer items and is psychometrically stronger than the original Grit-O (Duckworth et al. 2007). Duckworth and Guinn used the same six groups as the 2009 study but analyzed groups even further. They added one other group of participants: middle school students.

First, researchers used samples from the Duckworth et al. (2009) study and calculated item-level correlations along with outcomes for four samples. After excluding two items, they found the Grit-S had acceptable internal consistency.

The next study sought to confirm the survey items on a larger scale, identify relationships with the Big Five personality traits, and establish validity for career changes and educational attainment. Subjects of the study were adults over 25 years of old who visited an Internet site. Results confirmed the two-factor model of grit, which included the factors, consistency of interest and perseverance of effort. The consistency of interest
and perseverance of effort and the whole Grit-S again showed adequate internal consistency.

Study 3 intended to validate an informant report version of the shorter version of the grit scale. Participants recruited family members and friends to rate them on the Grit-S. Results of the study showed grit could be assessed by informants to reveal those who were grittier than others.

In study 4, middle and high school students from socioeconomically and ethnically diverse magnet public schools were assessed with items from Grit-S and the Grit-O and then retested them a year later. Student reports of number of hours of TV watching along with demographic data were obtained from the school. Results showed Grit-S was stable over time. Also, Grit-S predicted GPA as related to number of hours of TV watching. Those who watched less TV got better grades.

The purpose of study 5 was to predict retention of cadets to West Point over the summer term of 2005 using the Grit-S. As previously described, the summer term was grueling and intense. The Whole Candidate Score (high school rank, SAT, extra curricular activities and exercise evaluation) was factored. Results acknowledged that Grit-S predicted summer retention better than the Whole Candidate Score.

The final study included finalists of the 2006 Scripts National Spelling Bee regarding the cumulative value of effort. Participants were solicited and narrowed to 109 or 69% of the finalists. Students completed 12 items from the Grit-S and Grit-O and they completed the Big Five Inventory (Srivastava, et al., 2003). Scores on the Grit-S predicted which final-round participants achieved in the spelling bee. One of the conclusions was that grittier students accumulated more practice in spelling than other
students. Additionally, the researcher looked at variables to see if one was a mediator and best predicted more than others. Results showed experience in the final round (having been to the final round before) and grit a predictor achieving success in final round.

This study developed and validated the Grit-S, a more efficient measure of grit. Some of the conclusions included that grittier students watched less TV and got higher GPAs; grittier candidates were less likely to drop after the summer term; grittier adults made fewer career changes and achieved more academically; grittier spellers practiced more and got further in competitions; and, finally, an individual’s family and friends could predict their grit level.

**Summary**

This literature review explored special education teacher retention and grit by first looking at the evolution of special education. From the beginning of federal legislation of special education in 1975 to the start of mainstreaming and the concept of inclusion, special education has evolved (Osborne & Russo, 2006; Vaughn et al., 2007). Students with special needs now participate in general education classrooms on a regular basis (Hallahan, et al. 2014). Further legislation has given students more services and the ability to start in school in a general education classroom without having to go to court to advocate for their inclusion (Vaughn et al., 2007).

The issue of special education retention was addressed and acknowledged because a shortage of special education teachers continues to impact school districts (Thornton et al., 2007). Shortages of special education teachers threaten the quality of education provided to students with disabilities (Basset Berry, 2010; Cochran-Smith, 2010/2011).
It was important to review studies regarding general education teacher retention. Also the long-term shortage of special education teachers is further exacerbated by a shortage in general education that now exits (Berry et al., 2010).

The issue of teacher retention entered into the discussion (Berry et al., 2010). Many researchers addressed the issue of general education retention and causes and solutions were discussed (Boyd et al., 2011; Henry et al., 2011). Others focused on how the retention problem of special educators affects the well being of students (Billingsley, 2004a; Cross & Billingsley, 1994; Gersten et al., 2001). Attrition was considered in the literature review because it was the context of the discussion about grit (Basset-Berry, 2010; Horrison-Collier, 2013; Jones et al., 2013).

This chapter included explorations of grit from the historical roots to the formulation of the construct (Duckworth & Seligman, 2005; Farrell, 2014; Goodrich, 1840; Holzer, 2006; Marshall, 2006). Student grit, self control and happiness along with college grit were reviewed (Bowman et al., 2015; Duckworth, 2006; Duckworth & Quinn, 2009; Duckworth et al., 2011; Duckworth & Gross, 2014; Slack, 2014; Strayhorn, 2014; Von Culin, 2014). Some studies focused on workplace grit, which added to the discussion of grit and perseverance (Meriac, 2015; Suzuki et al., 2015).

Additionally, general education teachers and grit were discussed as part of the review of the literature (Duckworth et al., 2009; Robertson-Kraft & Duckworth, 2013). However, after reviewing studies related to grit and general education teachers there was a void found in the area of grit and special education teachers.

The conceptual framework for grit by Duckworth et al. (2007) was reviewed by outlining the work on which the construct was based. To add to the understanding of grit,
the work of Duckworth and Guinn was offered as further support. This study will explore the grit framework as it relates to special education teachers to lend knowledge to the body of research. A synthesis matrix of the study is located in Appendix A.
CHAPTER III: METHODOLOGY

Overview

Teacher shortages have been felt by school districts across the county and also throughout the state of California (Ellison & Fensterwald, 2015; Freedberg, 2013; Tucker, 2015; Rich, 2015). One of the biggest issues revealed in the literature was the problem of special education teacher retention and the current teacher shortage has only exacerbated the special education shortage. This study will investigate special education teacher retention and the grit it takes to persevere, especially for those who teach students with severe disabilities.

Purpose Statement

The purpose of this mixed methods study was to explore and describe the impact of Grit as described by Duckworth et al. (2007) on retention as perceived by special education teachers of students with severe disabilities.

Research Questions

1. To what degree do special education teachers of severely disabled students perceive their level of Grit as measured by the Grit-S, an eight-item survey (Duckworth& Quinn, 2009)?

2. How do special education teachers perceive the importance of Grit on their retention as teachers of severely disabled students?

Research Design

The researcher is using the explanatory sequential mixed methods design (see Creswell & Plano, 2011) to conduct this study. Mixed methods, a combination of qualitative and quantitative research, was used because one method alone was not
sufficient to answer the question posed by the researcher (McMillan & Schumacher, 2010). Explanatory design uses qualitative data collected alongside the quantitative data to provide insight (Creswell & Plano, 2011). Qualitative research attempts to make sense of the world and seeks to interpret phenomena (Thomas, 2003). Quantitative research uses numbers and statistics to arrive at conclusions about aspects of phenomena or the subjects lived experience (McMillan & Schumacher, 2010).

The use of the mixed methods design is supported by a number of scholars (Collins, Onwuegbuzie, Jiao, 2007; Creswell, 2003; Thomas, 2003). Mixing methods came about as a result of researchers wanting to know more than numbers and figures. This was after using quantitative methods such as surveys for many years (Creswell, 2003). They thought bias in a quantitative study could be neutralized or diminished by adding the aspect of qualitative inquiry such as interviews or observations (Creswell, 2003).

The explanatory, sequential research design includes both quantitative and qualitative methods for collecting data to seek a deeper understanding of the lived experience of the participants (Creswell & Plano, 2011). More specifically, the purpose of such a design used a qualitative strand to explain a quantitative strand. Creswell and Plano (2010) suggest that an explanatory design most appropriate when the researcher wants to explain the reasons for the quantitative results. In this study, it would be the results of the Grit-S survey (Duckworth & Quinn, 2009) followed by selected interviews of teachers. The role of interviews would increase the understanding of the teachers.

Creswell and Plano assert the “explanation design” using one data collection method to explain the results of the other method yields important information (2011).
They suggest that using an explanatory design, a two-phase structure, appears straightforward and easy to explain to others. The quantitative phase would lead naturally to the qualitative phase, which would explain the results of the quantitative phase.

The phases were sequential, with quantitative data collection as a locator followed by qualitative interviews (Creswell & Plano, 2011). For this study, quantitative surveys were administered first then qualitative interviews were conducted based on participants who scored at 4.0 or higher on the Grit-S survey. The purpose of the interviews was to collect data about participant perception of Grit and its impact on retention in special education.

Quantitative Research Design

This mixed methods study used an 8-item instrument called Grit-S in the design of the study (Duckworth & Quinn, 2009). The Grit-S instrument (Duckworth & Quinn, 2009) was used as a locator survey to identify special education teacher participants who demonstrated a high degree of grit by scoring at the 4.0 or greater median score on the Grit-S instrument.

Qualitative Research Design

This study conducted individual interviews as the primary source for data collection in the second phase of the study (Teddle & Tashakkori, 2009). Seidman (2006) suggested the purpose of in-depth interviewing was understanding the lived experience and to make meaning of it.

Interviews examine a lived experience of a group or person (Keith, 2014; Patton, 2002; Spinelli, 2005). Most special educators would likely attest to a specific culture in
which they work. However recent research has not revealed a more defined picture of special education teachers or the impact of grit on longevity in the field (Berry, 2012; Billingsley, 2005). An interview would reveal more information about the experience of a member of the culture of special education teachers and the impact of grit on longevity in the field (Seidman, 2006).

In reviewing qualitative studies in special education, Brantlinger et al. (2005) explained that qualitative research was a “systematic approach to understanding qualities, or the essential nature, of a phenomenon within a particular context” (p. 195). Because the point of research is understanding, Creswell (2002) suggested qualitative research appropriate when one does not know the answer but rather wanted to explore a concept as the case for this study of special education teachers and grit.

**Population**

McMillan and Schumacher suggest a population is one to which the results of a study can be generalized (2010). The target population for this study included special education teachers who teach students in k-12 schools in California. According to Bureau of Labor Statistics, this population included over 31,810 individuals in California in 2014.

The sampling frame for this study included teachers of students with severe disabilities selected from San Joaquin Valley including Merced, Madera, Kings, Tulare, and Kern counties. Table 1 outlines the numbers of students identified with intellectual disabilities in the named counties. Numbers of teachers who taught students with severe disabilities were unavailable so a teacher estimate based on the number of students with intellectual disabilities in the named counties. Before placement in a special education
classroom for students with severe disabilities, a student must be identified with intellectual disabilities, one of the areas of federal disabilities (Downing, 2010).

Table 1

*Special Education Teachers and Students with Intellectual Disabilities in the Southern San Joaquin Valley*

<table>
<thead>
<tr>
<th>South San Joaquin Valley Counties</th>
<th>Students Receiving Services</th>
<th>Students Identified with Intellectual Disabilities</th>
<th>Estimated number of teachers</th>
<th>Numbers of moderate/severe teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kern County</td>
<td>18,133</td>
<td>3,612</td>
<td>361</td>
<td>81</td>
</tr>
<tr>
<td>Kings County</td>
<td>2,961</td>
<td>169</td>
<td>16</td>
<td>39</td>
</tr>
<tr>
<td>Madera County</td>
<td>3,421</td>
<td>244</td>
<td>24</td>
<td>35</td>
</tr>
<tr>
<td>Merced County</td>
<td>6,329</td>
<td>506</td>
<td>50</td>
<td>55</td>
</tr>
<tr>
<td>Tulare County</td>
<td>7548</td>
<td>1352</td>
<td>185</td>
<td>86</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>832</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note.* California Department of Education Data 2014-15

*a* Based on 10 students to a classroom.

*b* Source: T. Bradford (personal communication, March 13, 2016)

McMillan and Schumacher (2010) suggest researchers clearly narrow the sampling frame in terms of delimiting variables. Delimiting variables include characteristics such as age, gender, location, time frame, occupation, geographic area or demographics. For this study, the delimiting variables included teachers of severely handicapped students, central California, demographics and rural/urban schools.

Characteristics for the survey sample included the following:

1. Teachers who held credentials to teach students with severe disabilities.
2. Employed by County Offices of Education.
3. Employed as a teacher in Kern, Visalia, Kings, Merced and Madera.
4. Teachers who held preliminary or clear credentials by completing credential programs.

5. One or more years of experience teaching students with severe disabilities.

**Sample**

There are many ways to select a sample for a proposed study. Onwuegbuzie and Collins (2007) outlined major sampling schemes or ways in which a researcher could select samples. A purposeful sample is one in which individuals are selected based on specific criteria (Onwuegbuzie & Collins, 2007). Purposive or purposeful sampling is a one in which the researcher has prior knowledge or an interest in the population under investigation (McMillan & Schumacher, 2010; Patten, 2009). Purposive sampling is used when the researcher seeks particular categories of special education teachers as in the case of this study (Patten, 2009).

