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Authentic Tasks: A Participatory Action Research Study

On a Teaching Method for the Inclusive Classroom

By: Wendy Raso Bruffy

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Abstract

The way in which education is taught is forever changing. Therefore, a new method in which content is delivered is a central component in examining areas for improvement. In this paper, participatory action research (PAR) was used to investigate authentic tasks in the inclusive tenth and eleventh grade classroom. The purpose of this study was to determine whether authentic tasks improved the academic performance and social interaction of regular and special education students in this type of setting. The research questions were; How does the use of authentic tasks impact the social interactions of general education and special education students in an inclusive tenth and eleventh grade biology classroom, and How does the use of authentic tasks impact the academic performance of general education and special education students in an inclusive tenth and eleventh grade biology classroom? This research provided a foundation in observational, survey, and interview data on authentic tasks in the inclusive setting in an effort to find meaning in the effectiveness of teacher-created authentic tasks versus the conventional method of textbook work. The study was conducted in a suburban New Jersey high school using an inclusive biology class consisting of 12 students, 10 of whom were participants in the study. Two surveys and one interview were conducted to triangulate the data collected. The results reflected that social interaction was increased as a result of using authentic tasks. The data collected regarding authentic tasks on academic performance did not appear to greatly improve or impede marking period results. Further exploration regarding academic performance for an entire school year would be recommended as a future study. Academic performance is conventionally measured by quantitative means. This study can be used as a foundation to provide educational professionals a new way to examine their students' academic performance and social interaction.

Keywords: Least Restrictive Environment (LRE), Inclusion, Authentic Assessments and Tasks, self-assessments, Learning Disabled, Individual Education Plan (IEP), 504 Plans

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Chapter 1

Introduction

"Teaching is a complex and dilemma-ridden endeavor, necessitating ongoing learning as well as the capacity to be reflective" (Cooper & Larrivee, 2006, p. 1,), and "Inquiry in the classroom and reflection on instructional practices on both a social level and academic level may alter one's engagement and help better understand a situation or issue, including the larger school community" (Bruce & Pine, 2010, p. 47, as cited in Rogers, 2004). While inclusion provides special needs students the opportunity to learn in an age-appropriate setting without restrictions or isolation, the problem is not all general education teachers are prepared to teach students with special needs. While inclusionary practices involve various methods, not all methods will lead to high levels of student performance in this particular setting. Therefore, research must explore and identify additional methods to improve the inclusive classroom. Areas that need improvement include interaction between teachers and students and between students, and academic performance by both the special education and regular education students. One method includes using authentic tasks and self-assessments to enhance learning for both the general education and special education student. Authentic tasks are teacher-created assignments that meet the standards of curriculum. Wiggins ande McTighe (2005) defined authentic tasks as "An assessment composed of performance tasks and activities designed to simulate or replicate important real-world challenges. The heart of authentic assessment is realistic performance-based testing - asking the student to use knowledge in real-world ways, with genuine purposes, audiences, and situational variables" (p. 337-338). Montgomery (2001) defined authentic tasks in a similar fashion, calling them "real-life activity, performance, or challenge that mirror those faced by experts in the particular field, requiring high levels of

cognitive thinking, problem solving, and critical thinking" (p. 2). They are meant to reach a diverse audience and provide a more student-directed learning atmosphere. The goal of this research was to provide a perspective on whether authentic tasks can improve academic achievement and social behaviors in the inclusive setting.

The research questions provided the opportunity to use multiple sources of data collection, including observation, surveys, journal entries, and interviews. The data collected provided evidence as to whether incorporating authentic tasks (i.e., teacher-designed material) improved the inclusive setting for both the general education and special education students. This qualitative research took the form of participatory action research (PAR) to explore the use of authentic tasks in an inclusive classroom setting, while at the same time adhering to both the guidelines of the Individuals with Disabilities Education Act (IDEA) and the New Jersey state standards for education.

A high school in northern New Jersey was the focus of this action research. One inclusive class at a tenth to eleventh grade level was evaluated in this 10-week study. Approval was received from the West Essex Regional School Board to evaluate, through various methods, the social behaviors and academic achievement of the students in the participating class utilizing authentic tasks. Throughout the study, data were collected and evaluated. Social behaviors observed during the use of these tasks were noted through journal entries. At the end of the marking period, grades from the class were assessed. The names of each student were removed and each participant was given a number. If a student had an Individual Education Plan (IEP), it was noted with a star and number to protect the identity of the student. The researcher interviewed the participants using a semi-structured interviewing process (Creswell, 2009)

midway through the marking period. This helped assess each participant's individual perception on how the use of authentic tasks impacted the inclusive classroom.

Problem

Prior to the implementation of the IDEA, students were isolated from their age-appropriate peers and educated in small classrooms alongside other students with varying degrees of disabilities. This structure did not provide for proper socialization with non-disabled peers. The IDEA was the first step toward improving education opportunities for students with learning and developmental disabilities. The act afforded individuals with disabilities the same educational rights as their peers who did not have learning limitations (Brown, 1992; Butin, 2010; Cole & McLeskey, 1997; Collins, 1992; Gallagher, 2001; Grove & Fisher, 1999; Lama, 1999; Salend, 2008).

In the early 1990s, the Americans with Disabilities Act (ADA) was developed and the IDEA Amendments were created in 1997 (Public Law 105-17). These laws were developed to improve the quality of learning for all (Montgomery, 2001; Wiggins, 1989). The IDEA was amended in 2004 to incorporate inclusionary practices. According to Cook, Tankersley, Cook, and Landrum (2000), the inclusive classroom is one that places identified special needs students alongside general education students.

The results of these laws showed no theoretical improvement in teacher attitudes and no measurable improvement in grades (Cook et al., 2000). However, the higher the level of behavior issues, the more the teachers appeared to be detached (Cook et al., 2000). Teachers appeared to feel unprepared to handle the various behaviors seen in the inclusive classroom, and as a result, had a difficult time reaching students at various learning levels. Cook et al. (2000) identified concerns with the underrepresentation of special education students. Furthermore, the

higher achieving special education students did well, while students who appeared to be more detached fell into the rejection category.

Evidence by D. Fuchs and Fuchs (1994) suggested that more experienced teachers in special education are better prepared to handle students in the inclusive classroom versus less experienced general education teachers. While inclusion provides special needs students the opportunity to learn in an age-appropriate setting without restriction or isolation, there are various methods for incorporating inclusion. Not all methods work to instill a high level of social interaction or academic performance in students in this particular setting. The purpose of this study examining authentic tasks was to determine whether this method is a possible strategy for the inclusive setting as a means to enhance both academic and social performance.

The inclusive classroom is a relatively new approach in education, taking effect after the ratification of the IDEA in 2004. Current teaching methods, including assignments and assessments used in today's classrooms, are not well suited to handle the influx of students with various physical, emotional, and learning disabilities. Not enough qualitative research has been developed to improve the common practices within the classroom. D. Fuchs and Fuchs, since 1994, have discussed the transition of special needs programs and their relationship with both the IDEA and the Regular Education Initiative (REI). School systems today are required to adhere to both the guidelines of the IDEA and state standards for education. Both advocates and critics of inclusionary practices agree that for inclusion to be successful, general education teachers must follow uniform methods and strategies that promote teaching age-appropriate, understandable material to the mainstream students. However, since inclusion is relatively new, not enough training and essential resources have been provided to the general education teacher to promote successful lesson planning for all developmental and learning difficulties.

More observational and statistical research needs to be provided in order to improve the amount and quality of individualized education children are receiving in the general education or inclusive setting. The focus should adhere to the guidelines of the IDEA, while setting in place provisions that encourage general and special education teachers to use classroom-based assessments. These provisions should link assessment and instruction to an evaluation process, and use new methods to improve academic and social performance (Salend, 2008). My research as an action researcher and educator examined authentic tasks in inclusion in a qualitative manner though observation, surveys, and interviews.

Learning disabled (LD) students need strategies that incorporate instructional processes and take into account the various learning levels of all students, regardless of disability (L. S. Fuchs, Fuchs, Hamlett, Phillips, & Karns, 1995). In order to provide instructional adaptation, the teacher in the general education classroom must be willing to adjust classroom strategies or goals to increase success. Woolfson and Brady (2009) further examined teacher efficacy and found varied results. However, it was concluded that professional development alone did not seem to improve classroom management and more inclusive management skills are necessary to improve the specialization-general education environment. The most recent article citing D. Fuchs and Fuchs (1994) regarding the twenty-first century classroom was written by Waldron and McLeskey (2010). Their research suggested that the nation's schools have not reached projected outcomes in the inclusive classroom, and though there has been significant improvement throughout the past decade, more collaboration and assessment are necessary.

The focus in the inclusive classroom is on the learners rather than on teacher-directed activities. This is an essential component and theory in creating a more positive and productive setting for special education children in the all-inclusive classroom. Children perform in a more

"naturalistic" manner and have some control over the way in which they receive material. Multiple intelligence and differentiated learning theories help promote this type of learning. Teachers can modify their lessons and use several effective learning techniques and strategies to promote success in their all-inclusive classrooms. First, teachers can adapt their plans in response to students' needs. Second, they can perform follow-up planning at the end of a lesson, and use techniques such as exit cards to measure what students have absorbed from the lesson. Third, teachers can use a pyramid to reflect degrees of learning. The base can reflect what all students need to know from the lesson, the middle can reflect what most will have gained from the lesson, and the top can reflect material that only some of the students will have understood.

Significance

The methods by which special education and general education students are assessed can help measure their progress. According to Wiggins (1990), authentic assessments refer to teacher-created lessons and real world application. An example would be a task that represents a concept in biology, such as studying microorganisms. This concept can be explored using an authentic task that can be hands-on or computer generated. These lessons move away from the traditional method of textbook assigned material to demonstrate students' depth of the essential knowledge by setting the baseline for the understanding of a specific concept. Methodologies that reach the students on age-appropriate levels, while at the same time exploring the students' originality, creativity, and understanding, could potentially enhance the inclusive classroom. Furthermore, this type of differentiated instruction would continue to meet requirements of the IDEA and state standards at the same time.

The No Child Left Behind Act of 2001 (NCLB) placed emphasis on the need to improve the overall academic performance of all students. Students, regardless of disability, would no

longer be able to move up to the next grade without proving current grade level academic ability. As addressed by Salend (2008), some students with disabilities who are participants in the inclusive classroom are not getting the specialized instruction necessary for academic success. Montgomery (2001) observed that teaching from the test has become a poor way to analyze students' overall academic ability. Though there is a need to provide test practice and review, alternative methods for critical thinking and analyzing material could target those students who have difficulty in the teacher-directed classroom environment. Montgomery had successful results in the New York area with initiating authentic assessments. The research did not focus directly on inclusive classrooms, nor did it examine authentic tasks, but it did emphasize authentic assessments. Furthermore, the changes made to the IDEA in 2004 increased the need to create high-quality, yet challenging, individualized curriculum that can meet the demands within the inclusive setting. According to Montgomery, states are beginning to expand their curriculum to include new forms of assessments in an effort to give students more clarity. Hopefully, this will at the same time improve their ability to think and work independently. Francom, Bybee, Wolfersberger, and Merrill (2009), and their research on task-centered design in biology, revealed students in the regular education classroom enjoyed being able to perform tasks and took a greater amount of responsibility for their own learning. The research provided by Francom et al. emphasized application of knowledge rather than methods of straight memorization.

The Dalai Lama (1999) suggested a universal human responsibility is to care for others and respect their needs. Inclusion has provided students with disabilities the right to participate in age-appropriate education. However, if proper training and methodologies are not employed within the classroom, these needs will not be met. Advanced methods and learning strategies

must be implemented to successfully improve classroom management in the inclusive setting. There is a need for more qualitative research in this area (Gallagher, 2001). Based on my literature review, few studies evaluated authentic tasks in the inclusive setting with an emphasis on academic performance and social interaction.

An IEP includes structured guidelines custom designed by special education professionals to meet the specific needs of each individual student with a disability. It is necessary for teachers to meet the requirements set forth in a student's IEP, which often requires creative measures for differentiated learning and structural lesson design. Since IEPs are aligned to meet the curriculum standards of the general education program, the instructional needs can be met by converting the typical general education curriculum to accommodate the special needs student (Salend, 2008, p. 63). Furthermore, the emotional state of special needs students coupled with the complexity of the content area are considered key factors as to why there has been less progress at the secondary level (Cole & McLeskey, 1997). Advanced methods and learning strategies need to be implemented at the K-12 levels to successfully improve classroom management in the inclusive setting. Gallagher (2001) elaborated on the need for an ethical stance focusing on scientific measures displayed with key empirical data supporting the need for further research on the inclusive classroom.

Local and federal governments place pressure on districts across the country to improve educational methods. New laws and amendments to existing laws, coupled with the changing dynamic of the general education classroom to adhere to these guidelines, has made it necessary to find new methods to improve education. Research suggests there is a demand to create methods for effective teaching, increase student-directed classroom techniques, as well as improve compliance by the general education teachers in the inclusive classroom in order to

enhance success rates among all students. According to D. Fuchs and Fuchs (1994), the nation's inclusive classrooms have not reached projected outcomes, and though there has been significant improvement throughout the past decade, more collaboration and assessments are necessary.

Research Questions

This study examined authentic tasks in the inclusive classroom using action research to understand how the use of these tasks impacted the social interaction and academic performance of students in this type of setting. The introduction of the inclusive classroom, as required by the IDEA, coupled with summative assessments and a collaboration of required standardized tests, has made it necessary to examine alternative methods for reaching all intellectual levels in various disciplines. Therefore, the questions addressed in this study were:

1. How does the use of authentic tasks impact the social interaction between general education and special education students in an inclusive tenth and eleventh grade biology classroom?
2. How does the use of authentic tasks impact the academic performance of general education and special education students in an inclusive tenth and eleventh grade biology classroom?

The questions examined, through the process of participatory action research, the ways in which incorporating authentic tasks (i.e., teacher-designed material) affected the inclusive setting for both general and special education students. Qualitative data were collected to explore the types of authentic tasks used in an inclusive classroom setting while at the same time adhering to guidelines of both the IDEA and state standards for education.

Through inductive research (Creswell, 2009), an understanding of Vygotskian theory and how it relates to the topic of this study was the desired endpoint. Based on the research

questions provided, the researcher attempted to determine *how* students and teachers in an inclusive setting benefitted from the use of authentic tasks as a source of differentiated instruction.

The research questions I examined were process questions designed to help draw out data that reflect a broad explanation of behaviors and attitudes in the inclusive setting. Data gathered through observational and survey groups in a non-discriminatory fashion were evaluated. As very little research has examined this particular type of method in the inclusive setting, qualitative research was the best choice for this study.

A local regional school district in Northern New Jersey was the focus of the participatory action research. A 10-week study using an inclusive biology class was evaluated. Throughout the study, two surveys (See Appendix C), field notes, observational data, and individual interviews with the participants(See Appendix D) were conducted. The information was collected with a focus on examining both social interaction and academic performance through the evaluation of course grades. Throughout the 10-week marking period, grades were assessed. The students' names were removed; however, whether the student had an IEP will be provided. As the participatory researcher I played a part in this study, not only as the teacher, but as a participant and researcher. To gain students' individual perceptions on how the use of authentic tasks and self-assessments improved the socialization skills of the general and special education students, I re-examined all data collected at the end of the marking period.

Definitions

NCLB. The provisions set forth by NCLB state that schools must be structured in an effort to reach all students, including those with disabilities. All students should have access to general education and the curriculum should provide beneficial learning for all (Simpson,

LaCava, & Graner, 2004). The NCLB contains accountability provisions mandating that districts show yearly progress through state issued testing. This requires all students show signs of progression in order to move up to the next academic level regardless of disability. Schools that do not meet the standards are deemed in need of improvement (Kober, 2005).

IDEA. The IDEA (Public law 105-17), previously known as the Education for All Handicapped Children Act, has been amended numerous times since its creation in 1975. In 1990, it was renamed the Individuals with Disabilities Act. The IDEA now requires schools to provide a free and appropriate education (FAPE) for all individuals regardless of disability (Salend, 2008). According to Turnbull, Turnbull, and Wehmeyer (2007), the IDEA is based on principles that protect those with disabilities and ensure that they get their entitled education. Principles that apply include *zero rejection*, which indicates that schools are not allowed to exclude anyone with disabilities and states must provide a proper education for anyone who requires special education services. Another principle is *nondiscriminatory evaluations*. This is when school districts must assess any individual thought to require special education to make sure that the individual receives all required services.

Free and appropriate education (FAPE). This requires that all school districts supply all special needs students with a tailored education to fit their specific needs. If the district is unable to do this, then an advocate for the student may request funds for outside services, or request that the student be relocated at the district's expense. In an effort to supply a FAPE, students may receive an evaluation to determine their specific needs. This is referred to as an IEP.

Least Restrictive Environment (LRE). Provides the special needs student with the opportunity to interact in an age and socially appropriate environment. The last two principles

focus on procedural due process in a joint effort with both family and student participation. Procedural due process protects the rights of the student while providing the parent or guardian with the opportunity to sue should the student not receive the education or related services to which he or she is entitled. Family and student participation is a principle that allows involvement in which they can participate in hearings regarding the IEP (Salend, 2008).

ADA. The ADA was enacted by Congress in 1990. It is an act that provides all individuals with the opportunity for social and economic mainstream and is an extension of the Civil Rights Act. The ADA protects individuals with disabilities, making sure that accommodations are in place at work or school that allow them the same advantages as those without disabilities. All areas of a school need to be made accessible to students with disabilities to promote proper socialization and normal everyday activities. Learning disabled (LD) students include any individual with a disability who requires extra assistance or guidance in providing an adequate age-appropriate education.

504 Plan. The 504 Plan falls under the Rehabilitation Act. The 504 section of the Rehabilitation Act was passed by Congress in 1973. However, in the past decade and a half, it has become a significant part of civil rights law, helping to protect those with disabilities affecting either physiological or mental impairments that substantially limit one or more life activities (Salend, 2008, p. 28). The eligibility period of the 504 plan is life-long. This is different than that of the IDEA, in which the individual is only covered up to age 21. The IDEA and the 504 are not funded by the same federal monies, and money for one cannot be used for the other. Individuals with a 504 receive money from the general education fund, and IDEA money is only provided by the federal government for those entitled to special education services.

Inclusion. Refers to a LRE that promotes the best social, age-appropriate, and academic classroom environment possible for students with either 504s or IEPs (Salend, 2008). Inclusion places both special education and general education students in a classroom with a general education teacher. Many times, the teacher will have an aide or second educator present to help facilitate the lesson. There are strict guidelines on how many students can be in an inclusive classroom to promote the best possible learning atmosphere for all students.

Regular Education Initiatives (REI). The REI was initiated in the 1980s to protect general education. Advocates for the REI were concerned with changes regarding the rights of the special needs student. The perspective of general education, according to D. Fuchs and Fuchs (1994), became increasingly insular and disassociated from general education concerns. The REI found the characterization of special education to be just as distorted and unfair (D. Fuchs & Fuchs, 1994, p. 295). Advocates, or individuals who believe strongly in a certain view, program, or act, will defend or initiate actions to protect the rights of others. Advocates for the REI felt that the rights of the regular education students were being suppressed in order to protect and promote special education, without taking into consideration the regular education students and their rights.

Authentic assessments and tasks. Assignments that are created by the teacher and uniquely prepared for each topic covered. According to Wiggins (1989), an authentic task involves exercises that allow students to demonstrate their knowledge of a particular content area, showing control over the information necessary for understanding essential knowledge. Authentic tasks examine critical thinking, promote higher order thinking, and allow for holistic grading. For students with learning disabilities and different learning styles, these tasks enable them to demonstrate their understanding of material in a manner that is conducive to their

particular needs. Authentic tasks should examine both the process and product of learning (Montgomery, 2001). The tasks can require the use of different senses for students to collect information and use environmental measures to explore a particular area of study. Montgomery (2001) explained that many authentic tasks utilize a rubric for providing detailed information on what numerical or evaluative measure is necessary to reach full or partial credit for each task. Students who are only tested can overemphasize the superficial content (Hart, 1994). According to Hart (1994), a student who only receives tests and quizzes may lack in in-depth thought provoking skills. Authentic tasks, in addition to tests and quizzes, can measure proficiency levels and student achievement (Montgomery, 2001).

Self-assessments. Materials that allow students to re-examine, through meta-cognitive measures, the processes of learning, thinking, reasoning, and problem solving (Montgomery, 2001, p. 4). Montgomery (2001) defined these assessments as appraisals by a student of his or her work. It should include what they could have done differently.

Differentiated Instruction (DI). A method that reaches various meta-cognition. Meta-cognition involves the awareness and regulation of, knowledge about, and ability to control one's own cognitive processes (Flavell, , 1981, 1985; Vacca, Vacca, & Mraz, 2008). This method of instruction can use tactile, fine motor, gross motor, visual, auditory, and behavior processes.

Theoretical Framework

Three very distinct theories provided the analytical lens for this research study. Since there is a significant need to understand the social perspectives of the inclusive classroom, Vygotskian theory related to constructivism and the Zone of Proximal Development (ZPD), Piaget's cognitive-stage theory, and learning theory provide an additional foundation and clarity as to the social approach of intellectual development.

