

**OUTCOMES AND LONG TERM BENEFITS OF EARLY ACCELERATION  
FOR STUDENTS ATTENDING A KINDERGARTEN THROUGH TWELFTH  
GRADE SCHOOL IN CHAUTAUQUA COUNTY, NEW YORK**

by

Danielle Ver Hague

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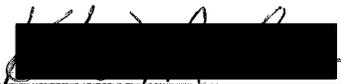
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Department of Curriculum and Instruction in Inclusive Education

CERTIFICATION OF PROJECT WORK

We, the undersigned, certify that this project entitled OUTCOMES AND LONG TERM BENEFITS OF EARLY ACCELERATION FOR STUDENTS ATTENDING A KINDERGARTEN THROUGH TWELFTH GRADE SCHOOL IN CHAUTAUQUA COUNTY, NEW YORK by Danielle Ver Hague, Candidate for the Degree of Master of Science in Education, is acceptable in form and content and demonstrates a satisfactory knowledge of the field covered by this project.

  
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12/16/16  
\_\_\_\_\_

Master's Project Advisor  
Course Instructor Dr. Kate Mahoney  
Department of Language, Learning and Leadership

Date

  
\_\_\_\_\_

12/21/2016  
\_\_\_\_\_

Department Chair Dr. Robert Dahlgren  
Department of Curriculum & Instruction

Date

  
\_\_\_\_\_

1/3/17  
\_\_\_\_\_

Dean Christine Givner  
College of Education

Date

## **Abstract**

This study was focused on students at Chautauqua Lake Central School District who graduated and graduated between the years of 2012 and 2014 and had study previously been accelerated or taken honors classes during their time at Chautauqua Lake Central School District. The purpose of the study was to evaluate if they current acceleration pathways and program effected its students after high school graduation. As a result ten students submitted surveys back and three were interviewed. The questions on both the surveys and interviews looked into the participant's experiences, feelings, attitudes and other general feedback about their time being accelerated. In the end most of the participants had positive experiences and thought that the acceleration program had positive impacts on their career goals. Also, participants noted that their social skills and emotional states either were not affected or were positively affected by the acceleration.

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## **Introduction**

### **Problem**

The problem addressed in this research is whether or not students will benefit from earlier acceleration in school age children. The benefits examined in this study are not only academics, but social-emotional as well. Acceleration is defined by and referred to by the wide variety of education and instructional strategies that educators use to advance (increase the pace) of the learning process (Great Schools Partnership, 2013).

### **Purpose**

The purpose of this research and literature review is to investigate the beneficial outcomes to acceleration, and if there are, what are the benefits? The research explored if there is a link between a student who is accelerated and what career path they choose to go into later in their life. Wells, Lohman, and Marron (2009) in their research saw significant evidence about individuals who were accelerated and what they achieved later in life. They used surveys and phone calls to collect the data.

### **Significance**

The topic of this review is looking at the benefits of students who were accelerated at a younger age. Traditionally in schools, acceleration does not start until seventh grade. With all the changes in the curriculum and the amount of depth students are expected to study topics, this may not be the best solution. What is the impact acceleration can have on students? What are students missing if they are not accelerated at an appropriate time in their academic career?

Phillips (2008) argues in his research that the child left most behind is not the average or below average students, but in fact are the accelerated and gifted students. Children are supposed to be placed in a challenging, yet obtainable, learning atmosphere. Accelerated

students are not getting this type of atmosphere unless the classroom teacher supplements more challenging questions, among other things. Even with the teacher's differentiation, the accelerated students typically can handle the curriculum at a much faster pace than their peers. Schools need to be able to see that all of their students, especially the gifted learners could benefit greatly from a change in pace in the curriculum. According to Eddles-Hirsch, Vialle, McCormick and Rogers (2012), one of the benefits to acceleration is that students become more open socially with peers and adults as well as having a more optimistic view of school. Perhaps if more educators and professionals in the field and schools knew the benefits of acceleration, then the schools may put more time, effort and care into acceleration pathways for students

## **Literature Review**

### **Types of Acceleration**

The two most common types of acceleration are grade skipping and subject specific acceleration. Grade skipping is the act of moving past a grade as a means of acceleration (this means that the subject that is skipping will move past all core areas for an entire academic year). Subject specific acceleration is the act of being advanced or taking advanced course work in only one core area. Ma (2010), Phillips (2008), Young, Worrell and Gabelko (2011), and Swan, Coulombe-Quach, Huang, Godek, Becker and Zhou (2015) specifically looked at the effects of single subject acceleration, whereas Kuo and Lohman (2011), Park, Lubinski, and Benbow (2013) and Wells, Lohman, and Marron, (2009) researched grade skipping as a method of acceleration.

Several studies in this section investigated outcomes and likelihood of student acceleration. The research of Swan et al. (2015) research indicated that when students were allowed to work at their own pace and chose what they wanted to learn, student acted more on task and interested in the content. The researchers noted that students were not bored anymore once they were challenged appropriately. Ma (2010) specifically looked at the likelihood of students taking advanced courses such as pre-calculus and calculus in high school and what (if any) were the predictors of this. The study that Young et al. (2011) conducted, investigated success predictors and impacts of students taking accelerated and enrichment summer courses at a local university. De Corte (2013) researched the ideals of single subject acceleration and found many positive benefits, the biggest one being that students was reaching their full potential.

Phillips (2008) was interested in two students who ought to be accelerated in single subjects, but due to the lack of resources at the students' schools, they could not be. Philips (2008) writes about the real students who are being left behind, meaning that accelerated students are not reaching their full potential. This author was a big advocate in his article for subject specific acceleration, rather than grade skipping. He also stated that students should be grouped by ability level, not age.

One of way of schools can group by ability level is the use of Advanced Placement Programs (AP courses). Warne, Larsen, Anderson and Odasso (2015) researched the benefits of AP courses. The AP program was created in 1952 by the College Board for high-achieving high school students to potentially earn college credit if the pass the AP exam for their particular course. Currently today there are 34 AP tests and more than two million students each year in the United States. To earn the college credit for the course, the student must earn a three, four, or five on the test. The final decision however is made by the University the student is going to attend. Universities do have the right to not accept the AP mathematics credit, such as University Calculus 1 and 2.

Authors who researched grade skipping as an acceleration strategy analyzed the long-term benefits on the acceleration pathway. Wells et al. (2009) stated in their research that students who were grade skipped at a younger grade, such as kindergarten, were not only keeping up with their peers, but also surpassing them academically. Kuo and Lohman (2011) and Park et al. (2013) also conquered with these Wells et al. (2009) results. Even though grade skipping is a type of acceleration, not many of the researchers or subjects in the studies conducted in this literature review prefer it as an acceleration strategy.

**Ethnicity**

In the Ma (2010) study, Asian students across the board, despite ability level, were more likely to enroll in pre-calculus and calculus. Asian students were 3.1 times more likely than Caucasian high ability students to take these demanding courses. Another conclusion from Ma (2010) was drawn was that in relation to the lower teacher to student ratio, the students were 2.27 times more likely also to enroll in those. In Young and colleagues (2011) study, ethnicity was a predictor variable investigated as well. Ma (2010) and Young et al. (2011) wanted to see if certain ethnic groups were over or under represented in accelerated courses. African American and Latino students were five times less likely than Asian American students to succeed in the accelerated summer course. Young et al. (2011) also stated that Asian Americans outnumbered all other groups of students by ratios of three to almost seven, showing an over representation of this ethnicity in advanced courses.

Wells and colleagues (2009) also looked at ethnicity as a potential predictor of acceleration. The researchers found that Asian American students were more highly represented than Caucasians in grade-accelerated. Wells and colleagues (2009) also found that minority students were not more or less likely to be accelerated when compared to Caucasian students. Brimeyer, Scheuths and Smith (2014) found that the most common ethnicity in the collegiate honors programs on the east coast were Caucasians. It seems to be that depending on the area of the study has a slight influence on the ethnicity of the students accelerated. This has been determined because Ma (2010) was taken on the west coast of the United States and Brimeyer et al. (2014) was completed on the lower east coast of the United States.

**Professionals Attitudes and Experience with Acceleration**

Guidance counselors can play in role in acceleration. Woods, Cigrand and Colangelo (2010) conducted a study to evaluate and see the types of training active school counselors have received in regards to gifted and talented students. The study provided evidence through the use of surveys that school counselors reported to not having much formal training when it came to the topic. The sample was out of 149. Of these 149 professionals, 61% of them stated to have no formal training that specifically dealt with gifted and talented students. Almost a third (32.7%) of the counselors claimed so have some formal training, and 15.4% had trainings that discussed acceleration. Most of the counselors learned on the job and consulted with colleagues to get the proper information they needed for the situation. The results of this study illustrated that even though guidance counselors have not had the training they would have liked to complete, but they are doing the best they can. Teacher, parents and colleagues go to the counselors for advice and the guidance counselors have been giving excellent advice from what they have learned on the job.

Even though many of the counselors have not had formal training, they have successfully gathered the proper information informally and on the job (Woods et al. 2010). A fourth conclusion was many counselors are pensive when it comes to early entrance to kindergarten or first grade as a form of acceleration. They are also hesitant when it comes to full on grade skipping as well because of the emotional and social impacts it can have on the students. The teachers sampled in the Gallagher et al. (2011) study also agreed with the counselors' viewpoints on grade level acceleration. Most are in favor of the single subject or subject specific acceleration over grade skipping acceleration as a strategy for the gifted learners.

Similarly, Woods et al. (2010) stated the lack of training with gifted students; Troxclair (2013) had comparable results. The author gave a 34 item, five point Likert scale questionnaire to 45 undergraduates who were in their third year of schooling. The questionnaire asked about their perception and attitudes toward gifted students. Their feedback was a clear indication of the lack of training these undergraduates have had about or with gifted learners. The undergraduates in the study indicated that they felt that the gifted were not as important as other groups of learners when it comes to developing their full abilities. The researcher stated in the conclusion that undergraduate's need more exposure of how to in-class accelerate gifted students and how to differentiate their instruction to meet the needs of all the learners in the classroom. Additional course work and/or field placements are suggested for undergraduates in the education field.

The next study enlightens the readers about teachers' perceptions about giftedness in students. Moon, Brighton and the University of Virginia (2008) studied primary teachers' conceptions of giftedness. What was discovered is that primary teachers hold "traditional" conceptions of giftedness, some positive and some negative. First, an astounding 78% of teachers in the study agreed that any student despite ethnicity, gender, SES, or home life of any student has the potential to succeed and be gifted. However, some of the other survey responses contradicted this. Many of the teachers stated in the survey that students who were gifted had very involved parents at home, parents whose first language was English, and the students were at a two parent home. Not all of these are necessarily true based on other research conducted in the field (as stated by the researchers Moon and colleagues (2008)). Studies based out of the United Kingdom, like the one by Morgan (2007) placed a lot of emphasis and concern about how

parents feel when it comes to acceleration. Typically, parents of accelerated students are more involved in the process.

All schools have their own spin and take on how to accelerate students. The next study evaluates a program that accelerated students for different amounts of time during the academic school year. Peterson and Lorimer (2012) conducted a five-year longitudinal study that in part looked at the teacher perception of a gifted and talented program. There was only positive feedback from teachers who had run the program all year round from start to finish. Morgan (2007) only had positive feedback and results from her study. Parents and teachers felt students who were in the cluster program had both intellectual and social benefits. Teachers in Peterson and Lorimer (2012) stated that throughout the year it was imperative to build connections with the students that were in the accelerated groups. Also, the longer they did the program, the teachers began to feel more confident and comfortable, and in return, the instructors also saw more confident and positive results in their students.

