The Effect a School District’s inservice, about the Implicit Curriculum of School Functioning, has on Educators’ attitudes towards Children with Autism Spectrum Disorder

Debra Louise Barton
dbarton@d15.org

Follow this and additional works at: https://huskiecommons.lib.niu.edu/allgraduate-thesesdissertations

Recommended Citation
Barton, Debra Louise, "The Effect a School District's inservice, about the Implicit Curriculum of School Functioning, has on Educators’ attitudes towards Children with Autism Spectrum Disorder" (2019). Graduate Research Theses & Dissertations. 6844.
https://huskiecommons.lib.niu.edu/allgraduate-thesesdissertations/6844
ABSTRACT

THE EFFECT A SCHOOL DISTRICT’S INSERVICE, ABOUT THE IMPLICIT CURRICULUM OF SCHOOL FUNCTIONING, HAS ON EDUCATORS’ ATTITUDES TOWARDS CHILDREN WITH AUTISM SPECTRUM DISORDER

Debra L. Barton, EdD
Department of Curriculum and Instruction
Northern Illinois University, 2019
Mary Beth Henning, Co-Director
Jesse W. Johnson, Co-Director

Educators’ attitudes affect the success of their students. When children have a variety of challenges, such as children with autism spectrum disorder (ASD), educators’ attitudes towards these children are specifically influenced, affecting the success of the child. Research has shown that professional development can improve the educator’s attitudes, therefore increasing the success of the students. School functioning skills, such as obtaining knowledge from a variety of formats and following class rules that vary from teacher to teacher and setting to setting, are especially difficult for children with ASD because such skills are not usually taught. They are part of the implicit curriculum that all students are assumed to learn instinctively. Evidenced-based instructional strategies, such as Direct Instruction (DI), can provide that skill set for these children.

The focus of this quasi-experimental quantitative study is to investigate the effect professional development has on special educators’ attitudes regarding children with ASD and the implicit curriculum of school functioning. Using a Pretest-Posttest-Posttest design, educators’ attitudes are measured prior to a day of professional development, immediately following that in-service day, and then five weeks later. Results show an improvement in the
educators’ attitudes immediately after the in-service day, at a statistically significant level, and remain at the level. Additional variables comparing the level of education of the participants, the number of professional development types, and the amount of students with ASD participants had worked with were analyzed. Implications and directions for future research are discussed. The PowerPoint presentation used on the in-service day, titled “Helping Children with ASD Unlock the Implicit Curriculum of School Functioning” is included as supplemental materials.
THE EFFECT A SCHOOL DISTRICT’S INSERVICE, ABOUT THE IMPLICIT
CURRICULUM OF SCHOOL FUNCTIONING, HAS ON
EDUCATORS’ ATTITUDES TOWARDS CHILDREN
WITH AUTISM SPECTRUM DISORDER

BY

DEBRA L. BARTON
©2019 Debra L. Barton

A DISSERTATION SUBMITTED TO THE GRADUATE SCHOOL
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE
DOCTOR OF EDUCATION

DEPARTMENT OF CURRICULUM AND INSTRUCTION

Doctoral Co-Directors:
Mary Beth Henning
Jesse W. Johnson
ACKNOWLEDGEMENTS

This dissertation study could not have been completed without the support and guidance of many people. First, I would like to thank my committee, Dr. Mary Beth Henning, Dr. Jesse W. Johnson, and Dr. Kelly Summers. Your guidance, support, encouragement, and praise mean more than you could know.

Secondly, I would like to thank my co-workers, Kimberly Capranica, Angela Curry, Donna Haage, and Michelle Klosowicz. Without your assistance, support and encouragement I would have never been able to present the professional development program, seen this doctoral process through to completion, or been able to manage being a doctoral student and a Director of Special Education. Thank you for the sacrifices you made on my behalf.

Finally, I would like to thank my family. My parents, James and Sandra Gay, instilled a strong work ethic and respect for education that I carry with me today. My boys, Robby and Joey Barton, provided understanding, comradery, and encouragement as we each worked on our homework together or I carried the cartoon you created for me to all of my classes. Most of all, I would like to thank my husband, Bob Barton, for having more faith in me than I had in myself, for being my sounding board about so many things, and for having unending patience as I ate this elephant one bite at a time. I would not be where I am today without all of your love and support.
DEDICATION

For my husband, Bob and my boys, Robby and Joey; you are my greatest joys.
# TABLE OF CONTENTS

| LIST OF TABLES | vii |
| LIST OF FIGURES | viii |
| LIST OF APPENDICES | ix |

Chapter

1. **INTRODUCTION TO THE STUDY** ................................................................. 1

   - Problem Statement ....................................................................................... 4
   - Purpose Statement ......................................................................................... 5
   - Research Questions ........................................................................................ 5
   - Rationale for Hypotheses ............................................................................. 6
   - Conceptual Frameworks ................................................................................ 7
     - The Implicit Curriculum for School Functioning ........................................ 7
     - Five Levels of Professional Development .................................................. 9
   - Significance of Study .................................................................................... 13
   - Methodology .................................................................................................. 14
   - Delimitations ................................................................................................ 13
   - Definitions for this Study ............................................................................ 15
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization of Study .....................................................................</td>
<td>15</td>
</tr>
<tr>
<td>2. LITERATURE REVIEW ....................................................................</td>
<td>18</td>
</tr>
<tr>
<td>The Effect of Educators’ Attitudes ............................................</td>
<td>18</td>
</tr>
<tr>
<td>The Characteristics of Children with ASD ......................................</td>
<td>20</td>
</tr>
<tr>
<td>Educators’ Attitudes towards Children with ASD ................................</td>
<td>23</td>
</tr>
<tr>
<td>The Need for Effective Instruction ...............................................</td>
<td>26</td>
</tr>
<tr>
<td>The Implicit Curriculum of School Functioning ..................................</td>
<td>28</td>
</tr>
<tr>
<td>Direct Instruction .........................................................................</td>
<td>31</td>
</tr>
<tr>
<td>Professional Development ..................................................................</td>
<td>36</td>
</tr>
<tr>
<td>Conclusion .....................................................................................</td>
<td>38</td>
</tr>
<tr>
<td>3. METHODOLOGY .............................................................................</td>
<td>41</td>
</tr>
<tr>
<td>Rationale for Hypotheses .................................................................</td>
<td>41</td>
</tr>
<tr>
<td>Research Design ............................................................................</td>
<td>44</td>
</tr>
<tr>
<td>Internal and external validity ....................................................</td>
<td>44</td>
</tr>
<tr>
<td>Participants ..................................................................................</td>
<td>47</td>
</tr>
<tr>
<td>Context of district .......................................................................</td>
<td>48</td>
</tr>
<tr>
<td>Procedures ....................................................................................</td>
<td>48</td>
</tr>
<tr>
<td>The Intervention ...........................................................................</td>
<td>50</td>
</tr>
<tr>
<td>Data Collection Tool ......................................................................</td>
<td>56</td>
</tr>
<tr>
<td>Chapter</td>
<td>Page</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
</tr>
<tr>
<td>Data Analysis</td>
<td>67</td>
</tr>
<tr>
<td>Summary</td>
<td>67</td>
</tr>
<tr>
<td>4. RESULTS</td>
<td>69</td>
</tr>
<tr>
<td>Preliminary Analysis</td>
<td>69</td>
</tr>
<tr>
<td>Research Question 1</td>
<td>71</td>
</tr>
<tr>
<td>Research Question 2</td>
<td>72</td>
</tr>
<tr>
<td>Research Question 3</td>
<td>72</td>
</tr>
<tr>
<td>Research Question 4</td>
<td>73</td>
</tr>
<tr>
<td>Research Question 5</td>
<td>75</td>
</tr>
<tr>
<td>Additional Participants' Reactions</td>
<td>77</td>
</tr>
<tr>
<td>Conclusion</td>
<td>79</td>
</tr>
<tr>
<td>5. DISCUSSION</td>
<td>80</td>
</tr>
<tr>
<td>Study Findings</td>
<td>80</td>
</tr>
<tr>
<td>Limitations</td>
<td>84</td>
</tr>
<tr>
<td>Implications of Findings</td>
<td>85</td>
</tr>
<tr>
<td>Future Directions for Research</td>
<td>89</td>
</tr>
<tr>
<td>Conclusion</td>
<td>92</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>95</td>
</tr>
<tr>
<td>APPENDICES</td>
<td>103</td>
</tr>
</tbody>
</table>
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Guskey’s 5 Levels of Professional Development Evaluation</td>
<td>10</td>
</tr>
<tr>
<td>2. Agenda for the Camp Sped In-service Day</td>
<td>54</td>
</tr>
<tr>
<td>3. Research Study Procedures and Timeline</td>
<td>56</td>
</tr>
<tr>
<td>4. Assessment Tool Questions</td>
<td>58</td>
</tr>
<tr>
<td>5. Alignment of Research Questions with Data Collection Instruments/Strategies</td>
<td>63</td>
</tr>
<tr>
<td>6. Descriptive Statistics for Each Data Collection Tool</td>
<td>66</td>
</tr>
<tr>
<td>7. Within-Subjects Contrasts Comparing Data Collection Tools over Time</td>
<td>68</td>
</tr>
<tr>
<td>8. Participants Reaction to the Camp SPED intervention and Collaborative SDW</td>
<td>74</td>
</tr>
</tbody>
</table>
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>In-service day room arrangement</td>
<td>51</td>
</tr>
<tr>
<td>2.</td>
<td>Comparison of the means based on the highest degree</td>
<td>70</td>
</tr>
<tr>
<td>3.</td>
<td>Comparison of the means based on the number of professional development types</td>
<td>71</td>
</tr>
<tr>
<td>4.</td>
<td>Comparison of the means based on the number of students with ASD</td>
<td>73</td>
</tr>
</tbody>
</table>
# LIST OF APPENDICES

