Summer 2017

Exploring students' perceptions of academic strengths and weaknesses

John S. Brookbank IV
James Madison University

Exploring Students' Perceptions of Academic Strengths and Weaknesses

John Spencer Brookbank IV

A research project submitted to the Graduate Faculty of

JAMES MADISON UNIVERSITY

In

Partial Fulfillment of the Requirements

for the degree of

Educational Specialist

The Department of Graduate Psychology

August 2017

FACULTY COMMITTEE:

Committee Chair: Ashton Trice, Ed.D.

Committee Members/ Readers:

Deborah Kipps-Vaughan, Psy.D.

Patricia Warner, Ph.D.

Acknowledgements

I would first like to thank Dr. Ashton Trice, my thesis chair, for giving me the self-confidence, freedom, and guidance to explore this area of research. I am glad that we share such enjoyment in listening to what children have to say about school and other aspects of life. I would also like to thank Dr. Debi Kipps-Vaughan, my program advisor and thesis committee member. Not only has Debi devoted countless hours of her time to supervising and supporting me throughout my graduate school career, but she has also helped me see the knowledge one can gain from listening to children's voices and making sure they are understood.

Thank you to Dr. Patti Warner, member of my thesis committee and internship supervisor, for her feedback, encouragement, and confidence in my abilities throughout the completion of this project. I would also like to thank all the school professionals from my internship site who have supported me along the way, as well as the teachers of the study participants who made all of this possible.

Finally, to my best friend, Davey Alison, thank you for teaching me the importance of youth and exploration. Our continued connection has allowed me to remain curious and open throughout this endeavor and the journeys to come.

Table of Contents

Abstract

As school progresses, the importance of self-advocacy becomes more evident. Before a student is able to become an effective self-advocate for their needs and services, it is essential for them to have an appropriate understanding of their academic strengths and weaknesses. Students with learning disabilities are often faced with the difficult task of understanding what it means to have a learning disability, and school psychologists do not have a clear set of guidelines as to how to inform these students in the most developmentally appropriate way. To provide school psychologists with more information regarding the formation students' academic self-perceptions, to gain insight into the developmental language that students use to communicate their strengths and weaknesses, and to investigate students' ideas about why they have certain strengths and weaknesses and what they can do to improve their learning, the researcher interviewed 26 fourth and fifth grade, general education students and three students with an identified Specific Learning Disability. Results from the study revealed that students develop a normative measurement of their ability based on observations of their classroom environment through peer comparison and teacher feedback. While the majority of fourth and fifth graders appeared to list strengths and weaknesses that were reflective of their SOL performance, those who failed their most recent SOL appeared to demonstrate a more inflated self-perception of their reading and math ability. Additionally, students attributed academic weaknesses to a variety of different factors, and many listed effort, attention, or lack of interest across subjects. Finally, students showed that they picked up on specific concepts taught in class and were able to list a variety of practice strategies to improve their academic weaknesses.

Introduction

Forty-two percent of the population of students receiving special education services are identified as having a Specific Learning Disability (SLD), making it the largest category represented under the Individuals with Disabilities Education Act of 2004 (IDEA) (National Center for Learning Disabilities, 2014). Although Part B of IDEA (2004) states that the child with a disability should be included in the individualized education program (IEP) team "whenever appropriate," less than half of students aged 11 to 14 years old reported attending their most recent IEP meeting when invited to participate (Wagner, Newman, Cameto, Javitz, & Valdes, 2012). Without participation in the special education process, students with learning disabilities may be less likely to understand their strengths and weaknesses and the appropriate interventions that can allow them to build off of their strengths and increase academic performance.

It appears there is a lack of investigation as to how students with learning disabilities define their disability, talk about their learning strengths and weaknesses, talk about why they have these strengths and weaknesses, and what they can do to be better learners. Given the lack of relevant research, school professionals may be unsure of whether or not children and adolescents have a grasp on what it means to have a learning disability. Whether these uninformed understandings of disabilities have to do with cognitive limitations, environmental influences, or limited experience and knowledge of disabilities is not completely clear (Nowicki, 2007; Nowicki, Brown, & Stepien, 2014). What is clear is that children with learning disabilities can benefit from understanding their strengths and weaknesses. Knowing more about the label of SLD, and that they possess strengths that can help them succeed academically has been shown to have

positive effects on self-regulation, academic achievement, goal setting, and self-advocacy (Izzo, Hertzfeld, & Aaron, 2001; Raskind, Goldberg, Higgins, & Herman, 1999; Zickel & Arnold, 2001; Zimmerman, 2002). By improving children's understanding of academic strengths and weaknesses, school psychologists may be able to foster the growth of self-advocacy skills in students in an effort to increase school functioning and adaptation to secondary education, postsecondary education, and adult functioning.

Informing Students of Their Disability

It is the ethical responsibility of school psychologists to inform students who are found eligible for special education services about their learning disability (NASP, 2010). As part of the special education process, "School psychologists encourage a minor student's voluntary participation in decision making about school psychological services as much as feasible," (*Standard I.1.4)* as well as "discuss with students the recommendations and plans for assisting them. To the maximum extent appropriate, students are invited to participate in selecting and planning interventions." (*Standard II.3.11).* Much of the language used in these ethical guidelines may be interpreted differently across school psychologists. The standards lack clear guidance for professionals, and this lack of clearly laid out guidelines may be part of the reason school psychologists have not reached a consensus about how to inform students about their disabilities. One interpretation of the standards laid out by the National Association of School Psychologists (NASP) is that school psychologists should aim to include students with learning disabilities in a developmentally appropriate way.

Reddy (2015) surveyed 168 school psychologists employed in public schools in the Commonwealth of Virginia during the 2013-2014 academic year and found that most

schools in Virginia do not have an established policy or method for informing students of their learning disability. Ninety-three percent of psychologists surveyed reported no guidelines or policy to inform students appropriately at all age levels. Reddy also found that the majority of informing was done by either the special education teacher or the parent. Given that school psychologists complete the cognitive component of the special education evaluation, have a deep knowledge of learning disabilities, and aim to use a best-practice method of evaluating strengths and weaknesses, it may be argued that school psychologists should have a role in the informing process. In the survey, more psychologists rated their informing role as extremely important at the high school level and somewhat important at the elementary level (Reddy, 2015). The rating of higher importance at the high school level may most likely be due to the mandatory addition of transition planning policies starting at age sixteen, according to IDEA (2004).

Based on these ethical standards and the present research, it remains unclear what age is most appropriate for explaining personal strengths and weaknesses to students with learning disabilities; however, since most students are found eligible during the elementary and middle school years, one would assume that informing students at this age would promote increased self-awareness and self-advocacy (Moore & McNaught, 2014; Zickel & Arnold, 2001). School psychologists may want to know at which stage of development students can understand and process disability information in order to inform them appropriately and keep them as active members in the special education process. The following literature review examines the developmental capability of children to understand a learning disability and the importance of self-advocacy in the success of these students.

Ability Formation

Before examining the importance of understanding individual students' strengths and weaknesses in the special education process, one may want to first determine if students have the ability to understand the definition of a learning disability and how it affects life functioning. One may first look at when and how students are able to conceptualize strengths and weaknesses. Over the course of their development, children form conceptions of their own and their peers' abilities through a process called ability formation. To investigate the ways in which children develop perceptions of ability, Rosenholtz and Simpson (1984) reviewed a range of research and theories and concluded that there are sequential stages to ability formation, and that students' ability perceptions change over time due to peer interactions, teacher behavior, class structure, and cognitive development. In a study comparing preschool and kindergarten students' cognitive bases for making inferences of ability, children were shown picture stories about four children playing four different carnival games. Each story depicted the child clearly succeeding or failing at the game. It was found that kindergarten students were able to make ability and summative judgments based on the depicted child's performance on the game; whereas, preschool students were able to make summative judgments but failed to be competent on ability judgments more than the kindergarten students. In other words, the kindergarten students were better able to judge the depicted children's ability after looking at all of the picture stories; whereas the preschool students could summarize the game outcome, but struggled when asked to rate the children's ability. The researchers suggest that there is a developmental shift occurring between preschool and kindergarten because preschoolers did not have the skill to make judgments based on ability. It is also suggested that by

elementary school, children may be more likely to make performance-based judgments (Shaklee & Tucker, 1979).

As children enter elementary school, their perception of their intellectual ability is mediated by their school environment. Not only does a shift in cognitive skills required to make inferences of ability occur, but the children immediately enter a system of performance comparison in which they begin to make interpretations of their intellectual ability based on grades, class structure, and their peers (Rosenholtz & Simpson, 1984; Shaklee & Tucker, 1979). For example, Stipek (1981) found that second and third grade students explained their academic ability by making comparisons such as, "I'm in the highest reading group" and "I'm always the first one to finish my work." These students conceptualized their ability by comparing themselves to other students in their class, thus creating their own normative theory of measurement of ability.

Another way in which elementary-aged students' ability perceptions are influenced is through teacher and peer feedback (Rosenholtz & Simpson, 1984). By attending to social cues, students register teachers' treatment of students who do well and students who do poorly, and they share information with each other regarding peer performance. Not truly knowing where their cognitive abilities lie, students use these observations and interactions to begin conceptualizing their own strengths and weaknesses. One example the researchers discuss is: students may observe their peer working independently; however, they then think about themselves and see that they are receiving more assistance and working more slowly. By comparing themselves with the other student, they may form the belief that they have lower abilities or weaknesses. Another example is that they may believe their teachers call on the high achieving kids

more than the low achieving kids because the low achieving kids will not know the answer. These classroom observations and teacher behaviors lead to ability formation. The greater the consensus between teacher and peer feedback, the more likely their perceived ability is to be internalized.

Rosenholtz and Simpson (1984) not only argue that peer interaction and teacher behavior influence ability formation, but class structure does as well. They list two classroom organizational structures, unidimensional and multidimensional, that either facilitate or impede ability formation. Unidimensional classes are those in which all students work on similar tasks, instruction is undifferentiated, a small number of materials and methods are used for instruction, and those materials and methods are employed through similar modalities. These are described as less than ideal classrooms because students in these types of classrooms can more easily make social comparisons based on the relative performance of their peers (Rosenholtz & Simpson, 1984).

On the other hand, multidimensional classes are those in which students work on a variety of different tasks, instruction is differentiated, and different materials, methods, and modalities are used. These classrooms encourage a greater number of different performances to be considered in the academic setting, making it more difficult to make social comparisons that may label students with disabilities as not having worth in the classroom (Rosenholtz & Simpson, 1984). Creating different avenues and opportunities for students to succeed reduces learned helplessness and the belief that intellectual ability is global rather than a pattern of strengths and weaknesses. Multidimensional classrooms that facilitate learning using different materials, methods, and modalities may be more beneficial in creating positive self-identities among learning disabled students and

making more accurate ability conceptions, the authors argue. From the research, it can be seen that students form ability conceptions at a young age, and if these students are not correctly informed, they may develop negative beliefs about themselves. Students' knowledge about their own cognitive abilities is likely to affect important contributing factors to academic, social, and emotional life such as self-concept, learning strategies, and self-advocacy.

Children's Beliefs about Intelligence

The belief that intellectual ability is global and stable rather than a pattern of strengths and weaknesses and malleable can have effects on a child's performance in school. Research has shown that middle school adolescents who believe that intelligence is a malleable quality that can be developed endorsed stronger learning goals, showed less ability-based, learned helplessness qualities, and held more beliefs that effort was important for achievement. They also chose more positive, effort-based strategies in response to failure, and increased their mathematics achievement throughout middle school (Blackwell, Trzesniewski, & Dweck, 2007).

Specifically, the researchers taught the experimental group about intelligence through eight sessions. Students in both the experimental and control groups participated in similar workshops including lessons on brain physiology, study skills, and the pitfalls of stereotyping. The key difference between the experimental group and control group was that the experimental group received lessons about how learning makes their brain smarter using a "Neural Network Maze" and had discussions about how global labels (stupid, dumb, etc.) should be avoided; whereas the control group received lessons on memory and had discussion about academic preferences, and academic difficulties and

successes. The experimental group, who was taught that intelligence grows over the course of development by means of neuroplasticity, using these lessons, showed a slight increase in math achievement. The control group, who was not taught a malleable theory of intelligence showed declining grades over the course of two years in middle school, suggesting informing a child about their intelligence possibilities, as well as how the information is presented to students, are important factors in achievement motivation (Blackwell et al., 2007).