Capern and Hammond (2014) state that it is vital for teachers to build positive relationships with all students, but especially those students with diverse or unique needs. Peterson and Lorimer (2012) states that the teachers that did not run the program all year round didn't have as positive feedback because they did not have as much time to develop routines and relationships with the students. Capern and Hammond (2014) would state that this could be because the students did not have enough time to "warm up" to the teacher or the teaching strategies or both. Similarly in Jacobbe, Hartlaub and Whitaker (2013), the longer and more experienced teachers are with the advanced topics, the more prepared they will be for the following year with the course.

There is more to acceleration than just content, teachers need to find effective ways of communicating and relating to their students. Capern and Hammond (2014) found in their study that students like for teacher to do or implement the following: First, going beyond using a textbook. The students wanted their teachers to use a variety of methods to teach the content. Some suggestions for this were movies, personal stories or field trips. Mutual respect was also an important factor for the students. For students to fully respect their teachers they needed to respect and not discriminate students. Students in Capern and Hammonds (2014) study stated another part of the respect was to maintain confidentiality. Teachers also need to be able to take a joke and give jokes to students. Students in the study gave many more suggestions (a few pages worth), but they all boiled down to three themes: Promoting the students' academic success, being approachable (taking a joke/being relatable) and treating students fairly and equally.

Phillips (2008) conducted a qualitative study looking at two students who were ready and capable of being advanced in their respective single subject areas, but the schools that the students went to would not advance them. One student was a second grader who had the motivation, drive, and intellectual capability to excel in a fifth grade reading setting. The second student was a sixth grader who enjoys reading and had exceptionally high achievements in mathematics. This student wants to dive into a more rigorous mathematics curriculum that has more of an algebra base. The author believes that students should be grouped together based on achievement and aptitude instead of age. A concern that Phillips (2008) presents is even though No Child Left Behind (NCLB) was introduced for lower achieving students; these two students are also being left behind because they are not being challenged.

Teachers gave their opinions on which methods of acceleration that they favored. Most teachers in Gallagher, Smith and Merrotsy (2011) were highly in support of single subject

acceleration for students who had giftedness in a specific area. Many of the teachers did not favor whole grade acceleration (grade skipping) as an acceleration pathway. The second favorite acceleration strategy in the Gallagher et al. (2011) study was the use of acceleration in the same class. This is something many teachers can do if their schools cannot afford to have a gifted and talented program. Teachers will create groups and work on differentiating their instruction to provide the most challenging, yet obtainable, learning environment for their students. Some students may have additional or different independent work to suit their intellectual needs.

A study conducted by Morgan (2007) took place in Great Britain and assessed a cluster enrichment program for gifted student. The cluster was the name for the enrichment program. Parents realized that transportation for some of the activities was very draining, but in the end beneficial for the students. The activities were excursions students would go on to further their learning and understanding of a topic of discussion in their classes. Some of the teachers in the study wish that they could take their entire class on some of the trips and enrichment activities that the gifted students get to go to. The students benefited not only intellectually, but socially because their peers who did not get to go on the pull out enrichment trips wanted to hear all about it. This gave the gifted students a sense of pride and comfort within their peer groups.

### **Student Social and Emotional Well Being**

Several studies in this section explored the student social and emotional well-being while being accelerated. Beckerm, Newmann, Tetzner, Bose, Knoppick, Maaz, Baumert and Lehmann (2014) conducted a study in Berlin, Germany looking at the psychosocial development of high-achieving student when transitioning to an academically selective school. Beckerm and colleagues (2014) explored four major areas for the students including: Academic self-concept, peer relations, school satisfaction and school anxiety. The sample used was 155 early entry

students in fourth and fifth grade and 3,169 regular students who remained in elementary school until sixth grade. To evaluate each area, Likert-type items were used. The results illustrated that students had better relationships with their peers, improved self-concept, increased/higher school satisfaction and less anxiety when compared to their non-accelerated peers. Similarly, in a study conducted by Gagne and Gagnier (2004) results showed the students who had early admittance into kindergarten were the most well adjusted to the environment over their non accelerated peers.

Similarly, Hoogeveen, Van Hell, and Verhoeven (2012) stated that grade skipping (and even multiple grade skipping) showed only to have positive effects on the students social-emotional health. Gross (2006) would concur with this because the data in this particular authors study illustrated that students who were accelerated two or more years or were radically accelerated reported higher levels of satisfaction in life and have reported great social and loving relationships. Students who weren't able to be accelerated or were only accelerated one year showed significantly less satisfaction than their more accelerated peers. Accelerated students according to Gross (2006) also reported higher levels of self-esteem. According to Eddles-Hirsch et al. (2012), students were not only more social, they were more accepting of diversity within their communities and schools. Thus, these students formed more positive peer relationships and in result did not have to be concerned with social coping strategies. The authors state that making sure the students emotional and social state are positive should be more crucial and important than their academics.

An investigation conducted by Foust, Rudasill and Callahan (2006) looked into the gender and age differences of social coping of advanced students. Younger students (fifth and sixth grade) were more likely to endorse the idea of minimizing popularity and embrace their

giftedness. Perrone, Wright, Ksiazak, Crane and Vannatter (2010) also found these students had a promoted personal growth. Foust et al. (2006) Older students (ninth through eleventh grade) were more likely to deny or hide their gifted abilities and place more of a focus on popularity and fitting in with their peers. The only gender difference discovered was that females were more likely to help others than males. In a later study, Rudasill and Callahan (2010) discovered that there were a few slight differences in gender. First, female's self-perceptions were higher than males in the area of humanities. Also, when females and males were asked which area was most important for success, girls stated humanities and boys stated mathematics.

Studies conducted by Peterson and Lorimer (2012) and Perrone and colleagues (2010) found that the longer the students in their study were in the gifted and talented program, the more confidence and willingness to socialize with peers increased. Also, the students were benefitting from being in rigorous and supportive atmosphere with equally or greater motivated peers. Perrone et al. (2010) stated that this also was a factor in their personal growth and confidence. The only negative thing they found was that a few of the students was called names such as "geek" or "nerd". This did not bother most students in the study though.

Peterson and Lorimer (2012) found that students also felt more emotionally stable if they had a teacher that they could connect with. In Perrone et al. (2010) the students felt that their teachers were more invested in the course and the students and classes that were accelerated. The students were very responsive to teachers that were supportive, invested and that they could make a connection with. The parents from the Morgan (2007) study thought the best part of the cluster program their gifted students were in was the socialization that the children got from peers that they could relate to. Parents from that study even stated that their children behavior at home had improved since being in the program. Eddles-Hirsch, Vialle, McCormick and Rogers

(2012), investigated the role of social context in peer relations of gifted students. Through a process of nearly one hour long interviews with all the sample subjects, gifted students preferred to be grouped with other high ability learners because they had more interests in common. The students were also able to satisfy their intellectual needs when placed with other gifted students. Pruett (2004) stated that it is important for students to have a positive relationship with their accelerated peers. Peterson and Lorimer (2012) stated in their results that the students' success directed correlated with their social emotional health. This was actually a positive in their student because the students were doing very well academically and were emotionally stable and content.

Despite accelerated students being very adaptable to their surroundings, teachers still stress some concerns about their emotion and social well being. Neumeister, Adams, Pierce, Cassady, Dixon, and Ball State University (2007) conducted a survey to teachers who were working with gifted and talented students. Data from this survey illustrated that teachers had concerns about students entering the gifted program who had poor work habits and behavioral or family problems at home. The teachers also mentioned in the surveys that many of the students that were being put into the programs lacked motivation, which according to these teachers is the top characteristic that the students should have in the program. The authors in Neumeister et al. (2007) indicated that these teachers were sometimes confusing productivity with being gifted. The researchers stated that it was suggested in the discussion section that the teachers needed to have more professional development on how to properly identify gifted and talented students in high poverty and minority areas.

A study conducted by Makel and Duke University Talent and Identification Program (2009) showed data from 45 students and 45 parents and how their attitudes were slightly altered

before and after the gifted identification process. The first of two questionnaires was given prior to students being identified. The data from this showed that students and their parents had similar positive feelings about the gifted and talented program. After the identification process, only nine were deemed gifted. At the schools used in the study, the students must be in the 92<sup>nd</sup> percentile or higher. The second survey given was after one semester of students being enrolled either their non gifted or gifted settings. This data was significant because students who were not chosen to be gifted (as well as their parents) showed a decline in their attitudes about the program, while gifted students and their parents maintained their beliefs. The researcher think the data is so because the gifted students have had their ideals and beliefs reinforced while non gifted students and their parents felt that the program would not be an appropriate pace for them.

The authors in the next study investigated the social-emotional and academic effects and functioning of the academically gifted students enrolled. Van der Muelen, Van der Bruggen, Split, Verouden, Berkhout, and Bohels (2014) conducted a study with gifted children that placed those students in a pull out program one day a week. Students were between third and fifth grade and were also from homes with low and high socioeconomic statuses. The authors also analyzed the students and results for at risk students with higher levels of psychopathology. Before the program the students were underachieving and many had behavioral problems as well as social emotional issues. The results showed positive effects on the student's self-concept, academic competence and behavior conduct. Parents also mentioned that their children were being more sociable and better behaved at home. The at risk students identified also showed positive results and enjoyment at school. Thus, Van der Muelen (2014) deemed this form of acceleration (the one day a week pull out program) a success for all of the participants.

### **Characteristics of Gifted Students**

**Perfectionism.** Moefield and Peters (2015) research the relationship between overexcitability and the relationship it holds with healthy and unhealthy perfectionism. On one hand, imaginal overexcitability can magnify self-criticism, while interpersonal overexcitability can assist in self-evaluation. Perfectionism is the student responding to self or other imposed expectations (usually from a parent or teacher). The authors discovered that overexcitability is a way to predict several levels of perfectionism. These levels include high sensitivities and anxieties, both of which are characteristics of high developmental potential. In other words, students with high levels of overexcitability have “strong developmental potential and are thus predisposed to higher levels of personality development” (Moefield & Peters, 2015). This information isn’t necessarily bad, the students just have heightened awareness of self-imposed expectations and an intense sense of responsibility. This means as well that a result when the student is older is that they will have higher goals set to pursue.

The negative portion of the results founded by Moefield and Peters (2015) is that the students will have intense feelings about failure and will try to avoid it. These types of students can often be caught daydreaming or are easily distracted. Gross (2006) found in her study that students can also be distracted or caught off task because they are bored because the teacher is not harnessing and challenging their true potential. Pruett (2004) stated in his study that accelerated students need to be aware and be cautious of their perfectionism and be sure that they create obtainable goals for themselves. Perfectionism can get increasingly worse with age, so students need to be able to control it when they are younger (Pruett, 2004).

**Professionals Opinion.** Gallagher et al. (2011) also took a qualitative approach to acceleration like Phillips (2008), but instead of looking directly at the students, the researchers

interviewed 30 teachers, six of whom were principals, four who were designated gifted education teachers, and the rest who were classroom teachers. The authors probed the participants with questions about how the school catered to the gifted students, how the emotional and social aspects of the gifted students were, how they felt about acceleration and gifted students, and how they felt about ability grouping. The study brought to light how little people knew about the process and aspects of acceleration and gifted students. There were a few teachers who had some insight because of a family member being apart of an acceleration program of sorts. These educators stated that the students had a mature sense of humor, perfectionism, desire to question authority, and they had a strong sense of justice.