<table>
<thead>
<tr>
<th>Appendix</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. EMAIL INVITATION TO PARTICIPATE IN RESEARCH STUDY COMPLETE PRETEST</td>
<td>99</td>
</tr>
<tr>
<td>B. CONSENT LETTER</td>
<td>101</td>
</tr>
<tr>
<td>C. CAMP SPED AGENDA</td>
<td>103</td>
</tr>
<tr>
<td>D. PRETEST</td>
<td>105</td>
</tr>
<tr>
<td>E. CAMP SPED MATERIALS PACKET</td>
<td>113</td>
</tr>
<tr>
<td>F. EMAIL INVITATION TO COMPLETE POSTTEST A</td>
<td>145</td>
</tr>
<tr>
<td>G. POSTTEST A</td>
<td>147</td>
</tr>
<tr>
<td>H. STAFF DEVELOPMENT WEDNESDAY DISCUSSION QUESTIONS</td>
<td>155</td>
</tr>
<tr>
<td>I. EMAIL INVITATION TO COMPLETE POSTTEST B</td>
<td>157</td>
</tr>
<tr>
<td>J. POSTTEST B</td>
<td>159</td>
</tr>
</tbody>
</table>
CHAPTER 1
INTRODUCTION TO THE STUDY

Educators’ attitudes affect the success of their students (Idol, 2006; Kahn, Cheramie & Stafford, 2013; Kranak, Alber-Morgan & Sawyer, 2017). When children have a variety of challenges, such as children with autism spectrum disorder (ASD), educators’ attitudes towards these children are specifically influenced, affecting the success of the child (Busby, Ingram, Bowron, Oliver, & Lyons, 2012; Higginson & Chatfield, 2012; Park & Chitiyo, 2010). Research has shown that professional development can improve the educator’s attitudes, therefore increasing the success of the students (Chung et al., 2015; Corkum, Bryson, Giffin & Hume, 2014; Higginson & Chatfield, 2012). School functioning skills, such as obtaining knowledge from a variety of formats and following class rules that vary from teacher to teacher and setting to setting, are especially difficult for children with ASD because such skills are not usually taught (Friedlander, 2009; Myles & Simpson, 2001a; Nwokeafor, 2009; Retherford & Schreiber, 2015). They are part of the implicit curriculum that all students are assumed to learn instinctively (Barnhill, 2001a; Friedlander, 2009; Myles & Simpson, 2001b; Safran, 2002). Evidenced-based instructional strategies, such as Direct Instruction (DI), can provide that skill set for these children (Huang & Wheeler, 2007; Morgan, Hsiao, Dobbins, Brown, & Lyons, 2015; Shireman, Learman, & Hillman, 2016). The focus of this study is to investigate the effect...
professional development has on special educators’ attitudes regarding children with ASD and the implicit curriculum of school functioning.

Teachers’ attitude can have a tremendous impact on the child’s success in their classroom. It can impact the expectations towards the child, the confidence the child has in himself or herself, as well as the acceptance of that child by the other students (Barnhill, 2001a; Chung et al., 2015; Corkum et al., 2014). Teachers need to be aware of their attitude toward their students with ASD, and if it differs from their attitude toward typical students, to ensure that it does not create a discriminatory situation (Chung et al., 2015).

Research exhibits a strong correlation between educators’ training and/or professional development and educator’s attitudes towards children with ASD (Corkum et al., 2014). Specialized training has been known to “enhance a teacher’s understanding, confidence, experience, skills, and resources to work with students with ASD, which all ultimately promote more positive attitudes” (Chung et al., 2015, p. 5). Conversely, a lack of training can lead to a lack of support and proper instruction for the children, putting them at risk of not succeeding in school (Moyse & Porter, 2014).

Professional development about children with ASD should emphasize that they have a variety of strengths and weaknesses, and no two children with ASD have exactly the same needs. The American Psychiatric Association’s (APA) Diagnostic and Statistical Manual of Mental Disorders (DSM-5) (2013) defines ASD as

Persistent deficits in social communication and social interaction across multiple contexts, as manifested by the following …

1. Deficits in social-emotional reciprocity, ranging, for example, from abnormal social approach and failure of normal back-and-forth conversation; to reduced sharing of interests, emotions, or affect; to failure to initiate or respond to social interactions.
2. Deficits in nonverbal communicative behaviors used for social interaction, ranging, for example, from poorly integrated verbal and nonverbal communication; to abnormalities in eye contact and body language or deficits in understanding and use of gestures; to a total lack of facial expressions and nonverbal communication.

3. Deficits in developing, maintaining, and understanding relationships, ranging, for example, from difficulties adjusting behavior to suit various social contexts; to difficulties in sharing imaginative play or in making friends; to the absence of interest in peers. ... Restricted, repetitive patterns of behavior, interests, or activities, as manifested by at least two of the following …

1. Stereotyped or repetitive motor movements, use of objects, or speech (e.g. simple motor stereotypies, lining up toys or flipping objects, echolalia, idiosyncratic phrases).

2. Insistence on sameness, inflexible adherence to routines, or ritualized patterns of verbal or nonverbal behavior (e.g. extreme distress at small changes, difficulties with transitions, rigid thinking patterns, greeting rituals, need to take the same route or eat the same food every day).

3. Highly restricted, fixated interests that are abnormal in intensity or focus (e.g. strong attachment to or preoccupation with unusual objects, excessively circumscribed or perseverative interests).