Vygotskian Theory

According to Gindis (1999), Vygotsky spent tireless amounts of time examining the dynamics of disabilities. Many individuals view disabilities as a weakness; however, Vygotsky noted their positive attributes and viewed society's negativity as a large part of the problem in education (Gindis, 1999, p. 335). This concept of negativity is useful when examining and analyzing the research on inclusive practices and methods as it shows the significance and relevance of this particular issue. Furthermore, it provides a level from which to examine parental, student, administrative, and teacher involvement in the processes of the inclusive classroom. It sheds light on the negativity surrounding disabilities and the narrow perspectives still in place regarding the protected rights of the disabled. The ZPD is powerful in the qualitative examination of this topic. It provides a foundation for tapering the various levels with which to align the authentic tasks and self-assessments, making certain to provide students with the highest quality learning environment. From the ZPD perspective, students learn the task and then participate in their own learning experience. This method is a more social and hands-on approach. Students participate in the learning process at levels where they feel comfortable rating themselves along the way. Vygotsky focused his research on the importance of social development in improving intellectual development. The inclusive setting is parallel with this particular view.

In viewing the changes that have taken place in the dynamic of the educational classroom through various theoretical lenses, I have been able to better understand the problems related to the methods used within today's inclusive classroom as well as the need for improved methods. Through examination of the problem, I gained an understanding of how to implement new

methods in an attempt to reach the greatest number of students within the inclusive classroom setting.

Though the problem is related to transitions that have taken place within general education classrooms, including those related to special needs students, it is also important to gauge the impact of these changes on the general education teachers who may not feel prepared to handle students with disabilities without proper special education training. The insecurity felt by the general education teacher when working in an inclusive environment can be better overcome if teachers are able to learn ways of enriching the students at age-appropriate levels. It can also be overcome by performing tasks that evaluate students' understanding, while not lowering the standards of the general education curriculum. Authentic tasks, if implemented properly, can help ease the stress and enhance performance of all involved.

Vygotskian theory as related to constructivism, culture, and the ZPD will deepen and provide clarity on the social approach to intellectual development and help understand the social perspectives of the inclusive classroom. Gindis (1999) suggested that the application of Vygotsky's culture historical activity can provide an important conceptual framework for examining the dynamics of disabilities.

Vygotsky viewed education as a path that leads to social and emotional development that is progressive and occurs at age-appropriate levels. Students who are segregated may be with children of various ages; therefore, Vygotsky would argue the need for inclusion because he believed socialization at an age-appropriate level to be important for proper development. The ZPD reflects on variations in cognitive and metacognitive learning potential to shed light on the variations of observable differences among children with and without learning disabilities (Gindis, 1999, p. 336). Vygotsky's views, in essence, focus on the problem in the inclusive

classroom from a social, emotional, and educational standpoint. Without proper training of the educators to handle the variety of educational needs in the classroom, the less likely it is that the teacher will reach all students.

The increase in advocacy in special education has made it necessary to provide a benchmark from which to examine parental, student, administrative, and teacher involvement in the process of the inclusive classroom. Vygotsky's theories shed light on the need to connect social, behavioral, and mental processes in order to fully reach an individual. Since there are different levels of learning, the ZPD could be a powerful tool in the qualitative examination of these various degrees of learning.

As an educator, there is participation in the "story," so the ways in which educators perceive the inclusive setting will differ from those of individuals on the outside. Since the outlook of this study was on authentic tasks, as with Vygotskian theory, it is a socialistic view on conceptual learning and partakes in interpretive examination. Vygotsky's views can help examine the problem regarding the methodologies in the all-inclusive classroom by elaborating on ways to improve the dynamic of the classroom to meet the needs of each student. Learning awakens internal developmental processes that are significant when working in a social environment (Miller, 2009). According to Miller (2009, p. 175), competent teachers who are familiar and secure in their abilities will help to accomplish education through prompts, clues, modeling, explanation, and encouragement. How can it be assured that teachers will have the tools and training to give students a variety of ways to learn the same information that can open the door to the future, while at the same time providing them the power to learn at the level and style appropriate for their age, gaining both independence and social development?

Based on perceptions from individuals on the inside, interpretivism is another theory that can help provide a broader examination of this topic, particularly because special education is imbedded in the general education curricula. The construct of this research will be authentic, and it can be interpreted differently by each reader. Since the outlook is on authentic tasks, as with Vygotskian theory, it is a socialistic view on conceptual learning and partakes in interpretive examination.

Piaget's Cognitive-Stage Theory

Piaget is well-known for his cognitive-stage theory, which has been applied to various areas in education. Piaget's stage theory can be used to benefit curricula by focusing on tiered lessons. Authentic tasks can be tiered as a continuation of a topic. This is curriculum in which students are at various stages within a particular course, and based on their ability to understand the concepts they are paced differently within a collaborative setting. Piaget believed that once a student reached and mastered one stage, then the stage would no longer be available to that student (Miller, 2009). Since tiered lessons are a building process, it is advantageous to examine this area through Piaget's stages of development to examine the pros and cons of this theory as related to this type of curricula.

Tiered lessons are lessons that are taught at various levels in one class in order to reach students at different points of readiness in a particular subject area. This has become a more popular method of instruction as a result of the inclusion of special education students in the general education classroom. Piaget referred to thinking as a systematic process that is organized and structured, and one in which parts eventually lead to a whole (Miller, 2009). His stages reflect achievement, and are referred to as *milestones*. Phases can be age-based. Tiered lessons are created in an effort to achieve maximum success in an inclusive setting. The object

of the tiered lesson is to allow all students to work at level that is within their readiness and capability. Piaget's theory focuses on stages at various periods of time in which students' behaviors and abilities match their mental capability (Miller, 2009). Though students are learning material at various paces, the end result should reflect a baseline of achievement. Piaget recognized cognition as an essential element in the learning and developmental process.

Piaget's stages of development consist of five steps, each of which is important in development at both a social and academic level (Miller, 2009). Piaget emphasized the importance of behavioral development and examined how students interacted with their environment. This is a valuable concept when examining tiered lesson planning, because students are at various stages of academic growth while participating in a collaborative classroom environment. The stages focus on the following: a balance of environment and academic growth, preparing students for the next phase of learning, developmental growth, sequential learning (i.e., moving in steps), universality, and lastly, developing a well-rounded social being (Miller, 2009).

Tiered lessons focus on differentiated instruction (DI), addressing the standard of curriculum necessary for a particular course; however, how the standard is presented and the extent to which it is examined varies between members in the class. The overall goal of tiered lessons is to reach all students regardless of ability by tapering the lessons at levels that are attainable for the students (Adams, 2009). Not all students will reach the top of the pyramid, but the most essential components will be achieved by all. Those students who have a greater understanding of the course material will accelerate at a quicker pace, allowing room for advanced achievement. According to Miller (2009), Piaget's theory looked at cognitive development, as each process of development was thought to hold the necessary seeds of the past

while building on the seeds of the future. This process of cognitive development is parallel to the focus of tiered learning methods. Each process or concepts builds to add to the foundation of growth and development.

Piaget's stages emphasize various periods of time in which children develop and can learn based on their age level (Miller, 2009). This may not always apply to tiered levels of learning because students of different ages can be placed in a tiered level class. This is especially seen at the higher learning levels, such as high school and college (Miller, 2009). Even at a social level, students may not be at the same maturity level. An example of this is a course in which freshmen can enroll alongside seniors. Since some courses are electives, students of various ages may be in the same course. This is one contradiction in Piaget's cognitive stage theory, as the younger students may be the higher level learners in the course. According to Miller (2009), Piaget would explain that development and learning continue with age, and that operations as an adult grow to be more formal and situations grow to be more complex in nature. Reflecting on this information, students who are seniors should always be at the top of their multi-grade level classes because they have had more exposure with age and should have a better understanding of the topic. In essence, in a course that tiers lessons the older students should be at the top and the younger students should be near the bottom of the learning process. This is not always the case; depending upon desire and level of intelligence the younger students can supersede the seniors if their learning skills are better than those of their older peers. Since higher order operations require more mental manipulations, Piaget would examine the process in a scientific manner (Miller, 2009).

In science, the focus is on the concept of equilibrium. In education, course designers hope to reach a stage of equilibrium where there is a level in which all students achieve a

baseline of understanding in a particular course. Each course is filled with both a social component and an academic component, and students grow at both levels. Piaget would address the influence of the social environment. In a mixed age group consisting of tiered learning methods, it would be expected, according to Piaget's theory, that students would reach a state of equilibrium regardless of age (Miller, 2009). In tiered lessons, the grouping of students is based on learning readiness in an effort to reach a set level for learning. Since Piaget looked at stages according to age, a multi-aged class that uses tiered learning may never reach equilibrium, unless there are enough students in the course to break them up according to age and readiness. In most courses, there may not be enough students per class to break them up in this manner. Criticisms of Piaget's view deem it to be very broad and indicate the idea that one cannot go back to a stage of development is puzzling. If this is the case, then should students not be able to repeat courses that they have failed, because they have reached that stage by both age and intelligence and therefore they cannot remain stagnant at that level?

Piaget's theory focuses on the essential elements of cognitive ability at various stages of growth while advancing with age and exposure. Tiered lessons are a method of teaching that attempts to reach various learning levels regardless of age and ability. In essence, tiered lessons focus on setting a foundation in which all students within a class should master particular content before the end of the course; however, the depth in which the material is mastered can vary between members within the collaborative setting. This method is valuable for special education students mainstreamed in the general education classroom.

One of the major flaws in Piaget' theory related to the educational process of tiered learning is that the concept of development is broad. There is a greater need in the tiered lesson method to narrow the concepts in order to tackle cognitive and academic development.

Furthermore, there is no concrete start or end to cognitive learning and various ages can overlap, which is not fully examined in Piaget's theory (Miller, 2009). Piaget has also been heavily criticized for a lack of evidence related to his stage theory (Miller, 2009).

The positive attributes of Piaget's theory is that it sets a baseline for academic and social achievement. The specific age levels for which certain cognitive and developmental process should be met in essence may not be important in the tiered lesson process; however, the overall concepts of academic and social growth occurring at various points is valuable. Piaget's theory is a tiered process in its own right. It emphasizes the different stages of learning both socially and academically. This theory has improved the inclusive classroom, particularly in courses that use differentiated instruction and tiered lesson planning.

Learning Theory

This research design focused on the qualitative research method. The observational research collected in the exploration of whether authentic tasks improve the classroom setting encompassed a collection of innovative ideas, as well as a collaboration of qualitative and peer review research. Collins and Brown (1992) explained the importance of research models that examine a broad sense of learning, while at the same time allowing others the opportunity to explore the complexity of the learning process. This research theory opened up avenues for further exploration by providing a more intricate level of examination into the topic of authentic assessments at various content levels.

The learning theory research suggests that learning requires the student to activity participate in the learning process (Flavell, 1985; Montgomery, 2001). The ideas behind the learning theory stem from Dewey (1916). This theory demonstrates that active learning is a process in which consistent exposure to a situation is necessary. Bruner's (1966) views were

similar in that the active process would come from past and present knowledge related to the exposure the learner had to the material or situation. Though these concepts vary, they all have a constructivist view, indicating that knowledge comes from pre-exposure, and that once observed, the ideas should be reapplied to re-enforce understanding. Authentic tasks are a way to test these views and apply them to the inclusive setting in order to promote higher learning and better social development. Several components of a constructivist classroom were explored by Brooks and Brooks (1993) that can be applied to the inclusive setting through the application of authentic tasks. The ideas that can be applied are as follows: when a student develops a question on a topic he or she should be encouraged to go further by developing and analyzing the topic being addressed; after a teacher provides open-ended questions, students should be required to have reflection time to build on the ideas suggested by themselves and other participants; constructive teaching and learning are built on applied ideas and concepts; students should be challenged; socialization is valuable and students should work with their peers using creative thinking to apply what they have learned; verbal reasoning and conversation should occur among peers; the teacher should be allowed to create a more challenging learning environment; and students should use resources and collect raw data to help promote real-world situations (Montgomery, 2001).

The views of the various constructive theories provided are important factors in the development of authentic tasks. The key elements of these theories are foundational components to the advancement of authentic tasks in the inclusive setting. All of these concepts have been applied to various areas of education. These theoretical concepts provide a conceptual framework or lens to understand how authentic tasks impact social behavior and academic performance in an inclusive setting. The conceptual framework I chose was a useful research

tool that enabled me to develop awareness and understanding of the problem and to communicate this in the results. Guba and Lincoln (1989) argued that the framework itself forms part of the agenda for negotiation to be scrutinized and tested, reviewed, and reformed as a result of investigation.

Chapter 2

Literature Review

Inclusion provides special needs students the opportunity to learn in an age-appropriate setting without restriction or isolation; however, not all general education teachers are prepared to teach students with special needs. While there are various methods to promote inclusionary practices, not all methods work to instill a high level performance of students in this particular setting. Therefore, more research methods need to be explored to improve the inclusive classroom. One method includes the use of authentic tasks and self-assessments to improve learning for both the general education and special education students within the inclusive classroom. This will require moving away from the teacher-directed classroom and provide students a more self and peer driven education.

The research questions presented were best examined by focusing on research articles related to the transformation of the general education classroom to the inclusive classroom setting, the attitudes of the teachers in general education toward students with learning disabilities, the adaptation and evolution of the general education classroom, and advocacy groups focused on improving special education while providing students with disabilities the right to be in age-appropriate classroom settings. While studying the transformation of the general education classroom, I focused on the work of several authors, including Salend (2008), Wiggins (1989), Gindis (1999), Miller (2009), Montgomery (2001), Hart (1994), Cook et al. (2000), and D. Fuchs and Fuchs (1994, 1995, 1998).

Examining the start of the inclusive classroom requires determining where the process of inclusion was initiated. Inclusion started with the ADA and the IDEA of 1975. The use of inclusive classrooms and the initiation of inclusive schools developed at the end of the 1980s,

though much of the research on inclusion did not occur until the early 1990s. There have been significant differences in research addressing inclusionary processes and the experiences of parents ranging from students with severe disabilities to mildly challenged students with less extensive disabilities. Differences in the inclusive setting can vary from state to state. There is also a noticeable difference from district to district relating to the settings available for the special needs students in the general education classroom (U. S. Department of Education, 1996).

The IDEA was the first step in the special education initiative. The progress that has occurred throughout the years did not come without a difference in opinion on how to promote an adequate and just education for those with special needs. Many groups lobbied for and against this policy. Due to the controversy associated with this policy, advocacy groups began to form. These groups have been directly associated with the radicalization of the special education and general education reformation (D. Fuchs & Fuchs, 1994). Their vision has led to research and various types of methods for reforming the educational system in an effort to incorporate students with disabilities into the general education classroom.

A recent article published by Weber (2010) examined two laws, the IDEA and Section 504, and their impact on inclusionary practices. Taylor explored the definition of the term inclusion while explaining that the laws are a “legal notion of equality” (p. 8) that are meant to prevent discrimination. The laws were set in place to protect the rights of students with various disabilities requiring specific accommodations and it is important that communities are educated about the laws to make certain that all students are being properly accommodated (Weber, 2010). The accommodations provided to students, in particular, the special education students, should

include adaptive technologies (Weber, 2010). This article was reflective of the material discussed in several of the articles previously written by D. Fuchs and Fuchs (1994).

One of the original articles based on inclusion focused on the reformation of specialization education as a necessary way to benefit special needs students on a social and age-appropriate level (D. Fuchs & Fuchs, 1994). Through investigative research, D. Fuchs and Fuchs (1994) examined the array of advocacy groups that transformed the latest vision for special education. Their study has been cited over 180 times and has been a foundation for other research, including subsequent articles written by these same authors. It has ultimately provided theoretically valuable information that has been referenced for well over a decade. This information will provide the historical background on the inclusive classroom and further help explain the need to develop new methods for improving the inclusive setting. D. Fuchs and Fuchs brought insight into the transition of the inclusive classroom and provided an overview on the adaptation of strategies better suited for the learning disabled. In order to understand the transition from regular education and self-contained classroom settings to the inclusive classroom of today, it is important to address the advocacy groups that provided support and structure for this change.

The late 1980s to early 1990s was the start of the re-examination of special education and the services being provided. Wiggins (1990) viewed an authentic assessment as anything that examined a student's performance on an intellectual task. The research suggests that traditional methods for assessing a student's understanding of a concept used memorization or the recall method. The traditional method, according to Wiggins, does not assess the ability of the stakeholder to apply the knowledge. Authentic assessments provide students with various ways in which to apply their knowledge and express their understanding of the subject material. The

limitations include higher cost and objective assessment by the teacher. "If our aim is to merely monitor performance then conventional testing is probably adequate. If our aim is to improve across the board then the tests must be composed of exemplary tasks, criteria, and standards" (Wiggins, 1990, p. 70).

Wiggins and McTighe (2005) explored learning theory and the use of design. Their research brought light to the idea that students may know lots of material, but the information they know may not be the most valuable to understanding the important parts of the lesson. Similar to my research is the understanding that it is not as important to recall information as it is to deeply understand material and be able to apply it when necessary. Wiggins and McTighe stressed the value in application. Students need to be taught material and then apply that material to demonstrate their understanding. This may be considered an important idea when performing assessments. As inferred by Wiggins and McTighe, there is a great distinction between saying an individual knows the material versus saying the individual has an understanding of the material (p. 36).

Today, more authentic assessments are being used in standardized testing with the addition of free-response sections. Wiggins (1990) did not discuss authentic tasks in the inclusive setting, but rather focused on the entire educational community and the use of authentic assessments on a larger scale. The philosophy behind the need for authentic tasks can be narrowed down to the inclusive setting, allowing for the same guidelines and ideas as addressed by Wiggins. There is significant value in providing challenging material that promotes application and accountability for a deeper understanding of content. Further, it allows the students to express themselves in a more open-ended manner and provides the community and

parents an observable product that is reflective of the students' understanding of the covered curriculum (Wiggins, 1990).

In 1988 Gerber was the first to question the methods teachers in the general education used to reach students at various learning levels and social behavior. The focus was on the forceful attempts being made to absorb the functions of special education into general education (Gerber, 1988). Regular education teachers require "useable instructional resources or powerful instructional technologies" (Gerber, 1988, p. 311). The National Academy of Sciences (NAS) Special Panel on Selection and Placement of Students in Programs for the Mentally Retarded (Gerber, 1988; Heller, Holtzman, & Mesick, 1982) is a representative in the revision of American policy on special education. Major issues are addressed and an explanation of the relevance of this policy and examination of the concerns associated with instructional tolerance is reviewed (Gerber, 1988).

The information in the article is important for my research because it not only provides historical evidence associated with the transition of special education from self-contained to inclusive, but poses the question of how the educational community can prepare general education teachers to receive and accept special educational students in their classrooms. The need for improvement in the regular education curricula is necessary to validate the referral of special education students. Policies surrounding special education in the late 1980s were not suited to accommodate the needs of the students moving into the inclusive classroom (Gerber, 1988). Changes have taken place since the 1980s, but the questions referred to in this article remain today. The questions focus on the need for better methods in the inclusive classroom. Today, many districts worldwide have inclusive classrooms (Montgomery, 2001), but methods for improving this educational environment are still taking place. The scholarly articles written

over the past two decades have emphasized the need for change in the way the special education community is integrated into the general education classroom.

D. Fuchs and Fuchs (1994) paved the way for a new look at the reformation of special education and its expected impact on the general education classroom. Examination of special education as set forth by the IDEA and the REI were referred to extensively when referring to the reformation process. Exploration of this concept has contributed to the various methods, concepts, and ideas in inclusionary practices seen today. The historical and conceptual framework set forth by the authors provided insight into the complexity of inclusion on all levels; therefore, it opened the door for further quantitative and qualitative research in this area. Articles referenced within this paper have used the original conceptual ideas provided by D. Fuchs and Fuchs (1994) to examine new approaches to the inclusive classroom. D. Fuchs and Fuchs uncovered a bridge connecting the Inclusionary Schools Movement and the REI. Policies were set in place to move special education teachers from the self-contained special education classroom into the mainstream classroom to support the special education-general education merger (D. Fuchs & Fuchs, 1994). The efforts made by these authors, as well as the subsequent authors discussed, helped to implement new techniques and improve classroom management, which will be beneficial for both special education and general education students.

D. Fuchs and Fuchs (1994) provided a foundation for understanding how inclusionary practices became a centralized focus of both the IDEA and the REI. It sets the timeline for new methods, classroom practices, and management. Furthermore, it incorporates the meaning of advocacy and provides the stakeholders involved in the inclusionary process. An emphasis is placed on the lack of connection between the special education field and the general education community. There is a need to place them in a “synergistic alignment” (D. Fuchs & Fuchs,

1994, p. 295). The information provided is the first step in re-examining the link between general and special education and the need to create unity between the two communities. This information is a vital component in understanding the need for new learning methods to improve the inclusive classroom, in particular, methods that include the addition of authentic tasks. Understanding the need for reformation was at the heart of D. Fuchs and Fuchs' article and has made an impact on the inclusionary views of today.

Explorations of the watershed article written by D. Fuchs and Fuchs (1994) throughout the past decade have contributed to the various methods, concepts, and ideas used in inclusionary practices today. The historical and conceptual framework set forth by the authors provided insight into the complexity of inclusion on all levels, and opened the door for further quantitative and qualitative research in this area. The efforts made by these authors, as well as the subsequent authors discussed, are helping to implement new techniques, such as differentiated instruction, and improve classroom management, which will be beneficial for both special education and general education students.

The transition associated with the merging of general education and special education has caused instructional dilemmas for teachers due to a lack of proper resources; therefore, teachers are often not successful in accommodating every special needs student (Gerber, 1988). Gerber (1988) spoke negatively about the reformation of special education in an evaluation of the National Academy of Sciences Special Placement of Students in Programs for the Mentally Retarded. His views raised questions regarding the design of the inclusive classroom and how a teacher would be able to properly conduct a class with such a large spectrum of educational diversity. Gerber referred to this concept as "instructional tolerance" (p. 310). The instructional

criticism of the special educational policy led to the D. Fuchs and Fuchs (1994) article that attempted to explain the need to bridge regular education and special education.