This study included specific counties of California located in the Central Valley and more specifically; the South Joaquin Valley included Merced, Madera, Kings, Tulare, and Kern counties. The particular counties included have demographics that included poverty, high unemployment, and high numbers of students receiving free and reduced lunch, an indicator of poverty as determined by the federal government (U.S. Department of Education, Institute of Education Sciences, 2014).

The sample for this study included special education teachers, authorized by the California Commission on Teacher Credentialing (2015) to teach students with moderate and severe disabilities. The teachers held the following credentials: Education Specialist Instruction: Moderate/Severe Disabilities, Intern Education Specialist Instruction Credential: Moderate/Severe Disabilities or Specialist: Severely Handicapped depending
on when they received their credential. Older credentials were called Specialists, Severely Handicapped. The California Commission on Teaching Credentialing has changed the name of the credential over the years and all special education teachers are now called Education Specialists instead of special education teachers.

In California, students with severe disabilities who receive services would fall into the following disability categories: intellectual disabilities as a primary disability and autism, multiple disabilities, other health impaired, or traumatic brain injury as a secondary disability. Recent studies have shown special education teachers who have stayed for more than five years, tend to stay in the field of special education longer as opposed to teachers who were new to the field (Boyd et al., 2011; Watson, 2011).

For this study, administrators responsible for special education teachers in the selected county offices were asked to send participant letters to teachers and the letter provided contact information for the study (Appendix B). Collins et al. (2007) suggested the sample size pivotal because one sample size may be too big to glean relevant data for the qualitative area whereas a small sample size may not reveal enough relevant statistically appropriate data in the quantitative area. This group of participating teachers completed the survey and those who were selected for interview from each county, based on their grit score, resulted in 19 teachers (Onwuegbuzie & Collins, 2007).

The researcher used nonprobability, purposive and convenience sampling to select teacher participants from Kern, Tulare, Kings, Madera and Merced counties of California (Appendix C). Fresno County, located in the middle of these counties, was unable to approve the request for the study. “Nonprobability sampling does not include any type of random selection from a population” (McMillan & Schumacher, 2006, p. 125). The
participants were conveniently (McMillan & Schumacher, 2006) selected in part by their willingness to participate and meeting the five sample characteristics previously discussed in this chapter. The researcher used purposeful sampling to select participants that were knowledgeable about the population to be studied (McMillan & Schumacher, 2006). According to McMillan and Schumacher (2006) purposive sampling can “increase the utility of information obtained from [the] small sample” (McMillan p. 319).

**Instrumentation**

This mixed methods study included a survey to collect data. The survey itself was a locater for teachers who would be included in follow-up interviews (McMillian & Schumacher, 2010).

**Quantitative Instrumentation**

The instrument for this study was the Short Grit Scale (Grit-S) developed by Duckworth and Quinn (2009) and located in Appendix D. This instrument measured “trait-level perseverance and passion for long term goals” (p. 166). Duckworth et al. (2007) initially validated the 12-item questionnaire on grit and the Grit-S was the result of further research by Duckworth and Quinn (2009). Duckworth and Quinn sought a more efficient measure that would include both interest and effort because the earlier measure did not differentiate between the two traits. They completed six studies that included a variety of groups that were previously described in the literature review: Study 1 identified items with best predictive validity across four samples; Study 2 examined career changes and educational attainment with adults; Study 3 validated an informant version of the Grit-S; Study 4 measured test-retest stability for adolescences; Study 5
tested samples from West Point candidates and Study 6 examined National Spelling Bee finalists (Duckworth and Quinn, 2009).

For this study, participants took the Grit-S survey, also known as the Short Grit Survey or Grit-S (Duckworth & Guinn, 2009). Recent studies yielded reliable information using the Grit-S (Duckworth et al., 2009; Meriac et al. 2015; Robertson-Kraft & Duckworth, 2014; Slack, 2014; Strayhorn, 2014; Suzuki et al. 2015). Participants used an on-line version of the survey through Survey Monkey and the permission of the authors was obtained (Appendix E).

**Qualitative Instrumentation**

There are many ways to collect evidence with a qualitative study and one of them is conducting interviews (Patton, 2002). One goal of interviewing is understanding the lived experience and increasing knowledge (Seidman, 2006). In this study, the researcher interviewed teachers using a list of questions based on the grit survey and validated through the use of an expert panel. Although there were set questions, the interviewer could ask follow-up questions for clarification. In addition, field-testing for the questions was conducted with teachers.

**Reliability and Validity**

When using quantitative measures, the reliability and validity for the measures are important for the research. The reliability refers to the consistency of the measure and whether the measure is consistent in different situations (Field, 2013). Validity refers to whether the instrument in question actually measures what it is supposed to measure. In addition, predictive validity refers to whether an instrument predicts at a later date in time (Field, 2013). Test-retest or stability of a measure is established if the measure is given
then that same measure is given again to check for stability (McMillan & Schumacher, 2010).

**Quantitative Reliability and Validity**

Conducting six studies to validate the Short Scale (Grit-S), Duckworth and Quinn demonstrated adequate internal consistency (2009). Study 1 revealed “acceptable internal consistency with alphas ranging from .73 to .83 across four samples” (Duckworth & Quinn, p. 167). In addition, Study one focused on cadets at West Point and used multiple goodness-of-fit to conclude a good fit for the West Point class of 2008 and 2010 regarding grit.

Study 2 sought to confirm the factor structure of Grit-S in a larger sample to identify the relationship with Big Five personality traits and establish predictive validity for career and education achievement (Duckworth & Quinn, p. 168). For the sample, the correlation between Grit-S and Grit-O was $r = .96$, $p < .001$. Perseverance of Effort and Consistency of Interest, two of the Big Five Personality dimensions (BFI), and Grit-S demonstrated adequate internal consistency: $\alpha$s = .70, .77, and .82. The Grit-S correlated more with BFI Conscientiousness ($r = .77$, $p < .001$) than Extraversion, Agreeableness or Openness to Experience. They supported Grit-S and Conscientiousness as stronger than any others.

Study one and two developed and validated the grit scale whereas Study 3 validated an informant version of the scale. Study four established a test-retest stability of Grit-S scores with middle and high school high achieving students. Researchers found
Grit-S stable over time. Results from spring 2006 to a year later was \( r = .68, p < .001 \) and there was good internal consistency between 2006 and 2007 assessments: \( \alpha_s = .82 \) and .84.

Duckworth and Quinn looked at West Point summer retention by using Grit-0, Grit-S and the Whole Candidate Score in Study 5. They expected Grit-S would best predict retention. The Whole Candidate Score combined SAT, class rank, leadership and physical aptitude. Grit-S predicted retention best and it had internal consistency of \( \alpha = .77 \). Cadets who scored higher than average on grit were more 99% more likely to complete the summer program. Grit-S was a better predictor than Whole Candidate Score.

The sixth study sought to validate the Grit-S and researchers used students in the 2006 Scripps National Bee to test the predictive validity of behavioral measure of performance (Duckworth & Quinn, 2009). It also sought to find out if the effect of grit on achievement was helped by long-term effort. Participants took the Grit-S and the Grit-O with good internal consistency, \( \alpha = .82 \).

Duckworth and Quinn sought to develop and validate the Short Grit Scale (Grit-S) in 2009. They did this by conducting six studies and their goal was to develop a more efficient measure of perseverance and passion for long-term goals than the Grit-O that was developed by Duckworth et al. (2007). They found predictive validity, consensual validity and test-retest stability for the Grit-S. The survey for the current study does not require additional validation because Duckworth and Quinn (2009) provided that validation.
Qualitative Reliability and Validity

Duckworth (2006) looked at non-IQ predictors of achievement and results suggested grit as a predictor of achievement in a doctoral dissertation. Later, published in Duckworth et al. (2007), it stated grit more important than intelligence when it came to perseverance towards long-term goals. Duckworth and Guinn (2009) revised and condensed the original Grit-O consisting of 12 items and validated the Grit-S, an eight-item measure. A synthesis matrix, developed and based on all studies included for this study, included the conceptual framework on which this study was based.

This study included interviews of special education teachers who taught students with moderate and severe disabilities in central California. The interview items based on the Grit-S allowed participants to expand their thoughts and explain further. The validity for the quantitative portion of this study was established through the work of Duckworth et al. (2009). The interview protocol can be found in Appendix F.

**Expert Content Validity.** In order to build content validity for an interview protocol, Creswell (2003) suggested an expert panel review interview questions to assess validity. Roberts (2010) added that, if a researcher uses their own instrument, the instrument needs review by experts. For this study, an expert panel reviewed interview questions and field-test or pilot-test was conducted for interview questions and the survey.

In order to determine content validity of a measure such as an interview protocol, Patton agreed with others an expert panel important to establish validity (2002). He also asserted validity more important than reliability because if an instrument does not
measure what it sets out to measure, it was useless (2009). The criteria for the expert panel included the following:

- Doctorate
- Completion of research/dissertation
- Knowledgeable about qualitative and quantitative research and methodology
- California credential: special education, school psychology, school counseling or school administration.
- Experience in higher education as an adjunct, regular faculty or mentor
- Ten or more years working in education

The three experts reviewed the questionnaire and made recommendations for the administration of the interview. Feedback received by the panel indicated minor editorial changes to the questions within the interview. Additionally, suggestions included altering questions to focus more on grit and longevity in teaching students with moderate and severe disabilities.

**Field Test.** A special education teacher group assembled to field-test the questionnaire and the Grit-S survey and they approximated the target sample of the study. The group included special education teachers certificated to teach students with severe disabilities included the following criteria:

- Completion of research (masters level)
- Experience as a classroom teacher, mentor, and university adjunct or program manager.
- More than five years of teaching experience with students with severe disabilities.
The field test group provided feedback on the administration of the survey and the understandability of the instrument. Also, they gave editorial comments with wording and dividing questions into smaller parts. In addition, respondents took the grit survey and reported their scores. On a five-point Likert scale, the three teachers scored at 4.125, 4.37 and 4.75.

**Data Collection**

Before collecting any data, the researcher obtained permission from the Institutional Review Board at Brandman University (Appendix G). Also, the researcher obtained informed consent for all participants in the study before starting data collection and it included specific rights including the right to privacy (Appendix H & I).

**Quantitative Data Collection**

The Grit-S survey facilitated the data collection in the quantitative phase of the study. Permission to use the Grit-S was obtained through email correspondence (Appendix C) and the Duckworth Lab gives permission for use for non-commercial purposes. The Grit-S consists of a Likert five-point scale ranging from 1 (“not like me at all”) to 5 (“very much like me”).

This study included surveys as described previously and it was administered through Survey Monkey. The target participants received a letter informing them about the purpose of the study, their role in the research and informed consent.

**Qualitative Data Collection**

As part of the survey, teachers indicated their willingness to be interviewed and from the willing participants, surveys were scored. Those scoring at 4.00 or above were selected to participate in the qualitative phase as described in the methodology of the
study. The qualitative phase focused on in-depth interviews using specific questions
developed by the researcher and based on the grit survey.

Teachers from each county, purposively selected based on their grit score at a
4.00 or above, participated in scheduled interviews at a time and place convenient to the
teachers, preferably the teacher’s classroom. The preference for conducting the interview
in the classroom was established because it was thought that the familiar setting might
prompt additional insight during the interview.

Data Analysis

Interviews were transcribed and analyzed. In a mixed methods study, mixing can
occur during interpretation in the final stages of the study or it can be done when the data
sets are examined (Creswell & Plano, 2011). For the current research, the mixing
occurred when a second set of data (interviews) was added to the analysis.

Quantitative Data Analysis

Results of the survey teacher participants (willing to be interviewed) were
analyzed in a descriptive format, which illustrated Grit mean level for all of the
participating teachers. The researcher used this information to locate potential
participants who demonstrated a Grit mean score of 4.0 or higher.

Qualitative Data Analysis

As interviews were completed, they went in for transcription to an on-line
platform (REV, 2016). Upon receipt of transcripts researcher reviewed them for
accuracy. In addition, field notes taken by the researcher during the interviews were
reviewed and all notes and transcribed interviews were saved as electronic documents.
The first step in analysis is scrutinizing the content closely during several reviews (Patton, 2002). Patton suggests analyzing the core content of the interviews to determine possible importance because raw field notes or interviews may be difficult to interpret. There are many ways in which interview protocols can be analyzed and one is through the use of a coding program (Patton, 2002). One such program is NVivo, a program that analyzes themes in transcribed information (NVivo for Mac, 2015).