4. Hyper- or hypo-reactivity to sensory input or unusual interest in sensory aspects of the environment. (APA, 2013a, p. 50)

In 2000, the prevalence rate of children with ASD was 1 in 150. In 2010, it was 1 in 68 (Center, 2016). As noted by Lociacono and Valenti (2010), “one of the most problematic and stressful challenges facing public school officials today is to provide an appropriate education for the increasing number of students with ASD, alongside their non-disabled peers, in general education inclusive classrooms … with well trained and prepared educators in evidence-based intervention strategies” (p. 25).

Identifying a child’s specific needs can be difficult, though. Children with ASD present with no physical signs. They can have average to above average cognitive skills, with 43.9% of the children identified as having an IQ of 85 or above (Christiansen et al., 2016). Therefore, educators may underestimate the impact of a child’s ASD, assume that they do not need much support and that any misbehavior is a choice (Moyse & Porter, 2014; Safran, 2002).
For children with ASD, the attainment of the implicit curriculum for school functioning is challenging and typically involves teaching skills that are not part of the standard curriculum (Corkum et al., 2014; Myles & Simpson, 2001b). These skills include the ability to initiate and maintain social relationships, secure and hold employment, demonstrate empathy, discuss a variety of topics, participate in a variety of work settings including independent and group settings, and obtain knowledge from a variety of formats including lectures, cooperative group lessons, and independently obtained information (Ganz & Flores, 2010; Myles, Grossman, Aspy, Henry, & Coffin, 2007; Safran, 2002). One effective evidence-based strategy for teaching this implicit curriculum of school functioning is Direct Instruction (DI), also known as behavior skills training (Banda & Hart, 2010; Huang & Wheeler, 2007; Morgan et al., 2015, Shireman, Lerman, & Hillman, 2016).

Problem Statement

As a special education administrator for a school district in the Midwest, I have observed that many students with ASD struggle socially and emotionally in the general education classroom, even though their academic skills indicate they should be successful. These students may eventually be placed in a more restrictive environment or home-schooled by their parents. My niece went through a similar situation in her hometown in Indiana. She expressed extreme frustration in the primary grades, even though she has exceptional academic skills and an IQ that scored in the Superior range. Her parents chose to homeschool her throughout her elementary school years and then she attended a small, parochial high school. When she went to a large public university she struggled socially and academically, becoming extremely isolated from her peers and then her family, to the point of considering suicide. Since graduating, she has had
difficulty maintaining a job and living independently. She currently resides with her parents and works part-time.

As I gathered from personal experience, the needs are great and the stakes are high for children with ASD. If they are not given the opportunity to learn the implicit curriculum for school functioning, teachers are at-risk of presenting the known curriculum in such a way that these students will not be able to learn it (Friedlander, 2009; Ostmeyer & Scarpa, 2012). However, with the proper training, educators can strengthen their attitudes and knowledge to help children with ASD be successful in school and on into adulthood (Barnhill, 2001b; Chung et al., 2015; Corkum et al., 2014; Horrocks, White, & Roberts, 2008).

Purpose Statement

The purpose of this study is to improve educator’s attitudes towards children with ASD by providing them professional development regarding how to teach these children the implicit curriculum of school functioning through a Direct Instruction model.

Research Questions

The research questions for the study and the predictive hypotheses are:

1. Is there a change in special educators’ attitudes after a day of professional development, when compared to their attitudes prior to the professional development?
   a. \( H_1 \): There will be an improvement in special educators’ attitudes after the day of professional development when compared to the attitudes before it.

2. Is there a change in special educators’ attitudes five weeks after a day of professional development, when compared to their attitudes immediately following the professional
development?

a. H2: There will be no change between the special educators’ attitudes immediately after the day of professional development and five weeks later.

3. Do special educators with bachelor’s degrees have different attitudes than special educators with master’s degrees?

   a. H3: Special educators with master’s degrees will have more positive attitudes towards children with ASD than special educators with bachelor’s degrees.

4. Are the attitudes of special educators who have attended several types of professional development about children with ASD different than those of special educators who have only attended 1-2 types of professional development?

   a. H4: Special educators who have attended several types of professional development will have more positive attitudes towards children with ASD than special educators who attended only 1-2 types of professional development.

5. Are the attitudes of educators who have worked with more than 10 children with ASD different than those who have worked with less than 10?

   a. H5: Special educators who have worked with more than 10 children with ASD will have more positive attitudes than special educators who worked with less than 10.

Rationale for Hypotheses

Based on the previous literature, the amount of professional development and training an educator has received correlates with the educators’ attitudes towards children with disabilities (Busby et al., 2012; Higginson & Chatfield, 2012; Lindsay, Prouix, Thomson & Scott, 2013;
Soto-Chodiman, Pooley, Cohen & Taylor, 2012). Therefore, $H_1$, $H_3$, $H_4$ and $H_5$ all predict that there will be a difference in the educators’ attitudes because the corresponding research questions are using professional development, previous educational training or previous on the job training as the independent variables. For $H_2$, the concern is that the educators’ attitudes will decrease because any change in attitude may have faded over time. Therefore, no change in the attitudes would show that the day of professional development had a lasting effect on the educators’ attitudes.

Other independent variables used in previous research studies included gender, general educators versus special educators, or teachers versus non-teachers (Mavropoulou & Padeliadu, 2000; Park & Chitiyo, 2010; Seagall & Campbell, 2012). However, those variables would not be feasible for this study. The participant group will have some male participants, but the number will be significantly lower than the number of female participants, and so would not provide valid results. General educators will not be invited to participate in the study. Also, the non-teachers in the study are all required to have master degrees for their current positions, so those results would look similar to the research question about the educators’ amount of education.

Conceptual Frameworks

**The Implicit Curriculum for School Functioning**

Corkum et al. (2014) identified that “the main goal of education is to provide opportunities for the acquisition of knowledge and skills that support personal independence and social responsibility” (p. 34). For children with ASD, the attainment of this goal is challenging and typically involves teaching skills that are not part of the standard curriculum (Barnhill,
skills include the ability to initiate and maintain social relationships, secure and hold employment, demonstrate empathy, discuss a variety of topics, participate in variety of work settings including independent and group settings, and obtain knowledge from a variety of formats including lectures, cooperative group lessons, and independently obtained information (Ganz & Flores, 2010; Myles et al., 2007; Safran, 2002).

For children with ASD, learning this implicit curriculum of school functioning can be especially difficult. Failure to use appropriate skills is often linked to several negative outcomes, including rejection by school community members, academic deficits related to core content instruction, higher rates of problematic behaviors, and feelings of disconnect to the school community (Morgan et al., 2015). Wilkerson and Wilkerson (2004) described the implicit curriculum as the “dos and don'ts of everyday life that are not taught directly, but instead absorbed indirectly from our culture and environment” (p. 22). Lee (2011) identified that children with ASD often have difficulty understanding unspoken rules and recommended that educators identify practical items to teach while taking cultural diversity into consideration. Moyse and Porter (2014) researched the impact of this implicit curriculum on three girls with Asperger Syndrome. Four key areas in which the girls had difficulties were class rules; working collaboratively; completing tasks; and other interactions with peers. Myles (2014) grouped these skills under the term “hidden curriculum”. She lists examples such as class rules varying from teacher to teacher, class routines varying from teacher to teacher, how to behave when a teacher reprimands you, how to behave when a teacher reprimands someone else, and the importance of filtering what and when you say to others.
This curriculum of school functioning, when not explicitly taught to children with ASD, “represents a field of potential landmines for them to trip over” (Wilkerson & Wilkerson, 2004, p. 22). These skills are so important that, if children with ASD are not given the opportunity to learn them, teachers are at-risk of presenting the known curriculum in such a way that these students are will not be able to learn it (Friedlander, 2009; Ostmeyer & Scarpa, 2012). Even if students develop coping skills to mask their problems, they often only suppress their emotions until they are outside of school, resulting in significant behaviors at home (Moyse & Porter, 2014).