When informing a child about his or her learning disability and pattern of cognitive strengths and weaknesses, it may be important to know where their understanding of intelligence falls. Cain and Dweck (1989) proposed that a child's conceptualization of intelligence as a self-attribute begins to develop around the age of seven and is a function of their academic achievement and time of exposure to certain domains. Similar to what Rosenholtz and Simpson (1984) proposed, children learn from the time of preschool and kindergarten to develop a concept of cognitive ability based on outcomes of success and failure. Progressing through the elementary years, students base more of their ability formation on performance comparisons of other children in their class. They examine other behaviors and experiences that could be contributing to their peers' or their success in the classroom and make judgments based on those comparisons.

Three steps in which children conceptualize intelligence are laid out by Cain and Dweck (1989). In the first stage, "Initial Analysis," kindergarten or younger-aged children determine criteria for success and failure, recognize contingency between behavior and outcomes, and note differences in individuals rates of success and failure. In the second stage, "Outcome = f(Engage, Can)," a child must engage in the task at hand

and know how to complete the task to have a successful achievement outcome. This process occurs in non-academic settings as well. For example, when a child has to explain why their shoe is untied, their responses are usually based on effort or knowledge. They could either say they have not tried to tie their shoe, or they are unable to tie their shoe. Another example of how children's cognitions develop in stage two is that they can distinguish behaviors relevant to intelligence from those relevant to other domains. For example, usually by the first grade, a child can differentiate that reading is relevant to intelligence, but running quickly is not. In this stage, it is proposed that children may have a concept of ability as being "knowing" or "knowing how", but may have rudimentary ideas of capacity of ability (Cain & Dweck, 1989).

In the third and final stage, "Outcome = f(Effort, Knowledge, Capacity)," children develop an understanding of intelligence as a function of effort, knowledge, and capacity as they seek to explain individual differences in achievement based on their observations and interactions in the academic domain. Effort, knowledge, and capacity are viewed more and more in psychological terms, rather than behavioral terms, and children can manipulate these three components more as they develop. This shift from a behavioral conception of intelligence to a psychological one is supported by the evidence that children are able to describe concrete actions before being able to describe psychological traits. Older children are more likely to explain achievement outcomes as a result of a psychological construct such as cognitive ability (Cain & Dweck, 1989; Kurtz-Costes, McCall, Kinlaw, Wiesen, & Joyner, 2005).

In addition to a behavioral conception of intelligence among younger children, it was found that kindergarten students and second graders reported a connection between

being smart and jumping high and being smart and being nice, suggesting a less sophisticated theory of mind. Fifth and eighth graders were more likely to link being smart with cognitive abilities and appropriate effort, suggesting possible unawareness of learning disabilities but capability in conceptualizing learning disabilities. In addition, with older children placing more emphasis on cognitive ability, a stronger belief that intelligence is a fixed trait is likely to occur during ages where self-advocacy becomes more important. Adolescents and young adults may be less optimistic about the possibility of making positive change in their knowledge and education (Kurtz-Costes et al., 2005). This makes emphasizing strengths during the informing process all the more essential for students with learning disabilities, who may have lower self-concept and less optimism about their success.

Children's Perceptions of a Learning Disability

Although children have a general idea of what intelligence is, it may be beneficial to examine at what stage of their development they are able to understand the cognitive processes that contribute to important academic and life functions. Limited literature looks at whether or not students can understand their pattern of cognitive strengths and weaknesses and how they define their learning disability. One study explored young and older children's beliefs about the causes of learning difficulties and found that children aged eight to 10 have more ideas about these causes than younger children; however, their beliefs are often uninformed and inconsistent (Nowicki, 2007). For example, it was found that 58% of the younger children did not know the causes of learning difficulties, and the majority of children viewed lack of academic skills, social skills, poor instruction,

effort/motivation, failure to listen, or changes in environment as factors associated with learning difficulties.

Another study found that elementary school children aged nine to 12 were able to demonstrate more knowledge about learning difficulties using a concept mapping technique rather than an informal interview. Thirty-six participants were interviewed to answer questions that addressed their overall knowledge of learning difficulties including what it meant to have a learning difficulty, why some children have learning difficulties, and what challenges students with learning difficulties have. Their responses were then combined into one list and reviewed for essential meaning, clarity, and redundancy. After shortening the list to 42 unique statements, the statements were printed on cards to initiate a sorting task. Each participant was then given a set of cards and asked to sort them in a way that makes sense to them. Each statement could only be placed in one pile, all statements could not be placed in one pile, and each statement could not be put into their own separate pile.

The researchers then employed multidimensional scaling and cluster analysis to show the frequency with which the statements were grouped together by participants and the underlying themes represented by the statements. Themes from the card sort showed that the students tended to sort statements into five different concepts, or diverse origins of learning difficulties. These were: family stress, fate and circumstances occurring prior to birth, neurological and developmental problems, difficulties with information processing, and issues related to motivation, learning, and instruction (Nowicki et al., 2014). Although these studies suggest that older elementary school students may understand why some students experience learning problems, it does not answer the

question of whether or not they understand what a learning disability is. However, given this research by Nowicki, Brown and Stepien (2014), students aged nine to 12 should have the capability to talk about their learning disability in a meaningful way, if they are informed. This is important to the present study because it shows that elementary students have developed ideas about the origins of learning problems, but may need help from a school psychologist or other school professional to give them further insight into what it truly means to have a learning disability and how they can advocate for themselves.

The Need for Self-Advocacy

Much of the research on informing students about their disabilities has explored the positive effects of teaching self-advocacy to high school students transitioning to higher education. Other researchers; however, emphasize the importance of developing self-advocacy skills at younger ages so they can learn about themselves and communicate their needs. The younger population of SLD students are therefore in need of education, not only about their learning disabilities but about the ways they can communicate their needs. Ayres, Cooley, and Dunn (1990) illustrate this need by examining differences in self-concept among SLD students and normally achieving students. They found that SLD students' academic self-concepts were lower than those of the normally achieving group. They also found that SLD students were more likely to make maladaptive attributions, based on stable ability factors outside of their own control, for their school experiences. These attributions were consistent with learned helplessness behavior, and were more likely to lead to inactive learning and a lack of persistence in the classroom environment as observed by their teachers. The results of this study suggest that school personnel

should consider the SLD student's self-concept and attributions for school experience when designing interventions (Ayers et al., 1990).

Building self-advocacy skills in school-aged children has been shown to help them set goals, monitor interventions, identify potential frustrations, understand what they are good at, and set appropriate expectations (Zickel & Arnold, 2001). By informing students about their pattern of strengths and weaknesses, school psychologists may be able to help SLD students develop healthier attributions for their school performance and improve their self-concept by setting appropriate goals, identifying potential frustrations, and working with teachers to better learn in ways that accentuate their strengths.

Virginia's "I'm Determined Project" is one example of how schools have worked to help students develop these skills. It provides students with direct instruction, interventions, and opportunities to practice self-advocacy skills beginning in elementary school and progressing throughout their educational careers. Five primary intervention strategies are laid out in the I'm Determined Project: One-pager, Good Day Plan, Goal Setting and Attainment, Student-led IEPs and Conferences, and Lesson Plans which are based off of the core components of self-determination skills (Moore & McNaught, 2014).

The One-pager intervention is a simple example of how SLD students can advocate for themselves and improve communication between his or her special education and general education teachers. It is a one-page document that lists the student's individual strengths, preferences, interests, and needs, which can be completed by the student with help from a parent, teacher, school psychologist, counselor, or mentor. The use of this intervention can provide further information for teachers getting

ready to interact with the student at the beginning of the school year and serve as a guide for a student who wishes to participate in his or her IEP. This intervention, along with the other four included in the I'm Determined Project, has shown increased confidence, self-acceptance, advocacy, and leadership skills in students with disabilities (Moore & McNaught, 2014). Not only does this demonstrate that students with SLD can benefit from understanding their strengths and weaknesses, but it gives them a chance to get involved in the special education process in a way that is feasible, as stated in the ethical guidelines laid out by NASP (2010).

Informing SLD students about their disability at a young age may increase participation in the special education process by the time they get to high school, before higher education and career aspirations become increasingly proximal. Students do not grow out of learning disabilities, and when they reach adulthood, areas of life functioning can be impacted by the psychological processing deficits associated with their disability, whether at home, work, higher education, or in the community. Teaching them to become better self-advocates during elementary and middle school years may have a positive effect on the post-education transition.

As part of their systematic correlational literature review, the National Secondary Transition Technical Assistance Center (NSTTAC) identified self-determination/self-advocacy as an evidence-based predictor of future success in employment and higher education for students with disabilities after they leave high school (Test et al., 2009). Before these self-advocacy skills are acquired, it may be beneficial for students to have a solid knowledge base about their learning disability. One study examined the reasons incoming students at a large public university were late to obtain learning disability

services for their college career (Lightner, Kipps-Vaughan, Schulte, & Trice, 2012). The researchers interviewed 42 students with disabilities and found that 61 percent of the students who were late to obtain disability services did so because of lack of knowledge about their disability, compared to only 18 percent of students who sought services early. Another interesting finding was that, by their sophomore year, those who delayed obtaining services for their learning disability showed significantly lower grade point averages and awarded credit hours than the students who were more proactive obtaining services at the beginning of their freshman year (Lightner et al., 2012).

Another study utilizing focus groups of faculty members and undergraduate students with disabilities at a Midwestern university, found similar results (Izzo et al., 2001). Undergraduate students who approached faculty early and communicated their disability and needs reported having more positive experiences. The researchers argue that communication is key to being a successful advocate, and in order for them to develop effective communication skills, they must be able to properly explain their disability and the particular accommodations they need. When students entering post-secondary education are not able to communicate their strengths and weaknesses in a positive manner, they potentially set themselves up for failure.

Not only is post-secondary education functioning difficult for people with learning disabilities, but also adult life functioning. Another “layer” of manifestations of learning disabilities emerge in adulthood. Adults with SLD carry emotional baggage, poor self-worth, negative self-attributions, learned helplessness behaviors, and poor motivation. Many individuals struggle with underemployment, have few friends, and are more likely to get in trouble with the law (Gerber, 1998; NCLD, 2014).

Despite these difficulties that students with SLD face when transitioning to post-academic facets of life, there are certain characteristics of adults with SLD that have been shown to improve success and adaptation to adult life. These characteristics are resilience, self-confidence, self-awareness (or taking control of one's life), and coming up with adaptive ways to learn or master things (Gerber, 1998; Raskind, Goldberg, Higgins, & Herman, 1999). This last characteristic has been defined as "learned creativity," or problem solving in one's own style. It may be suggested that if one were to be able to problem solve in their own style, they would first have to acquire knowledge of their strengths and weaknesses.

In a qualitative analysis of their 20-year longitudinal study, Raskind et al. (2003) found that self-advocacy skills such as self-awareness (acceptance of SLD), proactivity, perseverance, appropriate goal setting, use of effective social support systems, and emotional coping strategies were more predictive of success than academic skills. Also, superior ability in "niche-picking," or selecting employment and social settings that accentuate their strengths, was another attribute of successful persons with SLD.

Given the importance of understanding strengths and weaknesses at a young age, its relationship to self-advocacy skills, and the positive outcomes for students with SLD who possess these self-advocacy skills, school psychologists need to come up with a set of guidelines for informing SLD students in a developmentally appropriate way. It also suggests that combining self-advocacy education with academic interventions that are included in IEPs would be beneficial to the success of this population. If school psychologists can first understand how general education and special education students talk about their learning strengths and weaknesses, then they can begin to come up with

the most developmentally appropriate way to inform them about their academics and help them become better self-advocates.

Research Questions

After reviewing the literature, it appears there is a lack of investigation as to how students with learning disabilities define their disability, talk about their learning strengths and weaknesses, talk about why they have these strengths and weaknesses, and what they can do to be better learners. The present study examined the responses of school-aged children to explore the following questions:

Research Question 1. How do these fourth and fifth-grade, general education and SLD students perceive their academic ability?

Research Question 2. How do these students conceptualize a strength?

Research Question 3. How do these students conceptualize a weakness?

Research Question 4: To what do they attribute learning strengths and weaknesses?

Research Question 5: What strategies do students list to improve their weaknesses?