As a part of the CLIA model (Competence, Learning, Intervention, and Assessment) that De Carte (2013) used, much of it puts the responsibilities and choices of the subject into the lap of the students. Gifted and talented students as Gallagher et al. (2011) stated are perfectionists and like to be in control and question authority. The model De Carte (2013) has used with his sample of students has definitely proven this true, in that he saw many positive results when the ability of the choice to solve a problem was a necessity for the student. Part of this being, according to Trancone, Drammis and Labella (2014) is that gifted students have many original thoughts, and like House (1987) stated, gifted students have unique and curious ways at looking at mathematical problems and situations.

Brimeyer, Schueths and Smith (2014) found many great positive characteristics of honors and accelerated students. The authors investigated collegiate honors students for their study. The most prominent characteristic was that the honors students wanted to be challenged even if that meant not always getting A's. The honors students also felt that minimal effort should not translate into high grades, like their non-accelerated peers believed. An interesting social feature

about the accelerated students was that they were more understanding about meeting and respecting faculty. They understood (more than the non honors students) that appointments sometimes need to be rescheduled and that the professors will not bend over backwards for them like their teachers in high school did. Brimeyer and colleagues (2014) also go on to say that the honors population was more likely to put in more effort and research into which professors they would pick to take classes with. Students would investigate professors often times using more than two options. Honors students used websites, asked friends, peers in their major or their academic advisor about professors. The last prominent characteristic, which is to be expected about this population of honors students, is that they were hardly likely to cheat or copy to get a better grade.

This next study deals with characteristics that commonly describe accelerated students and their work ethic. Neumeister and colleagues (2007) gave a survey to 40 teachers who were currently working on a class of gifted and talented students. Of these 40 teachers, 27 of them returned the surveys completed. A portion of the survey was dedicated to describing the characteristics of students in the gifted and talented program. The top answers of the program were that students were self-motivated, learn faster, work and understand curriculum above grade level, creative, had superior problem solving skills and in general were very curious. Similarly, in Bicknell (2008), cited that House (1987) gave a list of characteristics very similar to the one in Neumeister et al. (2007). Gifted students showed early curiosity, logical thinking, memorized mathematical symbols, processes and proofs with ease, very persistence and excellent problem solvers. The students are able to think outside of the box when necessary, but in the end follow logically sound mathematical practices.

As seen in the study conducted by Pruett (2004), many gifted students (in his study had an IQ score of over 120) exhibited many characteristics of perfectionism. The author stated that some of the characteristics were neatly dressed, organized backpack, takes pleasure in achievement and intrinsic motivation. Pruett (2004) mention Orange (1997) and Parker (2000). Each of those researchers had their own take on perfectionism. Orange (1997) depicted perfectionism to be a very positive quality of gifted students while Parker (2000) writes that perfectionism can be negative for the students because they set unachievable and unrealistic goals for themselves, thus making the students had a sense of failure and stress. Pruett (2004) in his study did not find any negativity when conducting his study or going through the results. He did note that many of the students did feel driven by their parent's expectations, which was not necessarily a bad thing as long as goals and expectations were realistic and obtainable.

Overall, what the above authors have found was that accelerated students can be complex. They are highly motivated, goal orientated/driven, organized, independent thinkers, adaptable, creative/brilliant, question authority, persistent, and of course above grade level in their academics (Moefield & Peters (2015), Gallagher et al. (2011), Phillips (2008), De Carte (2013), Drammis and Labella (2014), Neumeister et al. (2007), House (1987), Bicknell (2008), Pruett (2004), Orange (1997) and Parker (2000)). These students need support and a strong faculty support system to fully reach their potential in their respective accelerated areas (Ma, 2010).

### **Success Predictors of Accelerated Students**

Young (2011) and his colleagues found great predictors of success when determining who will succeed when accelerated. Two of the best predictors the researchers from Young (2011) and Brimeyer, Scheuths and Smith (2014) found were the student's grade point average

(GPA) and Young (2011) additionally used the Mathematics Diagnostic Test (MDT). The MDT was a mathematics assessment given to the participants in the study to measure their knowledge and skill levels in the mathematics area. The authors wanted an assessment that could give a clear comparison amongst the sample. Brimeyer et al. (2014) also used SAT and SCT scores in their study. In Savage, Raehsler and Fiedor (2014), the best success predictor they found in students completion of the collegiate honors program was their grade point average from high school. The researchers in Young (2011) did state that they were disappointed in the lack of standardized testing data in the study. They had to use the data that was given to them from the student's school. The MDT was one of the only forms of standardized testing they used. Savage et al. (2014) also found that test scores and GPA were the most prominent and reliable success predictors.

Warne et al. (2015) found that students who scored well on AP tests are more likely to be accepted into colleges. The authors also stated that students who do well on AP exams will be more likely to go for advanced degrees in college and also are more likely to take honors courses in college. This leads into the students also having higher GPA's than their peers during their collegiate time.

**SES.** The authors in Young et al. (2011) also looked at the parents' socioeconomic (SES) as well as the parents' highest level of education. It was noted that the parental education ranged from less than high school to professional degrees. Also, the range of annual income was from \$10,000 to \$100,000. Results illustrated that SES did not have an impact on the accelerated courses, but did have a slight predictor on the success of the enrichment courses the students took. Trancone et al. (2014) did not state that SES was a success predictor for academic

achievement, but did find in their study that low SES was a predictor of lower success and academic achievement in schools.

Wells et al. (2009) did look into SES as well and the authors did find some fascinating information. SES has a significant effect in the NELS study, but not in the ELS study. In the NELS, students with a high SES were 1.7 times more likely to be accelerated than students with an SES at the mean SES or lower than the mean SES. Parental influences in these two studies showed inconsistent results. The only part of the parent piece that did have a role was the SES as stated above. On the flip side of this, the qualitative study conducted by Gallagher et al. (2011) did bring to light that the teachers stated that parents who played a more supportive and active role in the students academic life did directly affect if the child who was gifted and could manage the work load and dedication to the courses.

Likewise to Gallagher et al. (2011), De Carte (2013), and Moon et al. (2008) stated that it is essential to have the support of the parents to see the positive results amongst the gifted, talented and high ability learners. Moon et al. (2008) elaborated that the teachers in their study thought that parents who assisted the students with their work at home and created stimulating activities at home would have more of a chance at being gifted in school. Brimeyer et al. (2014) stated that in the collegiate honors programs they looked into there was a significant difference in students SES and fathers education. Honors students had significantly lower SES than their non honors peers, which has been greatly different from the other studies in this review. Also, the honors student's fathers had much higher levels of completed education than the non-accelerated students fathers. It was notes in Brimeyer et al. (2014) that there was not a significant difference in the mothers education levels. Conversely, in Warne et al (2015), the

researchers in that study stated that a student's SES was an unrelated factor to if they were enrolled in AP courses and unrelated to their success in the AP courses.

**Gender.** It is also important to state that gender did not have an impact on success in Young et al (2011). Success in the courses was denoted as a "B-" or higher. Anything lower was not considered success (Young et al., 2011). Even though part of the research disclosed that Asian Americans outnumbered any other ethnic group in the accelerated courses significantly, ethnicity was not stated to be a predictor of success in accelerated programs. Similarly, in Wells et al. (2009), Asian American students also were more highly represented in accelerated programs and minority students were neither more or less likely to be accelerated when compared to Caucasian students.

On the other hand, with gender, females were being accelerated over males 1.3 times (Wells et al. (2009). Similarly, Gagne and Gagnier (2004) saw that in their study that included 18 different school districts, two thirds of the early admittance to kindergarten was females, showing that males were not being accelerated as commonly as females. In Moon et al. (2008) the primary teachers stated that females were more likely to show their giftedness before males. Brimeyer et al. (2014) stated that in the collegiate honors programs that they looked into, 63% were females and 37% were males. However, Savage et al. (2014) stated that they found gender to not be a very reliable success predictor in their particular study. In Trancone and colleagues (2014) stated that a high self esteem amongst students was one of the characteristics and commonalities amongst gifted. Low self-esteem was a characteristic of low academic achievement. Trancone et al. (2014) did inform the audience that males had a slighter higher self-esteem than males due to their ability to recognize, evaluate, describe and control their

emotions. The data indicated that females could not control their emotions as well as the males in the study.

Ma (2005) and Ma (2010) looked into outside factors that may affect a student's success in the mathematics classroom. Both articles from this author stated several similarities. First, staff members in the school must maintain high standards for their students as well as show hard work, dedication and genuine care for their student's success. Second, there must be a strong sense of disciplinary climate at the school. And third, homework is necessary for success in the classroom and there must be supports in place to assist the students. Gross (2006) also contributed to in her study that teacher and school willingness or unwillingness contributed to student's success later in life later. If a school could not accommodate or want to more deeply develop the student's particular talents, they may not pursue them as intently as they could have.

De Corte (2013) used the CLIA model (Competence, Learning, Intervention, and Assessment) in his study. The model he used utilized 20 lessons taught over a four month period that embraced the ideals of the following five stages: First, "I build a representation of the problem", second, "I decide how to approach the problem", third, "I do the necessary calculations", fourth, "I interpret the outcome and formulate the answer", and finally, "I control the solution" (De Carte, 2013, p. 11). The researcher didn't necessarily do his study for gifted and/or accelerated students, but for high ability learners. He needed to instill these five stages and change the learning environment of the classroom. Through the CLIA model, the author witnessed great progress and self-regulation amongst the students. De Carte (2013) went on to state that teachers must be trained and motivated to work with the gifted and exceptional learners so that the proper environment is formed. A lot of the model the author chose to look into puts much of the responsibility and power onto the students. With the appropriate teacher support

and motivation, the students showed a vast improvement within their course work. De Carte (2013) goes along to say that the support of the parents is essential to the acceleration process.

### **Student Outcomes of Participation in Acceleration Programs**

Many longitudinal studies have been conducted to see the outcomes that students have had when they were accelerated in school. Kuo and Lohman (2011), Ma (2010), Park et al. (2013), and Wells, Lohman and Marron (2009) all conducted and/or synthesized longitudinal studies researching the long-term effects of acceleration. Park and Lohman (2011) conducted a 40 year long longitudinal study while Ma (2010) and Lark et al. (2013) conducted a study that followed the students kindergarten through their senior year of high school. Wells et al. (2009) looked into the factors associated with grade acceleration by analyzing two U.S. databases: National Educational Longitudinal Study (NELS) and Education Longitudinal Study (ELS). The NELS and ELS were both collected by the National Center of Education Statistics (NCES). The NELS had a sample size of 23, 599 students and the ELS had a sample size of 11, 344 students. It is important to note that 336 students in the NELS were accelerated and 100 students in ELS were also accelerated. The rest of the sample of students was at grade level.

**Algebra Content at Younger Ages.** Ma (2010) and Kuo and Lohman (2011) found that if students were introduced to more difficult content, say Algebra concepts, at an earlier age then the gifted students will see a greater benefit in their academic careers in the long run. Kuo and Lohman (2011) sounds that students who were accelerated in kindergarten showed the most growth of any of the grade acceleration groups studies. These two researchers (Kuo & Lohman, 2011) also found that the students who were accelerated in sixth and seventh grade did not show any significant gain when compared to their colleagues. They found this data by testing the subjects in both math and science. The hierarchy of beneficial acceleration started with

Kindergarten being the most benefit, first and second grade being then next highest benefit, grade three through five followed and sixth and seventh grade were last. Similarly Young, Worrell and Gabelko (2011) found in their research that students who were above the median age of the participants in the study (age 13) were three times less likely to find success in the accelerated summer course they were enrolled in. Wells et al. (2009) found very similar outcomes to the other longitudinal studies listed above. One result stated was that the younger students weren't just keeping up with their older classmates, but by surpassing them on achievement tests.