**Five Levels of Professional Development**

Guskey’s (2000) five levels of professional development, specifically Levels 1 and 2, will frame the research questions and the data collection tools used in this study. See Table 1. Level 1 addresses the participants’ initial satisfaction with the professional development program. For example, did the participants enjoy themselves and do they feel the information was useful? These questions are important because the participants need to find the experience enjoyable in order to be open to the information shared through professional development training.

Level 2 examines if the professional development experience led to any change in the participants’ knowledge, skill, or attitude and beliefs. These components can be measured in a variety of ways, but for the purpose of this study, participants’ attitudes, beliefs, and self-reported level of knowledge will be measured. The data from this level is important because it validates the relationship between what was intended and what was achieved, demonstrates the effectiveness of the professional development experience, and is vital in the implementation of any further initiatives.
<table>
<thead>
<tr>
<th>Evaluation Level</th>
<th>What questions are addressed?</th>
<th>How will information be gathered?</th>
<th>What is measured or assessed?</th>
<th>How will information be used?</th>
</tr>
</thead>
</table>
| 1. Participants’ Reaction / Attitudes | ● Did they like it?  
● Was their time well spent?  
● Did the material make sense?  
● Will it be useful?  
● Were the chairs comfortable? | ● Questionnaires administered at the end of sessions.  
● Focus groups  
● Interviews  
● Personal learning log  
● Meeting Works internet-based sessions  
● Analysis of threaded discussion forums | ● Initial satisfaction in the experience | ● To improve program design and delivery |
| 2. Participants’ Learning | ● Did participants acquire the intended knowledge and skills? | ● Paper and pencil tests  
● Simulations and demonstrations  
● Participant reflections (oral and/or written)  
● Participant portfolios  
● Case study analysis  
● Meeting Works internet-based sessions  
● Analysis of threaded discussion forums | ● New knowledge and skills of participants | ● To improve program, content, format, and organization |

(Continued on following page)
Table 1 (continued)

<table>
<thead>
<tr>
<th>Evaluation Level</th>
<th>What questions are addressed?</th>
<th>How will information be gathered?</th>
<th>What is measured or assessed?</th>
<th>How will information be used?</th>
</tr>
</thead>
</table>
| 3. Organization Support & Change | ● What was the impact on the organization?  
● Did it affect organizational climate or procedures?  
● Was implementation advocated, facilitated, and supported?  
● Was the support public and overt?  
● Were problems addressed quickly and efficiently?  
● Were sufficient resources made available?  
● Were successes recognized and shared? | ● District and school records  
● Minutes from meetings  
● Questionnaires  
● Focus groups  
● Structured interviews with participants and school or district administrators  
● Participant portfolios  
● Meeting Works internet-based sessions  
● Analysis of threaded discussion forums | ● The organization’s advocacy, support, accommodation, facilitation, and recognition | ● To document and approve organizational support  
● To inform future change efforts |
| 4. Participant Use of New Knowledge and Skills | ● Did participants effectively apply the new knowledge and skills? | ● Questionnaires  
● Structured interviews with participants and their supervisors  
● Participant reflections (oral and/or written)  
● Participant portfolios  
● Direct observations  
● Video or audio tapes  
● Concerns-based Adoption Model | ● Degree and quality of implementation | ● To document and improve the implementation of program content |

(Continued on following page)
Table 1 (continued)

<table>
<thead>
<tr>
<th>Evaluation Level</th>
<th>What questions are addressed?</th>
<th>How will information be gathered?</th>
<th>What is measured or assessed?</th>
<th>How will information be used?</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Student Learning</td>
<td>• What was the impact on students?</td>
<td>• Student records</td>
<td>Student learning outcomes:</td>
<td>• To focus and improve all aspect as program design, implementation, and follow-up</td>
</tr>
<tr>
<td>Outcomes</td>
<td>• Did it affect student performance or achievement?</td>
<td>• School records</td>
<td>• Cognitive (performance and achievement)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Did it influence a student's physical or emotional well-being?</td>
<td>• Questionnaires</td>
<td>• Affective (Attitudes and Dispositions)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Are students more confident as learners?</td>
<td>• Structured interviews with students, parents, teachers, and/or administrators</td>
<td>• Psychomotor (skills and behaviors)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Is student attendance improving?</td>
<td>• Participant portfolios</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Are dropouts decreasing?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Not all aspects of Guskey’s (2000) five levels of professional development evaluation are able to be included in this study, due to time constraints. For example, participants are not asked to demonstrate the implementation of their new knowledge, which would be part of Level 2. Organizational supports, which is level 3, are not addressed, nor is the participants’ use of the new knowledge, or the impact of student learning. However, this study does establish the initial steps for a more extensive professional development program.

Significance of the Study

The Individuals with Disabilities Education Act (IDEA) states that “to the maximum extent appropriate, children with disabilities, including children in public or private institutions or other care facilities, are to be educated with children who are nondisabled” (US Department of Education, 2006). Special educators need to be knowledgeable about how to best educate children with ASD in the general education setting so that the children will be college and/or career ready (Loiacono & Valenti, 2010). Due to the complexity and variability of the skills needed to function in the school setting, children with ASD struggle, limiting their access to the general education curriculum (Friedlander, 2009; Ostmeyer & Scarpa, 2012).

The intended benefit of the study is to broaden the research regarding professional development and its impact on educators’ attitudes. Specific potential benefits include a detailed explanation of the implicit curriculum of school functioning, data collection of educators’ attitudes towards children with ASD, and if those attitudes can be improved through the use of professional development. Participation in the research study has the intended benefit of promoting self-reflection of one's attitudes and the opportunity to see personal growth across
time.

Methodology

For this study, I will be using a quantitative, quasi-experimental method (Mertens, 2015). I will be observing if the dependent variable (the beliefs of the special educators) is significantly different after the introduction of the independent variable (the professional development intervention). Quantitative research, versus qualitative research, is the better method when wanting to observe the effect of manipulating a specific variable or variables (Shadish, Cook, & Campbell, 2002).

Delimitations

This study is delimited in scope by concentrating on special education staff who work with children in pre-kindergarten through 8th grade. Additionally, the study is being conducted at one school district in the Midwest, primarily focusing on one day of professional development with an additional hour of staff articulation. The data collection of the study will occur for a few months. The instructional strategy included in the professional development will be Direct Instruction. These delimitations allow the study to be manageable within its scope and time constraints.

Because of the design of the study, the internal validity factors of history, maturation, testing, and instrumentation are all possible limitations (Campbell & Stanley, 1966). Something could have occurred during the course of the study that was not part of the study but could influence the results, which is known as the validity factors of history and maturation (Mertens, 2015; Shadish et al., 2002). Repeated exposure to the testing instrument could have affected
how the participants responded (Shadish et al., 2002), and not the information gained from the intervention. Finally, the environment in which the participant takes the data collection tools, also known as the instrumentation of the test, could have impacted the validity of the results (Campbell & Stanley, 1966). Participants in this study took the pretest over summer break, probably when they were at home and had not thought about school or their students for a while. The windows for completing Posttest A and Posttest B were right before school started and into the first quarter of the school year, where it can be assumed educators were in more of a student orientated mindset.

Campbell and Stanley (1966) identified two potential external validity factors in a one-group pretest-posttest design study such as mine. The first factor would be the interaction between the testing and the intervention, and the second factor would be the interaction between selection for the study and the intervention. Because the participants are asked to take a pretest, they may pay closer attention to the information in the intervention. Also, because the pretest and posttests ask participants about beliefs they may not be comfortable sharing, the responses may be elevated. Finally, because the participants have been asked by me, one of their supervisors, to participate in something new and different, their responses may be impacted.