Method

Participants

Participants included 26 general education students, and three special education students who met the state of Virginia eligibility criteria for SLD classification. Participants consisted of 16 boys and 13 girls in the fourth and fifth grade, attending public schools in the Northern Virginia area during the 2016-2017 academic year. Students with SLD show a deficit in one or more of the basic psychological processes

involved in the understanding or use of language that may affect their ability to listen, think, speak, read, write, spell, or complete mathematical calculations (Virginia Department of Education, 2010). The researcher reviewed each participant's academic records to obtain SOL scores and the identified specific learning disability (if applicable) for each student. The three special education students were all identified as students with a reading disability.

Materials

Interview Questions. Each interview form consisted of the same 12 open-ended and close-ended questions. Four interview questions were presented orally to the participants to obtain their perceptions of reading. The same four questions were asked again to obtain their perceptions of math and writing, making for a total of 12 questions and responses. Participants gave their responses orally. Interview questions are listed in Appendix A. To record data for this study, responses were recorded by hand on the interview form.

Procedure

All students remained anonymous to the researcher until parental consent forms were received. The special education case manager assigned to each student sent home parent consent forms to every student in the fourth and fifth grade identified as receiving services for specific learning disability. Parent consent forms were sent home by the researcher to each student's parents in the fourth and fifth grade general education population as well. The special education case managers returned the consent forms from the SLD students to the researcher, and parents sent the general education student

permission forms to the school. Only students whose parents gave consent were included in the study.

A student assent form was presented to the students whose parents provided consent, and the interview was conducted if assent was given. Participants were taken individually to a quiet room and told that they would be answering 12 questions about school and learning, and their responses would be written down and kept confidential. The researcher then conducted one interview with each of the participants, lasting approximately 15 minutes. Interviews were conducted at a convenient time indicated by the student's classroom teacher. The queries, "Can you tell me more?" and "Is there anything else you can think of?" were used when participants did not give full responses. A review of existing data in school files was then conducted for each participant to obtain SOL scores.

Results

To analyze the qualitative data collected from interviews and file reviews, common themes and categories of responses or frequently expressed ideas were elicited from the interview forms. Similar ideas and responses were clustered together and reported using a cut-and-sort method. The cutting-and-sorting method first involved cutting responses to each open-ended question into cards and laying them on a desk. The researcher then sorted the cards into separate piles based on similar and frequently expressed ideas. Because some of the responses included more than one theme or frequently expressed idea, the researcher decided that one response from a participant could be sorted and counted as multiple themes.

Furthermore, to examine whether or not students' performance in reading, math, and writing were reflective of the strengths and weaknesses they listed in their interviews, SOL scores were obtained from student records as a measure of current school performance in the three subject areas. SOL scores were chosen as a comparison tool because the SOL establishes minimum expectations for what students should know and be able to do at the end of each grade or course, thus serving as a better academic measure than classroom grades, which are subjective to individual teacher grading processes and judgment. At the time of this research study, only reading and math SOL scores were made available, so the researcher was not able to obtain a measure of actual performance in the subject of writing.

Additionally, a case study of two SLD students were completed to give further insight into the differences between participants with a high level of self-awareness and a lower level of self-awareness.

Research Question One

To explore how fourth and fifth grade general education students and students with SLD perceive their academic ability, participants were questioned about how they compare to their peers in the core academic areas of reading, math, and writing. In the subject of reading, participants were first asked, 'Do you feel you are better than most kids at reading; about the same as most kids at reading; or not as good as most kids at reading?' Given three possible responses, eight selected 'Better' (28%), 18 selected 'About the same' (59%), and three selected 'Not as good' (10%).

In an attempt to examine whether or not participants' perceived reading ability listed in the interview were reflective of their actual reading performance in school,

participants' responses were compared to their most recent reading SOL score. This was done by making two piles of responses: responses from participants who passed their SOL and responses from participants who failed their SOL. A trend was noticed that participants who failed their SOL were more likely to have an inflated self-perception of their reading ability, rather than a poor self-perception. All seven (100%) of the participants who failed their most recent reading SOL stated they were either 'About the same' as most kids in reading or 'Better' than most kids in reading, despite failing to meet grade-level expectations. Out of the 22 participants who passed their reading SOL, 19 (86%) stated they were 'About the same' or 'Better' than most kids at reading, and three (14%) participants stated they were 'Not as good' as most kids.

The same analysis process was conducted for the subject of math using responses to question five of the interview form: 'Do you feel you are better than most kids at math; about the same as most kids at math; or not as good as most kids at math?' Ten participants selected 'Better' (34%), 16 selected 'About the same' (55%), and three selected 'Not as good' (10%).

As observed among responses for perceived reading ability, a similar trend was observed in the data for math. Out of the seven participants who failed their most recent math SOL, five (71%) reported being either 'About the same' or 'Better' than most kids at math, whereas two (29%) reported that they felt they were 'Not as good' as most kids at math. Among the 22 participants who passed their math SOL, 21 (95%) reported feeling 'About the same' or 'Better' than most kids, and one (5%) reported feeling 'Not as good' as most kids at math.

With regards to writing, eight participants selected ‘Better’ (28%), 17 selected ‘About the same’ (59%), and four selected ‘Not as good’ (14%) to describe their writing ability. Given that writing SOL scores were not made available at the time of this study, the researcher was not able to explore themes among interview responses and how they compare to actual SOL performance.

Research Question Two and Three

Participants were asked two questions: ‘Why do you feel you are (better, the same, or not as good) at reading than most kids?’ and ‘How do you know if someone is good at reading or not?’ in order to gain more understanding as to what factors influence the formation of students’ ability perceptions and their conceptualization of an academic strength and weakness. The same two questions were asked for math and writing, in order to explore themes across academic subjects.

Responses revealed two emerging themes among factors that students incorporate into their reading ability formation. Participants reported that they perceived their ability based on how they were able to demonstrate specific reading skills (fluency, understanding, comprehension, pronunciation, speed, etc.) or based on an extrinsic measure of reading skills (grades, the difficulty or type of books someone reads, observations of peer performance). Overall, five participants mentioned grades, 12 mentioned specific reading skills (i.e. ‘I usually read very fluently and sometimes when kids read in front of people they sometimes stutter and make mistakes.’), eight mentioned the difficulty or type of books they read (i.e. ‘You see other kids reading these big books, and I’m still reading small books, and it makes me feel like they are better than me.’ ‘There are some kids like me how they don’t read chapter books a lot. More picture

books.') and 15 mentioned making some sort of comparison to the peers in their class as to why they feel they are 'Better', 'About the same', or 'Not as good' as most kids at reading. One participant said that they feel they are 'About the same' as most kids because they sometimes try their hardest, and sometimes they do not. One participant, out of the three students with an identified reading disability, made reference to their dyslexia as a reason why they feel they are 'Not as good' as most kids at reading.

With regards to the second interview question used to explore these research questions, 'How do you know if somebody is good at reading or not?', 13 participants made some mention that they could tell by how a student demonstrated their reading skills in the classroom (i.e. 'I usually think they are good at reading when the teacher is saying stuff, if they are always raising their hand and answering questions correctly. It says they know what the teacher is talking about.'). Nine participants said they knew someone's reading ability by the type of book they read, and two said by how much a student pays attention in class (i.e. 'Maybe they don't pay attention to tips that the teacher gives.'). Four participants said by how someone writes (i.e. 'They like to write a lot about it, and they read lots of books.'), and three said they could tell by how interested someone is when they read a book (i.e. 'Some people, they are super into reading. If they read they don't stop. Some people pretend to read it and put it down and take another book. They start looking around.'). Again, it appears that participants perceive reading ability based on skill demonstration in the core elements of reading and by peer observations.

Participants were asked the same questions for math, 'Why do you feel you are (better, about the same, or not as good) at math than most kids?', and responses varied. Eight participants cited their grades as a reason they feel they are better, the same, or not

as good as most kids in math. Whereas a large portion of participants used peer comparisons to develop a normative theory of measurement of their ability (mentioning other students in their class and how they compare to them) to explain why they felt they were better, about the same, or not as good as most kids in reading, only five participants did so in math. Another theme that differed from participants' responses in the areas of reading and writing, was that seven students who said they were 'About the same' reported that they had strengths and weaknesses within the subject of math itself (i.e. 'Math has the most subjects, so there is more to know. You can always forget it. Some things I'm good at, and some are a little harder.'). They explained that math was a unique subject made up of different topics, and that they are good at some things (i.e. addition, subtraction, decimals, etc.), but have difficulty with other things based on their experiences in previous classes (fractions, multiplication, division, etc.). For example, one student responded, 'It depends on what we are learning. We are learning fractions. I am not really good at it.'

Additional results indicated that four of the participants who felt they were better than most kids in math mentioned something relating to a hierarchy of math ability. They gave reasons that it was because they were chosen to help other students with math, to be part of an advanced or enrichment class, or to complete higher level math problems (i.e. 'I did this thing, and I got subjected to a math buddy thing with third grade to help them understand more stuff. There are five people that get selected.' and 'Sometimes my teacher asks me to help other kids that need help.'). Three participants who reported being not as good in math stated that they felt that way because they simply did not understand math concepts (i.e. 'I don't really understand how to do math, and I ask

teachers questions.'). Two students who reported being better than most kids said that they felt that way because they enjoyed math. One participant responded, 'Some kids are good at different things. It depends on what you are good at.' Additionally, one participant, who was identified as having a reading disability, mentioned that the subject of math fit with his individual personality. The participant reported that math "Fits with my personality. I build stuff and measure things. I build fidget spinners."

When asked, 'Why do you feel you are (better, the same, or not as good) at writing than most kids?', 12 participants mentioned it was because of the level in which they demonstrate important writing skills such as capitalization, punctuation, cursive, spelling, figurative language, use of synonyms, use of expression, or planning ability (i.e 'I don't write everything in cursive. My handwriting is not the best but you can still read it. I'm not that good at spelling words and sounding out words.'). Seven mentioned making some sort of comparison to the peers in their class (i.e. 'When me and my friend were writing a story, we were both able to add on to that at about the same level.'), and six mentioned their ability to generate ideas or creativity in writing (i.e. 'I am very creative with my stories and they can be funny, mystery, a comic, and stuff like that.'). Three said they felt it was because of how much they liked writing. Only two students mentioned grades as influencing their perception, two mentioned teacher feedback (i.e. 'My teacher wrote in my report card that if I plan out my writing it would be more solid in understanding.'), and one mentioned that he felt he was 'Not as good' because the material they were covering in class did not play to his strengths (i.e. 'Most of the time in fifth grade, we don't do any fictional writing, we have to do essays. The way you have to

write essays, I'm not good at that. I'm not very good at non-fiction and we do a lot of that right now.').

Participants gave responses that yielded similar themes related to the second question aimed at answering this research question. Unsurprisingly, the majority of participants (18) mentioned that they know if someone is good at writing or not based on how they demonstrate their writing skills or the quality of their writing in the classroom (i.e. 'They use good descriptive, figurative language and they know how to spell well.'). Four students said that they can tell if someone is good at writing or not by how their teacher responds to them in the class (i.e. 'Usually my teacher presents their work in front of the class if they are good at writing.'), suggesting that teacher feedback may play a role in a student's perceived ability. Three participants made reference to the individual's creativity, and two mentioned the amount of time it takes to complete their writing as important factors in shaping their ability perception. One student made reference to a possible genetic component involved in writing ability (i.e. 'They may have a history of their family being good.').

Research Question Four

In order to explore the language and understanding that students have as to why some students have learning problems, participants were asked, 'If a kid is not good at (reading, math, or writing), why do you think that is?' This question was asked in an effort to see if elementary-aged students are aware of learning disabilities, and to investigate what they attribute learning strengths and weaknesses to.

As stated earlier, one participant made reference to having dyslexia as a reason why some kids might have difficulty reading, and this participant had been informed of

his reading disability by his parents. No participants mentioned anything involving the processes of the brain affecting someone's ability to read; however, another said, "It is hard because their mind can't put words into a story to find out what it's about." Most students made no mention to an actual origin of learning difficulty. They suggested that children who are not as good at reading have difficulty because they do not demonstrate certain reading skills (eight participants), they do not put forth enough effort or attention (nine participants), they are not as interested in reading (seven participants), they read books on an inappropriate reading level (three participants), or they simply just do not understand how to read (eight participants).