Another study conducted by Ma in 2005, dove into the data from the Longitudinal Study of American Youth (LSAY). The author wanted to examine to see whether or not early acceleration of students into formal algebra in their early middle school years would have a positive impact on promoting growth and stability across various mathematical areas. The areas included were basic skills, algebra, geometry, and quantitative literacy. Some of the most shocking results were that low achieving students who were accelerated into formal algebra grew fast than low achieving students who were not accelerated and high achieving students who were not accelerated. Also, the growth rate of the low achieving students was comparable to the accelerated high achieving students. The author notes that the stability was independent on the student and school characteristics. Ma (2005) mentions that her biggest and most important result of all is that to improve students' mathematics achievement, students should be introduced to formal algebraic topics in their early middle schools years. The best part about this is not only did it work for accelerated students, but it also works for any level students, especially low math achievers.

**Advanced Coursework in High School.** Ma (2010) looked specifically at math acceleration and the impact acceleration had on students in their likelihood of taking advanced math courses, specifically pre-calculus and calculus, in high school. Ma (2010) did not look at specifically what grade the student was accelerated at, but at their current ability level in mathematics. The groups were divided into three sub groups: high-ability (above 90<sup>th</sup> percentile), middle-ability (between 65<sup>th</sup> and 90<sup>th</sup> percentiles) and low-ability (below the 65<sup>th</sup> percentile).

The study also took into consideration the socioeconomic status (SES) of the students as well, also gender and ethnicity. Ma (2010) discovered that SES did not play much of a factor in the likelihood of the success predictor. Kuo and Lohman (2011) conquered with fact as well in their study as well. The success of taking upper level mathematic courses was mostly due to the following factors: class sizes, school climate, mathematic support systems and ethnicity. Kuo and Lohman (2011) and Moradeyo and Babatunde (2014) stated the importance of small teacher to student ratio was a crucial factor as well as well as having a positive, safe and quiet school environment. Moradeyo and Babatunde (2014) continued on to say that the teacher's knowledge and level of enthusiasm and energy also had significant effects on the academic success of the students. The more math supports in place and the number of minority students in the school were a huge determining cause in the Ma (2010) study. The larger number of minority students there were, the less likely students would participate in the upper level mathematics (Kuo and Lohman, 2011).

**Grade Skipping.** Park et al. (2013) stated in their study that grade skipping led to students reaching advanced collegiate certificates and accomplishments younger than their peers. This study looked at students before the age of who were mathematically gifted; The sample

was identified by using the College Board of Scholastic Assessment Test (SAT). The students were broken into three cohorts: 1972, 1976 and 1980. The students who had grade skipped showed more of a gain than their peers, much like in Kuo and Lohman (2011) study. Some of the amazing achievements were the ages a doctoral degree was earned at. The median age for reaching a doctoral degree was 26.3 years and the age for reaching a doctoral degree in a Science, Technology, Engineering and Math (STEM) field was close at 26.2 years old. Two other professional accomplishments were also taken into consideration of looking at the benefits to grade skipping: patents pending and age of first publication. The median age of the first STEM cohort was 25.6 years and the age of first patent was 34.6 years. Wells et al. (2009) stated in their study that the younger grade accelerated students were not only keeping up with their older classmates, but also surpassing them on achievement assessments.

**Radical Acceleration.** Gross (2006) stated in her study that students who were accelerated radically or accelerated by two years shown to have taken research degrees at leading universities and have professional careers. Just like in Wells et al. (2009), the more the gifted and talented-ness was harnessed and challenged by the school and teachers, the more positive and impressive professional accomplishments were to be had by the subjects in the study.

Swan et al. (2015) had several positive outcomes to their approach on subject specific acceleration. The students enrolled in the accelerated program dramatically increased their grades. Only two of the 1048 enrolled had grades of a C, all the rest had A's and B's. Not only were grades brought up, but also researches notes that the following areas also showed improvement: Organization, study habits, time management, motivation and persistence, curiosity, communication, and problem solving.

Similarly, the study conducted by De Corte (2013) showed positive results. The students appeared do have seen such great results because just like in Swan et al. (2015) the students had a lot of their own choices to make. For example, Swan et al. (2015) let the students decide what they would learn and at what pace they would go at. In De Corte (2013) the students had five stages of problem solving they went to that involved the students making decisions. The five stages of problem solving were as follows: student builds a representation of a problem, student decides how to approach the problem, students decides and performs necessary calculations, student interpret and forms an answer to the problem, and lastly the student controls and evaluates the solution. De Corte (2015) found that when a student controls what is going to happen and how, that there will be a more powerful learning environment where students can reach their maximum potential.

**Student Confidence.** Peterson and Lorimer (2012) noted that there was a direct correlation to the academic success of a student and the general well being of the student. It is also notes that as a result of their study, teachers took note that their students were more confident and more comfortable being social with peers. Some of the student feedback was that the students felt more comfortable and confident if they had a teacher that they could connect with. If the students did not have a teacher that they could connect with, then the gifted and talented program did not have as much of a positive impact on them.

The studies by Ma (2010), Park et al. (2013), Kuo and Lohman (2011), and Wells et al. (2009) all showed in their own ways of data collection and synthesis that acceleration in any form will have long-term benefits. These could be professional or academically. Data like this is useful to the professional community because if a student is ready they should be challenged so they can reach their true potential. As Gallagher et al. (2011) discovered there are many

educators who are not aware of how the process works and the emotional and social effects it has on the students. De Corte (2013) stated in his conclusion section of his research that the best solution to harnessing the true potential of gifted learners is through acceleration. The student needs to see what they are capable of achieving with the minimalist amount of support. Furtwengler (2015) stated that students in these programs are typically are more high achieving students than their peers.

A study conducted by Perrone et al. (2010) took open-ended question survey data from 88 adults who graduated in 1988 and were enrolled in some type of advancement program in school. The data came back very positive from the survey. Eighty-five percent of participants described their overall experiences positive and 59% described their interpersonal experiences positive as well. Many of the participants in the study are parents, and they commented in the survey also with positive results. Seventy-five percent of participants with children saw signs of giftedness within their own children. Of the parents in Perrone et al. (2010) study, 88% of them stated that they would support the idea of their children being placed in an advanced placement if the school recommended it.

Perrone et al. (2010) also found in their results that one of the many perks the adults found from being accelerated was the chance to earn more college credits before they had graduated high school. Not only were the students excited to earn credit, but the courses they took were “challenging and rewarding” according to several of the participants. Since the students felt the courses rewarding, the participants felt more of a sense of accomplishment with themselves during that period of time and the students were also more motivated to do better.

### Methods

#### Step 1: Finding a Topic/Background

The researcher was hired at Chautauqua Lake Central School District as a Secondary Mathematics Teacher in August of 2014. Her first year she taught Common Core Algebra 1, Integrated Geometry, AIS Algebra, and Common Core Algebra Lab. Toward the end of her first year the Mathematics department desired to improve the acceleration pathways for gifted and talented mathematics and science students. The old pathway system did not start acceleration until the students reached seventh grade. The old pathway had the students enrolled in a Math 7 honors, and then the students would skip eighth grade math and enroll in Algebra. After that, the students would skip all eighth grade content in mathematics and then the student would take Common Core Algebra 1 as an eighth grader. With the change into the Common Core Curriculum at the school, this was not a viable option because of the depth of knowledge students would need. There were too many learning gaps with the old model. For example, topics such as completing the square and quadratic formula used to be in Algebra 2/Trig have been pushed into Common Core Algebra 1, and they have proved to be very difficult for students at grade level. (See Figure 1 for the mathematics acceleration pathways before the 2015 school year).

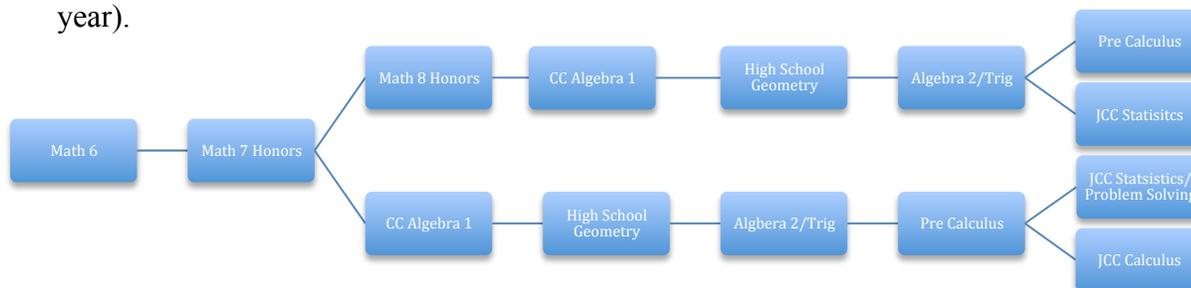


Figure 1. Acceleration Pathways at Chautauqua Lake School before 2015.

The researcher decided while she was taking EDU 570 (Using Educational Research to Improve Instruction) at SUNY Fredonia that exploring acceleration would be her topic of research. Specifically she researched “Why Should Students Accelerate Younger?” The researcher thought that the students would have more long term benefits if they were accelerated at a younger age, rather than waiting all the way until seventh grade. In the end, at the end of her first year at Chautauqua Lake the students would still begin to be accelerated at seventh grade. However, to remedy the situation while in seventh grade students would be given an additional mathematics lab with the eighth grade math teacher to give them the content necessary to succeed in Common Core Algebra 1 the following year (8<sup>th</sup> grade year).

The researcher was given the opportunity to teach the accelerated seventh grade class. She made a couple changes to the previous seventh grade math curriculum. First, she decided to take a hybrid flipped classroom approach. Students were given iPads and their textbook, homework, bell work, and review would all be done through a program called Mathspace. The researcher took this approach because of her second change. She was able to cover more content more quickly with her students, so by the time her accelerated math students took the state test they would have finished the entire seventh grade curriculum and could move onto the eighth grade curriculum. To be able to finish the seventh grade curriculum so quickly, three topics a day were covered instead of one or two like in the old curriculum used by the school. After the seventh grade content was finished toward the end of March, the researcher moved into teaching select eighth grade topics (See Figure 2 for 2015-2016 acceleration pathway chart).

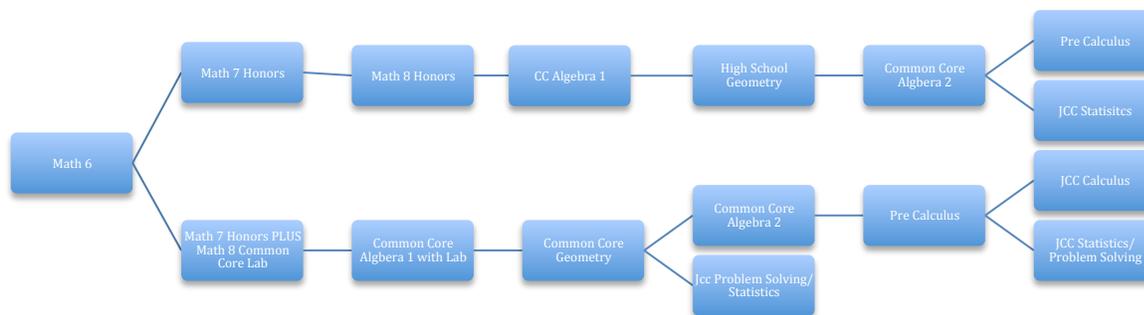


Figure 2. Two Acceleration Pathways at Chautauqua Lake starting the 2015-2016 School Year.