All transcriptions were uploaded into NVivo. Then an analysis was conducted of the information to see if patterns or themes emerged through the words of the interviewees. The researcher set up initial codes ahead of time on NVivo and as transcripts were reviewed, other codes were be added. If there were recurring themes in participants’ responses, a code could be added to reflect that theme. The descriptive phase of analysis built a foundation for later interpretation of the data in subsequent results sections (Patton, 2002).

**Limitations**

This study was limited to:

1. Special education teachers who taught students with severe disabilities in the Central Valley of California in selected counties: Kern, Tulare, Kings, Madera, and Merced.

2. Purposive sampling may limit the generalization of the findings according to McMillan and Shumacher (2010). They suggest results of the study may depend on the characteristics of the sample, which are limited to five counties in Central California.
Summary

This study sought to include qualitative as well as quantitative measures in an effort to more thoroughly inform readers about the retention of special education teachers, specifically those who teach students with severe disabilities. Patton (2012) explained that a mixed methods approach was one way to get a picture and understanding of a problem that has multiple dimensions. McMillan and Schumacher (2010) defined a mixed methods approach as a study that combines both qualitative and quantitative methods within different parts of the research. Interviews would add a personal touch so often lacking with surveys. Responses of the participants would also reveal deeper and richer qualitative data (McMillan & Schumacher, 2010).

This study began with the administration of the Grit-S, validated by Duckworth and Quinn (2009). Duckworth and Quinn developed the Grit-S to measure “trait-level perseverance and passion for long-term goals” (p. 166) and this scale will be used with the participants.

Chapter IV outlines the results of research findings including quantitative and qualitative portions. Chapter V reviewed the data analysis and findings, conclusions and recommendations for future research for special education teachers and related topics.
CHAPTER IV: RESEARCH, DATA COLLECTION AND FINDINGS

School districts across the county and the state of California have felt the impact of the teacher shortage (Ellison & Fensterwald, 2015; Freedberg, 2013; Tucker, 2015). Because of the teacher shortage, school districts need to hire teachers who can persevere for the long term.

Chapter four introduces and describes the purpose statement for the study, research questions, population, sample and methodology. It includes a review and an analysis of the data that described teacher responses on qualitative interviews. Data pertaining to research questions presents in table format to describe survey responses. Interview data in a narrative format and arranged in themes explains teacher perception of grit on their retention.

Purpose Statement

The purpose of this mixed methods study was to explore and describe the impact of Grit as described by Duckworth et al. (2007) on retention as perceived by special education teachers of students with severe disabilities.

Research Questions

1. To what degree do special education teachers of severely disabled students perceive their level of Grit as measured by the Grit-S, an eight-item survey (Duckworth & Quinn, 2009)?
2. How do special education teachers perceive the importance of Grit on their retention as teachers of severely disabled students?
Methodology

This mixed methods study included a survey (Duckworth & Quinn, 2009) sent to SELPA (Special Education Local Plan Area) administrators in five central California counties as a locator for teachers willing to interview for the study. Seventy-eight teachers responded to the survey and some teachers indicated their willingness to complete an interview. Teachers eligible to participate in the interview scored 4 or higher on the Grit-S (Duckworth & Quinn, 2009). Out of the 42 willing teachers, 25 scored at a 4 or higher. All 25 teachers were contacted. Not every teacher responded to the contact from the researcher and of those who responded, some cancelled or no showed. Nineteen teachers participated in the interview.

Interview

Interview questions were field tested previously, however, just before beginning interviews, the researcher interviewed three moderate severe special education teachers in an interview setting to gather insight into the flow and rhythm of the actual interview. Because this field test yielded only a 15-minute interview, clarification questions were added to extend the length of the interview.

Fourteen of the interviews were held in teacher classrooms and 5 were held in university classrooms. It was convenient to interview most of the teachers in their classrooms at the end of their day. The interviews were recorded using an online platform called REV (Rev, 2016) which is an application that records interviews on a mobile device, saves the interview, then transcribes interviews for delivery within 24 hours.
As the researcher received transcripts, they were reviewed and coded. They were also reviewed for accuracy and meaning of teacher’s words. Saldana (2016) suggested researchers code more than one way. Because of this suggestion, the initial coding was completed with the researcher writing notes on the transcripts. Next, transcripts were coded with Nvivo (NVIVO for Mac, 2015) for themes, possible trends and commonalities. The NVivo program is a computer-based analysis and Saldana (2016) suggests this in addition to manual coding. Also, he recommended noting memorable quotes from interviewees. This descriptive phase of the research was the foundation for later analysis (Patton, 2002).

The two processes of coding differed in several ways. First, the manual coding revealed more nuances because the researcher read the teachers’ words on paper, a different modality than computer. Also the researcher was able to write notes and questions to ponder in further analysis. Since NVivo was a computer-based platform, teacher transcripts were uploaded into the program and as they were reviewed, themes were highlighted. Using the two methods was similar using a different set of eyes to review the data. The perception changed.

Saldana (2016) noted that researchers should ask themselves questions as they review qualitative data such as transcripts. The questions to ask during qualitative data review include: What strikes you? What surprises you? What intrigues you and what disturbs you (Saldana, 2016, p. 23)?

**Population**

The target population for this study included special education teachers who taught students in k-12 schools in California. The sampling frame for this study included
teachers of students with severe disabilities selected from the San Joaquin Valley including Merced, Madera, Kings, Tulare, and Kern counties. The researcher asked another county, Fresno, to participate in the study. They were unable to approve the request. Table 2 outlines the numbers of students identified with intellectual disabilities in the named counties. A count of teachers who taught students with severe disabilities was unavailable so a teacher estimate based on the number of students with intellectual disabilities in the named counties was used.

Table 2

Students with Intellectual Disabilities in the Southern San Joaquin Valley

<table>
<thead>
<tr>
<th>South San Joaquin Valley Counties</th>
<th>Students Receiving Services</th>
<th>Students Identified with Intellectual Disabilities</th>
<th>Estimated number of teachers</th>
<th>Numbers of moderate/severe teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kern County</td>
<td>18,133</td>
<td>3,612</td>
<td>361</td>
<td>81</td>
</tr>
<tr>
<td>Kings County</td>
<td>2,961</td>
<td>169</td>
<td>16</td>
<td>39</td>
</tr>
<tr>
<td>Madera County</td>
<td>3,421</td>
<td>244</td>
<td>24</td>
<td>35</td>
</tr>
<tr>
<td>Merced County</td>
<td>6,329</td>
<td>506</td>
<td>50</td>
<td>55</td>
</tr>
<tr>
<td>Tulare County</td>
<td>7548</td>
<td>1352</td>
<td>185</td>
<td>86</td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td></td>
<td></td>
<td>832</td>
</tr>
</tbody>
</table>

Note. California Department of Education Data 2014-15

aBased on 10 students to a classroom.
bSource: T. Bradford (personal communication, March 13, 2016)

Sample

The sample for this study included special education teachers, authorized by the California Commission on Teacher Credentialing to teach students with moderate/severe
disabilities. The teachers held the following credentials: Education Specialist Instruction: Moderate/Severe Disabilities, Intern Education Specialist Instruction Credential: Moderate-to-Severe Disabilities, or Specialist: Severely Handicapped depending on when they received their credential.

**Demographic Data**

The participants for this study had one or more years of experience as a teacher of students with severe disabilities. The participating teachers averaged 14 years of experience in teaching. Table 3 displays the relevant demographic data.

**Table 3**

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Years Taught</th>
<th>Gender</th>
<th>County</th>
<th>Setting</th>
<th>Grit Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>9</td>
<td>M</td>
<td>Tulare</td>
<td>Rural</td>
<td>4.13</td>
</tr>
<tr>
<td>2</td>
<td>15</td>
<td>M</td>
<td>Tulare</td>
<td>Rural</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>30</td>
<td>M</td>
<td>Tulare</td>
<td>Rural</td>
<td>4.13</td>
</tr>
<tr>
<td>4</td>
<td>16</td>
<td>F</td>
<td>Tulare</td>
<td>Rural</td>
<td>4.88</td>
</tr>
<tr>
<td>5</td>
<td>25</td>
<td>F</td>
<td>Kern</td>
<td>Urban</td>
<td>4.25</td>
</tr>
<tr>
<td>6</td>
<td>5</td>
<td>F</td>
<td>Kern</td>
<td>Rural</td>
<td>4.13</td>
</tr>
<tr>
<td>7</td>
<td>4</td>
<td>F</td>
<td>Kern</td>
<td>Rural</td>
<td>4.13</td>
</tr>
<tr>
<td>8</td>
<td>9</td>
<td>F</td>
<td>Tulare</td>
<td>Rural</td>
<td>4.13</td>
</tr>
<tr>
<td>9</td>
<td>13</td>
<td>M</td>
<td>Kern</td>
<td>Urban</td>
<td>4.6</td>
</tr>
<tr>
<td>10</td>
<td>13</td>
<td>F</td>
<td>Kings</td>
<td>Rural</td>
<td>4.13</td>
</tr>
<tr>
<td>11</td>
<td>5</td>
<td>F</td>
<td>Tulare</td>
<td>Rural</td>
<td>4.5</td>
</tr>
<tr>
<td>12</td>
<td>16</td>
<td>F</td>
<td>Kern</td>
<td>Urban</td>
<td>4.13</td>
</tr>
<tr>
<td>13</td>
<td>27</td>
<td>F</td>
<td>Kern</td>
<td>Urban</td>
<td>4.13</td>
</tr>
<tr>
<td>14</td>
<td>13</td>
<td>F</td>
<td>Kern</td>
<td>Rural</td>
<td>4.13</td>
</tr>
<tr>
<td>15</td>
<td>28</td>
<td>F</td>
<td>Kern</td>
<td>Rural</td>
<td>4</td>
</tr>
<tr>
<td>16</td>
<td>10</td>
<td>M</td>
<td>Tulare</td>
<td>Rural</td>
<td>4</td>
</tr>
<tr>
<td>17</td>
<td>20</td>
<td>F</td>
<td>Tulare</td>
<td>Rural</td>
<td>4.13</td>
</tr>
<tr>
<td>18</td>
<td>1</td>
<td>F</td>
<td>Madera</td>
<td>Rural</td>
<td>4.13</td>
</tr>
<tr>
<td>19</td>
<td>10</td>
<td>F</td>
<td>Merced</td>
<td>Rural</td>
<td>4.13</td>
</tr>
</tbody>
</table>
Presentation of the Data

This section describes steps taken after teacher interviews. Upon receipt of survey results, they were placed in a spreadsheet so there would be a visual representation of the data. Details about demographic, locations and specific interview times were included. Prior to final analysis, all personal information was taken off and the spreadsheet was condensed. After teacher interviews, they were transcribed and coded for themes and further analysis (Appendix J). Scrutiny of the data considered teacher words and commonalities during several reviews (Appendix K). Reviews of transcripts were completed as suggested by Patton (2002).

The themes were arranged into a chart to provide a visual representation of the data and it included Themes, Sub-Theme, Sources, and Frequency. Table 4 represents the common themes teacher expressed during the interviews

Table 4

*Identified Themes for Teachers of Students with Severe Disabilities*

<table>
<thead>
<tr>
<th>Theme</th>
<th>Sub-theme</th>
<th>Sources</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grit</td>
<td>Grit and Retention</td>
<td>12</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>Perseverance-Passion</td>
<td>18</td>
<td>48</td>
</tr>
<tr>
<td>Job Factors</td>
<td>Everyday is different</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Obstacles and Roadblocks</td>
<td>16</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>Relationships</td>
<td>19</td>
<td>105</td>
</tr>
<tr>
<td></td>
<td>Repetition-a part of the job</td>
<td>16</td>
<td>53</td>
</tr>
<tr>
<td></td>
<td>Stress/Avoiding stress</td>
<td>15</td>
<td>41</td>
</tr>
<tr>
<td>Students</td>
<td>Student Progress</td>
<td>17</td>
<td>54</td>
</tr>
<tr>
<td></td>
<td>Successful Teaching</td>
<td>18</td>
<td>72</td>
</tr>
<tr>
<td>Starting Out</td>
<td>Teaching experience</td>
<td>19</td>
<td>90</td>
</tr>
<tr>
<td>Teacher Characteristics</td>
<td>Diligence</td>
<td>19</td>
<td>138</td>
</tr>
</tbody>
</table>
A number instead of the participant’s real name insured anonymity for each teacher. Saldana (2016) recommended reviewing transcripts or data to see “what rises to the top like cream to butter” (p. 42). He suggested numerous reviews of transcripts reveal the richness of the teachers’ words that are not apparent at first glance.