Some students mentioned that kids have different strengths and weaknesses, but when the researcher queried further as to why they have a specific weakness, they were not able to come up with a reason why kids with a weakness in reading could not understand words as well as other kids. One student mentioned, 'Maybe because they weren't introduced to reading early. They didn't learn to spell or learn their letters early. Maybe if they didn't go to preschool.'

With regards to math, participants had similar responses. Twelve participants attributed weaknesses to controllable things like attention, effort, or interest. Four attributed a weakness to an individual's personality or made mention to it just not being their thing (i.e. 'I just think they are not really good with numbers and it's not really their thing.' and 'Some people learn at a different pace than other people.'). Ten said that the weakness was because they did not demonstrate appropriate math skills or just had a hard time understanding math (i.e. 'They are taking a long time to figure out one single problem, and they just end up putting down random numbers. Sometimes I have done this

because I tried almost everything. I have trouble remembering steps and get confused.'). Finally, two participants attributed a weakness to external forces, specifically a lack of support from parents (i.e. 'Maybe their parents are always busy so they can't help them out.'). No participants mentioned the presence of a disability or anything involving brain-related processes as an impediment to learning math.

With regards to writing, nine participants stated that willful things like attention, effort, or interest played a role in a students' writing weakness (i.e. 'If they take longer and goof off with other kids. Some kids decide to sit there and do nothing and day dream/raise their hand to go to the bathroom and go talk instead.'). Seven participants said they are not as good as most kids because they did not know how to do certain things or did not demonstrate certain writing skills (i.e. 'Probably because a lot of kids forget to add beginnings of sentences, capital letters, and handwriting is sometimes messy. Punctuation is incorrectly used.'). Five participants stated they had difficulty planning, coming up with something to write about, or imagining. suggesting possible capability to understand executive functioning weaknesses and the role of cognitive skills in academic ability (i.e. 'Maybe they can't imagine things. They take a while to figure out what they are going to do. They are slower to process what they write down.'). Additionally, two participants linked writing weaknesses to reading ability or not reading enough, and one participant said age played a factor in writing ability.

Research Question Five

In order to explore what strategies students list to improve academic weaknesses, participants were asked, 'If a student is not as good at (reading, math, or writing), is there something they can do to get better at it? What can they do to get better at it?' Among

responses for reading, three distinct themes emerged. Eighteen participants reported that they would recommend engaging in some sort of practice to improve their ability, six participants reported that students with reading weaknesses should challenge themselves more, and two participants reported that they should start by reading at a lower level. Additionally, five participants gave specific examples of ways that a student could practice reading (i.e. 'Reread once or twice, and go back and find the information to help you on other pages.'). Two participants listed strategies that did not fall into the three categories that emerged from the cut-and-sort method of analysis: 'Maybe explore more genres,' and 'I would say predict what happens next and picture what happens. Some people don't understand it.' Among all responses, eight participants mentioned that getting help from somebody else (parents, teacher, tutor, camp, or sibling) would be a strategy to improve someone's reading.

Among responses for math, 28 participants reported that some sort of extra practice would help a student get better at math if they were not good at it, and 15 of those participants gave specific examples of how a student could practice (i.e. 'I guess I could go home and do a deck of multiplication cards. I do this at home. I split them up into things I can do easily and what I can't do. I add one card to the easy pile after I have mastered it. I guess I could do that with anything else.'). Three participants mentioned that paying attention more in class would also help them get better at it (i.e. 'Start paying attention and don't talk.'). Similar to reading, 11 participants stated that they would get help from somebody else (parents, teacher, tutor, camp, peer, or sibling).

When asked how students could get better at writing, 16 participants made reference to practice as a strategy to improve. Nine of the 16 participants who mentioned

practice gave a specific example of a practice strategy (i.e. ‘Take a dictionary and give yourself some words that you have trouble spelling, and keep working on them until you get them correct.’), and five of the 16 students said they would get help from somebody else (parents, teacher, club, or peers). Six participants reported that reading more could help them improve their writing, and four participants did not give a strategy, but said that they should either demonstrate skills or work harder (i.e. ‘Use figurative language, and don’t use the same word many times.’ ‘Know how to spell words and punctuation. Write more.’ ‘Start thinking about more stuff to write. Write longer.’ ‘Just work hard.’) One student said that they did not think there was anything someone could do to get better at writing.

Case Study of SLD Students

Since the researcher was only able to obtain consent for three SLD students to participate in this study, a cross-case analysis of interview differences between general education students and SLD students was not able to be conducted. Of specific interest to the researcher was highlighting the importance of informing students of their disabilities and how it plays a role in a student’s perceptions of their strengths and weakness. Therefore, a case study highlighting the difference in responses between a participant who had been informed of their reading disability and a participant who was not informed of their reading disability was conducted to gain deeper insight into intra-case differences in perceptions of academic strengths and weaknesses.

Student Informed of Dyslexia

The participant who explained that he was informed of his dyslexia by his mother reported that he felt he was not as good as most kids at reading because his disability

made it ‘a little hard’ for him to read, but that he was getting better. When queried further about whether or not he understood what dyslexia was, he expressed that he was not sure, but that his mother said it makes it harder to read. This participant also expressed a feeling of relief when he was informed of his disability by saying, ‘Oh! That explains it.’

When asked, ‘If you are not as good at reading, is there something you can do to get better at it? If so, what can you do to get better at it?’, the participant stated that he has an after-school tutor twice per week, and that he practices every night using a reading website. When the participant’s SOL scores were examined, it was found that he passed his most recent reading SOL, despite answering that he was not as good as most kids. Results from his interview suggest that although his self-perception of reading ability did not completely match his performance on the SOL, he was self-aware of the origin of his difficulty, as well as the recent improvements he has made.

With regards to math, the participant reported that he felt he was about the same as most kids at math because it fit with his personality more. He reported, ‘I build stuff and measure things. I build fidget spinners.’ When asked, ‘How do you know if someone is good at math or not?’, he said, ‘In math class, I can tell if they are shooting their hands up fast, or if they are first to finish. If they aren’t as good, I can tell if they sit there with a puzzled look on their face, or if they are hesitating.’ For strategies to get better at math, he listed making flashcards, memorizing times tables, and getting support from his mother to write down problems for him to work on.

His responses to the same four questions about writing also revealed that he possesses awareness of his personal strengths and weaknesses. He reported that he was better than most kids at writing because he has a lot of creativity and enjoys it. He also

explained that he had a weakness in his handwriting, but that he was able to make ‘good, fun, creative stories.’ For how he could tell if someone is good at writing or not, he reported, ‘If you look at their paper and can’t tell a single word they are writing,’ and ‘If they are always getting up to ask questions.’ As to what someone could do to get better, the participant explained that if it was a spelling issue, you could get words to spell ten times each and practice; if it was a handwriting issue, he said taking your time would help you get better.

Student Not Informed of Dyslexia

Although it is possible that this participant was in-fact informed of his reading disability, he did not mention it in the interview. He reported that he felt he was about the same as most kids at reading because he reads the same level books as most kids in class, despite failing his most recent reading SOL. As for his answer to how he knew if someone is a good reader or not, he stated that good readers will pick out a book and keep reading it if it is good or bad, and that worse readers will spend all their library time looking for books until class is over. With regards to possible ideas as to why some kids are not as good at reading, he cited effort and interest as explanations (‘Either they are not reading hard enough, or they don’t like reading.’). He also expressed that students should try reading harder books if they are not as good at reading.

The participant’s responses to interview questions about math focused heavily on the importance of attention. He reported math being an academic strength of his because he likes it and pays attention. If someone is good at math, he reported that you can tell if they pay attention and always do their homework, and if someone is not as good at math, they ‘don’t pay attention, talk a lot in class, and don’t do their homework.’ When giving

possible explanations to the origins of math learning problems, the participant reported, 'Most kids don't pay attention,' and if they wanted to get better they should, 'Start paying attention and don't talk.'

While the participant who was informed of their dyslexia reported their academic weakness in reading, the participant who was not informed reported their academic weakness in writing. In the interview, he reported, 'I usually don't have anything to write about. I suck at writing. I hate it.' His perceptions of who is good at writing and not good at writing were based on the amount of time spent writing and the length of writing. For example, he said that good writers will 'take a long time to finish, write a lot, and try their best,' whereas poor writers 'finish in five minutes, their spelling is not good, and writing is short.' When asked what strategies he had to improve his writing, he had difficulty coming up with how to get through his difficulty. He reported that he could start thinking about more stuff to write about and write longer.

Discussion

This study examined how fourth and fifth grade students talk about their academic strengths and weaknesses in the areas of reading, math, and writing. Given the benefits of self-advocacy and the limited research investigating how students talk about their learning strengths and weaknesses, why they have certain strengths and weaknesses, and their ideas as to what they can do to become better learners, the interviews conducted in the present study provide school professionals with more information regarding the formation of academic self-perceptions, the developmental language that children use to communicate their learning experience, and their demonstration of knowledge related to the origins of learning disabilities. In order to talk appropriately to students with learning

disabilities, school psychologists and professionals must first understand whether or not children have a grasp on what it means to have a learning disability and explore the level of their understanding of strengths and weaknesses.

For this study, the researcher hoped to explore the differences in perceptions of strengths and weaknesses between students in the general education population and the specific learning disability population. However, due to a limited number of students with a specific learning disability in the schools that participated, making it difficult to generalize or meaningfully interpret data across cases, it was decided by the researcher that analyzing differences in responses from three learning disabled students and 26 general education students would not serve as the primary analysis. An analysis of responses using a cut-and-sort method to identify key themes and patterns was conducted, and SOL scores and identified learning disabilities (if applicable to the participant) were examined in relation to responses.

Research Question One

When examining the results of this study, it appears that fourth and fifth grade students have an appropriate understanding that they can be good at one subject, and not good at another. The majority of participants were able to indirectly explain that the school environment is full of a diverse population of learners who each have their own learning strengths and weaknesses. While understanding this concept is important in many life skills, it is also important that students are accurately self-aware, so that they can take a strengths-based approach to learning while remaining aware of their challenges and limitations. Given that the literature suggests the use of normative performance-comparison as a method of ability formation, one may hypothesize that if a student feels

they have a strength in reading, they would likely exhibit average or above average school performance in reading. The same theme might be expected from a student who feels they have a weakness in reading. One might expect that particular student to be underachieving in reading. In this study, the majority of participants appeared to list strengths and weaknesses that were reflective in their school performance, when SOL scores were used as a measure of school performance.

More interestingly, it appears that those who passed their most recent SOL happened to have a more accurate perception of their ability than those who did not pass their SOL. The majority of those who did not pass their SOL were likely to report being at least the same as most kids at the particular subject, even though there was evidence that they performed below grade-expectations. This suggests that those students were either not aware of their SOL performance, or did not use SOL performance as reference when citing their academic strengths and weaknesses. The latter is most likely a more accurate hypothesis as to why some students' performance was not reflective of the strengths and weaknesses they listed in the interviews. This can be seen when examining the second research question and the factors that contribute to students' academic self-perception. The vast majority of participants did not mention their SOL scores within their responses. This finding also brings into question concerns that doing poorly on SOL tests may have potential negative impacts on children's academic self-concepts and self-worth.

Research Question Two and Three

How do students come to the conclusion that they are either 'better', 'about the same', or 'not as good' at reading, math, and writing? Responses from the interview

questions give insight into the arena of performance comparison that schools facilitate, mentioned by Rosenholtz and Simpson (1984) and Shaklee and Tucker (1979). Just as the authors argue, interview responses indicated that fourth and fifth graders attend to social cues, register teachers' treatment of students who do well and students who do poorly, share information regarding peer performance, and use observations of their environment to begin conceptualizing their own strengths and weaknesses.

Students highlighted the importance of things like the types of books (i.e. big, little, thick, more words, less words, picture books, etc.), the distinct groups that students work in, how quickly students work, teacher reactions, peer reactions, grades, and student attention levels to use a basis for determining their own strengths and weaknesses. This gives valuable insight into how the structure of school may affect the self-perceptions of our students, and may help us learn how to respond to students in different ways to foster healthy self-perceptions. It highlights the importance of specific verbal praise given by teachers, other positive behavioral techniques, as well as 'multidimensional classrooms' (Rosenholtz & Simpson, 1984) that help shape school climate and the emotional well-being of students. Each individual student is different, and by understanding why individual students feel a certain way about their academics, school professionals are able to better to address unhealthy elements of their self-perception to better meet the needs of our increasingly diverse population of students, especially those with a learning disability.