At the end of the researcher’s second year at Chautauqua Lake Central School District (which was also the concluding year of the trial program for the new acceleration pathways determined) the author assessed the program with the other professionals involved.

Professionals involved in acceleration discussions include, the mathematics department (seven people), guidance team (three people) and administration (one person). All agreed that the new program was significantly better than what they had done in prior years. The professionals involved were amazed at the positive results and student and teacher satisfaction with the program. Both the researcher and the eighth grade math teacher who taught the elite lab were very happy with the students depth of context knowledge and ability to master the most challenging of concepts with ease. The author and eighth grade math teacher were also pleased with the amount of content they were able to teach to the students in such a short period of time. Some parents of students who had gone through the old acceleration program made comments to the seventh and eighth grade math teachers that they were very satisfied with what the advanced students were learning and that their children were being challenged at an appropriate level.

The author was satisfied with the change the trial program introduced in the 2015-2016 school year, but still knew there was much to improve upon. To give some background, twenty

students were enrolled in the advanced seventh grade section she taught (in September 2015). By the end of the second quarter two had been placed back in the regular seventh grade sections of math. Of the remaining eighteen students, the school identified six of the 20 students the summer prior to seventh grade (August 2015) as “elite”. Elite meant that these students were given an additional mathematics laboratory that taught the entire eighth grade curriculum to them while enrolled in the advanced seventh grade math class.

The researcher informed her the professionals involved in the acceleration process (as stated in the above paragraph) that she thinks there could have been more students identified as “elite”, but the students did not show consistent data on that until two quarters into the school year. The author saw that most students had a good level of mastery, but it wasn’t until she started giving more rigorous tasks and topics that the elite students started to appear more obvious. The researcher proposed the idea that all advanced students would get a lab (like the six elite did), but she advised that there be two small sections of the lab. This way, if some students demonstrated that they could not keep up, they could be placed in another lab without feeling badly about not being “elite” (which means that not all students will take Common Core Algebra 1 as an eighth grader). The guidance team liked the idea of giving more students the opportunity to possibly take Common Core Algebra 1 and decided to implement this for the following school year (2016-2017). The author wanted to do this because more students would be able to have the chance to take upper level mathematics courses like Calculus in their senior year.

The author also suggested to the guidance team earlier in the school year (2015-2016) that for the following academic year the advanced students could be advanced again when they have completed the Common Core Geometry course their freshmen year. This means after

geometry, the students would the following year take Algebra II in one semester and then the second semester take Pre-calculus. The idea for this is so that not only can students take Calculus, but perhaps the school can start offering AP Calculus, Calculus II, or SUNY JCC Calculus for the advanced students. Several schools in Chautauqua County offer this for their students. This way, more students can earn college credit before graduating and can be more prepared for their mathematics courses when they get to college. The author is doing this research so that she can justify to the school she works for that the more acceleration opportunities are offered for their students, the more amazing long term benefits it could have for the advanced students (See Figure 2 for 2016-2017 acceleration flow chart and Figure 3 for the researchers proposed acceleration flowchart).

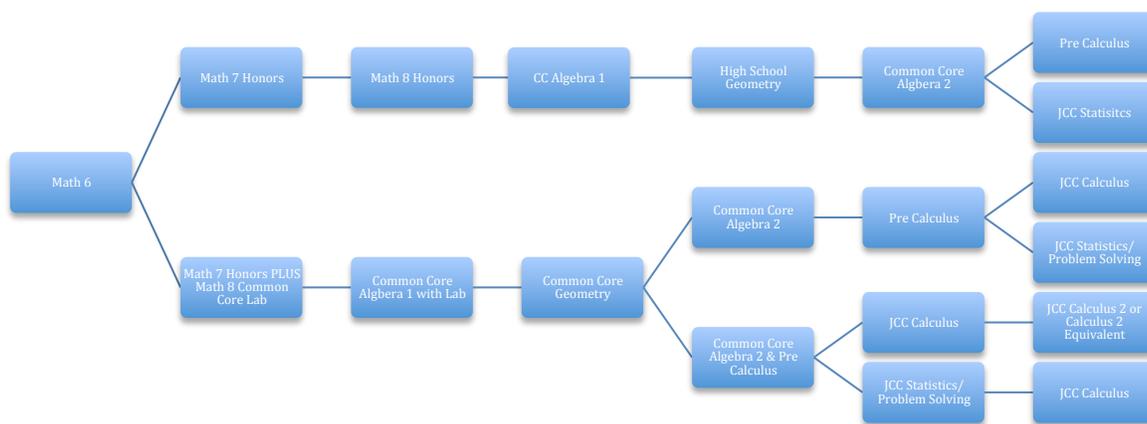


Figure 3. Researcher Proposed Flow Chart

**Step 2: Conduct Literature Review**

The author used many articles from research journals to research this topic and write a review of literature. ERIC (Educational Resources Information Center), not the government ERIC page, but the ERIC database on the SUNY Fredonia Library page, was used to find many empirical studies. From the ERIC database the author went to advance search and

clicked/highlighted the following: Peer Reviewed, Journal Articles, Numerical/Quantitative Data, Reports - Evaluative and Reports – Research. The researcher also specified the years of publication date to be 2005 to 2015. The first descriptor used was “Accelerated (Education)”. The next descriptors were “Student\* or Child\*”, following these were “elementary or grade”. This particular search gave me 48 articles to choose from. Then, the author changed the last descriptor to “success” to try and find a couple different articles for my topic. This search gave 14 articles to choose from. In the end only four articles were interlibrary loaned.

For writing a thesis there needs to be at least thirty references used, therefore the researcher went back a year later and expanded her publication date to be 2001 to 2016. The author also eliminated the terms “elementary or grade” because since she was looking into the outcomes and effects of acceleration, she did not want to limit the data to a certain age range of students being accelerated. The author looked for studies that were longitudinal and investigating students who had been accelerated and their accomplishments from the acceleration. Also, she searched for studies that highlighted success predictors and characteristics of students who were accelerated.

### **Step 3: Select a Framework**

The framework used in this study was adapted from Wells et al. (2009). Wells and colleagues (2009) looked at two large databases (NELS and ELS) and followed up with subjects from the databases to see what participants had achieved in their respective careers. The databases looked at possible predictor factors that could be associated with acceleration such as SES, gender and ethnicity. The authors found that gender was not a viable success predictor, but SES and ethnicity to be acceptable predictor variables Wells et al. (2009) investigated different acceleration strategies used with students and also the types of students that were chosen for

acceleration. The questions in Table X were chosen from Wells et al. (2009) for the current study. **Survey Questions:** Survey questions will include the following:

Question one was chosen because the author wants to see if any gender differences arose

Table X  
*Complete Survey Questions Included in this Survey*

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Question	Response
1 Gender	
2 Age	
3 What year did you graduate high school	
4 What was your highest level of education? (Circle One)	High School, Associates, Bachelor, Master, Doctorate
5 List all degrees earned	
6 What subjects were you accelerated in?	
7 Why type of acceleration did you experience?	
8 If you attended college, please list your major and minor.	Major(s): Minor(s):
9 What is your current career?	
10 What is your dream career?	
11 Do you think acceleration had an impact on your professional goals? (Circle One)	Yes No Why?
12 Do you have any other comments	
13 May I contact you with follow-up phone questions? (Circle One)	Yes!! No
14 If yes, please write in your phone number or email.	

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in students who were accelerated. Wells et al. (2009) did not see any major gender differences between the two. Question three was asked to go along with the whole picture of the participants demographics. Questions four and five were listed so that the author can see what the participant has achieved thus far in their academic career. Questions six through eleven are included so that the author can see if there are any connections between the subject(s) or type of acceleration and the degree the participant is trying to earn. Item twelve is included so that the participant can

give any other beneficial information to the researcher for the study. Items thirteen and fourteen are added for voluntary permission for the participant to continue on with the study if they so chose. The author gave the option for phone or email to meet the needs of the participants in the study.

#### **Step 4: Identify Participants**

The proposed participants in this study are adults who have graduated Chautauqua Lake Central School before 2012 and have participated in any type of acceleration in their school days (kindergarten through high school). Types of acceleration may include (but are not limited to), early admittance to kindergarten, single subject or subject specific acceleration, early admittance into college or grade skipping.

The subjects must have declared a major to ensure validity of their responses to the survey. The author wants the major declared so that she can see that the subjects are committed to a certain field of study. The researcher wants to see if there is any link between their acceleration and their degree or career choices made. The researcher decided that if a student were to be at least a junior in college, then they would have had to graduate in the year 2012 or earlier. Power school is a newer program at Chautauqua Lake so the cohorts used in this study are 2012 to 2014. The power school program is mentioned in more detail in a later section.

#### **Step 5: Meet with Chautauqua Lake Central High School District Principal**

Since the researcher wanted to interview and survey adults whom have already completed an acceleration program, she reached out to her building principal (Josh Liddell) at Chautauqua Lake Central School District to see if she could have access to names and addresses from past graduates. The researcher needed to get preliminary approval from Josh Liddell (principal) who represented the school for this matter. The school agreed to give out the student's last known

addresses, but did inform the author that they would not pay for the postage or envelopes. Also, the principal requested that in the letter to alumni of the school, she should inform the potential participant that they were accelerated during their time at Chautauqua Lake Central School District. The author agreed to the terms set by the principal.

#### **Step 6: Chautauqua Lake Guidance Team Accelerated Student Identification**

Thankfully the researcher has good rapport with the guidance office team at Chautauqua Lake Central School District, so the team agreed to help her find enough names of past-accelerated alumni. The guidance secretary had all of the student's schedules from all the years that they have used the Power Schools program. What the secretary and the researcher had to do was look up the lists of students from graduating classes of 2012 to 2014 whom were enrolled in the advanced level course at any period in their schooling. From there, they printed out the names of the students as well as their last address on record for the author.

**Power Schools.** The Power Schools is what many schools across the country are beginning to turn to for most of their administrative organization when it comes to students. Teachers take attendance, log home contacts, log grades, and create seating charts and much more. The guidance team uses it for creating student course schedules and keeping all of that information indefinitely. The guidance team also keeps record of the student's home contacts, numbers and addresses. The health office can even use it to log allergies or mental illnesses. It is pretty much a one-stop shop for all the proper student information needed.

#### **Step 7: Submit Human Subjects Review (HSR) to Dr. Mahoney**

The researcher completed the application for HSR and first submitted it on June 21, 2016. On June 28, 2016 the office of Graduate studies ask her to clarify and extend her Appendix B

section. The researcher made the edits and submitted the updated proposal on June 30, 2016. She was approved on July 5, 2016 (See acceptance letter in Appendix A).

The purpose of this study was to see if students will benefit from earlier acceleration than their peers or had any long-term career successes. Attached to the application was a copy of her CITI certificate (See certificate in Appendix A).

**Step 8: Send out Surveys**

All 44 surveys were sent out on July 11, 2016. Surveys were sent out at least once via United States Postal service mail. The researcher wanted to get at least 10 surveys back. She sent out a second letter on September 6, 2016 to the 30 participants who had not responded. Eight participant mailed back the survey and consent form and of those eight participants, seven indicated that they could be contacted for a follow up interview. A total of four letters were sent back from the United States postal service because the potential participant did not reside at that address any longer and there was not a forwarding address provided. See Table 1 for the data the researcher was able to collect.

Table 1

<i>Data Received</i>				
Total letters sent	Total participants	Letters sent back form postal service	Participants that can be contacted for interviews	Participants that were interviewed
44	10	6	7	3

The researcher looked for any common themes or responses form the surveys. Her next step was to call or email the participants to set up a interview time and location. The researcher was able to get a hold of 3 participants to interview.