The factors of validity, diversity, and sample size can produce results not directly related to the intervention. Though attempts have been made to minimize their impact, these biases cannot be completely ruled out. Therefore, these limitations should be considered when reviewing the results of this study.

Definitions for this Study

**Special Educators:** This term applies to educators who work with children who are
eligible for special education services. The educators possess the appropriate licensure for their positions. They include special education teachers, school social workers, speech-language pathologists, occupational and physical therapists, and school psychologists.

**Implicit Curriculum of School Functioning:** Unwritten rules or skills that are not part of the standard curriculum and not taught directly. For children who develop typically, these skills are usually learned indirectly from the school culture and environment. (Corkum et al., 2014; Myles & Simpson, 2001b; Wilkerson & Wilkerson, 2004). They include such skills as class rules, working collaboratively, completing tasks, and other interactions with peers (Moyse & Porter 2014). Also, they are classroom and teacher specific (Myles, 2014).

**Direct Instruction:** Direct, explicit instruction involving modeling, prompting, corrective feedback, and opportunities for generalization (Morgan et al., 2015). It has a strong evidence base and has been shown to be effective for teaching a large variety of skills (Huang & Wheeler, 2007; Shireman et al., 2016).

**Organization of the Study**

This study will be organized into five chapters. Chapter 1 introduces the study, presents the problem statement, purpose, and research questions. It concludes with the conceptual frameworks, the significance of the study, methodology, delimitations, and definitions of key vocabulary. Chapter 2 provides a literature review of research on the effect of educators’ attitudes, the characteristics of children with ASD, educators’ attitudes towards children with ASD, the need for effective instruction, the implicit curriculum of school functioning, Direct Instruction, and the effect of professional development. Chapter 3 describes the research method and design, the participants in this study and the professional development intervention, the data
collection process, data analysis procedures, and limitations. Chapter 4 will report the findings of that research. Chapter 5 will then discuss the findings, analyze the data, and offer suggestions for further research.
CHAPTER 2
LITERATURE REVIEW

Educators’ attitudes affect their success with their students (Idol, 2006; Kahn et al., 2013; Kranak et al., 2017). Just as children with ASD have varying characteristics (Friedlander, 2009; Myles & Simpson, 2001a; Nwokeafor, 2009, Retherford & Schreiber, 2015), educators’ attitudes towards children with ASD also vary (Busby et al., 2012; Higginson & Chatfield, 2012; Park & Chitiyo, 2010). Because of IDEA and the growing number of children with ASD, educators need to teach them effectively (Center, 2016; Loiacono & Valenti, 2010; US Department of Education, 2006). Explicitly teaching the implicit curriculum of school functioning to children with ASD is one way to teach them effectively (Barnhill, 2001a; Friedlander, 2009; Morgan et al., 2015; Safran, 2002). Direct Instruction is a proven way to teach children with ASD skills that others learn implicitly (Huang & Wheeler, 2007; Morgan et al., 2015; Shireman et al., 2016). Professional development for educators can provide the necessary knowledge, improve educator attitudes, and therefore ensures the success of their students (Chung et al., 2015; Corkum et al., 2014; Higginson & Chatfield, 2012).

The Effect of Educators’ Attitudes

A person’s attitude affects how they react to others, cognitively, emotionally, and behaviorally (Chung et al., 2015). A teacher’s attitude toward their students can display acceptance or disapproval, enthusiasm or rejection, and can contribute to the success or failure of
those students (Horrocks, White, & Roberts, 2008). For a child, a teacher’s attitude can have a
tremendous effect on the child’s success in the classroom. It can impact the expectations
towards the child, the confidence the child has in himself or herself, as well as the acceptance of
that child by the other students (Barnhill, 2001a; Chung et al., 2015; Corkum et al., 2014).

In Idol’s (2006) study, educator attitudes towards one another, collaboration, students
with special education needs, and inclusion were analyzed as part of the program evaluation
completed at 8 schools. Based on the semi-structured interviews, the staff from all 8 schools
expressed positive opinions of inclusion over the two-year period of the study. State-wide
testing increased over a 4-year comparison in which more students were included in the general
education classroom. These results show a possible correlation between educators’ positive
attitudes to children with disabilities and student success on state-wide testing.

In the study by Kahn et al. (2013), 86 teachers were provided with four vignettes of two
students demonstrating high efforts and two students demonstrating low effort. Teachers were
then asked to identify the amount of effort they perceived the student was demonstrating, what
their perception was to the student, and if they would refer the student for special education
services. The majority of teachers were able to identify the students demonstrating high or low
effort and their perception of the students matched the amount of effort the child was
demonstrating in the vignette. No statistically significant correlation was noted between the
amount of effort described in the vignette and a referral for special education. However, this
study does show that there is a strong correlation between an educator’s attitude towards a
student and the perceived effort the child is putting towards their school work.
In the study completed by Kranak et al. (2017), five boys with ASD were observed in their special education class at a private school for children with ASD. Data was collected about their on-task behavior during reading instruction. After baseline data were collected, the teacher varied the amount of praise given between 1 time per minute, four times per minute and 8 times per minute. Results showed that the praise rate of 4 or 8 times per minute increased on-task behavior. After the observations were completed, the teacher reported she felt most comfortable with the 4 times per minute praise rate. This study demonstrates a potential causal relationship between the amount of praise a child is given and the amount of on-task behavior they demonstrate, with increased on-task behavior contributing to increased success at school.

These studies illustrate that educators’ attitudes contribute to a student’s success in school, either positively or negatively. When other factors interfere with a child’s potential success, such as the characteristics of the child’s disability, the educator’s attitude may make all the difference. ASD, with its variety of symptoms and levels of impairment, is one such disability.

The Characteristics of Children with ASD

The American Psychiatric Association’s (APA) Diagnostic and Statistical Manual of Mental Disorders (DSM-5) (2013a) includes in its diagnosis of ASD two broad categories which are 1) social communication and social interaction and 2) restricted, repetitive patterns of behavior, interests, or activities. Under the category of social communication and social interaction are deficits in social-emotional reciprocity; deficits in nonverbal communicative behaviors used for social interaction; and deficits in developing, maintaining, and understanding relationships. Under the category of restricted, repetitive patterns of behavior, interests, or
activities are stereotyped or repetitive motor movements, use of objects, or speech; insistence on sameness, inflexible adherence to routines, or ritualized patterns of behavior; highly restricted, fixated interests; and hyper- or hypo-reactivity to sensory input or unusual interest in sensory aspects of the environment.

As with all children, those with ASD are unique (Friedlander, 2009) and even though they do not all have the same characteristics, there are a group of characteristics in which they all share some. Because of this uniqueness, a few contradictions exist in the literature. In the area of language, for example, some authors describe children with ASD as having average to above average expressive language skills (Friedlander, 2009; Retherford & Schreiber, 2015). Others state expressive language is delayed, i.e. stilted in the tone, pitch, or volume (Nwokeafor, 2009; Safran, 2002). However, almost all describe the largest area of a language delay in the area of pragmatic language, which is the unwritten rules of communication, social standards and protocol (Barnhill, 2001a; Myles & Simpson, 2001a; Retherford & Schreiber, 2015). Pragmatic language delays are also a lack of social competencies, social-affective skills, and understanding of social cues (Acar & Diken, 2012; Nwokeafor, 2009; Safran, 2002; Yeo & Teng, 2015). Children with these delays fail to make eye contact, fail to respond to their name and do not participate in conversational reciprocity or joint attention (Friedlander, 2009; Myles & Simpson, 2001a; Nwokeafor, 2009). They appear socially withdrawn, detached from their peer group, socially awkward, and inept (Myles & Simpson, 2001a; Yeo & Teng, 2015).