Since no students mentioned the brain as a contributing factor of learning problems in this study, it appears that fourth and fifth grade students are not likely to explain achievement outcomes as a result of a psychological construct such as cognitive

ability (Cain & Dweck, 1989). This suggests it may be beneficial to begin informing students with learning disabilities in a way that emphasizes that SLD stems from difference in cognitive function. For example, while SLD students' brains may process information differently, they can still use tricks, alternative methods, and their personal strengths to navigate their difficulties in school.

Research Question Four

This study was able to investigate explanations students have for why someone has a weakness in an academic subject in an effort to explore whether students mention themes related to learning disability. After asking the question, 'If a student is not as good in (reading, writing, or math), why is that?', many participants had a difficult time coming up with an actual origin of a learning difficulty. The researcher often probed with further questioning in an attempt to get them to give an answer as to why students did not read fluently, spell correctly, understand addition, or plan their writing. Only one student said that dyslexia was a reason why he himself had a weakness in reading, and another mentioned that their mind had difficulty making sense of the words. While these two students were the closest of any participants to demonstrate an understanding of a learning disability, their answers show that there is a need for further education on what a learning disability actually is. Overall, it appears that some students have the capability to understand the concept of a learning disability and the role that cognitive processing plays in academic functioning, but that it is up to school professionals with the most knowledge on this topic to equip them with a deeper understanding to advocate for themselves (Nowicki et al., 2014).

A large number of participants attributed a weakness to effort. While this could possibly be a contributing factor, attributing a weakness solely upon how much effort is put toward a subject may contribute to the perception that learning disabled students are lazy. This, in turn, impacts their self-concept, given the evidence found earlier in this study that so much of ability perception is based off of peer comparison and observations of behavior in the classroom environment. While a large number of participants mentioned effort, the majority of them did not imply that it was the sole root of a weakness, but rather a piece of the puzzle. Some students may choose not to put forth much effort into an academic weakness and would rather put more effort into their strengths.

Research Question Five

Participants provided a variety of different recommendations for improving academic weaknesses. Most of their interview responses revolved around the importance of practice as a way to reinforce concepts and improve their skills, and many participants were able to come up with examples of how to practice. Participants also cited self-advocacy techniques like asking other people for help, whether it be from their parents, teacher, peers, or tutors. Communication with school professionals and peers is an important tool in self-advocacy, and the current research suggests that students recognize the benefits of that communication. What is important is that they are able to verbalize and explain what particular things they struggle with and how they learn best.

Some participants were also aware of the link between reading and writing, stating that they could work on their reading to improve their writing. They reported that one can gain ideas, creativity, vocabulary, and grammar skills used by authors in books,

and that these things can benefit them in their own writing. By recognizing the overlap of reading and writing, students may be able to understand that cognitive skills can effect different areas of academic functioning.

While many students said to practice more or work harder at their weaknesses, this may not be the most efficient or emotionally conscious way of approaching the deficits that come along with a learning disability. Often, SLD students become fatigued with the amount of work they have to put into their academics just to try and keep up with the pace of instruction and their peers' performance. Just as special education services highlight the need for specially designed instruction, it may be beneficial for students with academic weaknesses to learn how to practice in a way that accentuates their strengths. By informing students of the different ways they approach academic concepts based on their cognitive profile, students may be able to develop compensatory strategies and superior ability in 'niche-picking,' which the literature cites as an evidence-based predictor of success among learning disabled adults (Raskind et al., 2003).

Limitations and Considerations for Future Research

There are some limitations that should be addressed for future research on this topic. First, only three students with a specific learning disability were able to participate in this study, thus limiting analysis between general education and special education students. With such a small number of SLD students, it is difficult to collect generalizable data to the larger population and fully understand the differences in perceptions of strengths and weaknesses between these two groups. Future research in this area should aim to collect responses from an equal number of general education and SLD students, as

well as from different age groups. By comparing responses of different age groups, researchers may be able to gather information about potential patterns of academic ability perceptions as students develop.

Second the SOL scores used a method of comparison in this study do not represent a true measure of ability but rather academic performance. This may pose a problem two different ways in this study. Students who are high level readers may not perform well on SOL tests. Despite reading at a higher level than other students in their school and demonstrating deep understanding of text and excellent reading fluency, there are other factors that could contribute to lower SOL scores. The other problem with using SOL scores in this study stems from the specific population of students who participated. This research was conducted in one of the highest achieving counties in the country, making it difficult to truly assess differences in academic performance related to strengths and weaknesses listed in interviews because so many of the participants received high SOL scores. Also, a weakness in one area may not actually be a true weakness if we are comparing them to other school systems across the country.

Third, the present study was not able to fully investigate what students think a specific learning disability is because they were not directly asked that question. With the lack of literature investigating this topic, future research should be aimed at answering this question in order to fully understand the language that students use to talk about a disability.

Lastly, the nature of this study is qualitative and exploratory; therefore, in-depth interviews with individual students limited the scope of data collection because of the smaller number of participants (29). Future research may also consider administering a

student survey with more questions and possible options for participants to choose in order to help them generate ideas to questions. For example, in the present research some participants had a difficult time generating reasons why students are not as good as others in certain subjects. If this question was administered as a survey question with a list of possible reasons generated by the researcher, one might be able to further explore whether or not students think that cognitive ability plays a major role in a weakness. Analyzing qualitative data gathered from interviews using a cut-and-sort method is heavily dependent on the researcher's biases and idiosyncrasies when generating themes. This bias is unavoidable, and findings can be more difficult and time consuming to characterize in a visual way.

Implications for School Psychologists

The conclusion of this study not only illustrates the importance of self-advocacy skills in all of our students, but provides school psychologists and other professionals with guidance and suggestions for promoting healthy, academic self-perceptions. The interview form used in this study can serve as a guideline for an addition to a school psychologist's clinical interview. By asking these twelve questions, school psychologists can better understand the individual's inner world and assess their level of self-awareness, which will ultimately help with interpretation in psychological evaluations. Not only can school psychologists use questions like these, but so can teachers and other school professionals. If students are asked to provide responses to questions aimed at eliciting their strengths and weaknesses, teachers are better able to differentiate instruction and meet the unique needs of our diverse student population.

With no clear guidelines as to how to inform students of their specific learning disability, this study provides some insight into the language that students use to talk about their learning. As developmental literature indicates, students demonstrate some ability to understand what a specific learning disability is around the age of nine (Cain & Dweck, 1989); however, it is up to school psychologists and other school professionals to help them reach a full, accurate, and healthy understanding of their disability. This need is demonstrated by the evidence found in this study that the vast majority of students made no mention to something relating to a cognitive weakness impacting their educational performance.

Given the evidence that a normative measurement of academic ability within the classroom is inevitable and used by students to compare themselves to others, it is essential that somebody provides guidance for students to create a healthy, realistic assessment of their strengths and weaknesses. Just because a child notices that they are reading slower than their peers does not mean that it should impact their self-worth in the classroom. It is up to school psychologists and other school professionals to explain what avenues can be taken in order to effectively use those strengths to be successful in their academic, social, emotional, and professional endeavors. Without improving students' level of self-awareness at an early age, students may find themselves encountering increasingly frustrating situations making it difficult for them to advocate for their needs and reach their true potential.

Appendix A

Interview Questions

Reading:

1. Are you __better than most kids at reading; ___ about the same as most kids in reading; __or not as good as most kids in reading? Why do you feel that way?
2. How do you know if someone is good at reading or not?
3. If a kid is not as good at reading, why do you think that is?
4. If you are not as good at reading, is there something you can do to get better at it? What can you do to get better at it?

Math:

5. Are you __better than most kids at math; ___ about the same as most kids in math; __not as good as most kids in math? Why do you feel that way?
6. How do you know if someone is good at math or not?
7. If a kid is not as good at math, why do you think that is?
8. If you are not as good at math, is there something you can do to get better at it? What can you do to get better at it?

Writing:

9. Are you __better than most kids at writing; ___ about the same as most kids in writing; __not as good as most kids in writing? Why do you feel that way?
10. How do you know if someone is good at writing or not?
11. If a kid is not as good at writing, why do you think that is?

12. If you are not as good at writing, is there something you can do to get better at it? What can you do to get better at it?

Appendix B

Tables of Interview Responses

Table 1: Do you feel you are better than most kids at reading; about the same as most kids at reading, or not as good as most kids at reading? Why do you feel that way?

Better	• A little better because I get good grades, and I can comprehend and read faster. • A little bit better because I check my grades and get fours. • Better because I usually read very fluently and sometimes when kids read in front of people they sometimes stutter and make mistakes. • Better because whenever (teacher) gives us an assignment I understand it. • I feel like I'm better. When I get a book, most of the time, I have been reading Harry Potter, and it is a little hard. I enjoy reading it, and once I pick it up it is hard to put down. My mom and I think I read really fast, but I do comprehend what I read. • I feel like I'm one of the top people. Not the best but I'm there. I understand some knowledge that other kids don't. • It depends on the type of reading. I have a really high reading level. I just have a lot of trouble writing essays. Better than most kids. I do read a lot of large books and books that are for older kids. • In the middle of the better and the same. On a scale from one to ten I think I'm an 8 or 9. I think when I read, I really get to understand the book and I can tell a really good summary about the book. I can understand why some characters act a certain way.
About the same	• There are some kids like me how they don't read chapter books a lot. More picture books. • I'm not too good at it, but not too bad at it. Sometimes I have trouble in reading, but most of the time I'm pretty good. • Between the same or better because I sometimes read a lot, sometimes I try my hardest and sometimes I don't. • About the same because I mostly read graphic novels. • About 60th percentile because whenever I take a test, I feel like I do pretty well. • I read fluently, and I usually get good grades on reading tests. • We were reading a non-fiction group, and they (students) all had the same books, and we had to read to a certain point, and I finished about the same as most people finished. • I'm a pretty strong reader. I have fun doing reading, but

	compared to some of the kids in my class, I'm not as good at it as them. I'm about average. • I have a few friends who have some trouble with reading and some things they are good at. • I do challenges with my sister sometimes and she's in middle school and goes easy on me, and sometimes I win. My mom has a website, and I usually get about three wrong in five passages. • I'm reading the same level books as most kids in class. • About the same. I understand questions and I can read better. • About the same. I read the books that most kids read and I usually don't have trouble reading them. • I'm not super fluent when I read. Sometimes I don't read the most complicated and thicker books, or more advanced books. • Because we are not all the same. • Average. Some things I kind of don't understand. Like what a word means. I used to not know what theme meant, but now I understand what most of the stuff in reading is. • The same. I'm not the best at it like some people are, but I'm not the worst at it.
Not as good	• I have a lot of difficulty reading fluently and have a hard time reading aloud and pronouncing words. • A lot of words I don't know what they mean. I won't understand the text. I can't say the words. You see other kids reading these big books, and I'm still reading small books, and it makes me feel like they are better than me. • I have dyslexia, so it's a little hard for me to read, but I am getting better. My mom told me. I asked her what it is and she said it makes it harder to read. I said, "Oh! That explains it."

Table 2: Do you feel you are better than most kids at math; about the same as most kids at math; or not as good as most kids at math? Why do you feel that way?