Teacher interviews were conducted in individual special education teacher classrooms at school sites in most cases. Five interviews were held in a university office because of scheduling challenges. For example, one teacher taught in a mountain community and it was convenient for her to come to a university office near her home instead of having the researcher drive two hours for the interview.

**Reporting Data on Research Question One**

Research question one looked at the level of Grit as determined by the Grit-S. Teacher data were analyzed and described according to the research question. Teacher responses to the Grit-S were scored then tabulated in a spreadsheet by teacher for question one. Only teachers meeting the previously set criteria (4.0 or above) were entered into the tabulation. The information presented in Table 5 provides a look at Grit-S scores for each teacher related to research question 1. At the bottom of the table is a total mean score for all teachers on the Grit-S.

<table>
<thead>
<tr>
<th>Faith and Inspiration</th>
<th>14</th>
<th>55</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexible</td>
<td>19</td>
<td>52</td>
</tr>
<tr>
<td>Optimistic</td>
<td>19</td>
<td>85</td>
</tr>
<tr>
<td>Structured</td>
<td>12</td>
<td>71</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>45</td>
</tr>
<tr>
<td>Goals</td>
<td>10</td>
<td>24</td>
</tr>
<tr>
<td>Hard worker</td>
<td>18</td>
<td>104</td>
</tr>
<tr>
<td>I love my job</td>
<td>18</td>
<td>100</td>
</tr>
</tbody>
</table>

Table 5: Grit-S Scores for Teacher Interviews
### Table 5

**Individual Teacher Grit Scores**

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Questionnaire Item Number</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3 2 4 4 4 4 4 4</td>
<td>4.13</td>
</tr>
<tr>
<td>2</td>
<td>3 4 5 4 3 5 4 4</td>
<td>4.13</td>
</tr>
<tr>
<td>3</td>
<td>4 2 5 4 4 5 5 5</td>
<td>4.13</td>
</tr>
<tr>
<td>4</td>
<td>4 5 5 4 5 5 5 5</td>
<td>4.88</td>
</tr>
<tr>
<td>5</td>
<td>3 4 5 5 4 4 5 5</td>
<td>4.25</td>
</tr>
<tr>
<td>6</td>
<td>5 1 4 5 5 4 4 5</td>
<td>4.13</td>
</tr>
<tr>
<td>7</td>
<td>4 1 5 5 5 4 4 5</td>
<td>4.13</td>
</tr>
<tr>
<td>8</td>
<td>5 2 4 5 3 5 5 5</td>
<td>4.13</td>
</tr>
<tr>
<td>9</td>
<td>5 5 4 5 4 5 5 4</td>
<td>4.6</td>
</tr>
<tr>
<td>10</td>
<td>5 2 4 5 4 5 5 4</td>
<td>4.5</td>
</tr>
<tr>
<td>11</td>
<td>3 4 4 5 4 4 4 4</td>
<td>4.5</td>
</tr>
<tr>
<td>12</td>
<td>3 4 3 5 4 4 4 4</td>
<td>4.13</td>
</tr>
<tr>
<td>13</td>
<td>3 5 4 5 4 3 4 4</td>
<td>4.13</td>
</tr>
<tr>
<td>14</td>
<td>3 5 4 5 4 4 4 4</td>
<td>4.13</td>
</tr>
<tr>
<td>15</td>
<td>3 4 4 5 3 4 4 4</td>
<td>4.13</td>
</tr>
<tr>
<td>16</td>
<td>3 2 4 4 4 4 4 4</td>
<td>4</td>
</tr>
<tr>
<td>17</td>
<td>4 2 4 5 4 4 4 4</td>
<td>4.13</td>
</tr>
<tr>
<td>18</td>
<td>3 4 4 5 4 5 4 4</td>
<td>4.13</td>
</tr>
<tr>
<td>19</td>
<td>3 2 5 5 4 4 5 5</td>
<td>4.13</td>
</tr>
</tbody>
</table>

| Mean Score | 3.63 | 3.16 | 4.21 | 4.84 | 2.31 | 2.31 | 4.42 | 4.68 |

**Ranking of Grit Survey Items from Teachers**

Table 6 shows the cumulative ranking for teachers on the items and the survey items for all survey items. It displays a summary of teacher scores and the teacher ranking is the mean of their scores.
<table>
<thead>
<tr>
<th>Ranking</th>
<th>Teacher Ranking</th>
<th>Survey Order</th>
<th>Survey Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>4.84</td>
<td>4</td>
<td>I am hard worker</td>
</tr>
<tr>
<td>2</td>
<td>4.68</td>
<td>8</td>
<td>I am diligent</td>
</tr>
<tr>
<td>3</td>
<td>4.42</td>
<td>7</td>
<td>I finish whatever I begin</td>
</tr>
<tr>
<td>4</td>
<td>4.21</td>
<td>3</td>
<td>I have been obsessed with a certain idea or project or a short time but later lost interest</td>
</tr>
<tr>
<td>5</td>
<td>3.63</td>
<td>1</td>
<td>New ideas and projects sometimes distract me</td>
</tr>
<tr>
<td>6</td>
<td>3.16</td>
<td>2</td>
<td>Setbacks don't discourage me</td>
</tr>
<tr>
<td>7</td>
<td>2.31</td>
<td>5</td>
<td>I often set a goal but later choose to pursue a different one</td>
</tr>
<tr>
<td>8</td>
<td>2.31</td>
<td>6</td>
<td>I have difficulty maintaining my focus on projects that take more than a few months to complete</td>
</tr>
</tbody>
</table>

“I am a hard worker” scored the highest (4.84) on the survey. The second highest ranking (4.68) was “I am diligent” based on teacher responses on the Grit-S. For the third highest ranked item (4.42), teachers supported “I finish whatever I begin”. Teachers gave information during the interview portion of the study to validate their rankings.

The lowest ranked survey items included by teachers were “I have difficulty maintaining my focus on projects that take more than a few months to complete” (2.31) and “I often set a goal but later choose to pursue a different one” (2.31). The third lowest ranked survey item was “Setbacks don't discourage me” (3.16). All of these items were explored further in the interview section of the study.

**Reporting Data on Research Question Two**

Research question two explored teacher’s perception of the importance of Grit on their retention as special education teachers. The information presented in Table 7 provides a look at themes related to research question two. For each common theme, there were sub-themes and it should be noted six of the sub-themes had a frequency of...
response of 100 and more. Those sub-themes were *Perseverance-passion, Obstacles and Roadblocks, Relationships, Diligence, Hard Worker,* and *I Love My Job.* Following table 7, each common theme and sub-theme is described in narrative form.

Table 7

*Research Question 2: Common Themes and Patterns*

<table>
<thead>
<tr>
<th>Research Question#2</th>
<th>Common theme</th>
<th>Number of respondents indicating theme</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>How do special education teachers perceive the importance of Grit on their retention as teachers of severely disabled students?</td>
<td>A. Grit; Grit and retention; Perseverance-passion</td>
<td>12</td>
<td>29</td>
</tr>
<tr>
<td></td>
<td>B. Job factors:</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Everyday is different; Obstacles and Roadblocks; Relationships; Repetition; Stress/Avoiding Stress</td>
<td>16</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>113</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>53</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td></td>
<td>19</td>
<td>105</td>
<td></td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>113</td>
<td></td>
</tr>
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Common Theme A: Grit

During the interview, teachers learned the definition of grit was “perseverance and passion for long term goals” (Duckworth, 2007) and they learned that their selection for an interview occurred because of their grit score. Many were not aware of the grit concept and were surprised their score was high. They did not think they were especially gritty. When Teacher 5 learned her grit score, she said, “Yea, I’m surprised.” Moments later she began to smile then she said, “I’m gritty.”

Regarding the theme of Grit, twelve teachers referenced the theme 29 times. Teachers who were not surprised at their score gave examples of why they are gritty with several examples. Teacher 3 said, “That's just who I am. Again, you sink your teeth into something; you’re like a pit-bull dog. You just stay with it”. Teacher 9 summarized “I've always been a persistent person. Sometimes we call it stubborn. I've always been that way. That doesn't really surprise me.”

Common Sub-Theme: Grit and Retention. Eighteen teachers commented on the importance of grit to their retention as special education teachers over 48 times. Teacher 16 related, “As long as you have that strive and that patience for this job, I think at least for me, my retention would be there for being a special education teacher. When I first thought about teaching, I wanted to be in general education and now I wouldn't change being a special education teacher for anything”.

Common Sub-Theme: Perseverance-Passion. All nineteen teachers made reference to perseverance and passion for their retention as special education teachers. This particular theme was referenced 107 times and was one of the six themes with
mentions over 100. Teacher 7 put forth, “I'm very persistent, especially with my kids. I'm persistent, I stay focused, and I know sometimes it takes the full three years to see a change in a certain area, but once I see it, I'm amazed.”

Many teachers described perseverance as what they did in their classroom as if it was a way of life. Teacher 11 said, “It gets frustrating and I try different techniques and different strategies, but what else can you do? You have to keep going.” Teacher 17 said “You have to look at it with perseverance and passion. That's the only way you could be in this field. Yeah, I don't stop. I just don't. I can't. I feel compelled.”

Teacher attitudes appeared to play a role in their success according to teacher 8 who expressed, “I try and take it one day at a time and one student at a time. As long as we keep moving forward it's okay if we go back sometimes. We get back up and push forward again. That's how I view it.” Teacher 4 echoed the sentiment when she said, “You just keep going.” This is the message Marshall (2006) explored in his stories of the Lokata tribe: Keep going!

**Common Theme B: Job Factors**

Job factors influence teachers’ retention as special education teachers and there are many job factors that go into teaching and running a classroom. This section started rather large but over time it was narrowed to the following: *Everyday Is Different, Obstacles and Roadblocks, Relationships, Repetition* - a part of the job and *Stress/Avoiding Stress*. Nine teachers referenced the theme Job Factors 12 times. As teacher 2 stated, “Most special education teachers know what we're getting into. There are no surprises. We don't normally get too stressed out. Kid with autism throws
something through a window and takes off running. That's what we do, and I don't get stressed about it. That's all part of the routine.”

Teachers mentioned that the job of a special education teacher is completely different than a general education teacher and it is not for everyone. Teacher 11 said, “It is an all day, every day. You have to follow through and you have to be checking in. It is a completely different job than a general teacher, completely different. You have to manage people. You have to manage your classroom, and you have to be effective.”

**Common Sub-Theme: Everyday Is Different.** Teachers expressed the novelty of the job as a factor in their retention as a special education teacher. Forty-eight times, 16 of the 19 teachers related that no two days are the same due to the nature of the students and the dynamics that come into play in a classroom.

Teacher 6 suggested, “We move along, nothing stays the same, because in true life nothing stays the same, everyday its different.” Teacher 19 found that “everyday is a learning experience. Even in this population, every day is a learning experience. Then you take that and you go forward with that and try and figure out how to better yourself.”

Teacher 2 said, “That's one of the exciting things because every day is still different after 15 years. There's not a routine day.” Teacher 4 related, “I just look at each day, it starts new and if you had a setback the day before then you just start all over the next day.”

**Common Sub-Theme: Obstacles and Roadblocks.** All 19 teachers reflected on things that got in the way of getting their jobs done. They touched on the theme 105 times in their comments to the interviewer. Teachers did not see obstacles and setbacks as a negative but rather saw them as just another opportunity to go around and figure a
different way to get to the results. Even though some teachers do feel defeated from time
to time and sometimes there are violent outbursts, the teachers remain.

When asked about setbacks teachers encounter, Teacher 17 said she experiences
setbacks all the time. As a matter of fact, it is part of the day and a teacher has to figure
strategies to overcome obstacles.

Teachers had a variety of ways to address the obstacles so that the programs run
smoothly. Teachers emphasized working as a team, knowing obstacles are a part of the
job, being consistent, and having structure. Teacher 7 said, “I’ve never come across
something I couldn’t overcome. Teacher 13 has dealt with many challenges including
students with severe behaviors, children biting up to 109 times a day, and children with
seizures who required emergency medications on the playground. She said, “As far as
motivating myself to persevere when faced with obstacles, it’s loving your job.”

**Common Sub-Theme: Relationships.** During the interviews, 16 teachers
referenced relationships 113 times. The relationship theme includes relationships with
administrators, peers, students, and parents. It should be noted that six themes were
referenced over 100 or more times and the relationship theme was one of them.