**Step 9: Determine and Develop Interview Questions from Survey Responses**

After reading through the survey responses the researcher wanted to know more about the participants feelings toward acceleration (which includes their social and emotional well being). She developed the following questions and adapted some of the questions from Perrone et al. (2010). The research that Perrone et al. (2009) conducted was accelerated adults looking back at their acceleration experience. See Table 2 below for the questions that led the current author toward the answer in her research question.

Table 2

<i>Questions</i>	
1.) Do you feel being accelerated had any impact on your education or career choice?	2.) If you have (or would have) children, would you recommend they enter into an accelerated program? Why or why not?
3.) Do you feel that your experience as an accelerated student would have been affected if you had a different teacher? Explain.	4.) Do you think you were accelerated at the proper time in your educational career? Do you feel you should have been accelerated earlier or later?
5.) Would you describe your acceleration experience overall as positive, negative, or neither? Why?	6.) Do you feel that you are more sociable because of the program? Why or why not?
7.) Did you ever feel overly stressed, panicked or pressured during your acceleration? Why or why not do you think this was so?	8.) Do you have any other information for the researcher that may be beneficial for the study?

These questions were chosen because in Peronne et al. (2010) the researchers wanted to see more of the social emotional side of the acceleration experience. Question one would confirm the data interpreted by the author in her questionnaire in step 3. Is there an observable link between the subject of acceleration and career choice. Questions two and five were picked because the author wants to know if the subject would have like a different option. Maybe the students were pressured by parents to be in the program or maybe the student put that on

themselves back in school. By asking in question two if the participant would recommend it for their own child should have shown how the subject really felt and would they want that same choice for their kids.

Question three was asked because if the student could not make a connection with the teacher, then the student may not have gotten as much out of the course(s) as they could have. If, for example, the student was accelerated in math but could not stand the teacher, then the student might develop negative feelings about math even though it may not be true. The subject could have been a wonderful mathematician, but because of a bad experience, could have chosen a different career path. Question four was asked because the student may have been ready to be accelerated at an earlier age, but may not have had the opportunity to. If a student was ready at a younger age, and was indeed accelerated, there are many more courses that the student could have taken advantage of when they got to high school. Perhaps the individuals could have even had a chance to take college courses in high school and thus moving into their potential career more quickly. This could then lead into more contributions and success to the dedicated field on the participants end.

Questions six and seven were asked so that the researcher could get a deeper look at the participant while they were accelerated. Many of the studies in the literature review stated positive social and emotional effects from being accelerated. The researcher was hoping to find this to be true in her study as well. Question eight is asked so that no crucial detail is left out that could be beneficial to the author.

### **Step 10: Interview Protocol**

**Confidentiality and audio recording.** The researcher conducted one-on-one interviews with the participants who completed the survey and consented to interviewing. The interviews

were audio recorded in order to transcribe the interview accurately. Participants were informed of the audio recording. The sample subject did sign a consent form stating that they were okay with being recorded. The recording device is an application called QuickVoice that the researcher had on her iPhone 6s. The researcher does not find it necessary to videotape the interviews.

**Time and location.** The researcher met with participants at either Chautauqua Lake Central School District in her classroom or at SUNY Fredonia Library, whichever was closer or more convenient to the participant. If need be the researcher will conduct a phone call or Skype interview with the subjects. The time was selected by the participant so that it was convenient for them. The researcher anticipated that the interviews could last between 10 and 35 minutes. All of the interviews recorded information was under 15 minutes.

**Emails.** Some of the participants gave the researcher an email instead of a phone number. The researcher sent the interview questions via her Chautauqua Lake CSD email and printed the responses once they were received. She then deleted the emails to keep the confidentiality of her participants. The emails are kept locked with the survey responses. One participant did send an email with responses, but then later asked if they could meet up to do the interview in person, the researcher agreed to destroy the email and meet in person.

### **Step 11: Conduct Interviews**

The interviews lasted between 10 and 15 minutes. Each of the participants was asked the same questions in the same order. If the researcher felt it necessary, she dove deeper into the participant's verbal responses to probe at a possible long-term effect of their acceleration experience.

### **Step 12: Organize Data**

The first part of organizing the interview data was to see if any of the subjects students were accelerated in also went into that field of study. From there, the researcher needed to see if there were any common themes that sprung from the surveys as well as the interviews.

Next, the researcher looked at the data indicating how the student felt during the acceleration process. Results into the student's social aspect of life as well as their emotional state was closely investigated. Much of the research in the social-emotional section of the literature review stated only positive attributes of the student's social and emotional states. The researcher hoped to see if she could find any of the same similarities.

The third organization part was summary each minute of the verbal in person interviews. The researcher captured the theme of each minute to assist with writing her results and discussion.

### **Step 13: Make Conclusions Based on Data Results**

The first conclusion the author made was the link between acceleration and outcomes based on this for career choices. In other words subjects were heavily influenced by their acceleration experience. For example if a participant was accelerated in mathematics or science, they were more likely to study a STEM related field and pick a career in that field.

The second conclusion the author discovered was the link between a students having a positive experience and having a teacher that they could relate to. This also impacted the subject's willingness to recommend a program to their child when eligible.

Third, the author wanted to fine a link between acceleration and students willingness to be more social. The researcher discovered through the interviews that the participants felt they were already social and the participants were not sure if acceleration had an impact on their acceleration or not.

**Step 14: Identify Limitation**

One limitation the researcher finds is that her pool of participants was not as large as she would have liked (statistically speaking). Ten is a decent sample, but she felt not large enough to make any major conclusions. A larger sample would have created more themes and similarities in the data. The other limitation was that there were not a lot of subjects in the study who had grade skipped; most of the sample was composed of single subject or subject specific acceleration. Also, the pool of participants was smaller than the author anticipated because since the school district started using Power Schools in 2012, she could not get an easily accessible log prior to that.

Additional limitations were that none of the candidates did not have children, so some of the candidates could not elaborate on question number three stated in step six. This could be due in part to most of the candidates being in their late teens and early twenties. If the author could have gotten more of an age range of participants it would have been nice. The researcher would have liked to know if the children portrayed similar characteristic compared to her parents.

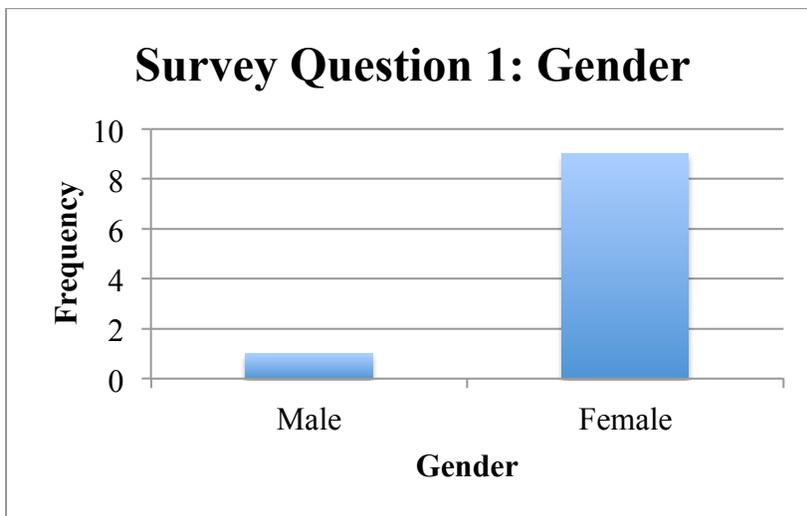
The last concern the researcher had was that all of the participants but one were female. The author was hoping for a more evenly distributed gender participation in the survey to eliminate any gender bias that could come from the results of this study.

**Results**

A total of ten people participated in the survey. All of the participants were graduates from Chautauqua Lake Central School District who had taken accelerated classes sometime in their academic careers. The results in this section are first from the surveys and following that are three interview results from participants who had turned in their survey.