D. Fuchs and Fuchs (1995) discussed special education and the controversy associated with the revisions of the IDEA. Students with severe disabilities are being placed in the general education classroom due to the importance of socialization; however, implications suggest that they may not be receiving a proper academic experience. Their article addressed the need to explore the methods of cooperative learning and revealed that other resources must be implemented into the curriculum to promote a higher standard of learning and socialization. Socialization is essential, but academics may be suffering as a result of inclusion due to a lack of proper training. Special education curriculum needs to focus on each student individually (D. Fuchs & Fuchs, 1995).

Epstein and Elias (1996) focused on methods to improve the failing inclusive classroom and provided a success story of a special needs student in an inclusive classroom setting utilizing the methods expressed in the article. Techniques for deinstitutionalizing the traditional classroom so that all students could be successful were the main the focus of this article. Epstein and Elias discussed the potential for improvement in the inclusive classroom by increasing collaboration between general education and special education faculty, as well as staff, administration, and parents.

Districts are required by law to meet the needs of all students, and particularly the needs of students with disabilities. According to Grove and Fisher (1999), parents want their students with special needs to be partnered with other peers who do not have disabilities. Furthermore, collaborative planning methods along with newly modified curriculum designs are valuable in helping all students in the inclusive setting.

In 2000, Cook et al. investigated 70 general education teachers and their instructional tolerance within the inclusive classroom. This research examined four areas and the results have played an important role in determining whether teachers feel prepared when dealing with special education students. Results, in chi square tables, presented information that depicted limitations. Results signified no theoretical improvement in teacher attitudes; however, the higher the level of behavior issues, the more the teachers appeared to be detached (Cook et al., 2000). When students do not understand the material or its presentation, their behavior in the classroom tends to worsen. Understanding the significance of the situation as related to how general education teachers feel unprepared to handle students with disabilities becomes imperative. The past research has not been fully examined to determine the best practices to use when dealing with an inclusive setting. Exploring authentic tasks as an alternative approach to traditional testing methods may be of significant value for improving the methods used in today's inclusive settings (Montgomery, 2001).

In examining how authentic tasks can improve the inclusive classroom, I utilized the research provided by D. Fuchs and Fuchs (1994) in special education and the extensive research by both Montgomery (2001) and Salend (2008) on ways to incorporate authentic tasks into the classroom. Montgomery briefly touched upon how authentic tasks could enhance the inclusive classroom, but no formal research on the impact of authentic tasks and their effect on the inclusive setting have been explored. D. Fuchs and Fuchs examined inclusion in detailed measures; however, they never explored authentic tasks in detail. Salend published a well-known book that connected the value of authentic tasks with creating an effective classroom environment by improving the practices and methods used. By reviewing and researching the various areas on inclusionary practices, as well as the laws and expectations that surround this

type of classroom environment, I was able to conduct a thorough review while setting a foundation for my own research on the impact of authentic tasks in the inclusive setting.

D. Fuchs and Fuchs (1994) examined the inclusive school movement in comparison to the REI. Their research provided examples of advocacy groups at all levels, ranging from those associated with mild disabilities to others involved in the rights of the severely disabled. The patterns of reform as addressed by D. Fuchs and Fuchs are currently shifting and some reformers' characterization of special education has become distorted and unfair. There is a sense of hostility between advocates for special education and the regular education system. The REI supporters are proposing strategies to incorporate special education students into mainstream education (D. Fuchs & Fuchs, 1994, p. 297).

Bricker (1995) reiterated the need for further research on improving the inclusive classroom. The inclusive classroom requires collaboration between faculty, staff, and administration (Bricker, 1995) in order to develop ways of promoting a positive learning atmosphere for both general education and special education students. References were made regarding D. Fuchs and Fuchs' (1994) article to improve general education so that special education students can receive a proper education while still being among youths their own age, gaining the necessary socialization that is vital during early childhood and adolescence.

Understanding the history of special education is imperative to properly evaluating methods to improve the inclusive classroom. Several articles written have followed D. Fuchs and Fuchs (1994) and heightened interest in the history of the IDEA regarding the initial steps in the reformation of special education. Multiple articles have been written by D. Fuchs and Fuchs, several of which addressed the need for new strategies to improve the mainstream classroom for both special education and regular education students. Bricker (1995) used the term *natural*

environment as a code word for the inclusionary classroom. This terminology signifies the need for socialization among children of the same age. The learning disabled (LD) and severely disabled students discussed in various research and further explored in this paper require strategies that incorporate instructional process, taking into account the various learning needs of all students regardless of disability (L. S. Fuchs et al., 1995). In order to provide instruction adaptation, the teacher in the general education classroom must be willing to adjust classroom strategies or goals to increase success.

D. Fuchs and Fuchs (1998) addressed the issue that most teachers do not differentiate instruction and instead teach the same way to all students in the classroom. Furthermore, teachers do not always use best practices, such as cooperative learning (D. Fuchs & Fuchs, 1998, p. 310). Nardone and Lee (2011) explored problem-based learning as an answer to improving critical thinking and cooperative learning. Full inclusionists believe that the general education classroom is the best place for students with disabilities on a regular full-time basis, while inclusionists believe that special education students can benefit from a special education environment in combination with a regular education setting. They advocate for children with different needs (D. Fuchs & Fuchs, 1998). The pros of inclusion include providing all students with normalization in a less institutionalized setting, where the children can be around peers their own age. General education teachers are often not trained prior to being placed in an inclusive classroom, and the demands of an inclusive classroom differ from those of a general education setting. In essence, productivity in the classroom is lessened by the lack of differentiated instruction to reach the needs of all in the inclusive setting.

In 1999, Gindis reflected on Vygotsky's vision for education reform by examining the framework adapting human practices at all levels within the inclusive classroom. Gindis referred

to global efforts on inclusion and the need to view disabilities as a developmental process that can be improved with time and effort. The attitudes of non-disabled individuals can impact the dynamic of the mainstream or inclusive classroom. Proper placement is a necessary component in achieving a productive inclusionary classroom (Bricker, 1995). The success of the student can be directly impacted by improper placement and lack of support. Strategies need to be in place to ensure that educational goals are satisfied by both general education and special education students at their respective grade levels.

Ryan et al. (2001) examined the speeches given by two well-known researchers and teachers reviewing both ideological and methodological perspectives on alternative approaches to teaching. Ryan et al. explored the value in this concept of new approaches, and whether individuals exposed to this cultural change will be accepted, alienated, or rejected. Ryan et al. reiterated in the study the need for greater communication between stakeholders in an effort to reach the various learning styles, as was expressed in the speeches presented. The narrative report addressed two main concepts: changes in the discipline of teaching will not be easy, and it is at times necessary to take risks in order to achieve success. The conference provided qualitative research on the new concept of inclusion with an emphasis on the challenges and goals for improving pedagogy in order to be successful (Ryan et al., 2001). Negative assumptions can harbor the ability for change, so time to adjust to the adaptations is necessary. This overall concept of a new approach in teaching is referenced as a cultural change in the teaching discipline.

Ryan et al. (2001) looked at inclusion and explored the need for change in order to provide quality learning to the stakeholders involved in the learning process. Change can be a matter of chance, but an important component in exploring various strategies to improve learning

throughout a variety of disciplines. No mention of authentic tasks took place in the article, but the idea of new approaches to learning can be understood as a means to explore various alternative approaches to teaching. Ryan et al.'s closing statement (p. 260) indicated the move toward commonalities in the teaching discipline can propel education forward in creative and productive ways.

The IDEA is the foundation for many of the methods and strategies recommended throughout the research. Both advocates and critics of inclusionary practices agree that if inclusion is to take place, then the general education teachers must follow required methods and strategies to promote successful and proper age-appropriate, understandable material to the mainstream students. The emotional state of students at the adolescent level coupled with the complexity of the content area are considered key factors as to why there has been less progress at the secondary level (Cole & McLeskey, 1997). Advanced methods and learning strategies need to be implemented to successfully improve classroom management in the inclusive setting. Gallagher (2001) elaborated on the need for an ethical stance focusing on scientific measures and included key empirical data supporting the need for further research on the inclusive classroom.

In 2000, Cook et al. investigated 70 general education teachers and their instructional tolerance within the inclusive classroom. The research examined through quantitative and qualitative data how teachers interacted with students with disabilities in the inclusive classroom setting and provided observational and numerical data that supported the need for change in the inclusive classroom. The researchers identified concerns with the underrepresentation of special education students. Four areas were examined and the results have played an important role in determining whether teachers feel prepared when dealing with special education students. High achieving special education students did well, while students who appeared more detached fell

into the rejection category. Cook et al. re-examined a theory by Gerber (1988) that indicated the instructional needs of various students cannot be met through the use of only one instructional method. In essence, more experienced teachers appear better prepared to handle students in the inclusive classroom versus less experienced general education teachers. Results, in chi square tables, presented information that depicted limitations. Results signified no theoretical improvement in teacher attitudes; however, the higher the level of behavior issues, the more the teachers appeared to be detached (Cook et al., 2000).

Peetsma, Vergeer, Roeleveld, and Karsten (2001) compared students' development in special education to regular education in the Netherlands. The study focused on cognitive and psychosocial development in various types of special and mainstream education. The study took place over a period of four years and examined matched pairs of primary aged pupils. The primary research examined the use of differentiation in the special education and mainstream classrooms. The qualitative component of the study looked at various aspects of the students' lives, including school and family. This study, along with several others, indicated the importance of implementing inclusive learning carefully (Baker, Riordan, & Schaub, 1995; Peestma et al., 2001; Scruggs & Mastropierri, 1998; Waldrom & McLeskey, 1998; Zigmond & Baker, 1995).

Psychosocial development is based on the student's self-image and school motivation (Peetsma et al., 2001). When students requiring special education interact with students in regular education at their age level, they perform better than when in self-contained courses. Cognitive development was assessed with standardized testing and psychosocial development was assessed by teacher observation. Both cognitive and psychosocial development improved as a result of the inclusive setting. According to Peetsma et al. (2001), this falls into the same

pattern as other international studies. This research is valuable because it reflected global views on the advantage to inclusion and reinforced the need for improved methods to enhance the progress of the academic and social development.

Fisher and Meyer (2002) provided statistical evidence regarding the importance of socialization between special education students and other children their own age. The comparison between students in the self-contained classroom and students in the inclusive classroom demonstrated that the special education students who participated in the general education curriculum displayed a significantly higher rate of socialization skills. The research used both qualitative and quantitative methods to measure the significant developmental and social competencies in the general education classroom by students who were classified as severely disabled. The Scales of Independent Behavior (SIB) and the Assessment of Social Competence (ASC) were used first in the initial testing and then again after two years. The results provided an alternative measure for the assessment of students with severe disabilities. The results can further determine the individual progress made by the severely disabled student and prevent low expectations. This research is valuable as it addressed the necessity of socialization for students with special needs and provided a comparison between students in both the inclusive and self-contained classroom settings.

Socialization and academic improvement in the inclusive setting are key components of the research questions examined in my study. Therefore, exploring research on authentic tasks at all levels and how the inclusive setting promotes independency are necessary areas to gain a better understanding of the need to explore new methods in the inclusive setting.

Herrington and Herrington (2006) looked at the use of authentic tasks online, and explored this method of learning combined with a creative approach incorporating technology.

The key word used in the article was *synergy*, which was defined by Herrington and Herrington as "working together with two or more things, people or organizations, especially when the result is greater than the sum of their individual effects or capabilities" (p. 233). While their research was based on distance learning, it also explored the use of authentic tasks in education and is therefore useful to my study. Technology is currently used in all areas and levels of education. The key area examined by Herrington and Herrington that is valuable to my research was their explanation that authentic tasks provide real-world relevance by incorporating practical application. These authentic assignments give the students an opportunity to view the material in several different ways and apply their knowledge to the task. Some authentic tasks are complex and can require a sustained period of time (Herrington and Herrington, 2006). The use of a variety of material affords the students the opportunity to distinguish between the relevant and irrelevant material (Bransford, Vye, Kinzer, & Risko, 1990; Cognition and Technology Group at Vanderbilt, 1990; Herrington & Herrington, 2006). The study used of three courses of undergraduate students. An explanation of each course and the level of each learner were noted. The technology used to complete the task was written in detail. The results reflected considerable promise in the use of authentic tasks integrated in technology at the undergraduate level. Herrington and Herrington concluded that tasks should continue to be authentic and learners should continue to be engaged in activities that promote more powerful communication.

In 2001, Montgomery, my professor from the University of Scranton, wrote a book on authentic tasks and self-assessments. The research provided and the ideas portrayed in this book were the main reason that I decided to pursue an exploration of authentic tasks in the inclusive setting. Montgomery briefly touched on the inclusive setting in the book, though extensive data were not collected. My research explored whether authentic tasks improved the inclusive

classroom. No definitive answer was reached by the end of this research; however, a deeper understanding in a new method will occur.

Sun (2007) examined the impact of inclusion-based education and the likelihood of independence for students with special needs. The population of students requiring assistance in special education has remained constant for the past 15 years. Over the years, the services provided in special education have increased. Sun's research focused on whether holding students with special needs accountable to the same standards as regular education students could impact their independence in the future. The barriers faced by students with special needs are greater (Sun, 2007). A total of 6,562 individuals were observed and results indicated special education students require more guidance in the regular education classroom; however, they tend to participate more. Different variables were considered significant, including hours spent in the regular education course, parents' education level, the number of siblings in the household, the intellect of the student, and whether the student achieved a high school diploma (Sun, 2007).

The mean value in the regular education classroom by the special education student was 43%, suggesting that special education students who were placed in an inclusive setting were more independent later in life by showing a 37% increase in independence (Sun, 2007). Sun (2007) provided evidence that more methods within the inclusive classroom can be beneficial to the stakeholders. The research provided data that clearly reflect inclusion can make a difference in the independence of students with special needs. Several studies have suggested that teacher expectations are a driving force in how well a student achieves (Brattessani, Weinstein, & Marshall, 1984; Brophy, 1983). Brattessani et al. (1984) further addressed the need for continued improvement in the inclusive setting to promote the independency of the special

education student. Effective and appropriate use of inclusion-based education for students with special needs improves their likelihood of independence (Sun, 2007, p. 92).

Woolfson and Brady (2009) further examined teacher efficacy. Though results varied, it was concluded that professional development alone did not seem to improve classroom management and more inclusive management skills are necessary to improve the specialization-general education environment. The professional development provided to the classroom teachers was examined as was the self-efficacy of the teachers. New methods are necessary to improve teacher self-efficacy based on the empirical research provided by Woolfson and Brady. Professional development alone will not significantly change the outcome of the all-inclusive classroom without modification and further development of resources for the general education teacher. Professional development did not seem to change the perspectives of special education students in the mainstream classroom. The most recent article citing D. Fuchs and Fuchs (1994) in reference to the twenty-first century classroom was that of Waldron and McLeskey (2010). Their research suggested that the nation's schools have not reached projected outcomes in the inclusive classroom, and though there has been significant improvement throughout the past decade, more collaboration and assessment are necessary (Waldron & McLeskey, 2010). The researchers emphasized the need to improve teacher methods to strengthen the productivity of the inclusionary students. Collaboration between the administration and faculty can promote a positive learning atmosphere for both the special education and general education students.

A recent article published in 2011 by Bain and Hasio researched the authentic learning experience as a method to help teach art to children with special needs. My research is similar in that it included an exploration of the inclusive setting; however, it focused on the use of authentic tasks in the inclusive setting. Bain and Hasio brought college level students into the

inclusive setting to give them exposure to both the inclusive and self-contained special education classrooms to provide a greater understanding of ways to implement strategies that will enhance the education of special needs students. Allowing students with special needs into a classroom with peers their own age is believed to strengthen the class by providing a better learning environment (Bain & Hasio, 2011; Tilton, 1996). The pre-service training provided an authentic experience to both the students preparing to become teachers and the students. Though Bates (2000) referenced art, a valid point was made about reflection being an important component for "skill development, self-expression, creative thinking, and authentic response" (Bain & Hasio, 2011, p. 36).

After examining the articles and books regarding the historical components of inclusion and the laws regarding special education, as a researcher I was able to gain an increased understanding about the transitions and legal policies set in place related to both regular education and special education. Furthermore, the literature provided evidence for the need to improve the methods used in the inclusive classroom. The REI and the special education advocates have played a vital role in the transition of special education to regular education. Over the past two decades, many have debated whether inclusion would work (Gerber, 1988). Most research was concerned with the limitations of resources available to the regular education community, particularly related to support for the special education student.

These references are useful in providing a foundation from which a participatory action researcher could gain insight, build hypotheses, and collect data. Though the inclusive classroom has been around for well over a decade, more research is necessary. The perspectives missing are the overall ways to improve the dynamics of the classroom, in particular, in an inclusive setting in which all involved (i.e., teachers, general education students, and special

education students) feel prepared to handle the classroom environment. There has been much debate on the benefits of the inclusive setting. Many of the questions addressed whether inclusion works for the special education student, or whether the general education students are falling behind because the special education students need more help and guidance. As stated by Creswell (2009, p. 64), not all qualitative studies employ any explicit theory. This is a common approach regarding several articles within this literature review. The missing perspectives addressed in this paper surround the problems of practice within the doctoral research on the improved methods of the inclusive classroom with an emphasis on authentic tasks. More research designed to improve the dynamics of the classroom will not only benefit the special education students, but all the stakeholders involved in the processes. This is an area of study that requires further investigation.

Chapter 3

Research Design

My research explored the use of authentic tasks as a teaching method in an inclusive classroom setting using questions that focused on how these tasks impact the social behaviors and academic performance of students. Authentic tasks are assessments that move away from the conventional assessments and provide a broader performance base from which to determine a student's overall academic ability (Montgomery, 2001). According to Montgomery (2001), students are viewed as creators of their own knowledge structures and teachers provide ideas and activities that exemplify the learning process.

Research Methods and Study Components

Participatory action research (PAR) is considered to be a social science research that examines the theory of possibility rather than the theory of predictability (McIntyre, 2008; Wadsworth, 1998). Focusing on the "context of possibility, the stakeholders involved in this particular type of research study should regard this practice as a matter of borrowing, constructing, and reconstructing research methods and techniques to throw light on the nature processes, and consequences of the particular object they are studying" (Kemmis & McTaggart, 2005, p. 575; McIntyre, 2008, p. 67). Participatory action research is cyclical and allows the researcher to reflect on material covered in the past and present. The method of using authentic tasks is not a new concept; however, it has not been assessed in the context I used. Therefore, it in a sense is a borrowed practice that has not been evaluated in this light based on my literature review.

PAR was an ideal research strategy for this study because it enabled me to focus on "learning the meaning that the participants hold about the problem or issue" (Montgomery, 2001,

p. 175). Action research involves maintaining a natural learning environment for the students, with the researcher as an active participant (Ferrance, 2000). McIntyre (2008) argued that "participatory action research provides a multiple opportunity for practitioners and participants to construct knowledge and integrate theory and practice in unique ways and practical to a particular group" (p. 67). Furthermore, it provides the researcher an opportunity to insert him or herself into the study to gain a deeper understanding and further identify with the subjects. The "look, think, and act" and the plan, act, observe and reflect discussed by Stringer (2007) reflect the ways in which action research can be formulated. Action research is a systematic, reflective study of one's actions and their effects in an educational context. It involves deep inquiry into one's professional practice. I evaluated authentic tasks as a teaching method in an inclusive classroom and sought opportunities for improvement. As an educator, my findings may lead to new courses of action that can help my colleagues, school, and other special educators improve teaching methods in inclusive settings. As the researcher, I sought evidence from multiple sources to help analyze reactions to the actions taken. Throughout this study, I recognized my views were subjective and sought to develop an understanding of the tasks from multiple perspectives. The data collected were used to characterize the forces in ways that they can be shared with practitioners. The reflective phase is that in which one can formulate new plans for action during the next cycle. Action research is a way of learning from and through one's practice by working through a series of reflective stages that facilitate the development of a form of adaptive expertise. Over time, action researchers develop a deep understanding of the ways in which a variety of social and environmental forces interact to create complex patterns. Since these forces are dynamic, action research is a process of living one's theory into practice (see Figure 1).

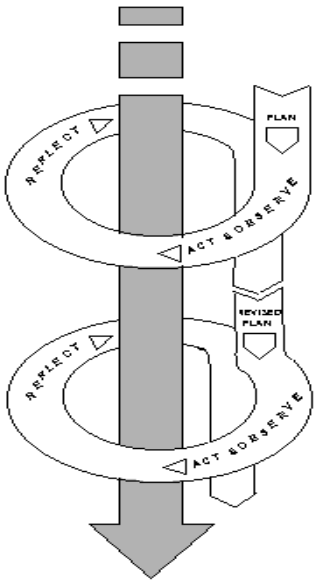

Figure 1. The Action Research Spiral. Modified from Kemmis and McTaggart (2005, p. 11).

As the researcher and the teacher, examining educational practices systematically and carefully using techniques involved in action research allowed my research to become part of my everyday practice in the classroom. I created the authentic tasks and delivered them to the participants in my study. I developed, delivered, collected, graded, and assessed all authentic assessments during the 10-week period. As an active member in the research process, I observed the situation first-hand. At the same time, I developed and assessed methods to improve the inclusive setting and to benefit both the general education and special education students. Furthermore, while examining the data I reflected on the daily activity in question so that the study became what Herr and Anderson (2005) referred to as *knowledge in action*.