Along with delays in pragmatic language, children with ASD struggle with skills identified as part of the Theory of Mind, which is the ability to interpret and identify emotions in themselves as well as others. (Crosland & Dunlap, 2012; Retherford & Schreiber, 2015). They
struggle to interpret facial expressions, voice tone, proximity/personal space, and gestures in others (Lee, 2011). They have difficulty predicting behaviors in others and forming typical relationships (Darretxe & Sepulveda, 2011; Friedlander, 2009). Consequently, they appear to be emotionally blunted, self-centered, socially stiff, and inflexible (Myles & Simpson, 2001a).

The second major category in the DSM-5 criteria is restricted and repetitive patterns in behavior, interests, or activities (APA, 2013b). Children with ASD can demonstrate stereotypical behaviors (Acar & Diken, 2012) such as “rocking, twirling, or … self-abusive behaviors such as biting or head-banging” (Nwokeafor, 2009, p. 4). They focus on a particular item, topic, or range of topics, and have difficulty shifting from one thought to another (Hume, Loftin, & Lantz, 2009; Nwokeafor, 2009). Executive functioning skills are impacted, resulting in difficulty “being able to plan, sequence, focus attention, initiate, organize, and inhibit impulsive and inappropriate responses” (Retherford & Schreiber, 2015, p. 363). Children with ASD have weak imitation skills (Hume et al, 2009; Nwokeafor, 2009), limited problem-solving (Barnhill, 2001a) and are generally rigid in their thinking and behaviors (Friedlander, 2009). These weaknesses can lead to learned helplessness (Barnhill, 2001b) and prompt dependency (Hume et al., 2009). Routinization and rituals are often relied upon to increase the familiarity, predictability, and order in a situation (Friedlander, 2009; Myles & Simpson, 2001a).

Hyper-or hypo-reactivity to sensory input is also part of this criteria. Children with ASD have increased and/or decreased registration to sensory input, including visual, auditory, kinesthetic, and tactile input (Barnhill, 2001b; Myles & Simpson, 2001a). This can lead to a feeling of sensory overload or a need for sensory stimulation (Friedlander, 2009).

“Distractibility, over-activity, impulsivity, perseveration, delayed expressive and receptive
language skills, poor social skill development, and poor eye contact have all been related to impaired sensory functioning” (Myles et al., 2007, p. 400-401).

In summary, children with ASD have delays within a cluster of skills, though not every child has every skill deficit. These delays can vary by intensity as well as the number of skills. Since many children with ASD also have skills that are the same as their typical peers or above their typical peers, educators need to be thorough in their assessments of a particular child’s true abilities. Having a positive attitude toward a child’s potential is often the first step towards that accurate assessment.

Educators’ Attitudes towards Children with ASD

As mentioned previously, an educator’s attitude towards students can influence the success of those students. Because of the variations that can occur under the ASD umbrella, educators’ attitudes can vary depending on the circumstances. Several research studies have used a survey method to examine educators’ attitudes and knowledge regarding children with ASD.

In the study by Park and Chitiyo (2010), the “Autism Attitude Scale for Teachers” (AAST) by Olley, Devellis, Devellis, Wall, and Long (1981) was used to compare the attitudes of general education and special education teachers. The AAST is a Likert scale containing 14 questions where participants rate statements from “Strongly Agree” to “Strongly Disagree” regarding children with ASD and including them in a general education school. The results of the study showed that most teachers had a very positive attitude to children with ASD. Factors that increased this attitude include if the participant was female, under 35, taught in an elementary school, and had attended several workshops on ASD. Being a special education
teacher versus a general education teacher was not a significant factor, as originally predicted by the authors.

Harnum et al., (2006) used a short survey to assess the perceptions of 30 parents and 30 children after each participant read a scenario about a specific child. One scenario described a child with ASD, another described a child with ADHD, and the third scenario described a typically developing child. The child participants expressed that they would avoid a child with ASD or ADHD more than a typically developing child and that they felt a child with ASD or ADHD was more different from them than a typically developing child. The adult participants felt that the child with ASD was different than their own child, but did not feel that way towards the child with ADHD or the typically developing child. Also, the adult participants expressed that they would not avoid the child described in any of the scenarios.

Mavropoulou and Padeliadu (2000) also used a survey to measure teacher’s attitudes. Their survey, which they created themselves, assessed the knowledge and attitudes of 35 regular education teachers and 29 special education teachers in Greece who were attending a college course. General education teachers were more positive than special education teachers about integrating children with ASD into the general education classroom, but general education teachers also had lower expectations than special education teachers as to what the students could accomplish.

Another study which surveyed teacher’s attitudes was the study completed by Robertson, Chamberlain, and Kasari (2003). Surveying 12 second and third-grade general education teachers, their students with ASD, and their general education students, the authors reported that teachers perceived their relationships with their students with ASD as relatively positive. They
noted that a positive relationship between the teacher and the child with ASD correlated with a positive relationship between the child with ASD and their peers. However, a positive relationship was negatively correlated with the child with ASD’s level of behavior problems.

In a large scale survey study, Segall and Campbell (2012) used The Autism Inclusion Questionnaire to assess the knowledge, attitudes, and current practices of 123 educational staff in 45 schools in Georgia. Overall, the participants reported favorable attitudes towards the practice of inclusive education for students with ASD. However, differences were observed regarding knowledge, awareness of practice, and use of strategies, with special education teachers and school psychologists being stronger than general education teachers and administrators.

Several qualitative studies listed the teacher’s perceived obstacles. Busby et al. (2012) named several challenges and needs in their study involving focus groups with 21 teachers who were enrolled in a Master’s program at Troy University, Alabama. Challenges included a lack of highly specialized skills, lack of time for collaboration, student behaviors which are complex and disruptive, extensive IEP procedures, and a lack of basic knowledge regarding ASD. Perceived needs included the need for more information regarding collaboration, more case and field based-experiences for pre-service teachers, and more access to current research and best practice strategies.

In Lindsay, Proulx, Thomson, and Scott’s (2013) study, 13 teachers in Ontario, Canada were interviewed about challenges they encountered in educating children with ASD in the mainstream classroom. The teachers reported understanding and managing these students’ behavior, insufficient training and resources, bureaucratic school policy, and misunderstandings from other teachers, students, and parents all as barriers.
In the study by Soto-Chodiman, Pooley, Cohen, & Taylor, (2012) 12 primary school teachers in Australia participated in semi-structured interviews. Participants emphasized that teachers of students with ASD have to be given the proper level of support. The three areas that were identified as needing the most support were “(a) modification of curriculum and teaching technique concerns, (b) communication difficulty concerns, and (c) management of problematic classroom behavior concerns” (p. 102).

Higginson and Chatfield (2012) completed one of the few studies that assessed teacher’s attitudes before and after an intervention. Their study involved teachers from 9 schools in New Zealand who were given access to a variety of professional development activities and then data was collected through a pre- and posttest questionnaire, observations done by a consultant, and other applicable documentation used by the school district. At the end of the study, the authors concluded that addressing attitudes towards ASD was a major key to changing teacher practice.

These studies provide insight into the importance of educators’ attitudes towards children with ASD. Because ASD can be very complex and difficult to explain the condition, there may be aspects of it that educators struggle with. Educators need to be aware of their attitude toward their students with ASD, and if it differs from their attitude than toward typical students, to ensure that it does not create a discriminatory situation (Chung et al., 2015). The need to provide appropriate and effective instructional strategies is increasing.