Teachers indicated administrative support, peer relationships and parent/student
relationships as key to their retention as special education teachers. This finding concurs
with that of Horrison-Collier (2013) who identified mentoring and relationships among
teachers as an important factor for retaining special education teachers.

Demik (2008) concluded that collaboration among general education and special
education teachers is essential to successful programs and teacher retention. Teacher 16
said, “I believe strongly in collaboration, talking to other people about if they’ve had any similar experiences and what they’ve done about it.”

In their comments, teachers referenced student relationships and as Teacher 3 said, “One of major things that I try to do is to develop a relationship with each student.” Parent relationships are key in successful teaching and teacher 2 said, “They are our customers and that’s always my mind set.”

**Common Sub-Theme: Repetition-a Part of the Job.** The nature of the work in special education, specifically repetition, was noted by 16 of the 19 teachers who were interviewed. Teacher 2 said, “In special education, it’s kind of a given. There’s going to be repetition and we kind of accepted that early on: that is what who we do. You’re just going to provide repetition and if that's what the students need, you do it.”

During the teacher interviews, the repetition theme was emphasized repeated 53 times. As teacher 4 said, “That's what we do all day long. Yeah, repetition is what we do. Our kids learn by repetition so it’s part of the job. It’s what we do to get them to reach their maximum potential.”

Several teachers commented on the repetition and finding ways to teach the same concept in several different ways. Teacher 5 said “it’s just finding different ways to teach the same thing” and Teacher 9 said, “Staying focused on what the students are doing. They need a lot of repetition.”

When asked about her view of the repetitive nature of teaching students with severe disabilities, teacher 12 said, “Doing things over and over and again, and it taking a long period of time doesn’t necessarily…that is not a negative to me. That is just part of being a special education teacher.” Teacher 17 said repetition was part of the job and she
tries to make it (the lesson) novel. She stated “that whole Vygotsky thing (the founder of social development theory). Moderate novelty. I love that (the concept that children tend to attend to new things along with familiar things). Always love that. You can't teach almost exactly the same, but change it up a little because that makes it easier for you as a teacher, and it also helps them to start to generalize.”

Common Sub-Theme: Stress/Avoiding Stress. Fifteen out of 19 teachers pointed out ways they avoided stress as well as stressors they encountered on a regular basis, which was one of the lowest mentioned themes. Teachers stated the students were not the source of their stress but rather it came from outside sources. Teachers referenced stress or avoiding stress 41 times during the interviews.

Gersten et al. (2001) stated that districts need to address district and school support and teacher stress if they want to increase teacher retention. As teacher 2 said, “Unfortunately, what takes most of our energy and the most stressful thing is sometimes the work environment. It’s not the children. It’s not the students. You know?”

Some stress stemmed from the lack of information or resources especially for new teachers. Teacher 11 reflected that in her first year of teaching she went home crying many times because she did not know how to teach the population, felt like she did not know anything, and received insufficient support from her supervisor. Teachers varied on the ways in which they coped with stress. Examples of coping strategies included taking breaks or taking long hot baths after work, and networking with others was helpful, especially with positive people rather than negative ones.

When asked, teachers said they rarely feel defeated but rather stressed. Teacher 3 said, “I’ve felt stressed, very stressed toward the end of the year and the beginning of the
year, and establishing a routine.” Teacher 7 said, “I’ve never come across something I couldn’t overcome.” This thought was echoed during the interviews with teacher 2 who said “We work with children. That's what we do. We don't get stressed about what we do.”

Teacher 5 mentioned outside sources of stress when she said, “The trend of the moment (ever changing curriculum approaches) sometimes can be difficult”. Also having to be positive all the time can be exhausting noted Teacher 6. Another source of stress was working with agencies such as Child Protective Service or law enforcement regarding his students. Teacher 9 referred to students who cannot speak for themselves because of their cognitive abilities. It was stressful to him when a non-verbal student came to class with a black eye because the teacher could not determine if the injury was inflicted by someone else or if the student self-inflicted. He was stressed when he sensed something with the student was not right and agencies were unable to move on possible criminal charges.

**Common Theme C: Students**

The common theme of Students included sub-themes Student Progress and Successful Teaching. Seventeen of the 19 teachers reflected on the role of students in promoting teacher retention in common theme of Students 54 times. Teachers noted behavior challenges and the importance of teamwork to achieve student goals. As teacher 12 said, “The kids are what energize me. There are some days, really hard days and you're like, ‘Why do I do this?’ Then, you come back the next day and see the students. Yeah, this is why I do this work.”
In considering retention, teachers said other factors were a problem but not students. The sense of responsibility to the students was important to teachers such as teacher 16 who suggested, “To motivate myself, I think, I look at the position that I'm in and that it's a position of responsibility that can ultimately affect the lives of these children.” Teacher 14 found that she “totally fell in love with the kids and that's when I changed everything. I was like, Oh, this is what I want to do for the rest of my life. I just love these kids so much.”

**Common Sub-Theme: Student Progress.** Eighteen teachers mentioned student progress in their interviews 72 times. This is an area that appears to motivate teachers: student progress. Teacher 18 related, “Whatever we do with the student in the classroom, if a student is having a rough day, a good day, they overcame something. They checked their schedule like they were supposed to, they urinated, they had a bowel movement: that day is a celebration.” Teacher 14 commented, “I’ve just been working with the kids long enough that I know that even the smallest teeny bit of progress is still progress.”

Student progress was found to be a rewarding part of their jobs according. Teacher 14 said, “Definitely the student progress (on their individual goals). Seeing students meet those milestones, even though they may be really small.” Teacher 18 disclosed she has “heard comments that they’ve never seen that child smile like the way that child smiles with me.”

**Common Sub-Theme: Successful Teaching.** Eighteen teachers referenced successful teaching 59 times, reflecting on why they stay in the job. Teacher 4 said, “I get satisfaction when I see the kids succeed.” The teacher’s frame of reference was reflected in the comments of teacher 2 who said, “For me, if I don't see obvious, apparent
improvement, relatively consistently, it would drive me crazy, but that's what motivates me (student improvement).”

Teachers reflected on the definition of successful teaching. Teacher 4 said, “Our steps are small but we get exited for the tiny steps, we get exited for the big steps when they come along. When they get it and they finally get it; that's the satisfaction right there.”

**Common Theme D: Starting Out**

Nineteen teachers commented on how they got started in special education with 90 references. Robertson-Kraft and Duckworth (2014) proposed that the teacher’s passion and perseverance in activities before teaching impacted retention rather than how the teacher got started.

In this study, teachers showed evidence of passion and hard work in their pre-service experience such as the teacher who left her career as a secretary to complete seven or more years of schooling and then started teaching, while simultaneously bearing children. Another teacher has a passion for long distance running so he knows what it means to persevere. Many gave examples of hard work they endured before becoming a teacher. Teacher 2 said, “I fell in love it (the work) while working as an instructional assistant and attending school full time to earn a teaching credential.”

Teachers got started in the special education field in a variety of ways. Some teachers had a family member who was a teacher or had special needs and others had experience as an instructional assistant. Others had volunteering experience or they needed a job so they decided to try working with students with special needs. Teacher 4 said she was working as an instructional assistant in a special education classroom and a
particular administrator came into her classroom on a regular basis for 10 years repeating, “We need teachers. You need to be a teacher.” One day, in a weak moment, the teacher decided to enroll in a teacher credential program and she has been teaching for 20 years now.

**Common Theme E: Teacher Characteristics**

Through the interview process, many themes were expressed including teacher characteristics, which were comprised of diligence, faith and inspiration, flexibility, optimism, and structure. This section explores those specific themes.

**Common Sub-Theme: Diligence.** All 19 teachers made comments about diligence, the most frequently mentioned sub-theme at 138 times. During the interview process, teachers were told the definition of diligence was persistent exertion of body and mind. Teachers gave examples of their diligence through their responses to the interviewer.

Teacher 4 said, “I do feel diligent in my work because I think I give it 110%. The kids, they're here for us and we're here for them.” Teacher 6 commented, “Just really make sure that these kids are getting what they need, I feel, educationally as well as academically. Diligently, yeah man, I give it 100%.” Teacher 19 elaborated on those ideas, stating “I think to be, not even an excellent teacher, just to be a good teacher, to make a difference in all of our students’ lives, you have to be diligent in this job. You have to put your heart into it and your soul into it.” Teacher 14 indicated, “I think we definitely have to be diligent as far as just keeping up with the students and the consistency, because in special education consistency is so important.”
Common Sub-Theme: Faith and Inspiration. Fourteen teachers had something to say about the influence of faith and inspiration on their retention as special educators with 55 references during the interviews. Teacher 3 said, “I've felt frustrated and I just reflect back on my faith as a major factor for me and realize that tomorrow will be a better day. Everything will be resolved, eventually.”

In discussing retention, Teacher 13 said, “I’m in it for the long run. This is my passion, not just a field I want to be in.” Teacher 1 said, “God made me with a purpose to serve others and has blessed me with patience that not everyone has. I feel like my opportunity to serve God is here.”

Common Sub-Theme: Flexibility. Nineteen teachers discussed flexibility 52 times during the interviews. Teachers noted the importance of flexibility in getting their jobs done and helping their students make progress. Teacher 9 expressed, “I set goals for the classroom but you have to be flexible because you never know what students are dealing with at home. You never know what kind of mood they're going to be in when they get off the bus, what's going to set them off during the day.” However, there was one teacher who stated he was not flexible at all because his adherence to schedule and routine are what makes his program successful.

Common Sub-Theme: Optimism. All 19 teachers commented on optimism in their interviews with a frequency of 85 times. The optimistic view of their jobs reflected comments about retention. Teacher 5 asserted “It's just a way of thinking that's totally different when you're a teacher. You think about what the kids can achieve.”

In commenting on optimism, nineteen teachers noted their positive outlook on their jobs, the students, and making student progress. Teacher 17 pointed out she
frequently tells her assistants, “If they’re not getting it, it’s something we’re not doing. We’ve got to change up what we’re doing so that they can get it.” In discussing her optimism, teacher 15 said, “There's never been a day I haven't wanted to come to work. Even on those rough days, I get up in the morning and go, ‘Oh, gosh.’ I remember that parent is still on my case or whatever, but I'm there for them.”

**Common Sub-Theme: Structured.** Twelve teachers discussed the importance of structure to the achievement of their classrooms and their students. There were 70 comments about structure. Teacher 11 said she was “very, very structured. I think the kids thrive on that and they appreciate that. It makes a huge difference, especially for my students on the spectrum. They need to know what is going on.” Teacher 13 said, “I’m extremely organized. You have to be organized and you have to... especially working with mod/severe, you can't work off the fly.”

Not only were teachers structured in teaching, they were also structured in their work expectations for themselves. Teacher 10 suggested, “I just put myself on a schedule” so that she can accomplish tasks. As students thrive with consistency, so do teachers. Teacher 13 said, “I put in a lot of hours and I do a lot of different things. The number one thing would be being organized so that you manage your time very well.”

**Common Theme F: Work Ethic**

Fifteen teachers commented on their work ethic 45 times. Teacher 1 reflected, “Even our credential program is longer than general education teachers so we do have to prove ourselves to everyone that we are willing to do the work that it takes to get through that.” Regarding her work ethic, teacher 5 said, “I think your work ethic has to be something like you never finish anything.” Teacher 8 stated, “You have to be
everything—nurse, mom, office worker—you have to be a little bit of everything so you do have to have that strong ethic.” When asked about her work ethic, teacher 11 iterated, “I do not think you can do this job and not have great work ethic.”

Robertson-Kraft and Duckworth (2013) explored personal qualities of teachers and retention. One quality was working harder than their peers. Teacher 2 expressed, “It really goes back to my personal work ethic. When I am at work, I’m at work. I don't have problem focusing.” Under the theme of work ethic, there were other sub-themes. They were Goals, Hard Worker, and I Love My Job. This section explores those specific themes.

**Common Sub-Theme: Goals.** Ten teachers referenced having goals only 24 times, one of the lowest themes mentioned or discussed. Teacher 11 said, “[I am] absolutely a goal setter, in my personal life and at work.” Teacher 7 indicated, “I'm pretty persistent. Once I have a goal in mind, once I know I want to do something, accomplish something, I get it done. I complete it regardless of the work.” Teacher 9 related, “Sometimes we don't meet the goals we set for ourselves. We run out of time. Other projects pop up. But I always finish.”