Watts (1985) argued that teachers and principals work best on problems they have identified for themselves and appear to be more effective when assessing their own methods. In critical action research in teacher education, for example, Kincheloe (1991) recommended that the “critical teacher” expose the assumptions of existing research orientations, critiques of the knowledge base, and through these critiques reveal ideological effects on teachers, schools, and

the culture's view of education (Creswell, 2009, p. 27). The focus, therefore, involves an approach to investigate and engage subjects as equal and full participants in the research process (Stringer, 2007, p. 10). My role as the researcher and teacher in this action design served as a catalyst to encourage participants within an inclusive classroom to take an active role in their education (Stringer, 2007). It also provided opportunities for participants to communicate and identify their views and opinions regarding the tasks presented.

The focus of my research study was the inclusive classroom. "Inclusion is a philosophy that brings diverse students, families, educators, and community members together to create schools and social institutions based on acceptance, belonging, and community" (Salend, 2008, p. 5; Sapon-Shevin, 2003). Inclusion has become the standard environment for special education students at both the elementary and secondary levels. An inclusive classroom is a setting in which both general and special education students of approximately the same age are taught the same subject material. Salend (2008) referred to inclusion as a means for all learners to have equal access regardless of learning ability. The principle of inclusion is to promote the same challenging, engaging, and flexible education to be successful in society. Lesson plans can be taught by a regular education teacher, a general education teacher and an aide, or a general education and a special education teacher.

As the teacher in the inclusive classroom in my study, it was important to establish a stance that was both legitimate and non-threatening (Stringer, 2008). Maintaining a neutral social stance provided students in the classroom the opportunity to speak freely and comfortably (Stringer, 2007). In order to establish a neutral classroom environment, I communicated with each participant on a daily basis and organized simple ways in which participants with similar or related tasks could also communicate the information being provided to one another. This type

of peer support helped improve social development within the classroom. Fostering a supportive learning environment is also a key component of the inclusive classroom. It is important for each student to have the ability to relate, can discuss problems, celebrate accomplishments, and sustain focus, while at the same time maintaining his or her own personal identity. Although participants were asked to work on authentic tasks in groups, each participant needed to maintain a sense of identity and participate equally. Table 1, adapted from Ferrence (2000, p. 6), illustrates the supportive resources I used in my inclusive classroom and the potential impact and outcomes of each.

Table 1

Supportive Resources in an Inclusive Classroom

	Focus	ICS Needed	Impact	Side-Effect
Individual teacher research	Single inclusive classroom of tenth grade students	In-class support personal student aides Access to technology-projector, Smart Board, and computers	Curriculum Instruction Design Teacher professional development	Small sample size Improve communication between educational members Potential for further investigation

Personal student aides are sometimes required by law for students receiving special education. The aides helped distribute and collect the authentic tasks provided to the students, and helped with reading to students who required a reader. The personal student aides did not grade any of the material; therefore, the involvement of local people was a *co-option* (Herr & Anderson, 2005). Co-option is where representatives are chosen, but they do not have input or power. The various materials provided ways to explain and demonstrate the authentic tasks.

The students had various learning styles, so it was important to provide them with different modalities. The potential impact of my research is improved curriculum design to benefit both the special education and general education students.

Action research enabled me to provide a practical perspective and a foundation to gain a better understanding through interpretation (Herr & Anderson, 2005). My role as the researcher placed me in the position of what Herr and Anderson (2005) referred to as an *insider*, improving knowledge, critiquing practice, and improving upon professional development. Action research also enabled me to communicate my findings to the educational community by constructing a narrative and storytelling (Herr & Anderson, 2005, p. 34). As a researcher participating in examining the outcome of authentic tasks, it was essential to have a personal, yet professional, relationship with the participants in the study. People often need personal reassurance and affirmation of their competence and worth, particularly when engaging in activities with which they are unfamiliar (Stringer, 2008). On a personal level, I maintained an open line of communication with the participants. Participants were provided with various ways in which they could access me in order to discuss any problems or concerns. I supplied both a phone number and email address for communication. The professional relationship was maintained by setting guidelines regarding both communication and tasks provided to the participants. Students were not rewarded or penalized for how often they communicated with me regarding any assignment or task. This allowed them to come to me a little or as often as necessary to establish a sense of security regarding the material being presented.

Research Site

My research study took place in a public high school in northern New Jersey. The high school is part of a regional school district that supplies education to four neighboring districts.

The total population is approximately 1,200 students. The average class size is 22 students; however, the inclusive classroom used in my study had 12 students. The inclusive classroom was a college preparatory biology course. By focusing on one class I was able to gain perspectives on how the students in class thought, while promoting social interaction. According to Morrow and Brown (1994), this can be accomplished through a small intense case study. Social theorizing allows the researcher to study the gap between previous theories on classroom structure versus the more modern theory of inclusion. Morrow and Brown defined social theorizing as "underlying orders of social life-those social and systemic relations that constitute society" (p. 211).

The inclusive classroom in my study included both male and female students in their sophomore and junior years of high school (i.e., tenth and eleventh grade) with a mean age of 16 years old. Students were placed in the class based on scheduling and academic scores from the previous year. The class in my study was a required course and I was the only teacher assigned to teach the course. Each class period was 42 minutes, and met Monday through Friday every week. One of the class days consisted of an extra 42 minute period that was used for lab time. Authentic tasks were used on lab days when a conventional lab assignment was not given. During the 10-week period, 22 authentic tasks were used during 22 class periods.

The class consisted of seven general education students and three students with both IEPs and Section 504 plans associated with the Rehabilitation Act (Section 504) and the ADA (Holland et al., 2007; Welner, 2006). Since educational plans and 504s are confidential, they were not provided to the teachers prior to the start of the course in the fall. Classes are usually evenly split between general and special education students, though some classes may have more special education depending upon scheduling. Two students voluntarily elected not to

participate in the study, but were provided the same materials (i.e., tests, quizzes, labs, and authentic tasks) so as not to deviate from the standards of the curriculum. The input and feedback from these two students were not included in the study. Students were not penalized for opting out or favored for opting in. Their grades were not impacted by not participating in the study. Students were given the option to provide either verbal or written communication with regard to their intent.

As an active participant in the research, I observed and collaboratively worked with the participants. Reason (1993) explained that, "Research which is based on self-study requires that we adapt an extended epistemology which seeks to integrate several kinds of knowing" (p. 1259). The participants in this study were not required to do anything different than their standard academic curriculum. The tasks provided followed the guidelines of the school curriculum map. I took notes while teaching lessons and observing classroom activities. After the data from authentic lessons, quizzes, and projects were collected, the grades assigned were maintained to determine whether academic performance improved with the implementation of authentic tasks. When an authentic task was provided that incorporated group participation, both grades and level of participation were noted. This included providing feedback, establishing a numerical value for participation, and record grading. Maintaining a standard academic setting and social construct that included both special education and regular education students allowed me to develop a relationship with the study participants that increased the potential for concrete fieldwork, and provided a way to generate and record empirical data on the effects of authentic tasks (Salend, 2008). This helped to interpret the findings to determine whether this change in classroom practice improved the inclusive classroom environment.

This research was a form of participatory action in which I examined the action agenda of change. The change was the use of authentic tasks (Creswell, 2009). As such, I needed to establish a stance with the participants that was considered non-threatening and legitimate (Stringer, 2007). This was accomplished by providing a summary of the research and answering any questions participants had prior to the start of the study. The validity of the study would have been altered if the participants did not understand the study, as they would not have made a personal commitment which would interfere with their desire to continue in the process (Stringer, 2007). Deception occurs when participants understand one purpose but the researcher has a different purpose in mind (Creswell, 2009).

Participants

The rhetorical inquiry includes purposeful sampling and an examination of multiple sources of data (Creswell, 2009). Rhetorical inquiry entails, "1) identifying a motivational concern, 2) posing questions, 3) engaging in a heuristic search (which in composition studies has often occurred by probing other fields), 4) creating a new theory or hypotheses, and 5) justifying the theory" (Lauer & Asher, 1988, p. 5). The participants in my study were selected based on their enrollment in the inclusive classroom and their willingness to participate. The inclusive classroom, by definition, includes both general education and special education students. Purposeful sampling is a good research strategy in action research because it involves the conscious selection of a group based on specific attributes (Herr & Anderson, 2005).

I explained my role as both the teacher and researcher to the participants in my study. Participation action research (PAR) requires that the desires of the researcher be expressed to the participants at the beginning of the research study (McIntyre, 2008, p. 55). It was important for the participants to understand my role as both the teacher and action researcher. Positionality is

complex in action research, particularly PAR. At different points in the study, the researcher can be an insider or an outsider depending upon the particular situation (Herr & Anderson, 2005). This is related to the shifting of perceptions within the setting as influenced by various parts of the research. However, Anderson and Jones (2000) observed that when researchers are authentically positioned as insiders in action research, they are more likely to take a more traditional approach of plan-act-observe-reflect (Lewin, 1948). The traditional method is to plan ways to obtain information, act to share what has been learned, plan ways to review the material, reflect and analyze the data, and share the ideas with others.

I met with the students in a class setting one time prior to the start of the course on *move-up day*. Move up day is when the students test-run their courses for the following year. Teachers at this point give the students a run-down of their expectations and provide any summer homework assignments. Students determine once school started in the fall whether they wanted to participate in the study. The purpose and scope of the study were explained to all parents. Students were not penalized in any way for not participating in the study.

Consent. As all participants were minors they required parental consent to participate in the study. As the researcher, I protected the rights of the participants by abiding by the processes set forth by the Institutional Review Board (IRB) at Northeastern University regarding the use of human subjects in a research study. The IRB requires assessing the potential risks, including, but not limited to, physical, psychological, social, economic, or legal harm (Sieber, 1998). As the researcher in this study, I considered the needs of the most vulnerable subjects (Creswell, 2009). Informed consent was obtained from all participants and explained in detail the purpose of the research study. Written permission was obtained from the participants and their parents. Students and parents were informed in writing and in person that they could opt out of the study

at any point. Participants were not asked to provide an explanation for opting out of the study. If a participant elected to opt of out the study, I re-assured the participant that the decision to opt out would not affect grades on assignments or the final grade in the class. The consent form included the purpose and scope of my study.

Anonymity. As a researcher, it is important to protect the rights and privacy of the participants in the study. Participants will not be identified by name. I assigned a number to each participant during the coding and recording process. All data, including field notes, were stored in a secure file cabinet in my classroom while school was in session. When school was not in session, I took the data home and kept it in a locked cabinet in my home office. The data will be kept for nine months, after which all data will be destroyed.

As the researcher of this study I needed to develop trust with the participants. This trust was increased by protecting their identity. To promote integrity of the research, names were changed but data obtained were not altered. I built trust in the teacher-student relationship by offering open communication and taking into account the individual needs and learning styles of each student. These steps were set in place in order to guard against misconduct and impropriety that might reflect on the school district, as well as to cope with new, challenging problems as they arose (Creswell, 2009).

Individuals with special needs have laws and guidelines set in place to protect their rights in education and society. The ADA and the IDEA Amendments of 1997 (Public Law 105-17) were developed in part to improve the equality of all students in education (Montgomery, 2001; Wiggins, 1989). The IDEA was amended in 2004 to include inclusionary practices, such as the inclusion of students with special needs in general education classrooms (Cook et al., 2000). Another outcome of the IDEA Amendment in 2004 was educational plans, such as the IEP and

504 Plan. IEPs and 504s are documented plans that include resources and/or accommodations for students designed to address their strengths and challenges (Salend, 2008).

As the teacher in the inclusive setting, I had access to the confidential paperwork for each student to help ensure I abided by all of the modifications necessary for each special needs student when developing the authentic tasks. I helped model appropriate social talk and manners. I demonstrated how to perform each task to ensure that all students, whether special education or general education, understood the requirements necessary to achieve a passing grade on the task. As addressed by McIntyre (2008), it is important in PAR to be attentive to the participants' comfort levels and accompany them through any discomfort that can occur. I recorded journal entries upon completion of each class that had a task presented to keep the information fresh in my mind.

Data Collection

I collected data throughout the duration of the course. According to Maxwell (2005), long-term involvement and intense interviews provide rich data collection. Triangulation involves collecting a diverse set of data from a variety of resources (Maxwell, 2005), which limits the amount of systematic biases. Therefore, I collected data from multiple sources in order to validate the accuracy of my findings (Stringer, 2008). In qualitative research, using one or more strategies is necessary to determine accuracy of the data with participants (Creswell, 2009). Stake (2005) suggested that inclusion of perspectives from diverse sources allows the inquirer to clarify meaning and identify different ways the phenomena are being perceived by the stakeholders (as cited in Stringer, 2007).

Interviews. Midway, or five weeks, through the data process I conducted interviews with individual students. The interview process gave participants the opportunity to reflect on

this experience in detail using their own terms. Since the participants were the key decision makers for the how, when, and why (McIntyre, 2008), it was valuable to obtain their views regarding their participation in the authentic tasks. The interview process enabled me, as the participatory researcher, to gain a better understanding of how the students understood, related to, and perceived authentic tasks on both a social and academic level.

I asked each participant for permission to record the interview using an audio recorder and to take notes. Stringer (2007) explained that the interview process is an informal conversation that is important in action research because it provides the participant the opportunity to describe in his or her words the legitimacy of his or her own experience.

The interviews were designed to understand the participants' experience with the authentic tasks that were used in the study. Both typical questions that addressed the ways in which events occurred during the research study, and specific questions (Stringer, 2007) that asked the participants to describe the tasks, were used in the interview process (See Appendix D). Question one asked the participants how they would rate their overall experience with authentic tasks. The second interview question asked participants to describe the group authentic tasks they had participated in up until this point. Question number three asked the participants to explain their role in the group authentic tasks, while question four asked participants their opinion regarding the social interaction they experienced in the group task. Question five asked the participants to describe their favorite task, either individual or group, up until this point. Question six had the participants examine why the task was their favorite. Questions seven and eight asked the participants to describe what they liked the least and why. Question nine asked participants how they felt their academic performance has been affected as a result of using authentic tasks. The final question, question ten, asked participants to state whether the overall

experience thus far, up to week five of the study using authentic tasks, had been positive or negative.

Field notes. Throughout the 10-week period, I observed the impact of authentic tasks on the social atmosphere in the classroom and the academic performance of the students in the class. The social behaviors I expected to obtain as a result of these tasks included stronger communication between special education and general education students, improved participation between myself and the students, and an enhanced feeling of confidence in all students in their ability to understand biology. I hoped to see improvement in academic performance as reflected in the grades after tasks were completed. Self-assessments allowed the students to explain how they felt they prepared for the authentic tasks and whether they worked to their full potential in the subject material. Observations were beneficial because they provided a first-hand account of how the participants were involved in the study (Creswell, 2009). I recorded my observations of the social behaviors and academic skills in a journal at the end of each period in which the tasks were performed. Journaling is an effective strategy for collecting data because it can be accessed at any time convenient to the researcher. The written evidence saves the time and expense of having the material collected and transcribed (Creswell, 2009). The difficulty that I faced in association with observational data is that personal information was observed that I could not record in order to ensure anonymity. Moreover, it was at times difficult to solicit feedback from students. I divided the pages in half leaving one half of the page for descriptive notes. This enabled me to capture the language used by the participants, reconstruct the dialogue, describe the physical setting, and account for particular events and activities (Creswell, 2009). I used the journal to compare grades and behaviors to determine whether the tasks were reaching the students on both a social and academic level. The tasks were meant not

only as a potential means for improving academic performance, but also as a way to improve interaction and social behaviors between general and special education students. Stringer (2007) explained that comparisons are observations viewed by the researcher between participants. The overall reactions from participants to the authentic tasks were also recorded. Understanding the interactions that took place in the inclusive setting provided me the opportunity to observe how students related to and accepted these types of tasks as a new method in the classroom. The scoring system below was used as a way to measure social behaviors between peers, student, and teacher, and overall attitudes regarding the tasks based on their level of participation. Scores ranged from 1 to 5 (see Table 2).

Table 2

Social Interaction Scoring System

	Score				
	5	4	3	2	1
Score for social interaction and level of interest in authentic task	A student with highest interaction or level of interest.	A high level, but could be more interactive.	Represents good/average interaction, but times when the student appears distracted or less involved or interested.	Represents little to no social interact with very little interest in the authentic task.	The student is isolated, not interested, or interacting with peers. They show no interest in the authentic task and appear isolated.

The methods of the authentic tasks that were used in the study were grounded in research on learning theory (Montgomery, 2001, p. 7). Learning theory suggests that all learners think and actively construct conceptual learning (Flavell, 1985). The material was first presented by a brief lecture that included a PowerPoint presentation. Once overviews of the basic concepts of

the material were provided, the authentic task was distributed. Gagne, Yekovich, and Yekovich (1993) discussed in their research that cognitive psychology suggests that learning requires that the learner be engaged in thinking while actively constructing meaning. This allows for not only taking in information, but interpreting and applying the material. I observed and analyzed weekly assessments of homework, portfolios, and quizzes. My daily journal entries included my observations of the social activities that occurred within the inclusive classroom. The authentic tasks provided to the participants included a *rubric*, which is an assessment device that uses clearly specified criteria (Montgomery, 2001). Rubrics are an effective mechanism that allow the students to know the value of points assigned to each area in the assessment. Rubrics also enable the teacher to measure the level of mastery and achievement of academic work. An example of a rubric is included in the Appendix.

Survey data. I provided a brief summary of the study in the letter distributed to the students (See Appendix C). A brief survey (i.e., less than 10 minutes) consisting of a yes or no question regarding students' experience with authentic tasks was distributed. The survey enabled me to determine the number of participants who were familiar with the concept of authentic tasks. A majority of the participants were unfamiliar with the term and the overall purpose of the study; therefore, I provided a 15 minute overview of the key terms and purpose of the study. By having the participants take the survey, I was able to ensure they understood the study and assess their overall knowledge prior to the start of data collection. This was specifically important for the special education students who had not taken a general education course prior to this course. Participants had the opportunity to opt out and not to partake in the survey or any other area of the study in which they felt uncomfortable or did not feel they had the ability to answer. Response bias is the effect of non-responses on survey estimates (Fowler,

2002, Creswell, 2009, p. 151). The lack of participation could have altered the results; therefore; if more than two individuals had opted out of the survey it would have become necessary to do a second 15 minute overview regardless of the results of the survey, because an understanding of the study was crucial part of participant action research (McIntyre, 2008).

At the end of the study, a second survey was conducted to determine whether participants' ideas regarding authentic tasks changed and whether the course met their initial expectations. Gaining this information provide me with the opportunity to compare initial expectations with final thoughts. According to Stringer (2007), a survey is a way to determine whether the information initially acquired by the participants changed by the end of the study.

Reliability and Validity

In order to validate the data collected, it is imperative to visualize conceptual events through the interpretive lenses of the participants (Stringer, 2008, p. 99). Conceptual events refer to the authentic tasks and the way in which each participant plays a role. Participatory action research, as addressed by Kemmis and McTaggart (2005), is about connecting both theory and practice. In this case, it required both collaboration and group participation. As emphasized by McIntyre (2008), there were a multitude of perspectives associated with this research that could lead to various interpretations as well as expectations. Self-assessments consisting of five questions were developed to draw from the participants' own words. The self-assessment was based on a Likert scale using 1 (*Strongly Disagree*), 2 (*Disagree*), 3 (*Neither Agree or Disagree*), 4 (*Agree*), or 5 (*Strongly Agree*). The assessments were given after authentic tasks that required more than one class period to complete. Self-assessments were an effective strategy for collecting data because participants have different experiences and views with regard to each authentic task. It is important to recognize the stakeholders (i.e., students, teacher, parents, and

administration) in the research and develop a data collection plan that best suits the participants involved or affected by the study which includes clearly representing the perspectives and experiences of the participants/stakeholders (Stringer, 2008).

In participatory action research, it is important for the researcher to assess him or herself and the methods used in the study. I did this by maintaining a journal not only on my student participants and their involvement in the study, but another journal that reflected an assessment of my own participation and how I felt each task was presented. As addressed by McIntyre (2008), the self-assessment it is not a license for "anything goes," but rather a way to reflect in conjunction with investigation, critical reasoning, and to help generate new activities. By self-reflecting, I gained a better understanding as to whether the participants involved were better off because of this experience.

While interpreting the data it is important to have an accurate account of the information. In qualitative research, using one or more strategy is necessary to determine the accuracy of the data with participants (Creswell, 2009). It is important to release the details of the research with the study design so that readers can determine for themselves the credibility of the study (Creswell, 2009, p. 94; Neuman, 2000). In action research, questions are often formalized versions of puzzles that practitioners have been struggling with for some time (Herr & Anderson, 2005, p. 72). Battaglia and Emihovich (1995) believed action researchers perform research to better understand the questions themselves (Herr & Anderson, 2005, p. 73).

Ethical Considerations

Ethical issues are part of the research process, especially when human subjects are involved. In order to make certain that the rights of both special needs students and general education students participating in the study were protected, I adhered to specific regulations and

guidelines. These guidelines related to taking into account specific ethical and legal aspects of the ADA, the IDEA, the NCLB, and following all rules regarding IEPs and 504s. As a general education teacher of special education students, I had access to student records that were protected by Health Insurance and Portability Act (HIPPA) regulations. I did not share this information with participants in the study nor will this information appear in this paper.

There was no risk of harm to the participants in the study. As I was the primary investigator for this study, I monitored the data to ensure the safety of the participants (Fraenkel, Wallen, & Hyun, 2010).