The Need for Effective Instruction

In actuality, “behaviors that are troublesome in school are actually manifestations of uncertainty and lack of order or ritual, which can be frightening to children with autism” (Friedlander, 2009, p. 142). These children may come off as the ‘little professor’ or the
‘annoying nerd’ as a way to apply routine to their situation or try to socially interact with others (Safran, 2002). When these attempts are unsuccessful, children with ASD tend to isolate themselves, become indifferent to social engagement, and disconnect from the school environment (Morgan et al., 2015; Moyse & Porter, 2014; Nwokeafor, 2009). This suppression of feelings may then be released at home, causing significant behavior issues in one setting and very few in the other (Moyse & Porter, 2014).

Due to these ‘manifestations of uncertainty’, which can appear as emotional outbursts or misbehavior, children with ASD may be placed in a more restrictive setting (Crosland & Dunlap, 2012). This can lead to fewer opportunities for social interaction with typically developing peers, missing out on the academic rigor of the general education classroom, or being exposed to children with emotional and behavioral issues who may perceive the child with ASD as a target for bullying (Crosland & Dunlap, 2012; Safran, 2002). Placement outside the general education classroom can also limit a child’s communication, social competency, play skills, and opportunities to role-play with typically developing peers (Cowan & Allen, 2007; Ulke-Kurkuoglu, Bozkurt, & Cuhadar, 2015).

Over time, students with ASD may not develop the independence needed to have a positive self-image (Hume et al., 2009). They may struggle to develop the skills necessary to be successful beyond high school and have difficulty finding a career commensurate to their level of education (Retherford & Schreiber, 2015). Due to their social isolation and poor self-concept, many adults with ASD have higher levels of depression, anxiety, and suicide than that of the general population (Barnhill, 2001a; Myles & Simpson, 2001b; Safran, 2002).
The prevalence of children with ASD is increasing and their needs are not always apparent. If these children are not appropriately supported, they can demonstrate problem behaviors, which could result in restrictive school placements, isolation from peers, and even self-harming behaviors. Assisting a child with ASD to function appropriately in school is a key component of the child’s future success.

The Implicit Curriculum of School Functioning

Corkum et al. (2014) identified that “the main goal of education is to provide opportunities for the acquisition of knowledge and skills that support personal independence and social responsibility” (p. 34). For children with ASD, the attainment of this goal is challenging and typically involves teaching skills that are not part of the standard curriculum (Corkum et al., 2014; Myles & Simpson, 2001b). These skills include the ability to initiate and maintain social relationships, demonstrate empathy, discuss a variety of topics, and obtain knowledge from a variety of formats including lectures, cooperative group lessons, and independently obtained information (Ganz & Flores, 2010; Myles et al., 2007; Safran, 2002).

For children with ASD, learning this implicit curriculum can be especially difficult. Wilkerson and Wilkerson (2004) described these skills as the “dos and don'ts of everyday life that are not taught directly, but instead absorbed indirectly from our culture and environment” (p. 22). In their study, they taught 10 students a variety of social and problem-solving skills appropriate for a middle school setting. Lee (2011) identified that children with ASD often have difficulty understanding society’s unspoken rules and recommended that educators identify practical items to teach while taking cultural diversity into consideration. Moyse and Porter (2014) researched the impact of these unwritten social rules on three girls with Asperger
Syndrome. Four key areas in which the girls had difficulties were class rules; working collaboratively; completing tasks; and other interactions with peers. Myles (2014) has grouped a variety of skills under the term “hidden curriculum”. In her lists, she includes examples such as class rules varying from teacher to teacher, class routines varying from teacher to teacher, how to behave when a teacher reprimands you, how to behave when a teacher reprimands someone else, and the importance of filtering what and when you say something to others.

These school functioning skills, when not explicitly taught to children with ASD, “represent a field of potential landmines for them to trip over” (Wilkerson & Wilkerson, 2004, p. 22). They are so important that if children with ASD are not given the opportunity to learn them, teachers are at-risk of presenting the overt school curriculum in such a way that these students are will not be able to learn that either (Friedlander, 2009; Ostmeyer & Scarpa, 2012). Even if students develop coping skills to mask their problems, often they only suppress their emotions until they are outside of school, resulting in significant behaviors at home (Moyse & Porter, 2014).

The necessary school success skills will vary depending on the environment. For example, in the study by Feldman & Matos (2013), students needed to gain the skill of maintaining engagement with their peers so that they play with them appropriately. In Cote et al.’s (2014) study, students needed to be able to complete academic tasks by following directions, staying focused, and responding as expected. The student in Spencer, Simpson, Day, & Buster’s (2008) study needed to develop coping strategies so that he could enjoy the playground when all of his grade level peers were there.
Some skills will be obviously new to the child with ASD and can be pre-taught before the child enters the classroom. Then reminders can be used to generalize the skills to the classroom setting (Crosland & Dunlap, 2012). In Wilkerson and Wilkerson’s (2004) study, social initiation skills, such as asking a girl to dance, were pre-taught before the participants in the study attended a school dance. Rehterford & Schreiber (2015) conducted a study where college students went to a type of camp for a week before entering college. At the camp, they were taught the skills of self-monitoring, self-reflection, problem-solving and functional life skills like maintaining a bank account. In Friedlander’s (2009) study, the student was pre-taught a variety of skills such as self-calming strategies to use when eating lunch in a noisy cafeteria.

Other skills may not be as obvious of a deficit until the child is in the classroom. Nwokeafor (2009) described how three girls with ASD were able to mask their deficits for some time by developing their own compensatory skills. However, in time, these skills proved not to be effective and the girls struggled to follow class rules, work collaboratively, complete required tasks, and interact appropriately with peers. Other students, due to their high intellect and academic skills look very appropriate in the general education setting until their weak problem-solving and social skills become apparent (Stichter, O’Connor, Herzog, Lierheimer, & McGhee, 2011).

When a child is struggling with the skills to be successful in school, educators need to assess the problem and develop a plan to remediate those skills (Lee, 2011). Using an instructional strategy that is evidenced-based ensures that the educator is investing their time effectively. Of all the instructional strategies used with children with ASD, Direct Instruction,
also known as behavioral skills training, has been shown to be one such strategy (Huang & Wheeler, 2007; Morgan et al., 2015, Shireman et al., 2016).

**Direct Instruction**

Huang and Wheeler (2007) described Direct Instruction (DI) as an “intensive teaching method that is systematically developed, highly scripted, fast-paced and characterized by constant student-teacher interaction” (p. 79). It was originally developed by Siegfried Englemann, a professor at the University of Oregon, in the 1960s (Education Commission of the States, 1999; Huang & Wheeler, 2007). Then in 1968, Direct Instruction was implemented as part of Project Follow Through, a large-scale education initiative by the U.S. Office of Education which focused on K-3 reading and math instruction (Education Commission of the States, 1999). It is based on the theory that learning can be greatly accelerated if instructional presentations are clear, rule out likely misinterpretations and facilitate generalizations (Education Commission of the States, 1999).

Banda and Hart (2010) described Direct Instruction, also known as behavioral skills training, as involving the teacher first modeling the desired behavior. Then the teacher prompts the student to demonstrate the desired behavior. Feedback in the form of reinforcements or error correction is provided. Finally, the prompts and feedback are slowly faded.

Morgan et al., (2015) broke down the process into five steps: “(a) a discussion of inappropriate examples of the social skill; (b) direct instruction of an appropriate implementation of the skill; (c) teacher modeling of the skill; (d) student role-play of the skill, with immediate teacher and peer corrective feedback; and (e) generalized practice of the skill with other
individuals or in alternative environments” (p. 4). Skills are typically practiced until they reach 90-95% mastery (Banda & Hart, 2010; Myles et al., 2004; Morgan et al., 2015; Schreiber, 2011).