**Common Sub-Theme: Hard Worker.** Eighteen teachers commented on their hard work with 104 references. This sub-theme was only one of 6 themes that had a frequency of 100 or more occurrences. Many teachers gave examples of their hard work or their ability to get things done. Teacher 1 said, “When I think of hard work, I think running miles and killing yourself that way. It goes back to long distance running, that being persistent, working hard for something.”
Teacher 2 said, “My hardest day at work, I'm still working in an air-conditioned classroom. I'm teaching people's children. I'm not digging ditches. I'm not picking grapes. I'm not driving trucks 16 hours a day. That's why I'm willing to work hard because I think my hardest day isn't that hard. Really. It's just not. I'm just thankful for what I have.” Teacher 10 echoed those comments as she said, “In terms of work ethic, I’m a hard worker. I put my whole effort into it.”

Teacher 13 explained, “I would discourage anyone that wanted to get in the field because they thought it was going to be easy, because it is not easy. You will never work harder in special education if you make a difference.” Teacher 19 noted, “I constantly think about what I’ve done in my classroom and how can I do it better.”

**Common Sub-Theme: I Love My Job.** Eighteen teachers made 100 comments on the theme “I love my job.” Six themes had a frequency of 100 or more occurrences and “I love my job” was one of them.

Teacher 18 said, “I want to come to work. Other than the students, it's also because I like working, and I love coming here.” Teacher 7 said, “I love my job. I do. It's never a dull moment. There's lots of fun. There's a lot of self gratification when you see a child for the first time start to learn to read, or do their numbers, or talk.” Teacher 14 said, “I think to do it right you have to really love what you do and you have to really know that you're going to work really hard at it.” Teacher 15 said, “I love it. There hasn't been a day I haven’t wanted to come to work.”

The fact that they talked about how much they loved their jobs was most likely a factor in their retention in special education. Teacher 13 said, “Job satisfaction has ... I've always loved my job, and probably the part that energizes is the challenges of the
Summary

This chapter examined the results of a mixed methods study focusing on two research questions. The one research question was developed to find out the perceptions of special education teachers regarding their grit level. In addition, the questions sought to ascertain teachers’ impact of grit on their longevity in the classroom.

Seventy-eight teachers who taught students with moderate/severe disabilities initially took the Grit-S survey that served as a locator for the study. Of the 78 teachers, 42 were willing to be interviewed and of those, 25 scored four or higher. Due to scheduling challenges with some of the 25 eligible teachers, a total of 19 were interviewed in face-to-face settings. The majority of the interviews were held in classrooms and all interviews were transcribed for analysis.

The Grit-S is an eight-item survey and as teachers completed the questionnaire they indicated their willingness to interview. The data of those willing to interview were tabulated for further review. All teacher responses were tallied and summarized in rank order. The three highest-ranked items were “I am a hard worker” (4.84), “I am diligent” (4.68) and “I finish whatever I begin” (4.42). The three lowest-ranked survey items were “I have difficulty maintaining my focus on projects that take more than a few months to complete” (2.31) and “I often set a goal but later choose to pursue a different one” (2.31), and “Setbacks don't discourage me” (3.16).
Teacher interviews were conducted then hand coded and Nvivo coded. Twenty-two themes were identified. Of the 22 themes, six were mentioned more often than others. The six were *Diligence* (138), *Perseverance-Passion* (107), *Obstacles and Roadblocks* (105), *Hard worker* (104) and *I love my job* (100). All themes and sub-themes were reviewed in this chapter.

Teachers described the most often mentioned theme, *Diligence*, as what they did all the time. As Teacher 19 said, “You have to be diligent in this job. You have to put your heart into it and your soul into it.” The theme *Perseverance-Passion* was the second most mentioned and teachers described this as the way of life in their programs. As Teacher 11 said, “What else can you do? You have to keep going.” The *Obstacles/Roadblocks* theme was the third highest mentioned theme and teachers rarely discouraged by obstacles. Teacher 17 iterated obstacles and roadblocks were just a part of the day and teachers must overcome the inevitable obstacles because they are a part of the job.

The researcher noted intersections between the quantitative and qualitative data. The highest ranked survey item (I am a hard worker 4.84) was the most frequently occurring among the highest coded themes (104). In addition, the second highest ranked survey item (I am diligent 4.68) was also among the six highest coded themes.

Lowest ranked items on the survey generally did not appear as a theme during teacher interviews. The reason for low ranking was because the items were behaviors that the teachers did not generally engage in. For example, the survey item “Setbacks don't discourage me” was one of the lowest ranked survey items yet teachers asserted in their interview, setbacks did not discourage them. Another item, “I often set a goal but
later choose to pursue a different one,” was ranked low and teachers revealed in the
interviews that they finish what they start and are focused on goals.

Chapter 5 discusses research findings in more depth. In addition, the chapter also
describes unexpected findings, conclusions, implications for actions, and
recommendations for further research. Finally, concluding comments and personal
reflections on the study will be given.
CHAPTER V: SUMMARY, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Throughout the country, school districts face teacher shortages in both general education and special education (Ellison & Fensterwald, 2015; Freedberg, 2013; Tucker, 2015). Districts need to hire teachers who are able to persevere for the long term because when teachers leave, it is difficult to find new ones to take their place (Freedberg, 2013; U.S. Department of Education, Office of Post Secondary Education, 2013, 2014). A review of the literature revealed the retention issue in special education. This study investigated special education teachers and the perseverance or Grit needed to stay in the field especially for those who teach students with moderate to severe disabilities. This chapter reviews the intention and design of the study and extends the review of the results by discussing the implications of the findings.

Purpose Statement

The purpose of this mixed methods study was to explore and describe the impact of Grit as described by Duckworth et al. (2007) on retention as perceived by special education teachers of students with severe disabilities.

Research Questions

This mixed methods study sought to answer the following questions regarding teachers who teach students with severe disabilities:

1. To what degree do special education teachers of severely disabled students perceive their level of Grit as measured by the Grit-S, an eight-item survey (Duckworth & Quinn, 2009)?
2. How do special education teachers perceive the importance of Grit on their retention as teachers of severely disabled students?

**Methodology**

This explanatory, sequential mixed methods study included the Grit-S survey (Duckworth & Quinn, 2009) as a locator for special education teachers in five Central Valley California counties. County special education administrators served as the contact point for teachers who taught students with moderate to severe disabilities. Seventy-eight teachers responded to the survey and 42 were willing to interview. Based on their Grit-S scores (4.00 or higher), 25 teachers were selected to interview. Nineteen of the 25 selected teachers agreed to participate in the interview. Interviews were held in teachers’ classrooms or, in some cases, university offices. Hand coding and Nvivo analysis was completed and common themes emerged.

**Population**

The target population for this study included special education teachers who teach students in K-12 schools in California. According to Bureau of Labor Statistics, this population included over 31,810 individuals in California in 2014. The sampling frame for this study included teachers of students with severe disabilities selected from the Southern San Joaquin Valley counties of California including Merced, Madera, Kings, Tulare, and Kern.

**Sample**

The sample for this study included special education teachers, authorized by the California Commission on Teacher Credentialing (2015), to teach students with moderate to severe disabilities. The teachers held one of the following credentials: Education...
Specialist Instruction: Moderate/Severe Disabilities, Intern Education Specialist

Instruction Credential: Moderate/Severe Disabilities or Specialist: Severely Handicapped. These particular credential categories concurred with the awarding of their credential.

**Major Findings**

Nine major findings resulted from this study. Further, analysis of teacher interview transcriptions were compiled and reviewed for themes and sub-themes. The analysis included review of individual and cumulative Grit-S survey results. Major findings are arranged by research questions for ease in reading and understanding. Figure 5.1 provides a visual of the both the survey items and the themes that were most often mentioned.

*Figure 5.1 Major Findings: Intersections of quantitative and qualitative data*

To what degree do special education teachers perceive their level of grit?

**Quantitative Survey**

Survey Item Ranking

- I am a hard worker
- I am diligent
- I finish whatever I begin

How do special education teachers perceive the importance of Grit on their retention?

**Qualitative Interviews**

Theme Frequency

- Diligent
- Relationships
- Perseverance-Passion
- Obstacles/Roadblocks
- Hard worker
- I Love My Job
Creswell and Plano (2011) suggest mixing strands of data after data collection so the researcher can more readily explain or infer relationships between the two sets of data. While this study did not set out to show a statistical relationship between quantitative and qualitative data, it did show commonalities between the two and Figure 5.1 shows the intersections. In this section, major findings are discussed according to the research questions.

**Research Question 1**

Research question one asked: To what degree do special education teachers of severely disabled students perceive their level of Grit as measured by the Grit-S, an eight-item survey (Duckworth & Quinn, 2009) and this section looks at findings based on research questions. All teachers interviewed in this study scored at 4.00 and above as outlined in the methodology of this study. Some teachers were not surprised at their score and some, upon learning their score, reflected that they agreed with the fit.

Findings under research question one demonstrated teacher perceptions of the grit construct (Duckworth et al. 2007; Duckworth & Quinn, 2009).

**Major finding 1.** Teacher ranking of survey items on the Grit-S revealed, “I am a hard worker” higher than any other survey item. They self-reported they were hard workers and they ranked items from these choices: very much like me; mostly like me; somewhat like me; not much like me; not like me at all. The choices were the same for all survey items. In the interviews, teachers revealed their ability to work hard and their comments were summarized under the theme *hard worker*. Hard worker was ranked higher than other survey item and teachers ranked hard worker in the top six themes mentioned during the interviews.
Major finding 2. Teachers in the study ranked “I am diligent” as the second highest survey item. All survey items were based on self-reporting with the items listed previously. To coincide with the survey items, teachers were asked if they felt diligent in their work during the interview portion of the study. Since many of them did not know exactly what diligence was, they were provided the definition. Teacher gave examples of their diligence and it was in the top six of themes mentioned.

Major finding 3. The third ranked survey item was “I finish whatever I begin.” Again, this was a self-report and teachers’ perceptions were revealed through their choice of responses. Following up after the survey, an interview question addressed this survey item with this question: “Are you a person who finishes what you start or do you have many projects that are in process?” Teacher comments about their ability to finish what they start were coded in the diligence theme. Teacher ranking of this theme aligns with this researchers experience as a teacher and administrator, especially one who has supported teachers of those with moderate to severe disabilities.

Research Question 2

For research question two, teachers were asked how they perceived the importance of Grit on their retention as teachers of student with severe disabilities. From the analysis, twenty-one themes emerged out of the special education teacher interviews. The frequency of comments for each theme were calculated through NVivo coding. Of the themes or sub-themes, six had a frequency of 100 comments by teachers. The themes were: Diligence, Relationships, Perseverance-Passion, Obstacles and Roadblocks, Hard Worker, and I Love My Job. The following findings relate to research question two and themes revealed through interviews are presented.
**Major finding 4.** Previously diligence was discussed under research question one in looking at quantitative findings. Diligence was the theme teachers mentioned most often during the interviews and it was also the second highest ranked survey item. Through teacher comments, teachers expressed examples of diligence as demonstrated by their work ethic and drive to do their jobs well. Teachers consistently talked about their approach to their jobs and the effort it takes to do the job right. Some said it was a calling and stated that their faith played a part in their diligence.

**Major finding 5.** The second most frequent theme teachers mentioned was Relationships (Jones et al., 2013). This area included relationships with staff such as paraprofessionals, parents, students, and administrators. Teacher expressed the importance of building and maintaining solid relationships as key to their longevity in the classroom.

**Major finding 6.** The third highest theme was Perseverance-Passion (Duckworth & Quinn, 2009). All of the teachers cited this theme. Teachers described perseverance in their programs as an integral part of their program and what they did on a daily basis. They said they have to keep going even when they encountered roadblocks. Attitude was a factor in the teacher’s abilities to keep going when it was difficult.

**Major finding 7.** The next theme was Obstacles and Roadblocks and teachers commented they rarely become discouraged by the inevitable challenges (Duckworth et al., 2007). As a matter of fact, teachers stated obstacles and roadblocks were just a reality of the job. Teachers said they encountered setbacks and obstacles all the time and they had a variety of ways to overcome the challenges. The teachers agreed that the way they
got through the difficult times knew they were helping students. They stated seeing student progress was what they loved about their jobs and was the reward they valued.

**Major finding 8.** Teachers in this study gave examples of how they were *hard workers*. They did not think anything about the hours they put into their jobs and their students even though it was very time consuming. Again, teachers expressed it was a part of the job and it was necessary to help the students make progress. This group of teachers gave examples of finishing what they started and were thorough in accomplishing tasks.