Limitations of the Study

The length of the study was limited to one academic term. Observing the participants in the study over the course of two or more terms would help identify the impact of authentic tasks over time. The participants in my study had a short period of time in which to become acquainted with the expectations of the tasks presented. My study also took place at the beginning of a new school year. According to Fraenkel et al. (2010), this was a *subject attitude threat*. In other words, either the participants may not have had enough time to adjust to the new teaching method or they may have found the time of participation to be too long. In order to promote validity, I kept the participants informed of the length of time. As stated by Fraenkel et al., the more the participants understand the need for the research, the more likely the researcher is to obtain their cooperation and understanding.

The scope of my study was limited to one group of students enrolled in an inclusive classroom. A larger sample size could provide an opportunity to generalize the findings. Including a mainstream classroom could also provide an opportunity to evaluate the impact of authentic tasks on two different classrooms. Fraenkel et al. (2010) suggested that whenever

studying a population, there is never certainty that the sample is a perfect representation of the population. There will always be some differences among the population and the sample used in the study, and there is no perfect sample size (Fraenkel et al., 2010, p. 102). Though a smaller sample size is not always acceptable, it can be if properly controlled. Herr and Anderson (2005) emphasized that it is necessary to have openness about a study's limitations, particularly for PAR, where the stakeholders should be aware that the teacher is part of the study and not just an observer. It is also important to realize that human inquiry is complex and always incomplete; therefore, it is important to acknowledge the extent of the incompleteness in a study (Stringer, 2008).

My study was a form of participant-as-observer. In this type of study, the researcher participates fully in the activities involved, but informs the participants of the research being conducted (Fraenkel et al., 2010). I remained *overt*, in that my subjects were aware of my role in the study. Data provided me with a greater personal understanding, while at the same time providing material that may be beneficial for other educators in the inclusive setting. Research on inclusion suggests there is a demand to improve methods for effective teaching, increase student-directed classroom techniques, and improve compliance by the general education teachers in the inclusive classroom in order to enhance the success rates among all students. As a result of over a decade of various research at both an empirical and theoretical level, more strident efforts must be made to improve the success rate of the inclusive classroom. Evidence suggests improvement in classroom management is necessary to properly prepare general education teachers for handling various types of developmental and learning disabilities. D. Fuchs and Fuchs (1994) suggested that radicalization could lead to the reformation of the specialization-general education classroom, and more avenues have been opened as a result of

their original work. However, more research is still necessary to achieve maximum success for both special education and general education students.

As addressed by Montgomery (2001), learning theory is a view that suggests that all learning requires the learner to think and actively construct conceptual learning. This view was also recognized by Flavell (1985). Cognitive findings recognize that the learner needs to be engaged in the thinking process while actively developing meaningful schema (Gagne et al., 1993; Montgomery, 2001). Learning is less linear and more active and hands-on (Montgomery, 2001). Teachers need to examine a more cognitive approach that can be expanded to all types of learning types.

Analyzing Data

Once the interview material was collected, attention needed to be paid to summarizing, analyzing, and critiquing the data in this process (McIntyre, 2008). "The researcher should "member check, "reading back the notes and asking if they are an accurate record of what was said" (Stringer, 2007, p. 72). It is important to not deviate from the participants' wording in order to accurately express their views regarding the tasks presented in the study (Creswell, 2009).

Active research uses two major processes to distill the data that emerge from the ongoing process of investigation: categorizing and coding, and selecting key experiences (Stringer, 2008, p. 99). Categorizing and coding required identifying the meaning behind each authentic task and analyzing how it impacted each individual participant, which was done through observational data and daily journal entries. Stringer (2008) suggested incorporating the perspectives of all stake holding groups in order to enhance the credibility of the study. This was achieved by analyzing both the special education and general education students.

Analysis of the data included writing marginal notes, noting and examining relationships, drafting summaries of field notes, and examining categories. Creswell (2009) suggested reducing the data into meaningful segments and providing names to each component, which makes it easier to provide charts, tables, and graphs when necessary. Creswell (2009) called the analysis of data “not a distinct process” (p. 184).

Chapter 4

Research Findings

The basis for this research was to answer the questions: "How does the use of authentic tasks impact the social interaction between general education and special education students in an inclusive grade 10 biology classroom?" and "How does the use of authentic tasks impact the academic performance of general education and special education students in an inclusive grade 10 biology classroom?" These questions were explored using a variety of research methods. Participants were surveyed at the start of the school year, student interviews were conducted by the participatory action researcher at the midway mark (i.e., week number five), and a survey was administered to the participants in order to better understand their views on authentic tasks. Throughout the 10-week period, several obstacles arose regarding lesson planning and class time.

The data obtained on authentic tasks were collected over a period of 10 weeks in an inclusive Biology College Preparatory class that comprised a mixture of both sophomore and junior year students ranging in age from 15 to 17 years old. The original anticipated number of students participating in the study was 17, and the final count was 12 students, due to guidance scheduling. Ten students participated in the study and two who opted not to take part. The participant sample consisted of nine girls and one boy. According to Stringer (2007), action research can be done using a small or large group of participants, as this type of research proposes new ways of doing things and does not test hypotheses. In fact, Stringer argued that as action research seeks to understand the nature of relevant events, it differs from conventional studies in this manner and does not require a large group of participants. This research embarked

on identifying real life day-to-day experiences and how they impacted the environment or event studied (Stringer, 2007).

The student participants in this study were each assigned a number (e.g., 1 through 10) to protect their identity, and will be referenced by their assigned number in this chapter. Three of the participants had IEPs and none of them had a Section 504. The three participants with IEPs were participants 6, 8, and 9. The other participants were the general education students in the study.

All forms were signed and consent was granted for 10 of the 12 students in the class; of the two non-participants, one had an IEP in place and the other was a regular education student. Students had a difficult time getting signed consent forms in on time because the district, as well as the state, suffered from severe flooding and several students missed the first few days of school. Throughout the 10 weeks, 25 authentic tasks were provided to the students. To better understand the impact the authentic tasks had on the social and academic performance of the participants, I used several informal assessment tools as data sources (Bruce, 2010). According to Bruce and Pine (2011), surveys, interviews, and varied materials are considered c*onventional data sources*. Archival sources, such as IEPs, attendance, grades, and Section 504 plans, are considered *existing archival data sources*.

The data were broken down and analyzed in the following manner. The first five weeks were explored including the participants' first survey, which included an example of one of the authentic tasks and an explanation of the self-assessment survey. At the midway point of the study, which was the fifth week of investigation, students were interviewed. Following the interviews, an examination of the last five weeks was explored and included another authentic task and the results of the participants' performance. The last data collected included a final

survey, recapping on the students' understanding of authentic tasks, and whether they felt their expectations of the course had been met. The purpose of the timeline chosen was to get a baseline on the participants' understanding of the meaning of authentic tasks. The interview in the middle of the study allowed me to assess their views on the assignments and whether they found them helpful. Furthermore, it provided information regarding whether their understanding on authentic tasks had changed from the initial survey. The last survey was used to compare their initial views with those from the final survey.

Data Collection Period	Data Collected
Weeks 1–4	Survey I Group project with self assessment Other small group authentic tasks
Week 5	Participant interviews
Weeks 6–10	Small group authentic tasks Individual authentic tasks Survey II

Figure 2. Timeline of Data Collection.

Survey I

The use of authentic tasks in this study was not meant to change or substitute curriculum. Rather, they were used as an alternate method to allow learning to occur outside of standard textbook use, which is consistent with how authentic tasks are typically used by teachers (Montgomery, 2001). The first survey was administered to participants at the beginning of the study to determine their knowledge of the term *authentic task*. Participants were asked a series of three questions. The first was a three-part question regarding whether they had ever heard of

the term authentic task; since this was the topic being researched, it was important to make sure that the participants were clear on the basic terms related to the participatory action research (McIntyre, 2008). If they responded yes, they were asked to explain where they had heard of the term and where and how an authentic task was used. Three out of the 10 participants reported that they had heard of the term authentic task prior to the study. Only one participant reported having a complete understanding of the term, stating "Other teachers I've had, they create their own work and such." The participants were also asked to describe authentic tasks. Seven participants specifically responded, "I do not know what it means." Two participants described authentic tasks as, "something to do" and "little tasks to be done." One participant answered the question with the most concrete answer, describing authentic tasks as "original tasks designed to allow better learning."

Participants were then asked to explain their expectations regarding the course and what they hoped to achieve in as much detail as possible. The purpose of this question was to gain feedback on their initial expectations to determine whether what they were hoping to achieve was met by the end of the 10 weeks. Five participants responded in the same way, stating that they hoped to learn about animals, human life, and living things. Two participants stated that they hoped to learn more about anatomy. One participant wanted to get past a fear of dissection, and two participants hoped to achieve their full potential in science.

The results collected from the survey administered prior to the start of the study illustrated that very few participants has been exposed to the term authentic task and that they had very little or no prior experience regarding authentic tasks. Although I thought the participants might have had prior use with authentic tasks because I had observed other educators in my district using and creating authentic activities, I did not think they would know the actual

term associated with this type of assessment. In an effort to ensure that the participants had an understanding of the term authentic task, I provided a definition to them before the beginning of the next phase of the study. A further assessment of their understanding was performed in the final survey at the end of the study.

Social Interactions Using Authentic Tasks

Over the next five weeks, a variety of authentic tasks were performed by the entire class, each of which followed the state standards of curriculum for biology. Because authentic tasks were incorporated into the curriculum for this course, all students in the class were required to do the tasks presented regardless of their participation in the study. All authentic tasks chosen focused on the standard of curriculum of each topic necessary for this level of science. The authentic tasks were meant to cover diverse learning styles. According to Montgomery (2001, p. 16), teaching science assessment standards as recommended by the National Science Standards have shifted from a conventional method to a more holistic approach. I used a journal to record my observations of social interactions when authentic tasks were used. I observed the participants on a daily basis, collecting variety of information regarding both social interaction and academic performance. These tasks required interactions with peers and were conducted during the class period. Assessing the interaction between students is important in an inclusive setting to determine whether proper age-appropriate social interaction was taking place, particularly between students with learning disabilities and those without disabilities. (Salend, 2008).

The materials I used included activities that tested the participants' knowledge on a topic covered the day prior (e.g., Do Now worksheets) and activities to determine what the students understood in the day's lesson (e.g., Exit Cards). This chapter focuses on the findings regarding

the impact of authentic tasks on the social interaction of participants in the study. The tables presented in this section illustrate the findings on social interaction during the study. The social interaction scoring system, as addressed in Chapter 3, was used as the method for scoring the social interaction between peers in the inclusive classroom.

I observed a variety of social interactions, which was consistent with the format established by Salend (2008). For example, I observed the interaction between participants with a type of learning disability and general education participants who did not have a learning disability. I observed whether the social interaction was positive or negative and the time frame in which the interaction took place. The interaction was considered positive if both students were interacting collaboratively with the teacher or their peers and focusing on the topic presented. A positive interaction was one that remained focused on the task presented and where the topic of discussion was the topic presented for the assignment. The interaction was considered negative if students went off task because they were discussing other material or disagreeing over the task.

I observed each participant individually whether working with a peer, individually, or in a group. I observed and noted conversations and took into account the initiator of the off-task conversation and how the others in the group responded to that individual. If they remained on task despite the other participant's attempt at distraction, they still received a positive or high score. If they responded and got involved in dialect outside of the activity presented, they received a lower score.

How well each participant interacted was noted and the level of interaction was scored on a scale from 1 to 5. A score of 5 signified the highest level of interaction and was considered positive. A score of 4 signified a higher than average level of interaction and was considered

positive, but could be more active. A score of 3 was a good or average interaction with times that reflected distraction or less interest, but overall was considered positive. A score of 2 represented below average social interaction with very little interest in the authentic task and was considered less positive. A score of 1 was the lowest interaction and signified no interest in the task and no interaction with peers, and was considered negative. Students who were absent for the task did not receive a score, but are included in the tables for consistency purposes.

Week one. During week one, the three participants with an IEP worked collaboratively with regular education participants. The first activity was an ice-breaker called a "Me Bag" that allowed the students to share personal information about themselves to improve connections between participants. According to McIntyre (2008, p. 15), PAR involves the quality of the participation rather than the proportionality of the participations. Therefore, initiating an activity to increase engagement was an essential component. All scores were 3 or above, reflecting average to high interaction with little or no distractions occurring (see Table 3). Participants remained focused and involved in each task presented.

The second activity was on scientific method. Participants were given a worksheet and asked to collaboratively work together, answering material regarding independent and dependent variables. Furthermore, they needed to discuss controls and why they are an important component in experimental design. This activity was a review from the previous year to determine how much material on scientific method the students had retained.

The third activity was a Power Point activity. During the Power Point presentation and study guide activity, the participants were slightly less attentive then the tasks that involved more peer interaction than teacher-student interaction. The Power Point activity was an independent authentic task and required very little talking; it was more a teacher-student interaction rather

than a student-student based authentic task. The teacher was the central speaker and would ask questions throughout. However, the results still signified a medium or average interaction, which described the interaction between teacher and student. Power Point is a method to introduce new material, where students need to fill in missing words on the slides based on what the teacher is presenting in the lecture. According to Salend (2008), it is important during the use of multimedia activities for the facilitator to involve and interact with the students. By involving the students and allowing them to interact with the multimedia, they gain a feeling of control in their learning process. A limitation in the use of the Power Point activity was the limited interaction between students.

Table 3

Tasks Performed in Week One and the Impact on Social Interaction

Participants	Score		
	Task 1	Task 2	Task 3
1	3	Absent	Absent
2	3	3	3
3	3	3	3
4	3	4	3
5	3	Absent	Absent
6	3	3	3
7	3	Absent	Absent
8	3	4	3
9	3	3	3
10	3	4	3

Note. Scores reflect 1 (*poor*), 2 (*below average*), 3 (*good*), 4 (*above average*), and 5 (*highest*).

The first two tasks allowed students to interact with both their peers and the teacher. Task 3 was an activity that allowed the students to be involved by answering verbal questions

and completing the Power Point presented by the teacher. It appears that in the first week, student interaction was higher during activities that had direct student-to-student contact with less teacher involvement. The activity that involved more teacher interaction and less student to student interaction was slightly lower.

Week two. The first survey was conducted in week two. I intended to conduct the first survey in week one but uncontrollable weather conditions resulted in school cancellations and the survey had to be conducted in week two. Conducting the survey in week two did not impact the amount of tasks performed because the material necessary to meet the curriculum by the end of the marking period had been completed by the participants. However, this week only consisted of one authentic task on controls and variables. This was not an issue because three tasks were completed the first week instead of two, which was the goal of the researcher. Only one participant chose to work independently rather than interact with his peers, though this participant did interact regularly with the participatory researcher. According to Stringer (2007, p. 67), when working collaboratively, participants develop collective visions of their situation that provide the basis for effective action. This interaction signified effective action and provided evidence of developing relationships between participants.

Patterns in student interaction were observed. As both the teacher and participatory action researcher, I observed that the participants were consistently pairing up with the same members of the class. This behavior occurred in all activities in the class when an authentic task or textbook assignment required a partner or group activity. Only one participant was not interested in social interaction with peers, but was comfortable interacting with the teacher. This particular participant did work with others cooperatively in other areas of the study.

Table 4 reflects the only task provided during week two. The task explored scientific method and the controls and variables seen while conducting scientific experiments. The participants and non-participants were provided definitions of these terms prior to the authentic task. The task was then administered and students were able to partner up with other students in the class. I did not assign groups and students were allowed to choose with whom they wanted to work. Two of the special education students worked together, while one chose to work with regular education students. All students were present for the activity as reflected in the table below.

Table 4

Authentic Task Performed in Week Two and the Impact on Social Interaction

Participants	Score
1	5
2	5
3	5
4	5
5	5
6	5
7	5
8	5
9	5
10	5

Note. Scores reflect 1 (*poor*), 2 (*below average*), 3 (*good*), 4 (*above average*), and 5 (*highest*).

Week three. The third week involved two authentic tasks. The first task was a Penny Lab that coincided with a Do Now activity and a Power Point presentation. All materials used in the lab were components of the authentic task. The Do Now activity was a mini-introduction to a topic where the students completed a task in 10 minutes or less. The activity around this lesson

involved the students making a guess on how many paperclips it would take to overflow a cup of water that was filled to the rim. It was a hands-on-activity that involved cooperation among peers. Once completed, students next filled in a Power Point worksheet on adhesion and cohesion. The worksheet was the Power Point presented by the teacher with blanks for the students to fill in. After the teacher component of the task was complete, the participants were asked to work with partners on the Penny Lab. One student would place the drop of water on the penny, while their partner would count the drops. This activity gave the participants to observe both cohesion and adhesion.

The second authentic task was the creation of a concept map (see Appendix) based on a lesson on the Characteristics of Life. The participants were able to choose their own plant or animal to study and develop a concept map that included reproduction, growth, development, homeostasis, irritability, and response to stimuli. The library was an essential component of the authentic task because the participants needed to research their subject and obtain literature on the characteristics of their organism. A self-assessment was administered at the end of this task.

The results reflecting the participants' interactions for both tasks are noted in Table 5. In accordance with Creswell (2009, p. 60), these tasks not only dealt with learning, they focused on social learning theory in that they helped to develop an understanding of how a group of social and personal competencies (i.e., personality) could evolve out of a social condition. The social interactions of these two tasks scored in the range of middle to high for all involved.

Table 5

Authentic Tasks Performed Week Three and the Impact on Social Interaction

Participants	Scores	
	Task 1	Task 2
1	3	3
2	3	3
3	Absent	3
4	4	3
5	4	3
6	3	3
7	4	3
8	4	3
9	3	3
10	4	Absent

Note. Scores reflect 1 (*poor*), 2 (*below average*), 3 (*good*), 4 (*above average*), and 5 (*highest*).

The authentic task was hands-on and required the students to perform work in areas throughout the room, including researching, cutting, pasting, measuring, building, and experimenting. The level of interaction ranged from middle/good to high; however, most participants' interactions were in the middle, signifying some distraction while participating in the task. I chose to include the mid range because it is important to identify students who were on task a majority of the time, but it would not be justified to say that they were on task for the entire time. Students participated and assisted one another on the assigned material. Two of the participants were off task at various points throughout the task, and therefore, received a score of 3 (good). Both participants with IEPs and regular education students interacted age appropriately and for the greater part of the period remained focused and involved in the assignment. The lab activity was different than other tasks because the participants had more

opportunity to move around the room and interact. The data the students collected for this activity were placed on the board and shared among their classmates.

The concept map task was a lengthy activity that used two full class periods in the library over a period of two weeks. I observed the social interaction between participants as they carried out this task in the library. If more time was necessary, the participants were expected to complete the task for homework. All 10 participants used time at home to complete the activity. I did not have the opportunity to observe their social interaction while working at home. All participants received a 3 (good) for social interaction. The library was occupied daily by any classes that required research or use of the computers, and because it is not usually closed to one particular class there are more distractions than in a typical classroom. There was a high amount of activity in the library when participants were working on the authentic task. Some participants appeared to be distracted by the activity going on in the library. The distractions may have influenced the level of social interaction of participants as they worked on the task.

The participants worked in pairs on this task in the library. Participants 6 and 9, both classified with an IEP, chose to work together, while participant 8 chose to work with a regular education student. The interaction and participation level was a good for all individuals involved. The participants were off topic for only brief amounts of time. Most of the time the participants were focused and able to work and interact at their age-appropriate level. Both special education and regular education students interacted. The social interaction was considered good rather than high due to external factors within the library setting. The social interaction was affected by the heavy traffic in the library, resulting in a lower score for social interaction. Interaction may have been higher if the circumstances were different. I learned that tasks that required more than one class period needed to be better planned out when leaving the

classroom environment. The participants' routines were altered, which appeared to change the level in which they interacted with each other. As a teacher of special education in an inclusive setting, it is important to create a responsive classroom; this is an environment that integrates both academics and social development (Westling & Fox, 2004). Once the classroom environment was altered, changes in social interactions were observed.

Week four. The beginning of week four required more work on the concept map on the Characteristics of Life. A rubric was attached based on the assignment to allow the participants the opportunity to fulfill all requirements. The rubric provided a breakdown and score for the completion of each individual required component of the task. According to Salend (2008, p. G5), it is important to have "statements specifying the criteria associated with different levels of proficiency for evaluating student performance." The rubric and concept idea were created by an unknown teacher, and modified it to fit the criteria I felt were necessary to meet the curriculum standard for this topic. I have used this concept map in previous years with other classes. In other areas of science I use mapping, but the maps are not as complex as in this particular activity. Task 2 was an individual activity that had students cut and paste vocabulary terms to their meaning. They could write them out or make flashcards. Task 3 was a review for an upcoming quiz on both the material on scientific method and the characteristics of life.

The participants worked in the following groups; participants 6, 9, and 10 worked together. Participant 1 worked with participant 2, participant 4 worked with a non-participant after returning from an absence, participant 3 worked with participant 5, and participant 7 worked with participant 8. A valuable piece of evidence was observed in the grouping with the addition of participant 10 to the pairing of participants 6 and 9. Both participants 6 and 9 had IEPs, where participant 10 did not. I did not assign students to work together opting instead to

allow them to choose their own groups. This was the first time participants 6 and 9 worked with a general education student in the 10-week study. The individual interviews that took place during the mid-marking period with these three participants led to different outcomes as to their favorite authentic tasks. Participant 10 thought the "poster project," or concept map, was one of best activities, though participant 10 felt that she had contributed more than the other two in the group. Participant 6 and 9 picked an authentic task that they worked on together without a general education student. This may suggest that these two students with IEPs did not feel as comfortable working with a general education student. Further investigation would need to be performed to determine whether that was the reason behind participants 6 and 9 not choosing that task as their best.