Better	• People share their grades a lot. People next to me usually mess up questions on the promethean board in class. Some people don't pay attention; they think it's boring. • I know my multiplication facts easily; it takes me a second. On my math tests I get like 3.5s, and my friends are getting 2s. • Math is one of my strengths. Usually on tests I get a lot of fours, and I felt pretty confident on the SOLs, and sometimes my teacher asks me to help other kids that need help. • On my report cards I get all fours in math and always do good. It is easier for me to understand. • I took this advancement class, and it was next grade level. They told me what I should expect and what I should do. Now I use what I learned from those classes and applying those techniques to new units. • I feel very good about math. It is one of my favorite subjects. I love doing math. • I like math and pay attention. • I feel a little better because it's more of my strength. I go to enrichment, and I do really tough math. • I did this thing, and I got subjected to a math buddy thing with third grade to help them understand more stuff. There are five people that get selected. • My mom used to put on school house rock for me and my sister. I like looking at my older sister's homework. I'm getting ahead with my math skills because I look at her homework and learn about it.
About the same	• I get good grades, but sometimes I don't. Some topics I'm really strong in, and others I have difficulty. • I'm not the best at it like some people are, but I'm not the worst. • I get average grades in math. • I have been good at math for as long as I remember. I can solve the problem, but I may not be able to do it as fast as some people, but I can always solve it. • Some kids are good at different things. It depends on what you are good at. • It depends on what we are learning. We are learning fractions. I am not really good at it. I'm about the same level overall. • It depends on what the topic in class. Some I am good at it, and some I am not as good at. • Math has the most subjects, so there is more to know. You can

	always forget it. Some things I'm good at, and some are a little harder. • I have no trouble working out problems. I get good grades on my math tests. I listen while my teacher teaches. • When we do math homework, I get the same answers as most people. • Sometimes I don't understand, and it takes me a while to learn how to do it. • I have trouble with some questions and some strengths in others. • I don't know stuff that is higher than where we are at right now in math. • I'm not better than most people, but I'm about the same. I ask questions when I don't understand something, and it helps me understand it a lot more. I figure out stuff and get pretty good at them. • Multiplication is a little hard, but division I can do easily. It fits with my personality. I build stuff and measure things. I build fidget spinners. • I don't get a lot of fours. I usually get a two or a three.
Not as good	• I feel like there is a lot of steps to most things, and it gets confusing because in subtraction in first grade, I would have trouble and get confused with all the numbers and extra zeros. At first I thought long division was crazy. I would get help with one problem on a worksheet, and I would learn step by step. Knowing what to do first is hard. • I don't really understand how to do math, and I ask teachers questions. • I am really bad at multiplication. I just don't really understand. Some kids can do it really fast. I don't even know about division.

Table 3: Do you feel you are better than most kids at writing; about the same as most kids at writing; or not as good as most kids at writing? Why do you feel that way?

Better	• Better because I write a lot, and I know how to fix it if there are any errors. I know how to include figurative language and correct punctuation at the end of sentences. • A little better because I know how to spell a lot of words, and I know what they mean. A lot of my friends need to edit theirs, and I help them. I'm really good at capitalization and punctuation. • I usually write a lot and try to find lots of information, and I'm usually the first one done and get a good grade. • My teacher said that I'm good at writing, and I love to write stories. • I have a lot of creativity. Not the best handwriting, but I make good, fun, creative stories. I like writing. • When teacher gives us writing prompt, I'll usually take up two pages. • I don't use regular words, I think of other synonyms that are better. • Better. I am very creative with my stories and they can be funny, mystery, a comic, and stuff like that.
About the same	• I don't usually plan out my writing. I keep forgetting, but I know I have to do it. I'm working on planning. My teacher wrote in my report card that if I plan out my writing it would be more solid in understanding. • It's sometimes hard for a lot of kids to make up a story. If you give them a topic it's easier to write a story. • I go a little fast and don't check over it. My punctuation and grammar grade is not the best. • I feel like I have a good imagination. For books, I like fiction books, and they have imagination from authors. • Sometimes I will have words that I don't know how to spell, but I will try to figure out and will figure it out. Sometimes I forget punctuation and capitalization. • Even though I don't really like writing, I have lots of good ideas. Sometimes I don't always express them. If I'm given something I'll do it even if I don't really want to. • When me and my friend were writing a story, we were both able to add on to that at about the same level. Sometimes I don't add punctuation at the end of sentences. I forget. • It's a strength. I just write really good. If they say to be expressive in your writing, I can. • I don't write everything in cursive. My handwriting is not the best but you can still read it. I'm not that good at spelling

	words and sounding out words. • Because I am not that good with punctuation and spelling. • I have a little trouble figuring out what to write and comprehend things. Most of the time, I can make a good sentence, but I forget to add something, and it sounds weird when you read it out loud. Sometimes my sentences come out really good. • It is one of my strengths but close to my weaknesses, but not a weakness. In Florida, we had "WOW" writing, and I usually got fours and threes in that. Four is the best. • I feel very strong in that subject. I like writing about my own stuff. I feel good, but I don't always enjoy the projects in writing if it is something I don't want to write. • For the same reason as reading and math. • I know how to write and what to write. If a teacher gives me a subject I can write a paragraph or two about it. I am okay at cursive, not the best. • I think I am better than some kids but not better than the super good writers. About the same or above. Punctuation is a hard part for me. Forgetting to put commas when someone edits it. • The same. Some people write with big words, and the people who aren't that good at writing, don't write as much with big words and they aren't as descriptive. I fall in the middle.
Not as good	• When I write and we do essays, I don't write as much as other kids. Spelling the words right and punctuation makes it hard. • Usually I don't have anything to write about. I suck at writing. I hate it. • Not as good. Most of the time in fifth grade, we don't do any fictional writing, we have to do essays. The way you have to write essays, I'm not good at that. I'm not very good at non-fiction and we do a lot of that right now.

Table 4: How do you know if someone is good at reading or not?

- They read slow or choppy. They don't read fast. There are different reading groups, fast groups and slow groups. Some kids don't do well on tests and get bummed out. You can tell by their face.
- They usually get good grades. When they do a summary and answer questions, they really understand what they read.
- To me, I feel like they should have a good vocabulary and know how to read very fluently. Sometimes they have trouble spelling words, and sometimes they need help to identify and pronounce certain words.
- Sometimes when we are in a book club, and we have to read, someone who is better at reading will finish first and understand it. If I were to have read as fast as them, I probably would have not read every word in the book.
- They have a loud voice when they speak. They don't mess up usually. They read a lot. If they are not good, they have trouble focusing on words and have trouble reading.
- If they pay attention to what they are reading and read not too fast but not too slow. If they do not understand words and stumble over words and read slow, they are not as good.
- They can read fluently and they know a lot about reading and other stuff. I can tell by their grammar, how they use words, and how they read.
- If they are not stumbling when they read. If they say, "Oh, I didn't understand that." But the answer was right there in the passage.
- They can just go through the page fluently, not too many mistakes, not stopping on words. They read smoothly.
- If they know lots of words and work really hard.
- When they can read fluently, read fast. IF they know the answer to the question really quickly.
- I usually think they are good at reading when the teacher is saying stuff, if they are always raising their hand and answering questions correctly. It says they know what the teacher is talking about.
- If there are simple words in the book
- If they read Harry Potter. I can tell by the types of books they read. Magic Treehouse is lower.
- If they are reading really big books that I wouldn't understand. Books that have words that I have never heard of.
- The books in the library have reading levels. If you check the reading level and ask them some questions, you can tell. If it was a level that I could do, then they are probably good at reading. If it is a lower level, then they are probably poor at reading.
- I know because I see what book they are reading, and I'll know depending on the thickness and the vocabulary in it. That is just how I judge. Picture books are lower.
- Sometimes they will suggest a lot of books to you because they read all the time. There is a certain level of books like how advanced they are and they read the

most advanced.

- Usually if they read more thick books, they are better at reading. If they read skinnier books, they don't have as many words so it isn't as hard.
- If they read out loud to you, you can tell if they are struggling. If they read big books.
- They can read fluently and tell how they really understand a book. They sometimes read harder books that have like 400 pages.
- They write a little about the book and don't include important details about what they read.
- If they are writing a long time.
- They like to write a lot about it, and they read lots of books. If they are not so good, they don't really want to read. They might try but probably won't be able to write as much.
- You can ask them their reading level and see how they write up something on a book they are reading.
- They will pick out a book and just keep reading it if it's good or bad. No as good readers will spend all the time in library looking for books until class is over.
- I can tell because if they read a lot and they are interested in books. Not good readers do other things than reading and don't read books.
- Some people they are super into reading. If they read they don't stop. Some people pretend to read it and put it down and take another book. They start looking around.
- They are really concentrated in their reading, they take a lot of time doing questions. My teacher told us about detail and whole questions and they follow those rules. Maybe they don't pay attention to tips that the teacher gives. During reading workshop, he might just be drawing in his notebook instead of doing work.
- They don't read the book. If they are a good reader, they enjoy the book and stay focused on it.

Table 5: How do you know if someone is good at math or not?

- They get all the answers right and really understand it. They help other people. I can tell if they aren't good if they don't really understand the topic and take more time than usual. They don't get good grades on tests.
- Their expression after tests. A lot of people get a frown on their face when they do bad and others say, "Yes!" when they do well.
- I could quiz them on the units we covered in fourth grade to tell. If they are having a hard time in class and can't do long division.
- I'm not sure because I don't look at what they get (grade). If they understand and can do the problem.
- Because they always know how to do it and understand, or if they don't know how to do most things.
- In math class they are shooting their hands up fast or if they are first to finish. I can tell if they sit there with a puzzled look on their face, or if they are hesitating then they are not as good.
- I know if they are good if they are in future and go to a different school on Wednesday. If (teacher) asks a question, they will be the first to raise their hand, and they will get really good grades on tests. If they get bad grades on tests and they don't enjoy math a lot. They might not raise their hand.
- They get good grades.
- Usually they will know something more advanced than what you are actually learning at the moment.
- They will raise their hand a lot in math class to answer the question.
- If they raise their hand a lot during math class.
- Usually when we work in pairs, there is usually a couple people who know most of the things they are asking so they are helping others.
- If they can do math facts really well and fast. IF they work out problems and show their work.
- They will always want to listen and learn ore. If they aren't good, they try to not do it. They might be doing something else, but the teacher won't know. Try to guess at tests.
- If they are dozing off during a lesson. If they ask you how to do a problem.
- They pay attention and always do homework. If they don't pay attention, talk a lot, and don't do homework.
- They probably take longer on the problem to be thorough and make sure their answer is correct. I don't work as long as them but take about ¾ of the time it takes them to finish a problem.
- Good if the teacher asks you a question, and they do it really quickly. If they are doing harder multiplication. I can tell if they are not good if they are last to finish questions or do lower math problems.
- If they remember multiplication. They are quick with their facts.
- Usually, they can do simple questions very fast and multiplication times tables. They start problems right away. If they usually need help from other people and help to do simple questions.

- If they finish something really fast, or if they don't know multiplication or division.
- If they can do math in five seconds. I can't do any math in my head and it takes time.
- If they go through math questions really quickly.
- Whenever the teacher asks a math question, they don't think, they shoot their hand up right away
- If they answer the question quickly or understand math really well.
- If they are answering all the questions right and (teacher) points them out. If they are getting bad grades on their tests or not paying attention or crying when they get back their test.
- From out math teacher, she might give him compliments in class. We have teacher time, and they aren't pulled for it because they don't need much help. They might not be good if they aren't paying attention. If they don't do their work on their whiteboard desks and doodle instead. If they don't remember their sayings we learned in class.
- You can look at their weaknesses and strengths. Look at multi-step problems, addition, subtraction, multiplication, division, decimals, fractions, geometry. See what their strengths and weaknesses are.

Table 6: How do you know if someone is good at writing or not?

- The teacher shows their work to everybody. If they are not good, their handwriting is really bad and you can't read it so they don't get a good grade. They are not good at main idea and have a really hard time learning it.
- At the end, the teacher sometimes picks out writings for kids to read the writing out loud. She usually picks the kids that are good at writing that she has read over and thinks are great.
- Usually my teacher presents their work in front of the class if they are good at writing. Getting good grades. If someone is bad, their sentences don't make sense, or they have trouble coming up with ideas.
- If the teacher corrects the writing, they will get a lot of things wrong and not write well.
- If they write an amazing story. If their characters are doing one thing then all of a sudden doing another thing, that's not good. When there are no transitions or order to the story.
- Usually they can spell words very quickly, and they have good punctuation and get correct capitalization. Opposite is if they spell words wrong and have to have help to spell words. They mess up on capitalization and punctuation.
- They use really good words and write a lot, like a big essay or good paragraph.
- I could tell them to write a short passage and look at the vocabulary they use and give a rating by myself.
- I can tell if they are good if they do their rough drafts really fast and go into their final and spell everything right. They write a lot about some things. I can tell if they are bad if they don't know how to spell complicated words or any words. There is not good punctuation and they don't write much.
- If they have good punctuation, spelling, no mistakes, and grammar.
- They use a million "and" words and not using commas to separate things. When you have a big thing to write about and just one sentence.
- They write a lot about the topic an are able to comprehend what they said with correct punctuation and capitalization.
- They are people with really good vocabulary. They have been reading and writing in their notebook. I really like looking at people's writing, so I will ask them if I can look at their writing notebook. They know how to spell very good.
- If they write in different languages or other ways that kids don't. If they write in cursive or write faster than kids.
- If you look at their paper and can't tell a single word they are writing. Always getting up to ask questions.
- They usually use a lot words when they talk and use other words that people don't know about..
- They have really good handwriting or they use really advanced words in their writing. Most things they will write in cursive.
- The handwriting, if the teacher doesn't understand what they are saying by the handwriting or they didn't answer correctly.