**Major finding 9.** Clearly teachers in this study expressed their love for their jobs repeatedly during the interviews. The theme “I love my job” was frequently mentioned and it was in the top 6 themes. They could not think of anything else they would rather be doing. Although this study included veteran teachers and newer teachers they all loved their jobs.

**Unexpected Findings**

Contrary to initial presumptions, teachers do not chose to leave because of difficulties in teaching lessons, their relationships with the children or even challenging student behaviors. For this group of gritty teachers who work with students with some of the most challenging learning and behavioral issues, student needs were not the issue but rather, it was factors beyond the teacher-student relationships that affect retention.

**Unexpected finding 1.** Although teachers cited classroom interruptions, mountains of paperwork, and ever changing curriculum as sources of stress, they were willing to stay in the job because of the students. Schools would do well if they could address the paperwork and other aforementioned sources to help increase retention. The
high grit teachers in this study were willing to endure the obstacles and work hard because it made a difference in the lives of their students and their futures.

**Unexpected finding 2.** Another unexpected finding was these gritty teachers “Loved their jobs.” Even though they faced obstacles and roadblocks, they loved the way in which they could affect student’s lives. Specifically, teachers cited the effect of the quality of life for the students. If a teacher could teach to teach students to develop independent skills, they would not have to totally rely on others. In other words, if a teacher could teach the student (a skill like feeding themselves) other people would not have to do it for them (future living situation). They felt like they were making a difference for students and that alone gave them great satisfaction according to teachers. Through the good (students making process), the bad (disruptive behaviors) and the ugly (mountains of paperwork and unhappy situations), these teachers demonstrated perseverance.

**Unexpected finding 3.** The intersection of items from the quantitative survey and the qualitative interview was unexpected. Based of literature review and previous interaction with teachers who teach students with severe disabilities, this researcher was pleasantly surprised and validated with the intersections of findings.

**Conclusions**

This study looked at special education teachers who taught students with severe disabilities. Initially, a survey was used as a locator for teachers. Select teachers who scored four or higher on the Grit-S participated in interviews scheduled and held in five counties in Central California.
The gritty teachers in study were those who complete necessary tasks and exhibit diligence to accomplish their work. In interviews, they appeared solid teachers who did not seek special recognition for their teaching efforts as explained in their statements to the researcher. They were unassuming and did not brag about their work with students. Rather they are the teachers who work day in and day out to teach students who have many learning challenges even though it may take months or years of practice for their students to achieve mastery. Several teachers gave examples of such teaching in interviews. These teachers persevere for the long term and they are not afraid of deliberate practice or repetition because their jobs require it and the students thrive on it.

Diligence was the characteristic teachers mentioned more frequently than any other theme and also was ranked the second highest on the list of survey items. It should be noted that when teachers were told the definition of diligence, it did not necessarily resonate with them. On further reflection, teachers provided examples of their diligence in their work with students, staff, and parents.

**Implications for Action**

Do the findings matter and, if so, what implication does it have for policy and practice? This study focused on special education teachers who taught students with severe disabilities. The following actions can be performed in school districts and universities who prepare special education teachers:

**Implication 1**

The highly gritty teachers interviewed expressed their love for their job even though there were obstacles and roadblocks. Teachers said the stress they experienced was never because of the children but rather because of other factors such as students not
being included at the school, classroom interruptions, and difficulties with paraprofessionals and “mountains” of paperwork (Boyd et al., 2011; Demik, 2008).

Knowing this, school administrators should provide support to teachers in the form of a snowplow of sorts, clearing the way for teachers to focus on the important job of teaching. School administrators have the ability and should eliminate obstacles such as excess or unnecessary paperwork, reducing mandatory meetings that are not relevant to teaching, and handling challenging parents so teachers can teach (Basset Berry, 2010). In addition, administrators need to place a priority on uninterrupted instructional time and it should be a part of the school culture (Horrison-Collier, 2013).

Incorporating systems wide initiatives to put more focus on the classroom and the teachers is recommended to increase teacher retention (Boyd et al., 2011). Additional clerical assistance would be utilized to decrease reliance on the special education teacher and allow them time to focus on instruction and not paperwork.

**Implication 2**

In order to retain a solid work force in special education, districts must put into place strategies to retain teachers in their jobs (Atkins, 2013; Parrott, P.L. 2010; Ruble, 2010; Watson, 2011). It is recommended schools incorporate strategies on a consistent basis in order to increase teacher retention. Some strategies include providing mentors, relevant professional development focusing on practical strategies, creating open and welcoming culture of acceptance, and training with continual follow up (Gersten et al., 2001; Horrison-Collier, 2013).

Some of the teachers cited the lack of inclusion opportunities for their students at their school sites and social isolation from other staff, which might contribute to teacher
attrition (Basset-Berry, 2010). For example, some teachers cited not being notified about campus wide events by administration and it was a common occurrence. Even though children with disabilities have been included as a part of their school culture for many years, it does not happen at all schools. Administrative awareness and even directives from their superiors might be necessary to effect change.

**Implication 3**

In this study, teachers expressed the importance of relationships with parents, staff, and administrators to their retention as teachers (Basset-Berry, 2010). In order to increase retention school districts should promote professional learning communities (PLC) specifically with special education teachers in job-alike groups. This would not be a monthly meeting in which administrators tell the teachers what they should be doing but rather, small groups in which teachers share what works and what does not. Districts need to give the time to develop long lasting relationships among teachers and administrators to have an impact on teacher retention (Jones et al., 2013).

**Implication 4**

Universities and other credential programs need to be a part of the solution to the teacher shortage. If universities do their part by addressing the teacher shortage, especially in special education it would benefit districts who would have more teachers to fill the vacancies. For example, at some universities to gain admission, candidates must respond to a prompt such as “What grade level do you want to teach and why?” What if applicants, instead, had to write about obstacles and how they have overcome them? Or they could give an example of their diligence when faced with obstacles or their perseverance for long-term goals (Duckworth et al., 2007).
In addition, special education teacher candidates should be given the Grit-S as part of their pre-hiring process. Because of the teacher shortage, many school districts hire pre-interns who are not full credentialed and continue to take coursework (Freedberg & Rice, 2014). As part of their application for teaching jobs, teachers should reflect on or give examples of how they kept going when it was difficult (Duckworth & Quinn, 2009). This might way of screening and might save staff time and effort because of turnover of new teachers (Robertson-Kraft & Duckworth, 2013).

**Recommendations for Further Research**

Due to the special education teacher shortage, many other kinds of special education teachers that could be studied to learn more about teacher retention. For example, graduate programs would be well served if they used the Grit Scale for incoming credential candidates. There are several areas that are recommended for further research so that the body of research on Grit and retention could be explored in more detail.

1. It would be important to replicate this study with teachers who serve students with mild to moderate disabilities. There are a higher percentage of students in the mild to moderate disability category of special education than any other category of disability according to the California Department of Education data (2014-15). Most schools have teachers who work with students with learning disabilities (mild moderate disabilities) but there are not nearly as many teachers of students with moderate and severe disabilities.

2. Since the Grit-S was validated and predicted retention of military candidates (Duckworth et al, 2007), why not use the Grit-S to predict teacher retention?
Such research would include administration of Grit-S for newly hired special education teachers. This would be a quantitative study looking at teachers to see if retention could be predicted. Access to personnel records would be necessary so this particular research might be difficult to complete due to confidentiality.

3. Further research would include the administration of the Grit-S and follow-up interviews and compare Grit level differences between teachers who work with students with mild to moderate and those who work with students with moderate-severe disabilities. Discovering the differences and similarities would be an insightful key to keeping special education teachers. It is recommended further research identify themes of teachers who teach students in other categories so that school personnel would gain insight into those teachers.

4. While there has been some research on general education teachers and grit (Robertson-Kraft & Duckworth, 2014), a study comparing special education teachers and general education teachers would be interesting to see if there is a difference or a key to teacher retention. Results would add to the body of research on general education teachers because Robertson-Kraft and Duckworth (2014) focused on beginning teachers only.

5. It would be important to contrast teachers who stayed in special education with those who left special education to go to general education after just a couple of years. It would be necessary to validate the findings here by contrasting perspectives of those who left their teaching careers early to discover any variance in grit levels. Although this data might be difficult to collect due to confidentiality, it would be helpful for school districts in keeping their special
education teachers. Additional Grit-S administration could be included as part of this potential study.

**Summary and Reflections**

This study investigated special education teacher retention and the perseverance of long-term, gritty teachers of students with moderate to severe disabilities. Results demonstrated gritty special education teachers who work with students with severe disabilities are hard workers, diligent, and finish what they begin.

While this study had some limitations such as the small number of teachers, it was revealing to note teachers loved their jobs and they would not choose to be a teacher in general education. In addition, this study was limited to the central part of California and did not include other parts of the country. However, it is an area of California hard hit by the teacher shortage and the results of this study would add to the body of evidence that contributes to retaining teachers.

The teachers in this study expressed they may have started out in the field lacking confidence but once they went beyond, and pushed themselves to do more, they developed confidence to make a difference in the lives of their students. This is an important point to consider. Did the teachers develop grit over time or did they develop grit because life experiences?

Teaching students who fall on the far end of the spectrum of abilities might not bring rewards in terms of accolades or tangible rewards as compared to other kinds of teaching. However, the intrinsic reward of the teaching the students is immeasurable.
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# APPENDICES

## Appendix A: Synthesis Matrix

**A Look at Grit: California Special Teachers Who Teach Students with Severe Disabilities**

### Synthesis Matrix

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<td>Role of School-Based Colleagues in Shaping the Commitment of Novice Special and General Education Teachers.</td>
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<td>2013</td>
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Hello

I am a doctoral student at Brandman University who is completing a dissertation focusing on teachers who teach students with severe disabilities. During the last 25 plus years, I worked in the moderate severe disabilities programs in county offices in the central valley. In 2013, I left Tulare County Office of Education moderate severe administration to pursue a career in higher education. Currently I work at Fresno Pacific University in the Visalia Center, as a Special Education Program Director and my job is to prepare future special education teachers for the classroom.

I am asking for your assistance to send out a survey to your mod-severe teachers on my behalf. I hope to conduct the study this spring or as soon as I receive final approvals from Brandman University. The study will cover six counties and it would require your mod-severe teachers to complete a 10-minute survey. Some teachers from each county will be selected to have a face-to-face interview to add depth to the study.

After the completion of the study, I will provide you with more detailed information about the purpose of the study as well as the research findings.

In order to move forward with approvals from Brandman University, I need your support in this process. May I count on you to help? Your part would be to forward survey to your mod-severe teachers.

If you have concerns or questions about this study, please contact Donna Martin at Dmartin2@brandman.edu. You may also contact Dr. Doug DeVore at ddevore@brandman.edu.

Best regards,

Donna Baker Martin
Brandman University Doctoral Student
559-799-2853
dmartin2@brandman.edu

Appendix B: Letter to Administrators
Hello Teachers,
I am a doctoral student at Brandman University who is completing a dissertation focusing on teachers who teach students with severe disabilities. During the last 20 plus years, I worked in the moderate severe disabilities programs from Merced down to Tulare County. Currently I work at Fresno Pacific University in the Visalia Center, as a Special Education Program Director and my job is to prepare future special education teachers for the classroom.
I would like to invite you to participate in a doctoral study focused on Special Education teachers and Grit. I am asking for your help by taking a short eight-item survey. Select the following link and it will take you directly to the survey. This eight-item survey will take less than 5 minutes to complete and is completely confidential.

**INSERT LINK HERE**

Following the survey, two teachers from each of the six participating counties will be asked to participant in face-to-face interview to add depth to the study. The interviews will take about 30 minutes and will be set up at a time convenient for you. If you are willing to participate in a follow up interview there is a place on the survey that allows you state your interest and provide an email address so the researcher can follow up directly with you.
If you agree to participate in an interview, you may be assured that it will be completely confidential and you will not be identified in the study.
Your participation would be greatly appreciated. I am available via phone 559-799-2853 or email *Dmartin2@mail.brandman.edu* to answer any questions you have about your participation.

Best regards,
Donna Baker Martin
Doctoral Candidate
Ed.D. in Organizational Leadership
559-799-2853
Dmartin2@brandman.edu
Appendix D: Grit-S Survey

Short Grit Survey (Grit-S)

Directions: Please respond to the items below. Remember, there is no right or wrong answer.