The scores in social interaction (see Table 6) remained constant from the previous week with little improvement during the concept map activity; however, academic improvement was noted and will be further examined in the next chapter.

Table 6

Authentic Tasks Performed Week Four and the Impact on Social Interaction

Participants	Scores		
	Task 1	Task 2	Task 3
1	3	5	5
2	3	5	5
3	3	5	5
4	Absent	5	5
5	3	5	5
6	3	5	5
7	3	5	5
8	3	5	5
9	3	Absent	5
10	3	5	5

Note. Scores reflect 1 (*poor*), 2 (*below average*), 3 (*good*), 4 (*above average*), and 5 (*highest*).

Students were provided a self-assessment questionnaire about the Characteristic of Life concept map in the beginning of week 5. Montgomery (2001) argued that self-assessments should include what students could have done differently. The self-assessment was given after the entire class had completed the authentic task as a way to allow students to re-examine the processes of learning and problem-solving through meta-cognitive measures. The self-assessment used easy to read words and only required a scoring measurement. From the self-assessment, I was able to better understand how the participants felt they contributed to the concept map activity. According to Montgomery (p. 82), self-assessments allow students to think deeply about their work. This information provided an opportunity for reflection and

review of their individual contribution to a group activity. Participants had the opportunity to further describe their experiences when interviewed later in week five.

Only participant 3 did not participate in this activity. The questionnaire consisted of five questions using a Likert scale using 1 (*strongly disagree*), 2 (*disagree*), 3 (*Neither agree nor disagree (no opinion)*), 4 (*agree*), and 5 (*strongly agree*). The results are provided in Table 7. The number of participants' related to each question is located under the response they provided. The official questionnaire can be found in the Appendix.

Table 7

Results from Self-Assessment Questionnaire on The Characteristics of Life

Question	Number of Responses				
	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I feel I participated to the best of my ability	2	5	2	0	0
I participated as much as others in my group	6	1	1	0	1
I feel I was given enough time to complete the task	4	2	2	1	0
I feel this task was beneficial in learning the characteristics of life	4	4	1	0	0
I feel I understand the topic better now that I participated in this task	3	5	1	0	0

The self-assessment was meant to allow the students to examine both their social interaction and academic performance on the task related to the Characteristics of Life. Most of the participants reported feeling involved in the authentic task. Only two participants responded

"neither agree nor disagree" to the question asking whether they felt they had participated to the best of their ability. Seven stated that they agreed or strongly agreed with this statement. Seven participants reported they felt they participated as much as other individuals in their group. One participant agreed and one participant neither agreed nor disagreed. Only one participant strongly disagreed, reflecting that this student either participated more or less than others in the group, and others within the group had more social interaction regarding the topic. The majority of students either strongly agreed or agreed that they felt that they were provided enough time to complete the assigned task. Two participants did not have an opinion; however, they did feel that they needed more time to complete the task. Eight of the nine participants either strongly agreed or agreed that the task was beneficial in learning the characteristics of life. When asked if they felt they had a better understanding of the topic after participating in the task, three strongly agreed, five agreed, and one participant had no opinion.

The self-assessment scores suggest that the students' experiences were enhanced by the authentic task. Most of the participants either agreed or strongly agreed with the use of the authentic task as a method of improving their learning experience. Several participants felt they gained a greater perspective on the material due to the use of the task. Only two questions, number two and three, had participants who either disagreed or disagreed strongly. Question number two focused on the amount of participation by the individual and whether he or she participated as much as others in the group. The third question addressed whether the participant felt ample time had been given to the task. The overwhelming majority either strongly agreed or agreed with the five self-assessment questions provided regarding the long-term authentic task of the concept map.

Week five. During week five, two authentic tasks were presented to the participants. The first was a pH lab and the second was pH foldable activity. The lab allowed participants to test a variety of household products to determine their acidity and alkalinity. The second reviewed the properties of acids and bases and became a study tool for future assessments. A foldable is an activity made of construction paper where a topic is on top of the fold and below is the information on that topic. These tasks were assessed on the participants' level of social interaction and participation in the activity and whether the participants remained on task (see Table 8).

Table 8

Authentic Tasks Performed Week Five and the Impact on Social Interaction

Participants	Scores	
	Task 1	Task 2
1	3	Absent
2	3	Absent
3	3	Absent
4	5	4
5	3	Absent
6	3	Absent
7	4	Absent
8	4	4
9	3	Absent
10	4	4

Note. Scores reflect 1 (*poor*), 2 (*below average*), 3 (*good*), 4 (*above average*), and 5 (*highest*).

The pH lab authentic tasks required two class periods. The participants' social interaction was between good and high, requiring me to address the students only briefly during the activity. It was a hands-on activity that allowed students to work in pairs and test various agents to determine the pH of various solutions. I anticipated a high level of interaction because the task required several steps and several different mini-tests of different household products. The participants were allotted only two periods to complete the task. This time constraint may have lead to the participants remaining on task in order to complete the activity in the time given. The participants appeared to be more focused during activities that were more hands-on and required a multitude of mini-activities. Furthermore, if there was a set amount of time in which the task had to be completed, the participants appeared to be more diligent in their efforts in order to make the deadline.

At the mid-marking period point, or week five, I conducted interviews with each participant. Each interview took between 10 and 15 minutes and was conducted during the class period. To be consistent, I followed the guidelines in the three special educations students' IEPs. The IEPs inform the teacher to make questions clear, concise, and short in length. Therefore, I chose to ask only a small number of questions. I informed the students to "please answer honestly," as there would be no penalty academically for their participation in this interview. It was only for me to better understand how these tasks impacted the learning environment. It is important to remain honest and make sure participants understand the purpose behind the questions (Stringer, 2007). I also wanted to make sure I had ample enough time with each participant without going over my class period. While each participant was being interviewed, the remaining students and participants watched a video on the material previously covered in class. The participants were asked a series of questions regarding their experience with authentic

tasks over the past five weeks. These interviews helped in my ongoing reflection of practice regarding authentic tasks. I was seeking information as to each participant's views on the tasks provided up until the mid-marking period. Furthermore, I sought information on what each participant felt was best for him or her in this process. I recorded the participants' responses in their exact words to make sure the data were accurate.

The responses from the interviews suggested that the participants' overall experiences midway through the study were positive. The majority of participants could identify the authentic tasks within the study and felt their overall social interaction improved as a result of these tasks. The purpose of the study was to obtain the participants' understanding of authentic tasks and their ability to recall what tasks they had been given. The last component examined the participants' views on their academic performance; this will be discussed in an upcoming section.

Question one asked the participants how they would rate their overall experience with authentic tasks. Eight of the 10 participants responded with "good," "good experience," or "good, but still confused on what they are." Two other participants stated they "liked it," or "good I like it better than book activities. I learn more with activities and in groups." From this question, I was able to determine that the majority felt this was a positive approach to learning. The participants were quick in their responses to this question. One participant said this was a better way to learn because it gave students the opportunity to work with others in the class.

The second interview question asked participants to describe the group authentic tasks they had participated in up until this point. Six of the 10 participants recalled the concept map activity and lab activities, and the labs that were recalled were the pH and penny lab. The other three participants responded with, "water, pH, and exchange questions," "labs and poster

project," and "labs, penny, pH, microscope notes." The students were brief in their descriptions of the tasks. Though the interview questions were emerging in design (Creswell, 2009), the participants were reluctant to provide detailed responses. The participants in all activities, whether authentic tasks or conventional book work, tended to be brief in their responses to questions; therefore, I anticipated short responses. I would try to repeat, reword, and re-clarify as addressed in the IEPs to draw out more detailed explanations; however, I was cautious in order to not affect the validity of the question. At this point, as anticipated, the majority of participants had a proper understanding of the term authentic task.

Question number three asked the participants to explain their role in the group authentic tasks. The participants' responses varied significantly here. For example, one participant remarked that the group authentic tasks were good because they "make it creative, looking up facts." Another participant responded, "We were working equally and learning from the task," while one student said, "life-looked up answers to questions and did research." One student responded the tasks were good because the students were "putting everything together" while another noted the tasks helped the students with "finding research." Finally, one student stated the tasks allowed the students "to participate" while another enjoyed the focus on "writing." The responses to question three suggested that the participants preferred activities that allowed them to perform research and examine a particular topic on their own, with little to no teacher direction. Throughout the study it became apparent that the participants preferred activities that allowed them a greater amount of control over their learning process. This is consistent with other research on authentic assessments (Montgomery, 2001).

Question four asked participants to assess the social interaction they experienced in the group task. Out of the 10 participants, seven stated it was "good," one stated "we put in equal

work," another was "indifferent," and the last was "in the middle." Therefore, the participants' responses suggest that they had a positive experience working in the inclusive setting with their peers. However, two of participants reported they were more involved than others in their group. I intentionally opted not to assign groups throughout the marking period because I did not want to interfere with the "natural setting." Had I assigned groups, the responses may have been different. Further research on this question could be explored by examining the "grouped-oriented management systems" suggested by Salend (2008). This type of system has the group control its members by a management system, and as a last resort students may ask the teacher for assistance. This is used in general education, but I feel based on my research this would also be an important area to explore.

Question five asked participants to describe their favorite task, either group or individual, up until this point. Six of the 10 participants said the Characteristics of Life Concept Map was their favorite task. The other four had a variety of responses, such as the pH, activity, water, and penny lab. The responses regarding this question from participants 6 and 9 may suggest an imbalance in inquiry, a lack of consensus building, or a lack of information being shared or gathered between the group members (Salend 2008). Their answers varied from the majority. Participant 10 worked with 6 and 9 and felt she did most of the work. Through observation it was noted to be true that Participants 6 and 9 had contributed less time than Participant 10. Though Participant 10 did a majority of the project, she enjoyed the task and thought of it as one of the best activities up to the mid-marking period.

Question six had the participants examine why the task was their favorite. Some of the participants indicated they liked the concept activity because they could examine an animal they were interested in learning about. One said the task was enjoyable "because, I could design it,"

another said “I can be “creative,” one student enjoyed “learning something new, new information,”another stated “I like working with floating clips,” and finally, one student said, “I like working in groups and it was interesting learning about koala bears.” Participants chose information in which they were interested, and were more willing to actively be involved and improve social interaction if they had an interest in the material covered. They appeared to show less enthusiasm for material in which they had no interest.

When asked which task they liked the least and why, the majority of participants responded the microscope task because it was “difficult.” I asked them be more specific, if possible, and the students replied that they found using the microscope hard. The second related to the Power Point activity because it was “boring.” This activity used teacher-to-student interaction rather than student-to-student interaction. Surprising responses were noted on the concept map activity, labs, and tests based on prior responses to items on the questionnaire. Overall, the concept map was liked by a majority of the participants. Two of the three special education students did not enjoy this activity. However, based on the answers from their regular education partners, these special education students contributed very little to the finished map. This was a part completed as homework. The penny lab and acid/base lab were tasks enjoyed by the participants. This may be due to the length of the instructions, various little activities within each lab, and the set time allotted for each. The interview results suggest that the harder and more detailed the activity, the less interest and motivation to perform the task. The microscope activity was more challenging and required the hands-on use of a microscope. Focusing the microscope and following the procedure appeared to be significantly challenging for the participants. One participant indicated “it is difficult to focus,” another said “I can’t see the structures,” and a final student indicated the activity was “to long.” Shorting the procedure for

this task may have improved the participants' view on the task. Furthermore, this task required more teacher interaction because I had to stand over them and assists them on focusing and slide preparation. If they had more prior experience with the use of the microscope and slide preparation the participants may have felt more comfortable with this activity and required less help from the teacher. Participants appeared to want more activities that are less teacher-driven and more student-directed. As suggested by Montgomery (2001, p. 58), students can take "ownership of their learning."

Question nine asked participants how they felt their academic performance was affected as a result of using authentic tasks. All responses from the 10 participants were positive in nature. They were quoted as saying "good" or "positive." Several replied with "I like these tasks because I enjoy hands-on activities." Another was quoted as saying, "I feel I learn more using these tasks."

Question 10 asked participants to state and describe in detail whether the overall experience with authentic tasks thus far had been positive or negative. Out of the 10, the results were 100% positive and the description as to why varied. One participant stated that when "[you do the] research yourself, you learn more," while another indicated "I can learn more from it." One student reported that the tasks enabled the students to "work with friends and like hands-on tasks," while another said "it's more fun and interesting," and another stated, "because it's fun, I like science." One participant's answer included, "starting to learn more about biology," another reported "I feel like it has helped in understanding," one student indicated "because science is my favorite subject and I find the material interesting," and lastly, one student stated "I can understand more, more time to practice." Both questions nine and 10 suggest once again the theme that students want to be in control of their learning process. Authentic tasks have the

potential to promote students' ownership of their learning. Though not all tasks within this study provided student control, future tasks chosen by educators could be created to meet the requests of the students.

By week five, a majority of the participants reported that the authentic tasks had benefited their overall learning experience. For example, most participants reported having a greater understanding of the curriculum and the majority found the group activities to be more beneficial than individual tasks. The individual tasks were more teacher-directed and, therefore, were not as desirable to the participants. Only two participants reported that they were more comfortable with individual activities than group projects and assignments. The perception of these two participants may be related to the lack of control in a group activity, or the lack of participation by other group members. When the participants in this study had a positive experience in a group, they were more likely to engage in higher levels of social interaction and report positively about the lesson. Participants who felt that they did all of the work were less likely to want to participate in a group activity. This outcome is similar to what I would expect to see in a regular general education class.

Week six. Week six consisted of two tasks that had diverse results with regard to social interaction. The bio-molecule activity required a great deal of student participation and the highest level of social interaction. This activity demonstrated the highest levels of social interaction where all participants appeared fully engaged in the learning process. It allowed the students to use the computer and identify the various types of bio-molecules. This task was more student-driven, which appears to have been a preference of the participants. All participants received the highest score on social interaction and remaining on task.

Table 9

Authentic Tasks Performed Week Six and the Impact on Social Interaction

Participants	Scores	
	Task 1	Task 2
1	5	2
2	5	2
3	5	3
4	5	3
5	5	3
6	5	3
7	5	3
8	5	Absent
9	5	3
10	5	3

Note. Scores reflect 1 (*poor*), 2 (*below average*), 3 (*good*), 4 (*above average*), and 5 (*highest*).

Participants were given a second activity in the week in which they had to identify terms that they had learned and apply the material through questions. The second activity required less student-to-student interaction and was a review for the upcoming quiz. Students had to identify terms that they had learned and apply the material through questions.

The social interaction of participants 1 and 2 (both regular education students) was below average with a score of two. Several times participants 1 and 2 had to be redirected to the task and asked to pay attention; furthermore, they did not complete the task in the required amount of time. I also observed that some of the other participants were distracted and engaged in less social interaction than with prior tasks. They received a score of good. The quiz activity was a

task that was more individually-based, as students needed to recall information on the material previously completed. The task was completed at students' desks and did not require movement around the room. The lack of mobility may have promoted more off-task conversations. Participants were allowed to discuss the questions quietly among themselves in an effort to achieve the correct answers. However, participants would at times go off topic and require redirection to the task. The data from the interviews suggested that participants preferred activities that required more movement and research in a group setting.

Week seven. Week seven had a lower amount of social interaction and attention to the task over the course of the week than observed in previous weeks (see Table 10). The first authentic task, the bio-molecules concept map, only had results based on half of the class due to a field trip that was scheduled after the start of the study. Field trip schedules and testing are not usually provided to the faculty until a couple days before they are to take place; therefore, it is hard to plan for these occurrences. The scheduling conflicts required adjustments in my lesson plans to meet the change in the schedule. The change in my lesson planning included making one or two tasks a component of my weekly planning and increasing the amount of tasks to three the following week. I still had the students perform the activity, which was a review of prior concepts discussed regarding bio-molecules. Review is a key component in the learning process.

The second activity of week seven was an enzyme lab that required a great deal of hands-on activity. It also required more reading and a larger procedure than past tasks. The last task of week seven took place in the library. It was an activity used in correlation with a website on bio-molecules and was meant to help re-teach the concepts taught during the lab activity.

Table 10

Authentic Tasks Performed Week Seven and the Impact on Social Interaction

Participants	Scores		
	Task 1	Task 2	Task 3
1	2	2	2
2	2	2	2
3	Absent	Absent	5
4	5	2	4
5	Absent	4	5
6	3	5	3
7	Absent	4	5
8	Absent	4	5
9	3	3	3
10	5	5	4

Note. Scores reflect 1 (*poor*), 2 (*below average*), 3 (*good*), 4 (*above average*), and 5 (*highest*).

For the first task, I observed participants 1 and 2 off task for half of the class period, requiring several cues of re-direction. Due to their off-task behavior, they did not complete the activity, which ultimately affected both their social interaction and academic scores. Participant 10 worked diligently and remained focused the entire class time. The remaining participants only occasionally needed to be re-directed. The goal of the authentic task was to determine how much past information was retained by the participants. This activity was a bridge between new and old information and provided the participants the opportunity to reflect on what they had learned up until this point. I observed that the participants who worked independently on this task got more accomplished than those participants who worked together. The lack of

interaction with peers was a change from the previous weeks in which participants engaged in higher levels of social interaction when working in group activities. This may have been due to the lack of hands-on material. The participants seemed to interact at a higher level when kept busier through hands-on lessons that allowed them to have more control of their learning environment. This is consistent with Montgomery's (2001) research on authentic assessments. Tasks with directions that contained more steps but with shorter directions and less details appeared to keep the participants at a higher level of social interaction. Further, if there was a set time frame in which the task had to be completed without deviation or the expectation that the teacher would allow an extension, the students were more on task.

For the second task, participants 1 and 2 worked with 4 and a non-participant. This was a larger grouping than seen in past activities. These groups were not chosen by the teacher, and instead were the result of participant choice. Throughout this study, results produced evidence that participants preferred hands-on tasks, it has also been noted that the lengthier the activity the less desire shown by participants. This may have resulted in a lower social interaction score than in the past. In many instances the IEP suggests short tasks with fewer instructions. This may have contributed to the participants engaging in lower social interaction. The more challenging the activity, the lower the social interaction. This was observed in both more teacher-directed authentic tasks and student-to-student authentic tasks. The more detailed tasks may have been difficult for some of the students to follow, leading them to migrate to off-task activities. Many participants were off task quite often. Participants 1 and 2 were at a level 2 and had to be re-directed several times throughout the period. They did not complete the activity in the allotted class time. Participants 3, 5, 7 (regular education students), and 8 (special education) scored

high and I did not have to address them about behavior or remaining on task. The last two participants scored high for social interaction and completed the assigned task.

Based on the results of week seven, out of the three tasks performed in the library throughout this study, it became more apparent to me that the participants became more easily distracted while out of their routine setting. As observed in both the concept map activity and the bio-molecules activity, participants were more easily distracted. Therefore, it could be concluded based on the observation that participants performed authentic tasks better in their regular (i.e., everyday) setting.

Week eight. Week eight consisted of three authentic tasks (see Table 11). The first required the participants to read and interpret a graph. The task required the participants to work independently. The material was placed on the board and the students were asked to respond with answers regarding the graph. Three students were unable to stay on task and required redirection. The level of interaction between the participatory researcher and the participants was high for a majority of the participants. Participants 1, 2, and 3 received a score of low or below average because they required several cues to refocus when I was speaking and addressing a topic. This may once again stem from the results of the interview that suggested students preferred control over their learning and activities. My involvement as a participant in the task in order to help guide the may have had an impact on their view regarding this particular task. However, my goal throughout these tasks was to help the participants analyze the material provided and consider findings regarding information previously discussed (Stringer, 2007).

The second task of the week was geared toward review. Four participants did not interact with their peers or stay on task, scoring a 2. The remaining participants were focused on the task for the majority of the time and interacted appropriately with little re-direction. Although I had

to address a few minor side conversations, almost all participants scored a 4 and completed the assigned task in the allotted time period.

The third task took place in the library. Participants paired up two to a computer in order to complete the task. It was a lengthy task because it consisted of four pages of information. There were several areas within the website that had to be viewed and read by the participants. Participants had to examine an animated website and answer several questions. Although the participants experienced problems accessing the animated website hindering their ability to complete the assignment, a majority of the participants engaged in high levels of interaction with each other and stayed on task. Little to no re-direction was necessary. Only participant 4 completed the assignments in the period provided, and the rest of the participants had to complete them at home. Though they were in the library, students remained focused throughout the class period. This may have been related to the fact that there were fewer students in the library at the time this task took place.

Table 11

Authentic Tasks Performed Week Eight and the Impact on Social Interaction

Participants	Scores		
	Task 1	Task 2	Task 3
1	2	2	Make-up Test
2	2	2	4
3	2	4	4
4	4	4	4
5	4	4	4
6	4	2	4
7	4	2	4
8	4	4	4
9	4	2	4
10	4	4	4

Note. Scores reflect 1 (*poor*), 2 (*below average*), 3 (*good*), 4 (*above average*), and 5 (*highest*).