- They use good descriptive, figurative language and they know how to spell well.
- People write with big words, and the people who aren't that good at writing don't write as much with big words and they aren't as descriptive.
- If they read their story aloud. If I'm editing it and seeing what they put it in it shows me how good they are. It has a lot of figurative language and stuff like that.
- If they can write really long and strong and have a good story about them or someone else.
- If they are creative or not.
- If their writing uses a lot of adjectives, and you can imagine it in your head.
- They want to write a lot to show they have lots of thoughts or opinions about that topic. They want to be creative. The ones who are not good don't want to write, don't have many ideas, might just sit there not doing anything.
- They take a long time to finish, write a lot, and try their best. Opposite is if they finish in five minutes, spelling is not good, and their writing is short.
- When they are good at writing, they will write for a long time and have long writing strips.
- They will be listening to the teacher. They might help other people. They may have a history of their family being good.

Table 7: If a kid is not as good at reading, why do you think that is?

- Maybe it's hard for them to understand books or read in general. It is hard because their mind can't put words into a story to find out what it's about.
- I have dyslexia, so it is a little hard for me to read, but I am getting better.
- Some people don't pay attention and some people don't read a lot at home for homework. They don't read different genres, and they are not good at writing too.
- Because maybe they don't try as hard. They are not as good at the subject. Just have to try hard and do it a lot.
- They don't read a lot; they don't have a lot of books at home.
- Because they don't read as much at home.
- They need more assistance because they have difficulty. Maybe from not paying attention.
- They aren't paying attention, and they are not listening to the instructions. Maybe not putting a lot of effort into their work.
- Either they aren't reading hard enough or they don't like reading.
- Maybe they just don't like reading so they don't put much effort into it.
- Maybe because they don't read as much at home and practice it.
- They don't enjoy it. Reading books that you are more interested in.
- They don't like to read or maybe they just don't want to read. They don't enjoy it.
- Because they only read when they have to. Lots of kids want to spend their time online on tvs, computers, and games. They don't read as much.
- They have trouble picking a book and maybe sometimes they get really bored. Most books start boring and get better. Some might get too bored in the beginning and give up. Some people might just feel every single book is too hard for them.
- Either they are not reading hard enough or they don't like reading.
- I think it is because they don't enjoy reading, and they don't want to do it.
- If they don't understand words or they don't like reading as a subject. If they don't know how to pronounce the word or if they have never seen the word, they would have a hard time understanding them.
- If they are actually reading, maybe they don't read fluently. Not sure.
- Because I think that they might have some trouble comprehending the information. Sometimes in longer books, the words are a little harder reading level. If they are having trouble, I would tell them to find a similar book but an easier level, and then you could eventually get back to the other book. If you read the easier version, you might be able to comprehend the harder version a little better.
- Because they might have trouble pronouncing words in certain books.
- Because the books that I choose are fiction and never non-fiction. I'm always reading fantasy and there aren't that hard of words. If I read more challenging words, then maybe I could get better.
- Maybe nouns, verbs, and adjectives. It is hard to come up with words that make

sense for them.

- Because they might have trouble pronouncing words.
- Maybe they are good at reading but its because they think they are not. Maybe it's cause they don't think because you need to think in order to do it to comprehend.
- It's because they are not trying to sound out a word or maybe they just don't know what the word is. They don't understand it.
- Maybe they just don't learn good. They don't understand words.
- Maybe because they weren't introduced to reading early. They didn't learn to spell, learn their letters early. Maybe if they didn't go to preschool.
- It could just be that they don't understand what they are saying or if they aren't listening enough in class. Mostly because they can't understand what the teacher is trying to say.
- I don't think they can read fluently, they have trouble understanding the meaning of the book. If they read a lower book, they won't have experience with harder vocabulary that is in other books.

Table 8: If a kid is not as good at math, why do you think that is?

- They aren't practicing as much. They aren't listening when the teacher is going over the topic. If they look at other peoples', and when the real tests comes they don't know the information and don't do well.
- Usually there a lots of kids who have seats next to best friends. They are kind of bad and don't pay attention in math and just goof off. If they were to stop, they might improve.
- If they don't pay attention, take more breaks, and don't practice.
- Some kids yell out things and it distracts. Some kids talk the whole class, so they don't pay attention. Some kids do their homework the next morning, and they don't know how to do it. If they made learning fun and interactive, it will be easier to learn. Some kids are more visual and interactive.
- Maybe because they don't pay attention.
- Maybe they don't try to do it, and they don't enjoy it. Maybe they like to do it, but they don't practice it often, and they lack some skills.
- The would rather be interested in doing other things. If they are ready to move on or not. If they move on when they aren't ready, then they will struggle. You use other things you've learned to help you with new things.
- I think they don't enjoy it, and they don't think they will ever need to use it in life, but they will.
- Because they don't practice as much as other kids.
- Most kids don't pay attention.
- Maybe they just don't like it. They don't focus, listen to the teacher
- Maybe because they don't pay attention in class, don't study, or don't understand it.
- Multiplication is a little hard; division I can do easily. It fits with my personality. I build stuff and measure things. I build fidget spinners. It might be hard for others.
- I just think they are not really good with numbers and it's not really their thing.
- Some people learn at a different pace than other people.
- The same with reading. Maybe they weren't at preschool or just have trouble in their mind putting two and two together. Maybe they don't have the best imagery and imagination. Cant do mental math that well.
- Math is a very hard subject. You have to like try to think it in your head without writing it down, and it would be hard for people. If people don't understand it and teach themselves something, and they teach themselves the wrong thing.
- Maybe they just can't understand putting the numbers and stuff together, or maybe they don't care about what it is about.
- Because they don't like it, or they have trouble understanding things like that. Maybe they have a hard time understanding because they have been disguising. They want other people to know they are good at math, but they aren't.
- Because it is hard for them to understand. They don't really know how to do it. Maybe they weren't listening.
- They are taking a long time to figure out one single problem, and they just end

up putting down random numbers. Sometimes I have done this because I tried almost everything. I have trouble remembering steps and get confused.

- They have troubling doing math equations. They might not want to participate in some math games. Harder math equations = more trouble in math.
- They might be really disorganized when they are doing a problem. If they accidentally regroup from the 1s place to the 100s place.
- If they don't understand a lesson or the subject like me, they need to practice more for tests. I don't know why.
- Maybe it's because they don't know how to communicate. You need to know what works best and what doesn't like in algebra.
- Math is for me one of the most confusing subjects. A lot of it is hard to understand. They may have a harder time understanding what the math words are (stem and leaf, measure of variation, range).
- Because their mom or dad might not give them information to help them.
- Math is usually the harder one, so a lot of kids do have trouble in math. Maybe their parents are always busy so they can't help them out.

Table 9: If a kid is not as good at writing, why do you think that is?

- They don't like it, and they don't put effort into it. They are not as creative.
- If they take longer and goof off with other kids. Some kids decide to sit there and do nothing and day dream/raise their hand to go to the bathroom and go talk instead. Maybe they should try to start to plan out stuff and try writing a paragraph or two. They could do a log journal every day at home about your day and what it's been like.
- Maybe because they aren't focused and talking to friends.
- maybe it's because they don't write a lot. Maybe they don't take the time to study and get words correct and spell them right.
- They think they would probably not really want to do it. They think it's not a good way to express themselves.
- Same as I said earlier. Nothing to write about, I suck at it. I hate it.
- I don't think they are very into it. Maybe they only write a couple sentences, and they don't enjoy what they are writing about.
- They need more attention. They might just play around. Clubs help; they should join some clubs.
- Maybe just leaving things out. You can easily distracted by other things in the room when you are supposed to be writing. We are also supposed to ask questions to others to see what they thought about it and what we can fix.
- Probably because they don't use adjectives and might not know how to spell words and write something else.
- Probably because a lot of kids forget to add beginnings of sentences, capital letters, and handwriting is sometimes messy. Punctuation is incorrectly used.
- Grammar and punctuation. They are hard for them to understand. They wouldn't know where to put a comma and apostrophe.
- Maybe they don't know how to spell.
- They just don't have a really good vocabulary. It is just really hard for them.
- Probably because they don't know how to spell and stuff. They don't use a lot of big words. They say the word wrong which could impact spelling. Pronunciation.
- They sometimes won't understand what the teacher is telling them to do so they will have trouble writing about it.
- They might be young and might not know how to write some words.
- They don't what the words are, or they cant find any information to write about. They don't know what there is to write about.
- Because I'm always behind on everything. When people are starting their rough drafts, I'm still thinking about what to write.
- Maybe they can't imagine things. They take a while to figure out what they are going to do. They are slower to process what they write down.
- They might not really have good ideas or have an idea about something they write. If they don't know enough about the topic, they can't really write something good about it.
- There's not really a reason, but maybe they don't have as big of an imagination

if you are writing fiction.

- If they have different amounts of space (letters). I like to use the slant. Some people's words are really close together. Writing is very sloppy and hard to read.
- I'll write until they tell me to stop.
- Not sure. Maybe they practice more math and less writing, it could affect how they work.
- For some people they just cant think of things to write. For others, they don't have the freedoms to write something in school. If they aren't allowed by their teacher to write about what they want to write about. That's the case for me. I don't get the chance to write fiction which I am good at.
- Maybe it's because they don't read much. You learn off reading. Maybe they are not paying attention to the teacher. Some people fall behind and forget what to do and mess up a lot. They keep on falling behind because the class moves on without them. I would like if we separate into groups of fast and medium writers so they can stay on track.
- Maybe because they are not very good at reading. They might not like to write.

Table 10: If you are not good at reading, is there something you can do to get better at it? What can you do to get better at it?

- I think so. There are some kids who like to read smaller picture books that aren't very challenging. Maybe if they read longer chapter books, then maybe they would improve.
- We go to the carpet a lot, and it is boring. Get chapter books instead of picture books and magazines. Harder level.
- Yes, you can read other books, more books, harder books. Read more.
- Study and work hard.
- Try reading harder books.
- Just increasing my vocabulary and reading more intense books. Asking my teacher what I could do to get better.
- I would keep reading more often to strengthen my vocabulary. Do more.
- Maybe ask the teacher for more help, and ask the teacher about the topic. Reread once or twice, go back and find the information to help you on other pages.
- You can go to reading camps. Have a summer or after school tutor.
- Practice more.
- Practice more and do it more.
- Practice more.
- You have to work on being a fluent reader. Every night, for twenty minutes, they could read a short story.
- Understand the meanings of words you read. Practice at home more.
- Find websites to practice. SOL Pass.
- I have a tutor after school every Monday/Wednesday. I practice every night; there is a reading website I use.
- Study harder.
- I would practice every day and take classes to become better and better.
- You can read to your parents out loud or a sibling before you go to bed.
- They could read at home and ask the parents for help.
- They could read more at home and try to do their own little thing. They could summarize the book by themselves.
- Probably just practice. Do a lot of reading at home or something.
- You could read more at home and study more words.
- You could probably read more, like thirty minutes per day. Also, write and have your parent look at what you write. You can also sign up for services where they send you books.
- You can always start off with whatever level you are comfortable with, and then you could move forward and find what you are interested in.
- Get a book that is average and read it out loud to friends and family. That is what I did when I first started Harry Potter and couldn't read them.
- Maybe explore more genres.
- I would say predict what happens next, picture what happens. Some people don't understand it.

Table 11: If you are not as good at math, is there something you can do to get better at it? What can you do to get better at it?