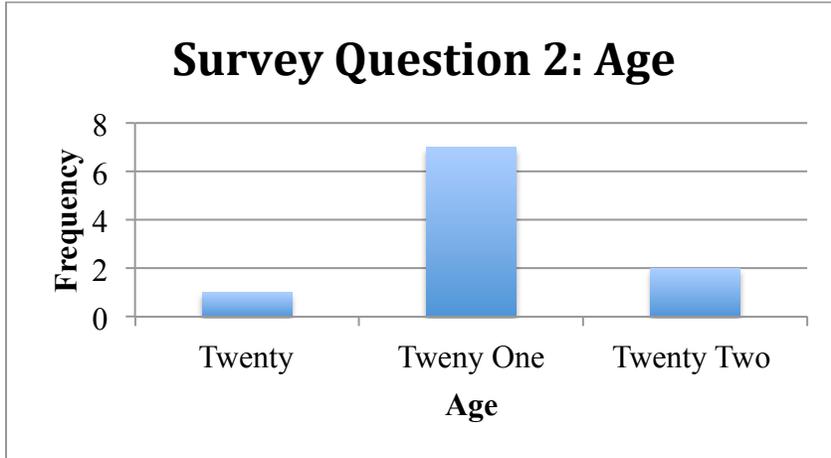
**Survey Results:**

Figure 1. Frequency of Gender



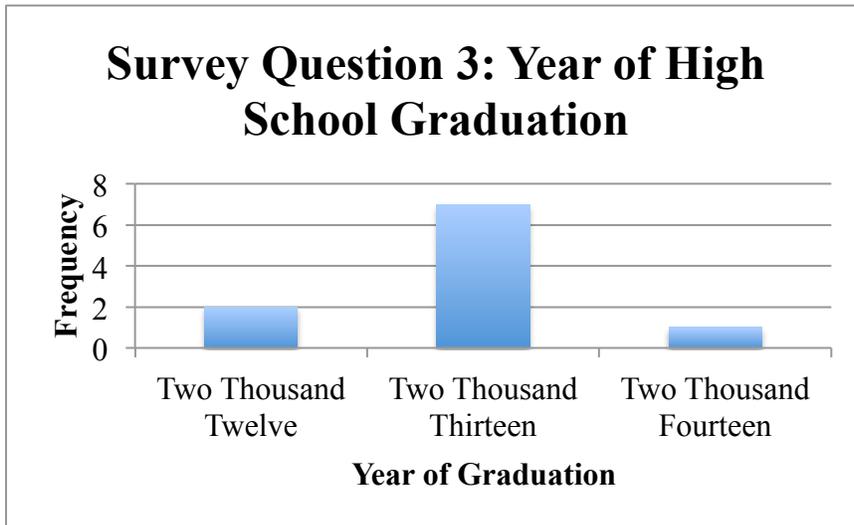
Question 1: Gender

Figure 2. Frequency of Age



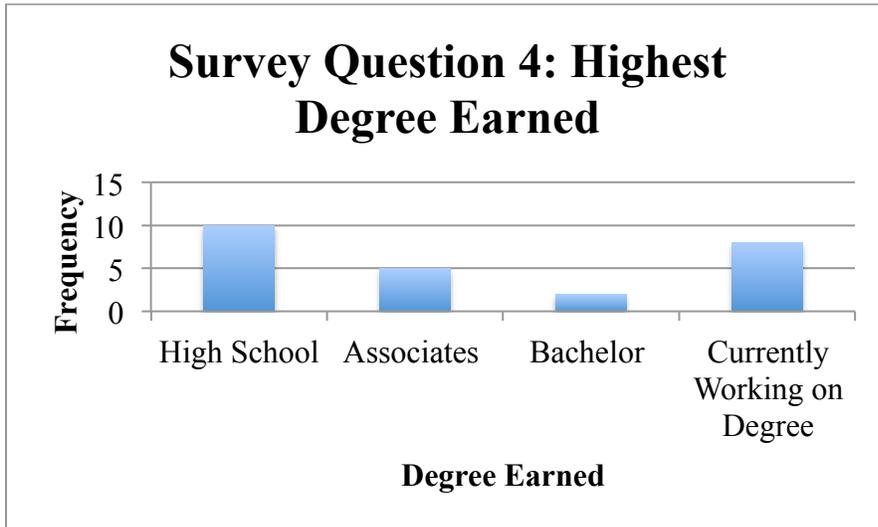
Question 2: Age

Figure 3. Frequency of High School Graduation Year



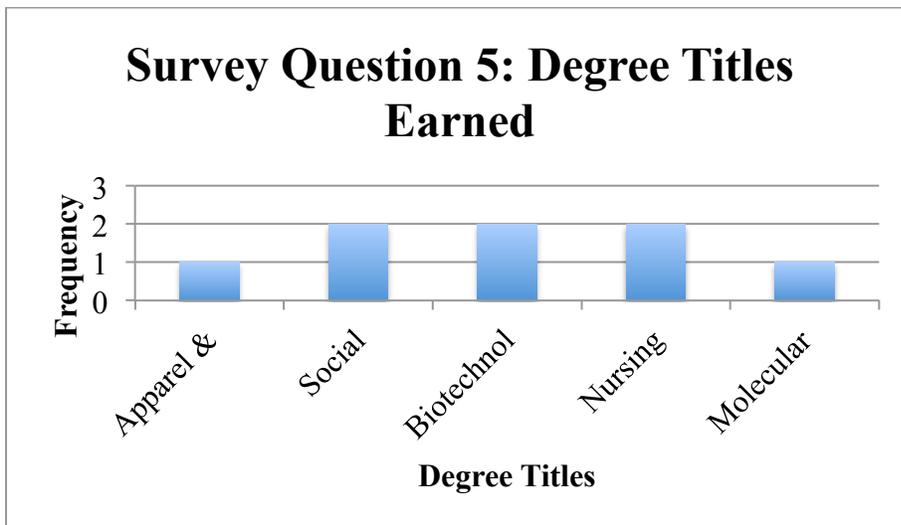
Question 3: Year of High School Graduation

Figure 4. Frequency of Highest Degree Earned



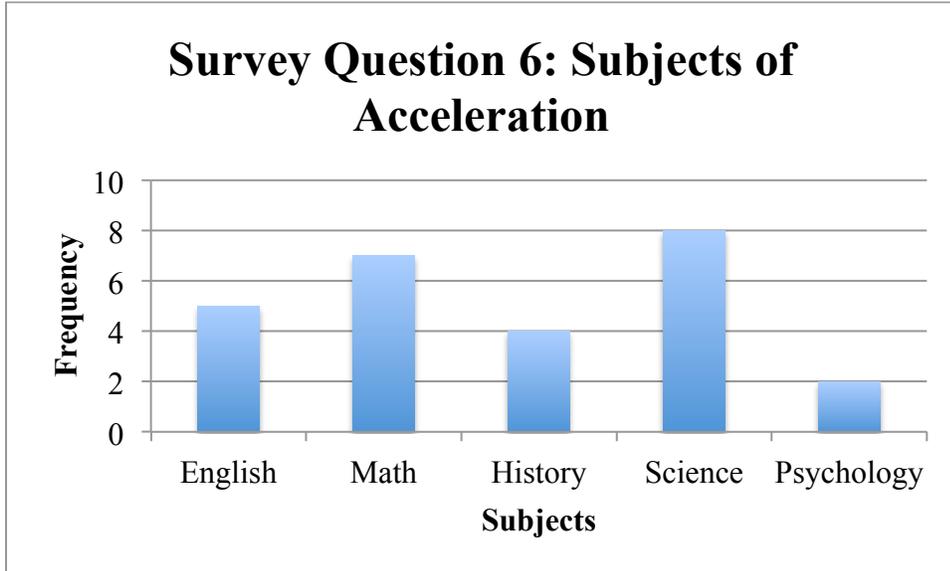
Question 4: Highest Degree Received

Figure 5. Frequency of Degree Titles Earned



Question 5: Degrees Earned

Figure 6. Frequency of Subjects of Acceleration



Question 6: Subjects of Acceleration

**Question 7: What Type of Acceleration Did You Experience?**

All of the participants were enrolled in individual subject acceleration. None of the subjects experienced grade skipping. Most of the participants were enrolled in two or more accelerated classes between the grades of seven and twelve.

**Question 8: Majors & Minors**

All but two of the participants only have declared a major in college. There was a wide variety of majors, most of which revolved around the science fields. Majors listed were: Occupational Therapist, Apparel & Textiles, Nursing, Neuroscience, Veterinary Science, Biotechnology, Social Sciences, Legal Studies, Molecular Genetics and Biochemistry. The two minors listed were Business Communications and Computer Science.

**Question 9: Current Career**

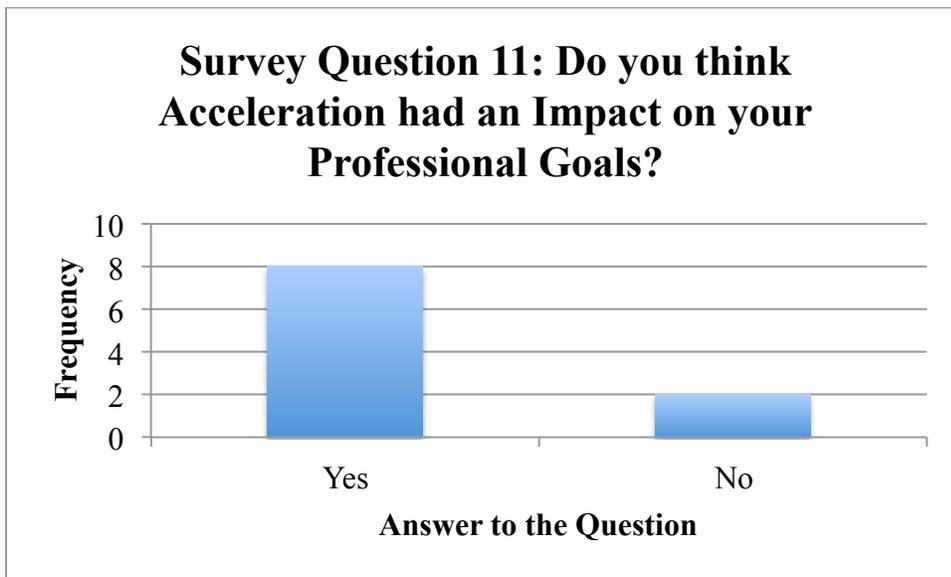
Eight of the ten participants are still working on their Bachelor degrees. While these students are going to school they have been working side jobs to earn some money while they go

to school. Some of their side jobs include housekeeping, summer internships in their desired career, clothing stores, and associated at various boutiques. The two that are not still currently working on a degree are a Exhibits Planner and a Registered Nurse.

**Question 10: What is your Dream Career**

All but one of the participants identified a dream career. Each of the dream careers that were listed was closely connected to their respective majors in college. The dream careers stated were: Veterinarian Technician, Lawyer, two chose Health Care/Nursing, two chose Scientist – Working in a lab, Researcher, Occupational Therapist and Craft Brewery Marketing Planner.

Figure 7. Frequency of Yes or No to Opinion of Acceleration Impact on Professional Goals



**Question 11: Do You Think Acceleration Had an Impact on Your Professional Goals?**

**Explain.**

As shown in the figure above eight participants stated that being accelerated had an impact on their professional goals and two did not. Of those who said yes it did help they had the following to say: “I was able to learn more while my peers were still at the ‘normal’ level. It gave me wiggle room to graduate college early”. Others comments stating that since the

program challenged them more they put in more of an effort into the class that they normally would have had they not been accelerated. Two participants stated that being accelerated helped them realize what their dream career was in the first place. They were able to explore more into the field before going onto college. Some students were able to take more classes in high school and earn college credits before they graduated from Chautauqua Lake.

Of the students who responded no to question 11 (two) it was because one could not take more advanced classes in their field of study in high school. One participant was disappointed they would not be challenged more in their respective field. The other participant said no because they were only accelerated in core subjects. One other participant said the only gain from being accelerated was making her a good test taker.

**Question 12: Do You Have Any Additional Comments?**

Only one participant left an additional comment. The participant stated they were able to earn college credits while still in high school which assisted this participant in being able to move more quickly through college courses.

**Interview Results:**

A total of seven participants stated that they could be contacted for additional interview questions, but only three got back to the researcher. At first one of the participants requested to be interview through email. After the interviewee submitted her email results he asked if she could do the interview in person since he was going to be in town. He thought he could answer the questions better in person than through an email.

Table 3

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*Participant 1 Interview Summary for Questions 1 and 2: Do you feel being accelerated had any impact on your education or career choice? If you have (or would have) children, would you recommend they enter into an accelerated program? Why or why not?*

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Time in	Summary of Statement
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Recording

1:00            Acceleration did have a huge impact this participant career choice. The participant received an Associates degree in Biotechnology and a Bachelor of Science degree in Molecular Genetics. This participant thinks that if she had children and if they felt they were ready, that they could be accelerated.

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Table 4

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*Participant 1: Question 3: Do you feel that your experience as an accelerated student would have been affected if you had a different teacher? Explain.*

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Time in Recording	Summary of Statement
2:30	The participant thinks that the teachers have a lot to do with their experience in the program. This participant stated that all of the teachers they experienced were very passionate about what they taught. Had this participant had a teacher who was no passionate about their field of study, the participant would not have had as much interest in the class.

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Table 5

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*Participant 1: Questions 4 and 5: Do you think you were accelerated at the proper time in your educational career? Do you feel you should have been accelerated earlier or later? Would you describe your acceleration experience overall as positive, negative, or neither? Why?*

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Time in Recording	Summary of Statement
4:30	The participant felt that they had a good timing with their acceleration classes. They liked that they were able to have a head start when it came to being in college. The participant already had some of the basic courses completed so they were able to jump into the classes of their choice. The participant stated that being accelerated at a younger age would have been neat and perhaps they could have taken more college credit classes in high school. She also felt her experience was positive

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Table 6

**OUTCOMES AND LONG TERM BENEFITS**

51

*Participant 1: Question 6: Do you feel that you are more sociable because of the program? Why or why not?*

Time in Recording	Summary of Statement
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5:30	The participant stated that they were not sure if they were more social because of the program or not. This participant comes from a large family so they have always been around people a lot.
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Table 7

*Participant 1: Question 7: Did you ever feel overly stressed, panicked or pressured during your acceleration? Why or why not do you think this was so?*

Time in Recording	Summary of Statement
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8:00	The participant did not think there was ever any additional stress due to being advanced. The participant took much pride in her work and put some pressure on herself to be the best. The participant commented that she has always been somewhat of a perfectionist. The participant also commented she always had her eyes on the end goal of going to college to study science. It wasn't until taking Chemistry Honors that she knew she wanted to go for Molecular Genetics. Her teacher had a great deal of a positive impact on her.
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Table 8

*Participant 1: Question 8: Do you have any other information for the researcher that may be beneficial for the study?*

Time in Recording	Summary of Statement
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10:00	The participant at the end stated that she just wanted the researcher to know that she was very grateful to her experience in the acceleration programs while in middle and high school. She feels it really shaped her into a career and goal oriented person.
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Table 9

*Participant 2 Interview Summary for Questions 1 and 2: Do you feel being accelerated had any impact on your education or career choice? If you have (or would have) children, would you recommend they enter into an accelerated program? Why or why not?*

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Time in Recording	Summary of Statement
1:15	Acceleration did have a huge impact on the participant’s career choice. The participant received an Associates degree in Nursing. The participant took Chemistry honors and noted that this was one the courses that made her realize she could become a nurse. The participant stated that her children could be accelerated if the course was in something of interest that could further help drive their career and professional goals.