Week nine. Week nine was the last full week before the end of the 10-week study and marking period. We lost two days of the full week due to severe weather conditions that affected the entire tri-state area and caused our facility to close. Quarterly assessments to evaluate student progress had to be postponed due to weather. The authentic tasks presented were directly related to preparing for the quarterly assessment as they provided review of all content covered over the 10-week period. The same participants (i.e., 1 and 2, and 6 and 9) were off task and required several warnings to refocus and interact in an appropriate manner. I observed a pattern in the level of interaction. Participant 1 and 2 and 6 and 9 always worked together when given the opportunity. Their level of interaction with regard to remaining on task improved when

given authentic tasks that required more steps and a time limit. Over the 10-week period it became more apparent that there were conflicts in personality that limited the amount of interaction these four participants had with other participants in the class. They did not complete either activity in the time allotted. Out of the four participants, two had IEPs and the other two were in regular education (see Table 12). This observed outcome suggests that both regular education students and special education students have greater social interaction when given authentic tasks that are more hands-on, provide shorter instructions with more steps, and have a set time frame for completion.

Table 12

Authentic Tasks Performed Week Nine and the Impact on Social Interaction.

Participants	Scores	
	Task 1	Task 2
1	2	2
2	2	2
3	5	5
4	5	5
5	5	5
6	2	2
7	5	5
8	5	5
9	2	2
10	5	5

Note. Scores reflect 1 (*poor*), 2 (*below average*), 3 (*good*), 4 (*above average*), and 5 (*highest*).

Week ten. No authentic tasks were given in week ten, as it was the last week of the marking period and all of the students in the class had to take the two day quarterly exam. The exam consisted of 50 multiple-choice and five free response questions based on the past 10 weeks of course work. The test was partially made by a test generated using a computer program and partially authentically designed by the participatory researcher, who was also the biology teacher. I chose to authentically design parts of the test to align it with the method the students had become more familiar with throughout the study. It also provided the participants the opportunity to include "free responses." These questions are more subjective, but allowed me to become familiar with the students' level of understanding of the concepts. This will be further discussed in the next chapter.

Survey II

During the last three days of data collection, participants were asked to participate in the final survey that consisted of two questions. The participants were asked to explain, in as much detail as possible, their responses to both questions, since the final survey was the capstone to the research study. The final survey had two questions to determine whether there was a change in the participants' views from the initial survey provided at the beginning of the study with regard to the meaning of the term authentic task.

Only two questions were asked because the first question on the initial survey asked if and where the student participants heard the term authentic tasks. There was no need to ask this question again, so it was eliminated. In question one, the participants were asked to describe the meaning of authentic tasks. On the initial survey, only two participants had heard of the term before, and only one student had a basic proper understanding to what it meant. The second question asked the participants whether they felt the use of authentic tasks had met their

expectations and, if so, how. The goal of collecting this information was to obtain feedback from the students regarding their views on performing these tasks, to determine whether they had the potential to improve social interaction and academic performance in the inclusive setting.

The first question in the second survey asked participants to describe authentic tasks in their own words. The responses indicated that the participants had greater understanding of the term authentic task after 10 weeks. Participants were able to identify various activities that were indicative of an authentic task and the majority of participants could describe it in detail. The participants were able to explain and identify the activities we did that were authentic tasks. For example, one participant wrote "I feel that work being done through the teacher is a lot more easily understood rather than reading the textbook when information is thoroughly explained and visually shown is comprehended better." Another participant described authentic tasks this way, "I would describe authentic tasks as a better learning experience and more productive as opposed to standard textbook oriented work. They also provide a more interesting, exciting, and fun approach to learning." A number of students focused on the idea that these tasks are created by the teacher, as shown in the following responses: "I would describe authentic tasks as activities/work we do in class that the teacher makes up instead of working out of the textbook," "authentic tasks are activities that my teacher makes up for us instead of book work," "I would describe an authentic task as something NOT in the textbook, and something that the teacher creates by themselves," and "I would describe authentic tasks after participating in this study by saying they are not book assignments. It is a group of discussions or silent work/labs given by the teacher out of the book."

The second question asked participants "Please in a much detail as possible explain whether or not you feel your expectations regarding this course were met." Nine of the 10

participants reported that their expectations were met or exceeded regarding the course. Some of the notable responses included: “My expectation were met because I am learning every lesson at a good and steady pace,” “I think they helped more than I thought and I learned a lot so far this year,” “My expectations for this course were exceeded. It so far has been an extremely exciting, interesting, fun, and challenging course that I enjoy greatly and wish to continue enjoying,” “I think my expectations on what I wanted to learn about biology were exceeded. I also thought it was interesting and not as boring as I thought it would be,” “I feel that so far my expectations regarding this course were met. I have a great understanding of the work given out and it’s easy to understand. My teacher has made this class understandable, not too hard, and fun at the same time.” The participant who reported unmet expectations in the course stated, “it could be the authentic tasks, or it could be that I didn’t get it.” The student discussed self-doubt in her ability to understand and interpret the material provided.

Though authentic tasks are components of regular planning of today’s teachers (Montgomery, 2001), both academic performance and social interaction of students in an inclusive setting have not been evaluated prior to this study. Although I have used authentic tasks in my inclusive classroom, I have not evaluated their impact on social interaction and academic performance. A higher percentage of students agreed that they felt their participation in social settings improved with the use of authentic tasks.

Findings Related to Academic Performance

The impact of authentic tasks on the academic performance of the participants was evaluated through the collection and grading of a variety of authentic tasks. A grade book and a laboratory notebook similar to an assessment portfolio (Montgomery, 2001) were used to mark and record grades that the participants received on authentic tasks. The same tasks that were

used to observe social behavior were examined for academic performance. Each student's material was gathered, graded, and analyzed for accuracy. The academic material was evaluated by collecting weekly assessments of homework, portfolios, and quizzes. Participants were tested upon completion of a concept. I assessed the participants' overall understanding of each topic as I graded the authentic tasks. Each task had a specific amount of points that I converted to a percentage score for their overall grade. Lab activities were all 20 points and the total of the labs were 30% of the participants' overall grades.

Following the concept activity during week four, an authentic task reviewing the topic of the major components of the characteristics of life was provided to the participants to see how much they had retained up until this point. The authentic task contained 13 multiple-choice questions that were created for review. The components of the characteristic of life were examined to determine the amount of material that was retained from the concept map authentic task activity. I used the multiple choice review to examine the amount of information the participants had obtained from the concept map activity. They participants received two separate scores. The first score was on their ability to create the project using the key components on the characteristics of life. The second score was in the form of a test. The concept map on the Characteristics of Life was worth 20 points and was worth 10% of their total grade under the category of "free response." These are tasks that allow the students to display their creativity in the way in which they design their authentic task. The task had key components that were required, but they could lay it out any way they wanted as long as they had the components necessary to express their understanding of the five major parts of the characteristics of life. The overall percentage based on the points for this activity was 96%. The test covered the first four weeks of class and consisted of the characteristics of life and material on lab safety and design.

The test was out of 100 points. Tests were 30% of the overall marking period grade. The participants' overall percentage score on the test was an 88%, slightly below that of one of their largest authentic tasks. Montgomery (2001, p. 99) would argue that providing percentages on activities is a conventional method that is corrupt and inadequate, and that we should get away from these methods altogether. Her ideas may be just, but as an educator in a school district I must follow the guidelines and policies that specify correlation and measurable processes..

In examining the review created for the test, it was noted that two of the three participants with an IEP had four or more incorrect. One participant with IEP answered all but one of the 13 questions correctly. Based on these results, it is inconclusive as to whether the authentic tasks made a difference in academic performance for either special education or regular education students. The general education students had better overall scores than those in special education. However, the special education students who interacted more frequently with the general education students had higher academic score than those with little or no social interaction with general education students. The majority of the participants in this study felt their academic performance improved with the use of authentic tasks. Only one participant felt uncertain that the authentic tasks had an impact on academic performance.

The first four weeks of class were dedicated to completing authentic tasks on the material related to the characteristics of life. The first test was given in week five. The test was a combination of both multiple-choice and free response questions. The lowest score on the test was a 69%, which is a D+ in the school's grading system. The average score was an 88%, which is a B+, for the overall class. Students were informed and review guides were provided; however, six participants admitted that they had forgotten about the test, and therefore, had not really prepared for the test. Although the participants acknowledged that they had not prepared

for the exam, their overall academic performance was higher than anticipated. These results indicated that the students retained the material presented without the need to memorize the information given. I discovered this must have been the case because several of the participants stated that they had forgotten about the test.

The 10-week study concluded with the participants taking their quarterly assessment. The quarterly assessment is a standard test given at the end of the marking period by all teachers in every department. The test administered is given to all students in a specific level. The results are compared between teachers and then a write-up on material that needs further review is administered to the department supervisor. Figure 3 demonstrates academic performance on the quarterly assessment and the participants' scores for the marking period. I felt it was important to compare the quarterly assessment to the marking period grades to see an overall comparison between the grades obtained by the participants throughout the marking period compared to a comprehensive assessment performed at the end of the 10-week marking period. This information provided me with a greater understanding as to where there was a correlation between the use of these authentic tasks and students' ability to retain the information for standardized testing. The quarterly assessment is given to all students taking biology

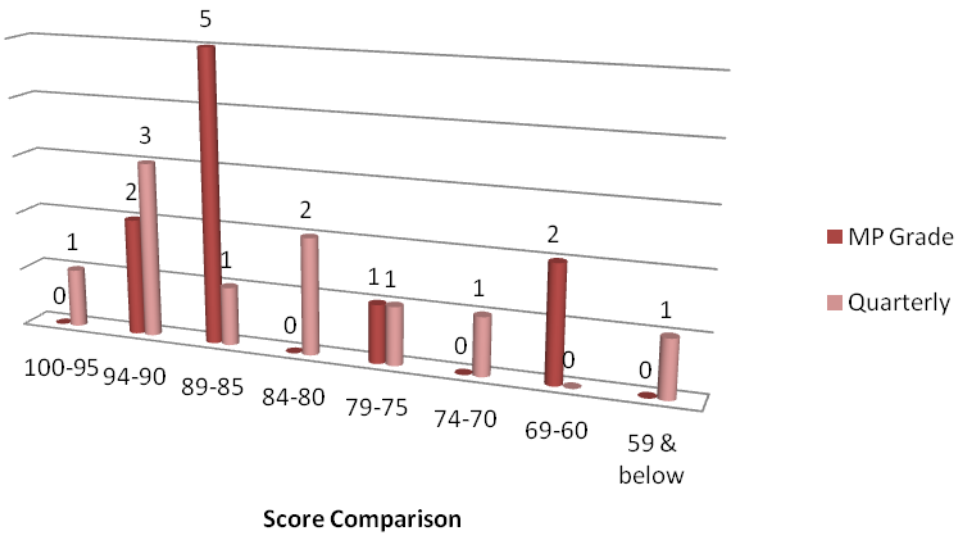

Figure 3. Marking Period and Quarterly Grade Comparison.

The interpretation of the data depicts that on the quarterly assessment, one participant scored in the 100 to 95% range; however, no participants received a score of 100 to 95% for the marking period. This may indicate the level of difficulty of some of the authentic tasks. Some of the participants who obtained the highest grade point average on the quarterly assessment may have found some of the tasks more difficult than the actual material. The highest academic score for the quarterly and marking period went to two regular education participants. The second highest scores for the quarterly assessment in the 95 to 90% range went to one regular education participant and one special education participant. One special education participant failed the quarterly assessment with a score below 59% (F). The other special education participant scored in the 79 to 75% (C, C+) range. The three students in special education with IEPs varied in scores for the final marking period grade. One received a score in the 89 to 85% (B, B+) range, one received a score in the 69 to 65% (D, D+) range, and the last special education participant scored in the 65 to 60% (D-, D) range.

For the two students who scored below 69%, I as their teacher had direct contact with their strategies teacher who stressed how difficult it was to get them to complete tasks outside of our biology class. In addition, it could not be determined whether there was an improvement as a result of the authentic task. Although I was unable to assess the impact of authentic tasks on the participants' academic performance, the evaluation process did provide the opportunity for self-reflection by the participants. The students were provided an opportunity during the self assessment to evaluate their learning process and determine whether they worked to the best of their abilities. Further, during the interview process the participants had the opportunity to review and reflect on the areas within the course that they felt were the best for their specific learning needs.

Chapter 5

Discussion of Findings

Inclusion is an area that has sparked significant controversy. How students learn best and how to develop new teaching methods for inclusive classrooms are just some of the questions that educators are struggling to understand better. D. Fuchs and Fuchs (1994) were two of the pioneers in exploring the controversial issue of inclusion. Their research examined both the regular education perspectives on inclusion and those of advocates for special education. Several teaching methods have been explored, but few action research studies have examined the impact of authentic tasks on social interaction and academic performance in an inclusive setting. The idea behind this study came from reading and exploring Montgomery's (2001) research on authentic assessment. As a teacher of inclusion. I have experienced a range of emotions including frustration with not always meeting my students' expectations or being disappointed when textbook assignments do not adequately address the diverse learning needs of students in inclusive classrooms.

Through my review of the literature on inclusion and alternative teaching methods, I discovered that a majority of the research focused on the advantages and challenges of inclusion. Cook et al. (2000) focused on the attitudes of teachers when placed in an inclusive setting. Their results showed that teachers who are more experienced in inclusion have more concern for special education students. The more experienced teachers were also more comfortable in the inclusive setting overall and were less stressed by the challenges. Cook et al. did not look at methods for improvement, but rather the emotions that impact teachers in this setting. Gindis' (1999) article, "Vygotsky's vision - Reshaping the practice of special education for the 21st century," explored how modified and alternative methods in education are necessary for an

adequate social and academic environment for the special education student. Fisher and Meyer (2002) compared students in the self-contained classroom and students in the inclusive classroom and found significantly higher rates of socialization skills in the special education students who participated in the general education curriculum.

Other literature explored the initiatives behind inclusion and their impact on regular education and special education, but none explored methods of improvement. Francom (2011) studied authentic tasks in biology, but focused on the general education classroom rather than the inclusive setting. The research by Francom examined task-centered approaches to biology. The results provided similar evidence to my study, in which students appeared to feel more comfortable with tasks that allowed them more control over their learning. Academic performance was not a focus of this particular study and grades were not given, as it was more of an observational and survey related study on the students' perspectives on this type of learning. Salend's (2008) work on effective and reflective practices discussed authentic assessment only briefly. Although Salend's work was not a formal study, it did promote consideration of authentic tasks as a method that could be used in the inclusive classroom. Cook et al. (2000) explored the frustration of general education teachers when dealing with both regular education and special education students in an inclusive setting. Many of the participants in their study felt overwhelmed by the challenges of the environment, including the diverse learning styles and behavior issues that can hinder academic performance. Teacher frustration is one area that plagues the inclusive setting. The challenges of meeting the expectations of both the regular and special education students is why it is necessary to study methods for improvement. Neither inclusion nor authentic tasks are new terms to the educational community, but this environment in combination with the strategy of authentic tasks has not been recently examined.

I have experimented with alternative teaching methods designed to meet the diverse learning needs of the students in my inclusive classrooms. Until now, I have not been able to conduct a comprehensive evaluation of the impact of alternative methods. Specifically, I wanted to understand the impact of authentic tasks on the social interaction and academic performance of students in an inclusive classroom. I also wanted to use a research design that would enable my students to play an active role in the evaluation process. PAR was a good design for my research study because it focuses on local knowledge and exploration of individuals within a community type setting. It is a method geared toward increased awareness of daily life activity and can help in community building (McIntyre, 2008).

The way in which my research was conducted was explained to my participants prior to the start of the study. My study required me to play a dual role, one as the teacher and the other as an active participant. The participation throughout the study provided insight into the students' perspectives on authentic tasks. Based on both the surveys and interview results, the participating students reported that they felt more comfortable with tasks that had simple instructions yet gave them the opportunity to work without a substantial amount of assistance from the teacher. This outcome supports Francom's (2011) research in which the students also preferred the authentic tasks over conventional classroom methods. Authentic assessment, which includes grading students' ability to apply information to a task, focuses on a deep understanding and application of knowledge (Edwards, 2003; Francom, 2011; Gulikers, Kester, Kirschner, & Bastiaens, 2008; Oh, Kim, Garcia, & Krilowicz, 2005). Authentic assessments as methods of improvement have in the past been found to measure the application of learning rather than just "surface" learning (Francom, 2011; Gulikers et al., 2008). Although my findings seem to support Francom's observations, my research evaluated the impact of authentic tasks in

an inclusive setting. Francom also did not examine social interaction or academic performance in depth through the use of participatory action research, but rather performed a qualitative study on student perspectives on authentic assessments and their overall feelings on performing the tasks.

The participants in my study chose to complete all components of the study. Creswell (2009) emphasized that it is important for the researcher to establish patterns and look for connections between two or more categories. I investigated the impact of authentic tasks on social interaction and academic performance in an inclusive classroom. Bruce and Pine (2011) stressed the importance of action research to investigate questions that are meaningful to both the teacher and other service professionals in the educational community. Fisher and Meyer (2002) examined the social behavior of students in the classroom and provided an alternative measure for assessment of students with severe disabilities. This addressed the necessity of social interaction for students with special needs and provided a comparison between students in both the inclusive and self-contained classroom settings. In a similar way, I examined the impact of authentic tasks on social interaction in an inclusive setting.

By exploring the impact of authentic tasks on social interaction and academic performance, I was able to identify strengths and weaknesses in various areas of my lessons and also provide the students with the opportunity to have their thoughts and opinions regarding these methods expressed and valued. Many times teachers create lessons based on textbook material assigned by the school district, but rarely are they able to evaluate the impact of the lessons on students individually or as a group. The unique demands of teaching in the inclusive setting leaves even less time for teachers to evaluate and reflect on the impact of alternative

methods, such as authentic tasks, on learning outcomes. This research enabled the students in an inclusive classroom to be active participants in the evaluation of authentic tasks.

The theoretical frameworks chosen for this particular study were important. Vygotsky's Zone of Proximal Development was used as a reference when constructing the various authentic tasks and the one self-assessment over the 10-week period. This framework provided me with ways to provide quality tasks while focusing on the state standard of curriculum. Gindis (1999) considered Vygotsky's work to be a blueprint for the socialization and developmental necessities for students with learning and developmental disabilities. Piaget's theory (1950) further allowed me to narrow the method to authentic tasks in order to observe the cognitive and academic performance of the participants over the 10-week period. Piaget examined developmental processes in a tiered manner. This concept was beneficial in the development of the authentic tasks in an effort to reach all learning styles over the course of the study.

I observed that students at various learning levels were able to focus on the authentic tasks and apply insight from their understanding of the material presented into both their group instruction and individual activities. This was observed in the task on the Characteristics of Life, as the participants were able to delegate responsibilities in order to complete the assignment. Each participant had a role in his or her group and was responsible for that component of the assignment.

Although the tasks were designed to meet the diverse learning needs of the students, which was reinforced by the students in the interviews, I discovered that time was an important factor in the authentic tasks presented in this study. The amount of time that it took the participants to complete their work varied. For example, the concept map took more time than I originally anticipated. Both the general education and special education students required more

time than originally anticipated. Therefore, it is important to note that in an inclusive setting using authentic tasks, there must be room to add more time for the completion of the task. The conventional method of textbook assignments is different in the respect that the textbook may provide an expected amount of time it should take for the book activity to be completed. While there may still be students who require more time, the conventional methods have been tested over a period of time. Therefore, it is easier to plan lessons. When customizing tasks, regardless of the content of study, there must be flexibility in time management. I had not anticipated the increased time the regular education students might have needed. Though I anticipated that the special education students would require more time, I still underestimated the amount necessary to complete the authentic tasks. As the tasks are used over a period of years, it will become easier to determine the time frame in which they can be performed.

Since authentic tasks are not bound to a specific subject area, they can be used across the curriculum in all areas of education (Francom, 2011). Another outcome that I observed was the lack of reading done by the participants as related to instructions and directions. Participants were more likely to ask me as their teacher how to perform the task rather than reading the directions for themselves. This was increasingly true for the participants with an IEP; however, this behavior was observed with the general education participants as well. It also appeared to be the case when students worked on tasks in groups. This could have played a role in lower social interaction because students would go off task when they were not sure how to complete the task. I discovered that the participants were more likely to follow the instructions with little or no teacher direction when the directions for the authentic tasks were short and easy to follow. Wansart (1995) and Pine and Bruce (2011) asserted that special educators need to focus on three

areas when engaging in action research: 1) focus on ability, 2) focus on advocacy, and 3) focus on improving teaching and students' lives.

Sharing of Findings

The goal of this study was to understand how authentic tasks impact social interaction and academic performance within the inclusive setting. I plan to conduct a presentation at the school in which I am employed to share my findings with my colleagues. PAR can provide co-learning that allows local people the ability to share their knowledge and ideas to create a new understanding and work together to form action plans to improve an educational community (Herr & Anderson, 2005). By performing this participatory action research study, I had the opportunity to work with and join into a study that has the power to create change in how we evaluate student interaction and academic performance. I feel I can now provide insight to other educators to show them ways to evaluate alternative teaching methods. Most methods used to assess academic performance are done through quantitative data collection, such as quizzes, tests, and standardized testing methods. Using qualitative data rather than quantitative data through action research studies will enable teachers to use an alternative assessment approach to evaluate student knowledge and comprehension of material. This will help capture the depth in which the students understand the concepts taught. By sharing my findings I will be able to provide individuals in my educational community the opportunity to examine my research and agree, disagree, argue, debate, and reaffirm their views (McIntyre, 2008). Ongoing research provides a positive learning experience (Bruce & Pine, 2011). The performance of action research is considered to be one component in teacher preparation in an effort to promote a more reflective research and share the knowledge and findings with the educational community (Bruce & Pine, 2011). Sharing my knowledge and experience with other teachers may help to increase

their understanding on the use of authentic tasks in the inclusive setting. As Freire (1971) suggested, "to be a good (participatory researcher means above all to have faith in people; to believe in the possibility that they can create and change things" (McIntyre, 2008, p. 69).