1. New ideas and project sometimes district me from previous ones.
   - Very much like me
   - Mostly like me
   - Somewhat like me
   - Not much like me
   - Not like me at all

2. Setbacks don't discourage me.
   - Very much like me
   - Mostly like me
   - Somewhat like me
   - Not much like me
   - Not like me at all

3. I have been obsessed with a certain idea or project for a short time but later lost interest.
   - Very much like me
   - Mostly like me
   - Somewhat like me
   - Not much like me
   - Not like me at all

4. I am a hard worker.
   - Very much like me
   - Mostly like me
   - Somewhat like me
   - Not much like me
   - Not like me at all

5. I often set a goal but later choose to pursue a different one.
   - Very much like me
   - Mostly like me
   - Somewhat like me
   - Not much like me
   - Not like me at all
6. I have difficulty maintaining my focus on projects that take more than a few months to complete.
   - Not like me at all
   - Very much like me
   - Mostly like me
   - Somewhat like me
   - Not much like me
   - Not like me at all

7. I finish whatever I begin.
   - Not like me at all
   - Very much like me
   - Mostly like me
   - Somewhat like me
   - Not much like me
   - Not like me at all

8. I am diligent.
   - Not like me at all
   - Very much like me
   - Mostly like me
   - Somewhat like me
   - Not much like me
   - Not like me at all

Scoring:

For questions 2, 4, 7, 8 assign the following points:
5 = Very much like me
4 = Mostly like me
3 = Somewhat like me
2 = Not much like me
1 = Not like me at all

For questions 1, 3, 5, and 6, assign the following points:
1 = Very much like me
2 = Mostly like me
3 = Somewhat like me
4 = Not much like me
5 = Not like me at all

Add up all the points and divided by 8. The maximum score on this scale is 5 (extremely gritty), and the lowest score on this scale is 1 (not at all gritty).

Reprinted with permission.
Appendix E: Permission Email

Hi Donna,

Thanks so much for your inquiry! I am writing on behalf of Dr. Duckworth. She asked me to inform you that she (we) will not be able to consult with you at the time. I am in the process of removing time for research, and for her, Dr. Duckworth is unable to fulfill all of the requests she receives.

The protocol is copyrighted by Dr. Duckworth and co-authors. As detailed here, [link to Duckworth's website], the scale can only be used for educational or research purposes. The scale cannot be used for any commercial purpose, nor can it be reproduced in any publication. You are free to use it in your research as long as you follow these guidelines.

Thank you again and best of luck in your endeavor.

David Wickens

---

Click here to reply or forward.

Dave Wickens

Last activity: 16 minute ago

Details
Appendix F: Interview Protocol

Interview Protocol

1. Please tell me a little about yourself. How long have you been teaching students with severe disabilities and what credential do you have?

2. How did you get your start in special education?

3. In working with your students there may be roadblocks and set backs from time to time. How do you experience the possible challenges and what, if anything, do you do to overcome them?

   Can you give me an example? Are there other strategies?

4. How would you describe yourself in terms of work ethic? Please explain.

   Do you perceive that being a hard worker has supported you in your role in working with students with severe disabilities?

5. Do you ever feel defeated? What is that like for you? Are there things you do to specifically motivate yourself and maintain your focus? How does that feel? Are there some motivation strategies that tend to work better for you when things are tough?

6. How would you describe yourself in terms of flexibility? What is it like to attempt to set goals and follow them? Do you feel successful?

   Can you give me an example of when staying with the goal or selecting another way, was a good thing in supporting your role working with children who have severe disabilities?

7. Diligence is defined as persistent exertion of body and mind. How would you describe yourself with this term in mind? Do you feel diligent in your work? How is that so?

8. What is it like for you to remain focused if students require extended repetition for long periods of time to be successful? Are there certain strategies or ways you keep yourself focused and on target while working with your students?

9. How do you experience distractibility in your work? How do you motivate yourself to persevere when faced with obstacles, challenges or setbacks?
Have you found getting distraction a problem when completing the many tasks you might have working with your students?

10. Are you a person who can be obsessed with an idea or project but later lose interest? Do you see yourself as a person that does not normally lose interest with a project over time? Can you give an example?

11. Are you a person who finishes what you start or do you have many projects that are in process?

   Can you give an example of a time when you encountered some obstacles to a project you started but you were able to stay with it to completion? Do you have many projects that are in process at one time?

12. How do experience job satisfaction? Are there parts of the job that reenergizes you? What is that like?

13. What is your overall experience of being an Education Specialists that we have not discussed?

14. Grit is defined as “perseverance and passion for long-terms goals”. Would you be surprised to know that your Grit score was _________ out of 5? Your thoughts?
Appendix G: IRB Approval

BRANDMAN UNIVERSITY INSTITUTIONAL REVIEW BOARD
IRB Application Action – Approval

Date: March 9, 2016

Name of Investigator/Researcher: Donna Baker Martin

Faculty or Student ID Number: 900441373

Title of Research Project:
A Look at Grit: Teachers Who Teach Students with Severe Disabilities

Project Type: [ ] New [ ] Continuation [ ] Resubmission

Category that applies to your research:
[ ] Doctoral Dissertation EdD
[ ] DNP Clinical Project
[ ] Masters’ Thesis
[ ] Course Project
[ ] Faculty Professional/Academic Research
[ ] Other: ____________________________

Funded: [ ] No [ ] Yes ____________________________
(Funding Agency; Type of Funding; Grant Number)

Project Duration (cannot exceed 1 year): three months

Principal Investigator’s Address: 3342 S. Stevenson Visalia, CA 93277

Email Address: Dmartin2@mail.brandman.edu Telephone Number: 559-799-2853

Faculty Advisor/Sponsor/Chair Name: Doug DeVore

Email Address: ddevore@brandman.edu Telephone Number: 623-293-2421

Category of Review:
[ ] Exempt Review [ ] Expedited Review [ ] Standard Review

I have completed the NIH Certification and included a copy with this proposal
NIH Certificate currently on file in the office of the IRB Chair or Department Office

Donna Baker
Signature of Principal Investigator: Martin
Digitally signed by Donna Baker
Date: 2016.03.09 13:56:53 -08'00'

03-10-16
Date:

Digitally signed by Doug DeVore
DN: cn=Doug DeVore, o=Brandman University, ou=EDOL,
email=ddevore@brandman.edu, c=US
Date: 2016.03.10 11:24:39 -07'00'
03-10-16
Date:
BRANDMAN UNIVERSITY INSTITUTIONAL REVIEW BOARD
IRB APPLICATION ACTION – APPROVAL
COMPLETED BY BUIRB

IRB ACTION/APPROVAL
Name of Investigator/Researcher: Donna Baker Martin

☐ Returned without review. Insufficient detail to adequately assess risks, protections and benefits.

☐ Approved/Certified as Exempt form IRB Review.

☐ Approved as submitted.

☑ Approved, contingent on minor revisions (see attached)

☐ Requires significant modifications of the protocol before approval. Research must resubmit with modifications (see attached)

☐ Researcher must contact IRB member and discuss revisions to research proposal and protocol.

Level of Risk: ☐ No Risk  ☑ Minimal Risk  ☐ More than Minimal Risk

IRB Comments:

1) Check for grammatical errors in your survey instrument e.g. "distract" vs "district"
2) Revise the wording and double check for spelling throughout the document.

Dr. Michael Moodian
IRB Reviewer
Telephone:  ☐ Email: moodian@brandman.edu

IRB Chair: Dr. Douglas DeVore
Date: 3/17/16

REVISED IRB Application  ☑ Approved  ☐ Returned

Name: Doug DeVore
Telephone: 623-293-2421  Email: ddevore@brandman.edu  Date: 3/18/16

BUIRB Chair: Douglas DeVore

Appendix H: Informed Consent from Survey Monkey

A Study of Teachers of Students with Severe Disabilities

Informed Consent to Participate

You are being asked to participate in a research study conducted by doctoral student Donna Martin, a Brandman University student. The purpose of the study is to explore the impact of teacher characteristics on retention.

If you agree to participate in this research study, you will be asked to respond to eight items on a brief survey and indicate your ranking on the items. You may anticipate the survey will take less than 10 minutes.

Although there is no foreseeable risk to you in this research, the benefit would be that you would add to the body of research on teacher retention. The intent of the researcher is to collect the data and write about the results.

Any information obtained in connection with this study that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Confidentially will be maintained by the online survey tool’s account being password protected and access to the account will only be available to the researcher. The researcher will assure the data will be kept confidential and in a locked file. All written and electronic documentation will be destroyed at the completion of the study.

You may choose whether to be in the study or not. If you volunteer to be in the study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don’t want to answer and still remain in the study. The investigator may withdraw you from this research if circumstances arise which warrant this action.
If you have any questions or concerns about the research, please feel free to contact Donna Martin at Dmartin2@mail.brandman.edu or 559-799-2853. You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights, or remedies because of your participation in the study. If you have any questions about your rights as a research participant, contact Dr. Doug Devore ddevore@brandman.edu

I have read and understand the procedures in the consent to participate in research form and I agree to participate in this study.

Yes – I agree (Survey continues)

No – I decline (Program Automatically Terminates)

The Survey will continue on the following page.

Short Grit Survey

Directions: Please respond to the items below. Remember, there is no right or wrong answer.

9. New ideas and projects sometimes distract me from previous ones.
   ☐ Very much like me
   ☐ Mostly like me
   ☐ Somewhat like me
   ☐ Not much like me
   ☐ Not like me at all

10. Setbacks don't discourage me.
    ☐ Very much like me
    ☐ Mostly like me
    ☐ Somewhat like me
11. I have been obsessed with a certain idea or project for a short time but later lost interest.
   - Very much like me
   - Mostly like me
   - Somewhat like me
   - Not much like me
   - Not like me at all

12. I am a hard worker.
   - Very much like me
   - Mostly like me
   - Somewhat like me
   - Not much like me
   - Not like me at all

13. I often set a goal but later choose to pursue a different one.
   - Very much like me
   - Mostly like me
   - Somewhat like me
   - Not much like me
   - Not like me at all

14. I have difficulty maintaining my focus on projects that take more than a few months to complete.
   - Very much like me
   - Mostly like me
   - Somewhat like me
   - Not much like me
   - Not like me at all

15. I finish whatever I begin.
   - Very much like me
   - Mostly like me
   - Somewhat like me
   - Not much like me
   - Not like me at all
16. I am diligent.

☐ Very much like me
☐ Mostly like me
☐ Somewhat like me
☐ Not much like me
☐ Not like me at all

If you would consent to a follow-up interview after the completion of the survey, please indicate your willingness to participate by leaving your contact information below. The interview would be at a time and date acceptable to you in your local community.

Name: Contact Information:
Appendix I: Participant’s Bill of Rights

BRANDMAN UNIVERSITY INSTITUTIONAL REVIEW BOARD

Research Participant’s Bill of Rights

Any person who is requested to consent to participate as a subject in an experiment, or who is requested to consent on behalf of another, has the following rights:

1. To be told what the study is attempting to discover.
2. To be told what will happen in the study and whether any of the procedures, drugs or devices are different from what would be used in standard practice.
3. To be told about the risks, side effects or discomforts of the things that may happen to him/her.
4. To be told if he/she can expect any benefit from participating and, if so, what the benefits might be.
5. To be told what other choices he/she has and how they may be better or worse than being in the study.
6. To be allowed to ask any questions concerning the study both before agreeing to be involved and during the course of the study.
7. To be told what sort of medical treatment is available if any complications arise.
8. To refuse to participate at all before or after the study is started without any adverse effects.
9. To receive a copy of the signed and dated consent form.
10. To be free of pressures when considering whether he/she wishes to agree to be in the study.

If at any time you have questions regarding a research study, you should ask the researchers to answer them. You also may contact the Brandman University Institutional Review Board, which is concerned with the protection of volunteers in research projects. The Brandman University Institutional Review Board may be contacted either by telephoning the Office of Academic Affairs at (949) 341-9937 or by writing to the Vice Chancellor of Academic Affairs, Brandman University, 16355 Laguna Canyon Road, Irvine, CA, 92618.
5. Yeah. Do you ever feel defeated and what's that like and are there things you do just specifically to motivate yourself and maintain your focus?

I don't know if I necessarily feel defeated at times. There's times when I get stuck with a situation and I'm not sure where to go or I get tired. A lot of times it's more mentally draining than anything else. To motivate myself, I think, I look at the position that I'm in and that it's a position of responsibility that can ultimately affect the lives of these children. My goal is to help them become as independent as possible. I think, at times when I feel like I'm not making the headway or this is really what I should be doing, I think about that and think about [inaudible 00:05:24] in this field. [What it'd be 00:05:26] be like for these kids. Then, I also look at the accomplishments that I've made with the kids. It helps me motivate myself.
Appendix K: Nvivo Sample