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Table 10

*Participant 2: Question 3: Do you feel that your experience as an accelerated student would have been affected if you had a different teacher? Explain.*

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Time in Recording	Summary of Statement
2:20	The participant stated she may not have fallen in love with the class if it had not been for her teacher. Her teacher made the class rigorous yet learnable. She felt that the goals she set for herself with the teacher were obtainable because of her teacher and the hard work they both contributed.

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Table 11

*Participant 2: Questions 4 and 5: Do you think you were accelerated at the proper time in your educational career? Do you feel you should have been accelerated earlier or later? Would you describe your acceleration experience overall as positive, negative, or neither? Why?*

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Time in Recording	Summary of Statement
4:40	The participant felt that her timing of acceleration was comfortable. She had a plan of what she wanted to do with her life and this class made it possible. The participant noted that she wishes she could have taken more advanced science courses during her time in middle and high school. She described her acceleration experience as positive and enjoyable.

Table 12

*Participant 2: Question 6: Do you feel that you are more sociable because of the program? Why or why not?*

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Time in Recording	Summary of Statement
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5:20 The participant stated that she did not think acceleration had an effect on her social skills. She was already a social person before acceleration.

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Table 13

*Participant 2: Question 7: Did you ever feel overly stressed, panicked or pressured during your acceleration? Why or why not do you think this was so?*

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Time in Recording	Summary of Statement
7:00	The participant stated that she often felt stressed because of the workload. She mentioned that her stress was due to a fear of failure and not being able to achieve her dream of being a Nurse. The participant stated that after having meetings with her teacher she would feel more relaxed and would then continue on with the work.

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Table 14

*Participant 2: Question 8: Do you have any other information for the researcher that may be beneficial for the study?*

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Time in Recording	Summary of Statement
8:00	The participant loved her time during acceleration and wishes she could have had more experiences in acceleration within the science fields. She highly recommended students take Chemistry Honors because her teacher was simply amazing.

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Table 15

*Participant 3 Interview Summary for Questions 1 and 2: Do you feel being accelerated had any impact on your education or career choice? If you have (or would have) children, would you recommend they enter into an accelerated program? Why or why not?*

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Time in Recording	Summary of Statement
1:05	The participant stated he thought being accelerated helped him in college because he was able to take the pressures of a heavy and difficult course load in college better than his peers. He stated that he does not want to think about kids at this time.

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Table 16

*Participant 3: Question 3: Do you feel that your experience as an accelerated student would have been*

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*affected if you had a different teacher? Explain.*

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Time in Recording	Summary of Statement
2:10	The participant stated that he thinks teachers have a lot to do with how a student views a class. He stated that his seventh grade math teacher was not all that great, but when he took Algebra 1 as an eighth grader, that the teacher was very ambitious and passionate about mathematics. The participant wishes that all of his teachers had been that way.

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Table 17

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*Participant 3: Questions 4 and 5: Do you think you were accelerated at the proper time in your educational career? Do you feel you should have been accelerated earlier or later? Would you describe your acceleration experience overall as positive, negative, or neither? Why?*

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Time in Recording	Summary of Statement
4:50	The participant stated that the timing was good because he was able to handle the course load. The participant stated that he thinks he could have been accelerated at a younger age and been okay with the homework and content. The participant stated he was able to take advantage of more courses than many of his peers because of his acceleration, but he wishes he could have been offered every advanced course offered. The participant went on to say that his acceleration experience was positive, except one “sluggish” teacher for his seventh grade math. Other than that he loved his experience and wish it could have been started at a younger age.

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Table 18

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*Participant 3: Question 6: Do you feel that you are more sociable because of the program? Why or why not?*

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Time in Recording	Summary of Statement
5:50	The participant stated that he isn't sure if he felt more sociable because of the program, but he did feel more confident in his abilities and in his work. He thought that since he was able to keep high grades and be accelerated at the same time meant that he was college ready and was always ready for a new challenge.

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Table 19

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*Participant 3: Question 7: Did you ever feel overly stressed, panicked or pressured during your*

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acceleration? Why or why not do you think this was so?

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Time in Recording	Summary of Statement
7:00	The participant did not feel overly stressed at any point during his acceleration. He felt that he handle the course load with “grace”. He said he felt challenged with some of the work, but not overwhelmed by any of it.

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Table 20

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*Participant 3: Question 8: Do you have any other information for the researcher that may be beneficial for the study?*

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Time in Recording	Summary of Statement
8:30	The participant reiterated that he enjoyed being accelerated and wishes it had begun at a much younger age. He also wishes he would have had a more inspiring math teacher in seventh grade. He was very excited to be a part of the study and thanked the researcher for taking the time to meet and let him redo his interview in person.

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## **Discussion and Recommendations**

### **Limitations**

The following section on limitations focuses on generalizability with having such a limited sample. One of the major limitations the researcher found was that she was not able to receive contact information or digital transcripts of students before the graduation year of 2012. The researcher was hoping to have a bigger pool of subjects to pull from for her data. Because of this the researcher was limited to students who graduated between the years of 2012 and 2014. The number of accelerated students who graduated in those cohorts was 44.

The researcher ended receiving surveys from ten alumni, which is about 23%, which is a decent percentage of the population she was pulling from. The researcher thought based on her sample that the percentage was good, however she did not think it was a good representation of a whole accelerated population. Also, of these ten, seven stated that they would do interviews, however, only three ended up going through with the interviews. This again, 30% is a good percentage, but not a high enough number to represent a population of students.

One last limitation the researcher had was that all but one of the participants in the survey were females. There was a good mix of males and females that the researcher sent surveys to, but only one male responded. The researcher was hoping to receive a more even mix of data from the genders.

### **Future Research**

In the future the researcher would like to look up older transcripts of students who were accelerated at Chautauqua Lake Central School District. She would have liked to see more of longitudinal effect to see if students stayed within their career field or changed after a few years.

The researcher also would like to see if the new proposed acceleration pathway given in Figure 2 in the Methods Section had a larger impact on students than the original pathway in Figure 1.

### **Conclusions**

**Surveys.** The researcher first organized the surveys to see if there were any commonalities. The researcher saw many similarities amongst those who were interviewed. One of the commonalities was that all but one was female that responded to the survey. As stated above the researcher found this to be a limitation on the data and its interpretation. Another similarity amongst the participants was that they all had or were currently working on a degree that was related to a field in which they were accelerated in during their seventh grade through high school time in school.

Most of the participants were accelerated in math and science. The fields of sciences that the participants were accelerated in varied from Regents Earth Science to Anatomy to Advanced Chemistry. Most of the degrees that the participants earned or were currently working on were in the science fields as well. Lastly, all but two of the participants answered that acceleration had an impact on their professional goals.

**Interviews.** All three of the participants were has positive feelings and experiences toward acceleration at Chautauqua Lake. Participants one and two stated that acceleration had a huge impact on their careers. Participant three did not directly say that it had a positive impact, but he did describe that he felt more confident and calm in college compared to his peers. He didn't find his coursework overwhelming at all.

Another result of the interviews was the impact acceleration had on the participants careers and goals. The first two participants stated that their teachers had a huge impact on them when it came to their career choices and goals. The third interviewee stated that he thought the

teacher has a huge impact because while he was accelerated in middle school he was not very interested in his mathematics courses. When he got to high school he saw the passion and drive his teachers had for their respective content and he thought if he had a more passionate seventh grade school math teacher he may have been more excited about learning. He did see a fire inside him ignited once he had inspiring teachers.

An additional discovery that the interviewees agreed on was that they wish they had been able to take more advanced classes and could have started younger. They mentioned that the timing wasn't bad, but they were hungry for more rigorous coursework. The first interviewee stated that her timing was just fine. Note that all of the participants interviewed started their acceleration in seventh grade. The third interviewee also stated that he wishes now that he would have taken advantage of the program more when he was in high school.

The last discovery was that interviewees did not perceive to have any additional stress. Interviewee number three stated that he even felt he handled the coursework with grace. The second interviewee informed the researcher that he stress was not directly with the coursework, but with her own fear of failure. Her fears would be calmed down when she would meet with her teacher and then she would be okay for a little while.

All in all, the researcher was pleased with the results and conclusions that she learned about during the study. Many of her predictions came true and some, like the children question, was not really answered.

**Recommendations/Dissemination.** Based on the data recorded from this study, the researcher believes that the acceleration program is doing well. Much of the feedback was positive and helpful. The researcher does have a few recommendations for the school. First, offer more advanced courses at earlier grades (seventh and eighth grade minimally). The

researcher also thinks it would be beneficial to have a more diverse selection of accelerated courses in the catalogue. Most of the courses offered are Math and Science based with only a few of the Social Sciences and English courses offered.

The researcher will reveal her findings and conclusions first the administrative team at Chautauqua Lake Central School District. These individuals are the Secondary Principal, Guidance Team and Superintendent. From there the researcher will present a snippet to the faculty and the Board of Education.

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**Appendix A**

HSR Acceptance Letter:



5 July 2016

Danielle Ver Hague  
c/o Kate Mahoney, Ph.D.  
Language, Learning and Leadership  
College of Education  
The State University of New York at Fredonia

Re: Danielle Ver Hague—Long Term Outcomes of Early Acceleration for Students Attending a Middle School in Chautauqua County, New York

Your research project using human subjects has been determined Category 1, Exempt, under the United States Department of Health and Human Services Code of Federal Regulations Title 45 Public Welfare, Part 46 Protection of Human Subjects, 46.101, Subpart A (b) (1) and/or (2). This document is your approval and your study titled "Long Term Outcomes of Early Acceleration for Students Attending a Middle School in Chautauqua County, New York" may proceed as described. **Your approval is valid from July 5, 2016 through July 4, 2017.**

Thank you for keeping the high standards relating to research and the protection of human subjects under the auspices of the State University of New York at Fredonia.

Thank you for keeping the high standards relating to research and the protection of human subjects under the auspices of the State University of New York at Fredonia.

Sincerely,

A handwritten signature in cursive script that reads "Judith M. Horowitz". The signature is written in black ink on a light-colored background.

Judith M. Horowitz, Ph.D.  
Associate Provost, Graduate Studies, Sponsored Programs  
and Faculty Development  
Human Subjects Administrator

Citi Completion Certificate:

**COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM)  
COURSEWORK REQUIREMENTS REPORT\***

\* NOTE: Scores on this Requirements Report reflect quiz completions at the time all requirements for the course were met. See list below for details. See separate Transcript Report for more recent quiz scores, including those on optional (supplemental) course elements.

- **Name:** Danielle Ver Hague (ID: 4760175)
- **Email:** verh7339@fredonia.edu
- **Institution Affiliation:** SUNY - College at Fredonia (ID: 273)
- **Institution Unit:** Curriculum and Instruction
- **Phone:** 7167850935

- **Curriculum Group:** Human Research
- **Course Learner Group:** Group 1.
- **Stage:** Stage 1 - Basic Course

- **Report ID:** 15658103
- **Completion Date:** 04/01/2015
- **Expiration Date:** 03/31/2017
- **Minimum Passing:** 80
- **Reported Score\*:** 91