The greatest bias in my study was the influence I may have had in the dual of role of teacher and researcher. Bruce and Pine (2011) argued, "The researcher must be careful to not influence the thinking and actions of his or her participants" (p. 43). I made every effort not to influence the participants in any way. I took a "neutral stance in the research process; however, the broader the context in which the problem is held, the greater the number of stakeholders, and the greater the complexity in the task confronting teachers" (Stringer, 2007, p. 142). The authentic task on the microscope required me to assist the participants more frequently than other activities. Throughout my exploration I discovered that the more I was involved as the teacher in their tasks, the less interest the students appeared to have in the topic. Therefore. I remained neutral in the class atmosphere, not participating with or assisting any student more than another. Increasing the education community's knowledge is pertinent in reflection and change. Gaining a deeper understanding of the teacher and student experience may support the processes of self-reflection and change. As McIntyre (2008) suggested action research should be used "to create circumstances in which people can search together collaboratively for more comprehensible, true, authentic, and morally right and appropriate ways of understanding and acting in the world" (Kemmis & McTaggart, 2005; McIntyre, 2008, p. 69).

Implications for Further Study

My study provided a foundation for further research on the topic of authentic tasks as a teaching method used within the inclusive setting. Extending the study over an entire academic

year would provide the researcher with additional opportunities to measure the impact of authentic tasks on academic performance.

A study with a more even distribution of special education and general education students would provide more data on both populations in an inclusive setting. An equal gender ratio may enable the researcher to evaluate the impact of authentic tasks on social interaction and academic performance by gender. For example, I observed tension among the students because of the gender disparity in the class. All of the participants in this study who had an IEP were female (See Figure 4).

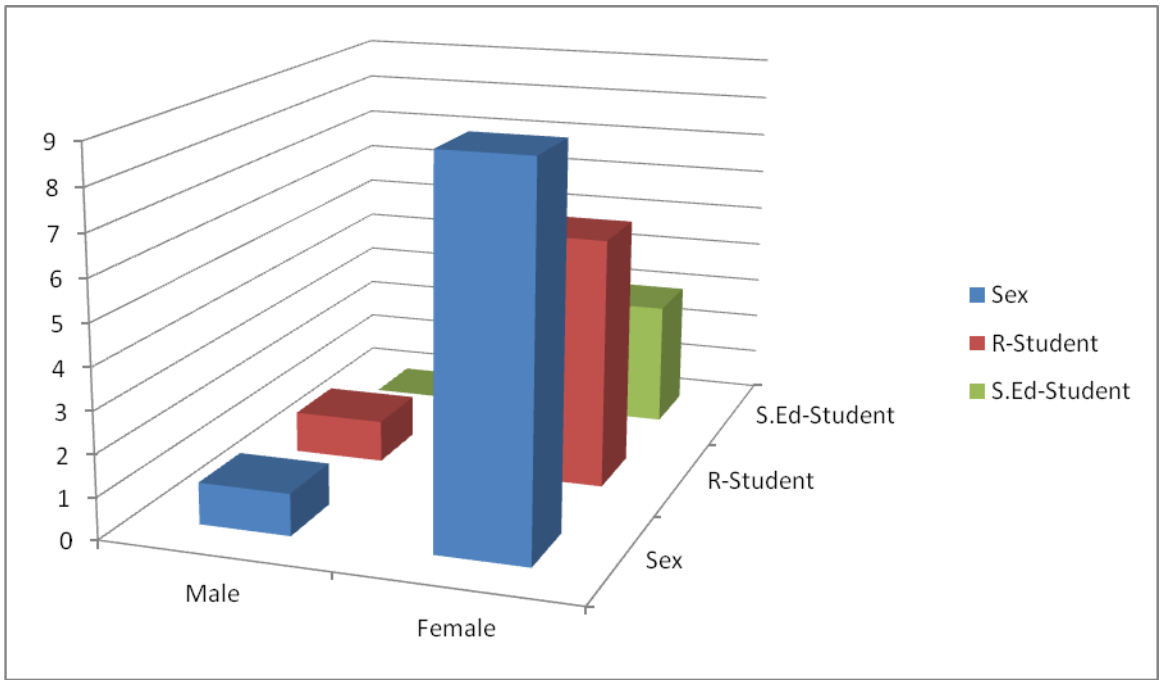

Figure 4. Class Distribution Based on Sex and the Comparison of Regular to Special Education Students.

A select group of participants did not get along, which made it difficult to place students in designated groups or peer activities. Since there were only two males in the class, they usually worked together. The results regarding academic performance and social interaction may have been more accurate in portraying the true impact of authentic tasks if there was a more

even distribution of males and females. Although there were many factors outside of my control that determined which students were assigned to the inclusive classroom in this study, a sample with an even ratio of male and female students may influence the impact of authentic tasks on social interaction and the academic performance.

Salend (2008) suggested that there is a value in heterogeneous cooperative groups providing greater insight into the social interaction between male and female students in an inclusive setting. A responsive classroom, according to Winterman and Sapona (2002), integrates both social and academic skills.

I would, in a future study, perform a comparison between an inclusive conventional class environment and an inclusive environment that incorporated authentic tasks. A study over an entire year would be ideal and a comparison of each quarterly and mid-term and final exam grades would be reviewed. This would have provided a better understanding whether academic performance was impacted by the use of authentic tasks.

My research provided me with a greater understanding of the students' perspective on the impact of authentic tasks in an inclusive classroom. In most instances, two out of the three participants with IEPs (participant 6 and 9) tended to work together on a majority of the authentic tasks that required students to work in a group or in pairs. Salend (2008) observed that special education students who partner with non-special education students show improved academic performance. The two participants with an IEP had lower scores in both academic performance and social interaction. They often were distracted and required more re-directing with both individual and group activities. This may have been anticipated due to their IEPs; however, the one participant who was in special education and worked and interacted the majority of the time with non-special education students received higher academic scores, and

was more on task and interactive than the two who did not. This special education student chose to work with one or two regular education students over the course of the study period. Although I was intentional about allowing students to self-select into work groups and pairs, further research is needed to understand the impact on social interaction and academic performance when general education and special education students are intentionally assigned to work groups or pairs.

Academic performance during the 10-week study was measured by the grades participants achieved on the authentic tasks. The grades varied among the three participants with IEPs. The academic performance and social interaction was higher for only one of the participants with an IEP. The participant with an IEP who had higher scores had more frequent interaction with general education students in the class. Salend (2008) suggested that special education students who interact with general education students tend to perform academically higher than those who are not in heterogeneous classes.

Several outcomes emerged in my study. The social interaction among participants in the study was greater when they were engaged in the authentic tasks. This finding appears to support Montgomery's (2001) research on self-assessments and Francom's (2011) research on student centered learning. The participants in my study were able to apply the information given and were able to understand concepts when the material was presented through authentic tasks. By observing the participants working on the authentic tasks and conversing with the participants, I was able to obtain informal feedback on the authentic tasks and their impact within the inclusive setting on a social interaction level and on academic performance. The process of grading tests was a more formal conventional method to assess their learning process. In this study, I used quizzes and tests to examine the level of retention regarding the understanding of

the material provided in each authentic task. The tests allowed me to examine the students' understanding of concepts provided. Once I felt the students had mastered the concept, I would move onto new information and include a new authentic task.

In contrast to conventional teaching methods, which entail using the textbook as a primary method for education, authentic tasks as related to social interaction and academic behavior were based on the following criteria: 1) they involved each participant in the task, 2) the effort made by each participant, 3) how well each participant applied his or her knowledge when completing the activities, and 4) how well participants interacted among themselves and with their teacher.

The results of authentic tasks related to academic performance were acceptable. This is the case because this was not a comparison study and was therefore based on how the individual participants did throughout the course related to authentic tasks, homework, quizzes, tests, and the quarterly assessment. No participants failed the marking period or quarterly assessment, and based on individual interviews, participants felt there was improvement. The self-assessment performed for the concept map activity provided insight into how the participants felt they performed. Montgomery (2001) suggested this improves time management and allows students to reflect on their learning and involvement in an activity. This helps prepare the students for setting future goals.

Possible risks associated when dealing with this type of research is that the information can be subjective. Therefore, is important to remain objective and not influence the answers of the participants. Other areas that are potential risks include score inflation and cheating (Francom et al., 2009). There were times throughout that students were able to self-grade. This has been known to improve self-motivation (Francom et al., 2009).

Recommendations for Change

Montgomery's (2001) proposition regarding the way in which students are assessed recommended branching away from the conventional means of assessing achievement, which was viewed as "inadequate criteria of school success and a corrupt educative process," to a more qualitative approach. While quantitative measurement is the conventional means of assessing academic performance, there is a need to take into account the students' view and examine their understanding of the material presented. Quantitative measurements only provide a small component of what a student understands. Through this study, I learned that students want more control over their educational process and enjoy being able to express themselves thorough tasks that are student-centered. The participants' social interaction increased when they were given more opportunity to control their learning.

This study did not move completely away from the conventional method of quantitative measurement, in an effort to abide by the school's policy on grading. However, a recommendation for change would be to educate other professionals on ways to promote student-centered learning activities. As shown in this study, these activities improve social interaction among students in the inclusive setting. Academic performance was adequate based on the data collected.

Authentic tasks and assessments, as revealed by Montgomery (2001) and Francom (2011), promote more confidence and enhance a student's desire to achieve higher results in a general education classroom. This study supplemented their research by examining the inclusive setting and how authentic assessments affected this type of classroom environment. It appears that improvement was noted in both settings. These results should be communicated to the various stakeholders involved in the educational process. Discussion between educators and

other stakeholders should take place on ways to incorporate authentic tasks as a means to apply concepts through real-world experiences in the inclusive classroom. Educators need to reexamine the idea of quantitative measures as the only approach to determine a student's level of understanding. Students come with a variety of learning styles and special needs in the inclusive setting that cannot be measured through only quantitative means.

Teachers come into the field of education with various personalities. The personality of the teacher can play a role in the way in which the authentic tasks are administered and evaluated in the inclusive classroom. Many regular education teachers do not receive proper training or preparation when placed in an inclusive setting. This can cause frustration and tension between the teacher and students. Schools of education at all levels are doing a better job of preparing the next generation of teachers to work with special education students; however, many of the professional development workshops offered to regular education teachers tend to focus on behavioral issues rather than methods to improve the inclusive classroom. Special education departments can play an important role in preparing regular education teachers to be more effective in the inclusive setting by providing support to the regular education teachers.

Authentic tasks can be a powerful teaching method when the tasks are designed to help students make real world connections. My research showed that students were able to apply the concepts taught to something meaningful in the real world. Designing authentic tasks that provided the students a hands-on learning experience made the learning process more meaningful and rewarding. Although science courses lend themselves particularly well to making connections with real world applications, these connections can be achieved in other courses, such as history, English literature, and the foreign languages. This can be achieved by designing tasks that encourage students to take control of their learning process and apply

research skill using technology as a resource. For example, a history teacher could assign two groups of students to research a specific controversial news article. The teacher could then ask the students to take opposing sides and debate the topic connecting past historical events to current issues faced today. A scoring rubric could be provided to allow the students to see how they are being assessed. At the end of the task a self-assessment could be provided to each student. By completing the self-assessment, students can reflect on their own participation during the task. This type of task could take place across content curriculum and foster real world application.

My school district faces challenges that can be overcome by re-examining a few different approaches. I have observed that veteran teachers in my school are more resistant to changing their teaching methods because their teacher preparation training did not expose them to methods on teaching and learning in the inclusive classrooms. When these teachers are assigned to an inclusive classroom they experience frustration because their conventional teaching methods do not work very well. Their frustration is compounded when they have to manage behavioral issues. The emotional reaction by the teacher can prompt the students to shut down. To improve this situation and prevent emotional outbursts by teachers that hinder student performance and social interaction, special education teachers can work together with regular education teachers to discuss alternative teaching methods and share strategies. My research study can make a difference in my practice, my school, and within the district by (1) encouraging teachers to include students in the evaluation process of their learning; (2) encouraging teachers to allocate time and space to reflect on what they learned and what they might consider doing differently; and (3) educating the teachers in my school about action research, authentic tasks, self-assessments, and program evaluation as a means to reflect on their own professional

development. Self-assessments are a valuable tool for both teachers and students and provide students the opportunity to take ownership of their own learning process.

As an educator, I plan to continue to use authentic tasks that are designed to foster student-centered learning and be more intentional about assigning special education students and regular education students to work on authentic tasks in pairs and groups. Fostering this type of interaction may help special education students to excel academically by making them face greater challenges, instill confidence that can promote a desire to achieve higher education, and help regular education students understand special education students better leading to greater acceptance. The use of conventional teaching methods in inclusive settings needs to be reconsidered. Educational leaders need to foster a culture that encourages regular education teachers assigned to the inclusive setting to not "give up" on our students. Yelling at students out of frustration and giving up on them when conventional methods don't work can result in a self-fulfilling prophesy of failure. When regular education teachers come into the inclusive setting with a negative attitude and lack the strategies needed to help students achieve success, they lay a foundation at a level of low expectations. This type of attitude does not foster or promote higher learning, but instead deteriorates the learning environment from the start.

The use of participatory action research can be an effective tool for teachers to evaluate authentic tasks as a method of improving the inclusive setting. Qualitative methods such as action research, gives teachers and school leaders another lens to evaluate learning outcomes and understand how students learn from their own perspective. Action research is a particularly good method for evaluating social interaction in student-centered authentic tasks in inclusive settings. Furthermore, with proper training and education, regular education teachers assigned to inclusive

classrooms can feel less stress and anxiety when dealing with our students fostering a healthier, more engaging, and academically rewarding environment for all involved.

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Appendix A: Authentic Task

Biology - Constructing a Concept Map of the Characteristics of Life

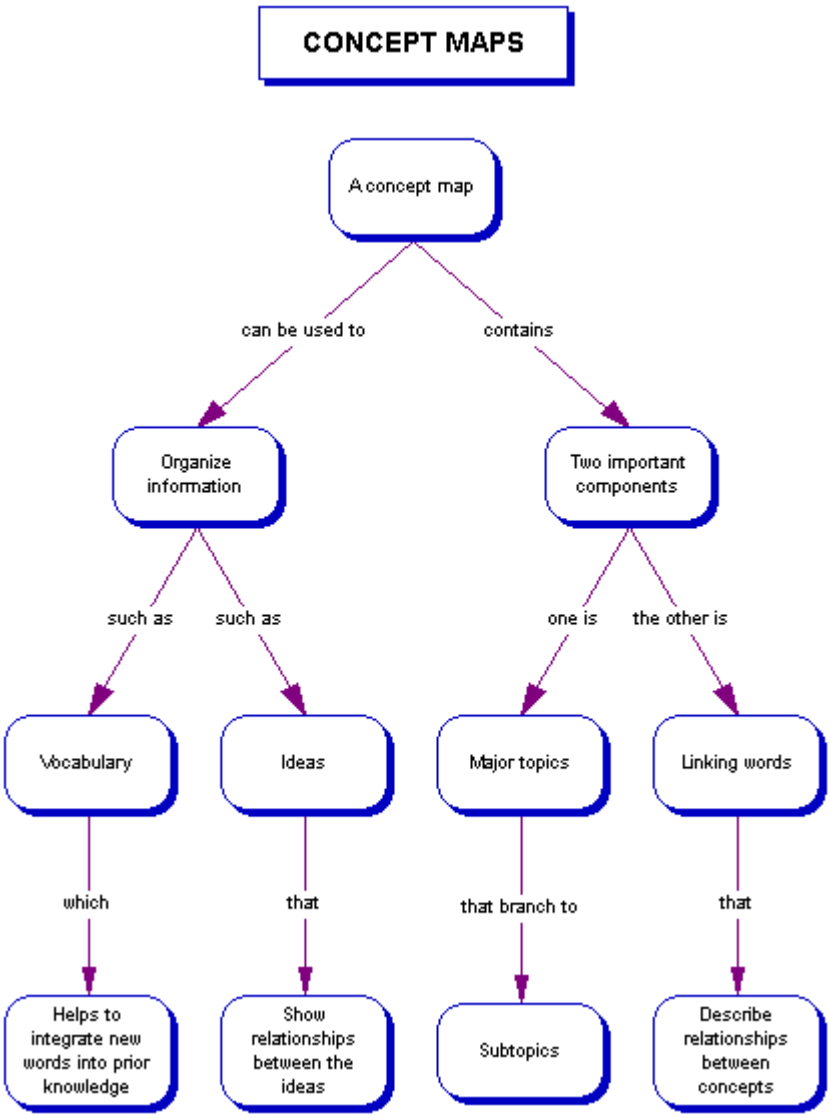
Objective: Students will work in groups to construct a concept map of the characteristics of life that demonstrates their knowledge of the attributes and criteria used by biologists to measure life.

1. **Brainstorming Phase**: Identify facts, terms, and ideas that you think are in anyway associated with the topic. Make a list of these items and print them neatly on small Post-It® notes, one per note, in very brief form, i.e. a single word or short phrase. This is a brain-storming process, so write down everything that anybody in your group thinks is important and avoid discussing how important the item is. Don't worry about redundancy, relative importance, or relationships at this point. Your objective here is to generate the largest possible list you can. Before your group completes this step, you may have more than 50 items.

2. **Organizing Phase**: Spread out your concepts (Post-It® notes) on a flat surface so that all can be read easily and, together, create groups and sub-groups of related items. Place your **CENTRAL THEME** in the middle of the terms. For this project, the theme of the map is "**LIFE CHARACTERISTICS**". Try to group items to emphasize relationships. Feel free to rearrange items and introduce new items that you omitted initially. Note that some concepts will fall into multiple groupings.

3. **Linking Phase**: Use lines with arrows to connect and show the relationship between connected items. Write a word or short phrase by each arrow to specify the relationship. Many arrows can originate or terminate on particularly important concepts. Arrows should only go one way, and each arrow should have a linking phrase attached to it.

Example of a Concept Map - On Concept Maps



Grading

	Rarely (1)	Sometimes (2)	Frequently (3)	Extensively (4)
Overall	The concept map does not seem to have a focus.	The purpose of the concept map is not clear. Few characteristics of life are represented.	The concept map has a focus, though it is somewhat disjointed or difficult to decipher. Most characteristics of life are represented.	The concept map clearly has a focus and a purpose. A casual viewer would understand what the map is trying to convey. All characteristics of life are represented.
Terms	Very few relevant terms present	Not enough terms are used to show clear relationships and purpose or many terms are irrelevant	Extensive use of terms, a few obvious points missing, or irrelevant terms present	An extensive use of terms and vocabulary used in the map. Terms are relevant.
Links	Many links not clear and unlabeled. Failure to show relationships.	Some links not clear or unlabeled. Relationships between ideas poorly established.	Links show the relationships between concepts. A few terms have more than one link present.	Links clearly show the relationships between concepts. Most of the concepts have more than one link present
Technical	Very poor organization, map impossible to follow.	Map somewhat difficult to follow. Organization poor.	Map easy to read and to follow. Organization fair.	Map easy to read and to follow. Organization good. No grammar or spelling errors.

Appendix B: Self-Assessment Questionnaire

Characteristic of Life Concept Map
Authentic Task Group Activity

Please rate yourself on a scale from 1-5.
A score of:
(1) indicates Strongly Disagree; (2) Disagree; (3) Neither Agree or Disagree; (4) Agree; (5) Strongly Agree.
***Circle the answer that best fits your experience with the Characteristics of Life Concept Map**

Scoring scale

Questions	Scale
1) I feel I participated to the best of my ability.	5 4 3 2 1
2) I participated as much as others in my group.	5 4 3 2 1
3) I feel I was given enough time to complete the task.	5 4 3 2 1
4) I feel this task was beneficial in learning the characteristics of life.	5 4 3 2 1
5) I feel I understand the topic better now that I participated in this task.	5 4 3 2 1

Appendix C: Surveys

SURVEY #1

Directions: Please read each question thoroughly and answer them to the best of your ability.

1. **Have you heard the term authentic task prior to my research study? Yes or No (please circle)**

   ***If you circled yes, please explain where you heard about authentic tasks.**

   _____
   _____
   _____
   _____
   _____
   _____

   Please explain where and how the authentic tasks were used.

   _____
   _____
   _____
   _____
   _____

2. **In your own words, how would you describe authentic tasks?**

   _____
   _____
   _____
   _____
   _____
   _____

3. **Below please in as much detail as possible explain your expectations regarding this course, in it please include what you hope to achieve by the end of Biology.**

_____

_____

_____

_____

_____

_____

Thank you for completing the survey.

SURVEY #2

Directions: Please read each question thoroughly and answer them to the best of your ability.

1. **After participating in this study, in your own words, how would you describe authentic tasks?**

_____
_____
_____
_____
_____
_____

2. **Please in as much detail as possible explain whether or not you feel your expectations regarding this course were met.**

_____
_____
_____
_____
_____
_____

Thank you for completing the survey.

Appendix D: Interview Questions

Individual Interview

Question 1: How would you rate your overall experience with authentic tasks?

Question 2: Can you describe the group authentic tasks you have participated in up until this point?

Question 3: What has your role been in the group authentic tasks?

Question 4: What is your opinion regarding the social interaction you have experienced in the group tasks?

Question 5: Can you describe your favorite task up until this point? It can be either an individual or group task.

Question 6: Why was this task your favorite?

Question 7: What was your least favorite task? It can be either individual or a group task.

Question 8: Why was this task your least favorite?

Question 9: How do you feel your academic performance has been affected as a result of using authentic tasks?

Question 10: Has this experience been a positive or negative, please describe in detail?