- Study the topics before the tests. Pay attention when the teacher is going over the material.
- Start paying attention and don't talk.
- I guess just listen, ask questions, and work on it at home.
- They could take advancement classes.
- Maybe if they were struggling on one unit, the could make flash cards to bring home and study.
- Camps. Tutor.
- I don't really know. Do it twice or something. Sometimes kids who are falling behind get brought to the carpet by the teacher. Find somebody who's good at math to help. Games.
- Practice and ask for help. I think they could improve.
- I would ask my mom if she could help me and study a lot. Ask a tutor for help and pay attention in class.
- I would get a textbook and work on it. Get flashcards and keep testing myself until I get every answer right.
- I practice a lot, and that is usually all you have to do. Learn to understand it.
- Practice and ask for help. I think they could improve.
- They will just study at home, take home worksheets, and want to make sure they pass.
- You can ask your teacher for word problems, and she can help you. Go find online resources at home.
- Practice more and know answers to multiplication and division.
- Practice harder. They will get better.
- I guess I could go home and do a deck of multiplication cards. I do this at home. I split them up into things I can do easily and what I can't do. I add one card to the easy pile after I have mastered it. I guess I could do that with anything else.
- Make flashcards. I practice and memorize tables. I have mom write down division, subtraction, and addition problems to work on.
- (Teacher) has games she makes by herself. Sometimes I try to make them, and maybe kids could do that.
- Getting flashcards. Writing my own flashcards and practicing every day. Asking parents and teachers for help.
- Keep practicing. Stay on one topic, and once you feel you are good at it then you can move on to another topic.
- Think of a way that will help you. A rhyme or something.
- You can work on your facts. Especially if you struggle in something the most, you can work on that. Learn the steps to do it.
- I would make a chart of what I'm good at and what I'm not and I would combine them together to get stronger.
- Use my brother's tutor for help.
- I'm starting to take lessons so I can fluently do math.

- They could go online and take a test to find out their strengths and weaknesses and then look up videos that help you with your weakness. Demonstrations on how to do stuff to make your skills better.
- Yes, you could practice it more. If you are at dinner, you could get a napkin and your mom and dad could write problems down for you.
- I might do a little multiplication and see how fast I can do the problems. Practice stuff in the real world because math is everywhere. Cutting a pie in half for fractions, looking at the time.

Table 12: If you are not as good at writing, is there something you can do to get better at it? What can you do to get better at it?

- Practice
- Practice at home and do short stories
- Practice writing for homework
- I would take my mom's computer and write a story about something.
- Take a dictionary and give yourself some words that you have trouble spelling and keep working on them until you get them correct.
- I would go home and get a video online and write about it. Try to get better every video.
- If it is spelling, you can work on spelling. Get words to spell ten times each. If it is a handwriting problem, then taking your time will help you get better.
- Clubs. I don't know.
- What I did to get better was to practice writing nicely. Writing about the most important things and not everything that happened (in the story). That is good practice. Ask parents and teacher to help you.
- Practice writing.
- If you are beginning, go to a dictionary or thesaurus to get better words. Work on writing at home. Write stories for fun.
- Try to get better at spelling and expand my knowledge.
- Have my parents give me writing prompts and I would write about them.
- You could practice writing or think about it more.
- Practice writing about stuff. Find something to research and write about. Write about random things and write as long as you can.
- They could practice writing their own stories at home.
- Use figurative language. Don't use the same word many times. I would recommend this to them.
- Know how to spell words and punctuation. Write more.
- Start thinking about more stuff to write. Write longer.
- Just work hard.
- Try reading more books to give you ideas. Maybe use the plot from books you read. Ask friends to help with ideas.
- Reading can help because they could know new words and what they mean.
- They could read lots of stories for inspiration. Pick a few topics and randomly do one.
- You can read more books to get more ideas. Go at home and think of something and write it down. Create a journal of your day.
- Read more and go on online websites.
- Yes, you could listen more in class and read more fiction books to have a bigger imagination.
- I don't think so.
- Write more and let other people edit their stuff to see what they thing and then put that into their mind while writing.

Appendix C

Invitation to Participate in a Research Study

Title of Study: **Exploring Students' Perceptions of Academic Strengths and Weaknesses**

Investigators:

Name:	**Spencer Brookbank, M.A.**	**Dept:**	School Psychologist Intern	**Phone:**	703-915-0638
Name:	**Dr. Ashton Trice**	**Dept:**	JMU School Psychology	**Phone:**	540-568-8189

Introduction

- You are being asked to give consent for your child to participate in a research study of elementary school-aged students' perceptions of their academic strengths and weaknesses, and their level of self-awareness.
- Your child was selected as a possible participant because he/she is in the fourth or fifth grade.
- I ask that you read this form and ask any questions that you may have if you agree to allow your child to participate in the study.
- Please understand that consent is completely **optional.**

Purpose of Study

- The purpose of the study is to examine the academic self-perception of general education students and special education students with a specific learning disability. The study will look at how both groups of students talk about their academic strengths and weaknesses.
- Ultimately, this research will be presented as a graduate thesis and may be published in a research journal.

Description of the Study Procedures

- If you agree to be in this study, your child will be asked to meet with the researcher, a school psychologist intern, to answer 12 questions about their academic strengths and weaknesses as a student, ideas as to why some students have learning difficulties, and what they can do to get better at their academic weaknesses. The interview will take place during one class period and last approximately 20 minutes.
- The researcher will have supervised access to your child's educational records on a need-to-know basis for information including age, the identified specific learning disability (if your child has a learning disability), SOL scores, grades, and the special education services/resources provided to each student (if your child has a learning disability). No other data will be accessed.

Benefits of Being in this Study

- Parents will be provided a written record of how your child perceives their academic strengths and weaknesses after the study is conducted to give insight into their self-awareness as a student.

Risks/Discomforts of Being in this Study

- There is potential risk of temporary psychological discomfort that your child may experience if they are uncomfortable talking about their academic strengths and weaknesses. If your child becomes upset or experiences discomfort, the researcher will discontinue the interview.

Confidentiality

- The records of this study will be kept strictly confidential. Student records and interview forms with your child's answers will be kept in a file at the elementary school, and all electronic information will be secured using a password protected word file. I will not include any information in any report I may publish that would make it possible to identify your child.

Right to Refuse or Withdraw

- The decision to allow your child to participate in this study is entirely up to you. You may refuse them to take part in the study *at any time* without affecting the relationship with the investigator of this study or the elementary school. Your decision will not result in any loss or benefits to which you are otherwise entitled. Your child has the right not to answer any single question, as well as to withdraw completely from the interview at any point during the process; additionally, you have the right to request that the interviewer not use any of your child's interview material.

Right to Ask Questions and Report Concerns

- You have the right to ask questions about this research study and to have those questions answered by me before, during or after the research. If you have any further questions about the study, at any time feel free to contact me, Spencer Brookbank, at sbrookba@lcps.org or by telephone at 571-252-1013. Also, feel free to contact my supervising professor, Dr. Ashton Trice, at tricead@jmu.edu or by telephone at 540-568-8189.

Questions about Your Rights as a Research Subject

Dr. David Cockley
Chair, Institutional Review Board
James Madison University
(540) 568-2834 cocklede@jmu.edu

Consent

- Your signature below indicates that you have read the above information, and have decided to give consent for your child to participate in this study. You have been given satisfactory answers to your questions. The investigator has provided you with

a copy of this form. You are at least 18 years of age.

- **If you give consent, please return this form to your child's school.**

Child's Name (print): _____
Parent's Name (print): _____
Parent's Signature: _____Date: _____
Investigator's Signature: _____ Date: _____

Appendix D

Title of Study:
Investigator:

I am doing a research study about **elementary school students and their understanding of what they are good and not so good at in school.** A research study is a way to learn more about people. If you decide that you want to be part of this study, you will be asked to **answer 12 questions in private, which should take about 20-25 minutes.**
There are some things about this study you should know. These are **procedures, things that take a long time, or things that you may not want to talk about.**
There is a benefit to being in this study. A benefit means that something good happens to you. You will get a positive behavior token from your school for participating.
When we are finished with this study I will write a report about what was learned. This report will not include your name, and nobody will know you were in the study.
You do not have to be in this study if you do not want to be. If you decide to stop after we begin, that's okay too. Your parents know about the study too.
If you decide you want to be in this study, please sign your name.

I, _____, want to be in this research study.

_____ _____
(Sign your name here) (Date)

_____ _____
Signature of Investigator (Date)

Spencer Brookbank, M.A.
School Psychologist Intern
Spencer.brookbank@lcps.org
703-915-0638

Ashton Trice, Ed.D.
Professor, JMU Graduate Psychology
tricead@jmu.edu
540-568-8189

References

Ayres, R., Cooley, E., & Dunn, C. (1990). Self-concept, attribution, and persistence in learning-disabled students. *Journal of School Psychology, 28,* 153-163.

Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: a longitudinal study and an intervention. *Child Development, 78*(1), 246-263.

Cain, K. M., & Dweck, C. S. (1989). The development of children's conceptions of intelligence: a theoretical framework. In Sternberg, J. (Ed.), Advances in the psychology of human intelligence, *5*, 47-82.

Gerber, P. J. (1998). Characteristics of adults with specific learning disabilities. *Serving Adults with Learning Disabilities: Implications for Effective Practice.* Retrieved from http://www.ldonline.org/article/Characteristics_of_Adults_with_Specific_Learning_Disabilities?theme=print

Individuals with Disabilities Education Improvement Act (2004). Retrieved from http://nichcy.org/wp-content/uploads/docs/PL108-446.pdf

Izzo, M. V., Hertzfeld, J. E., & Aaron, J. H. (2001). Raising the bar: student self-determination + good teaching = success. *The Journal of Vocational Special Needs Education, 24*(1), 26-36.

Kurtz-Costes, B. E., McCall, R. J., Kinlaw, C. R., Wiesen, C. A., & Joyner, M. H. (2005). What does it mean to be smart? The development of children's beliefs about intelligence in germany and the united states. *Applied Developmental Psychology, 26*, 217-233.

Lightner, K. L., Kipps-Vaughan, D., Schulte, T., & Trice, A. D. (2012). Reasons university students with a learning disability wait to seek disability services. *Journal of Postsecondary Education and Disabiltiy, 25*(2), 145-159.

Moore, M., & McNaught, J. (2014). Virginia's self-determination project: assisting students with disabilities to become college and career ready. *Journal of Vocational Rehabilitation, 40,* 247-254.

National Association of School Psychologists. (2010). *National Association of School Psychologists Principles for Professional Ethics.* Bethesda, MD: Author.

National Center for Learning Disabilities. (2014). *The state of learning disabilities: facts, trends, and emerging issues* (3rd ed.). New York: Author.

Nowicki, E. A. (2007). Children's beliefs about learning and physical difficulties. *International Journal of Disability, Development, and Education, 54*(4), 417-428.

Nowicki, E. A., Brown, J., & Stepien, M. (2014). Children's structured conceptualizations of their beliefs on the causes of learning difficulties. *Journal of Mixed Methods Research, 8*(1), 69-82.

Raskind, M. H., Goldberg, R. J., Higgins, E. L., & Herman, K. L. (1999). Patterns of change and predictors of success in individuals with learning disabilities: results from a twenty-year longitudinal study. *Learning Disabilities Research & Practice, 14*(1), 35-49.

Reddy, C. J. (2015). *Investigating school psychologists' role in informing students about their learning disabilities* (education specialist thesis). James Madison University, Virginia, United States.

Rosenholtz, S. J., & Simpson, C. (1984). The formation of ability conceptions: developmental trend or social construction? *Review of Educational Research, 54*(1), 31-63.

Shaklee, H., & Tucker, D. (1979). Cognitive bases of development in inferences of ability. *Child Development, 50*(3), 904-907.

Stipek, D. J. (1981). Children's perceptions of their own and their classmates' ability. *Journal of Educational Psychology, 73*(3), 404-410.

Test, D. W., Mazzotti, V. L., Mustian, A. L., Fowler, C. H., Kortering, L. J., & Kohler, P. H. (2009). Evidence-based secondary transition predictors for improving post-school outcomes for students with disabilities. *Career Development for Exceptional Individuals, 32*, 160-181.

Virginia Department of Education. (2010). *Learning disability*. Retrived from http://www.doe.virginia.gov/special_ed/disabilities/learning_disability/index.shtml

Wagner, M., Newman, L., Cameto, R., Javitz, H., & Valdes, K. (2012). A national picture of parent and youth participation in IEP and transition planning meetings. *Journal of Disability Policy Studies, 23*(3), 140-155.

Zickel, J. P., & Arnold, E. (2001). Putting the I in the IEP. *Educational Leadership, 59*(3), 71-73.

Zimmerman, B. J. (2002). Becoming a self-regulated learner: an overview. *Theory Into Practice, 41*(2), 64-70.