The key factors of effective Direct Instruction include effective modeling, prompting / corrective feedback, and generalization strategies. Effective modeling includes using a model similar in age and gender to the child with ASD, as well as similar environments (Egel, Richman & Koegel, 1981). The child’s level of attention needs to be maintained. Ways to accomplish this would include using someone new to the child as the model (Egel, Richman & Koegel, 1981), verbally directing the child to the models and/or having the child with ASD verbally describe the interaction that was modeled, if the child has that level of language (Jahr, Eldevik, and Eikeseth, 2000). The model should be presented in a format that is at the developmental level as the child, for example with simplistic language and minimal steps (Jahr, Eldevik, & Eikeseth, 2000). Finally, the model should demonstrate the successful completion of the skill and may need to be presented multiple times. For example, Gena, Krantz, McCannahan, and Poulson (1996) provided a model of an appropriate affective response up to three times before moving to a new scenario stimulus. Jahr, Eldevik, and Eikeseth (2000) would continue modeling until 2 consecutive correct responses were obtained.

The second component is having the student attempt the skill with prompting and corrective feedback provided. Prompting, in the form of verbal praise or other positive reinforcement should be given to the subject to encourage initiation and repetition of the components that were the desired behavior. Correction of errors or further instruction should be provided if needed. The feedback should occur immediately after the participant’s attempt at the behavior. The correction should be constructive, not punitive or denigrating, and focus on only
one aspect of the behavior, as opposed to all aspects which might overwhelm and discourage the participant. This component of Direct Instruction provides the student with the opportunity to practice the desired behavior. In the study by Williams, Donley, and Keller (2000) the participant was immediately given the reinforcement of a toy when the modeled statement was repeated by the participant. The corrective feedback occurred by shaping the behavior and requiring a more intentional statement, which had been modeled, as the experiment went on. In the study by Sainato, Goldstein, and Strain (1992), general education pre-school peers were trained to facilitate play behaviors in peers with ASD. The training of the general education peers included corrective feedback in the form of a self-evaluation tool as well as role reversal with an adult who was given feedback on their modeled behavior. In the study by Cardinal et al. (2017), corrective feedback was provided in a three-tiered model to paraprofessionals learning to implement Discrete Trial Training. Tier 3 included a brief, 3 to 5-minute session of verbal feedback, both positive and constructive, on the paraprofessional’s performance during the Discrete Trial sessions with the students.

The last step of Direct Instruction is generalization. This includes practicing the desired behavior in the proper context, with reinforcement and corrective feedback, and including several demonstrations of the appropriate behavior. Varying the order of the steps in the model, using a variety of peers for interaction purposes, changing the setting of the behavior, or increasing the complexity of the required behavior would strengthen the likelihood of generalization (Sainato, Goldstein & Strain, 1992; Williams, Donley & Keller, 2000; Zanolli, Daggett, & Adams, 1996).
This type of direct, explicit instruction is also known as simply modeling and prompting (Matson et al., 2012). Discrete trial training is a similar technique involving “highly structured teacher direction in a trial-by-trial format, meaning that the child is instructed on a single skill a number of times during a single session, utilizing a series of prompts and rewards to shape behaviors” (Boutot, Guenther, & Crozier, 2005, p. 288).

Research indicates that Direct Instruction is one of the most effective ways to teach social skills, academic skills, cognitive skills, and basic daily living skills (Huang & Wheeler, 2007; Morgan et al., 2015, Shireman et al., 2016). Matson et al., (2012) reviewed 79 different research studies involving the instruction of social skills to children with ASD and found that modeling and prompting interventions, such as Direct Instruction or behavioral skills training, to be the most common type. Because it is fast paced, has frequent interactions between the teacher and student(s), and provides immediate feedback, it is extremely engaging (Myles et al., 2004).

Direct Instruction can also be paired with other strategies to make it more effective or as specific needs present themselves. Banda and Hart (2010) paired Direct Instruction with peer modeling to enhance peer-to-peer social skills with two elementary children with ASD during center time in a general education classroom. Using a “multiple baselines across participants” design, it was determined that Direct Instruction and peer training were effective for increasing initiations of communication and responses to communication between students with ASD and their typical peers. The authors’ results “indicated that the social skills intervention provided immediate and robust improvements of social initiations and responses in both participants” (p. 624).
Hartzell, Liaupsin, Gann, and Clem (2015) also paired Direct Instruction with peer-peer mentoring to implement short social skills lessons to three children with ASD prior to the lunch period. The lessons introduced one skill each day, with a review of examples and non-examples. During lunch, the child was given verbal prompts about what to say to the typically developing peer. If the child made an appropriate comment to the peer, the peer gave the child a sticker. The prompts and reinforcement were then faded based on a set schedule. Based on observational data in this multiple baseline model, all three students increased social engagement compared to their baseline scores, even when the prompting was faded. The skills were also generalized to other lunchroom settings the following year.

Lopata et al. (2012) used Direct Instruction during a summer program and intervention during the school year that used social skills groups, therapeutic activities, face and voice emotion recognition instruction, an individual daily note, and parent training. The target skills of social skills and the ability to identify emotions in facial and vocal expressions were addressed with the 12 elementary students who had been identified as having high functioning ASD. Results from this study showed that this type of treatment was seen as feasible and acceptable by parent and educators working with the students. Large effect sizes were found on 8 of the 4 measures used in the study, and medium effect sizes were found on the other four.

Francis, McMullen, Blue-Banning, and Haines (2013) used Direct Instruction and a social story to teach a 9-year girl with ASD appropriate playground social skills. The social story, which was created as a PowerPoint presentation, provided consistent modeling of the necessary skills. The student would watch the PowerPoint story, demonstrate the appropriate behaviors, and receive immediate feedback from the teacher. The use of social initiation, social
response, and reciprocal play skills increased from 0% prior to the intervention to 80% or more after the intervention and stayed at that level even after the intervention was faded from use.

Though the use of Direct Instruction can be highly beneficial, Matson et al. (2012) stated that it may be best with older children who have close to average cognitive skills since they would be able to generalize the target skills more easily. Shireman et al., (2016) found that behavioral skills training was beneficial for teaching semi-structured play skills, but did not necessarily build rapport between the adults with ASD who were the instructors and the children with ASD that they were teaching.

Even though it may not be effective in all settings, Direct Instruction has been shown to be one of the most effective instructional strategies an educator can use with a child with ASD. It can be used as an independent intervention or paired with other instructional strategies to increase their effectiveness. Professional development regarding Direct Instruction and how it can be used to teach children with ASD would be beneficial for special educators.

Professional Development

Research exhibits a strong correlation between educators’ training and/or professional development and educator’s attitudes towards children with ASD (Corkum et al., 2014). Specialized training has been known to “enhance a teacher’s understanding, confidence, experience, skills, and resources to work with students with ASD, which all ultimately promote more positive attitudes” (Chung et al., 2015, p. 5). Conversely, a lack of training can lead to a lack of support and proper instruction for the children, putting them at risk of not succeeding in school (Moyse & Porter, 2014).
Lindsay et al., (2013) found that teachers felt they lacked adequate information about ASD, particularly with respect to specific ways to work with a child in the classroom and how to appropriately manage a child when a behavioral outburst occurs. Corkum et al. (2014) discovered that both the classroom teachers and the teacher assistants in their study placed a high priority on additional training to enhance their ability to teach children with ASD. Higginson and Chatfield’s (2012) study showed an improvement in teacher’s attitudes towards children with ASD after several professional development opportunities were made available to them. The authors noted that “teachers became more accepting of children with ASD in their classroom and less likely to make judgments about unusual behaviors” (p. 34).

Several studies have shown an improvement in teachers’ attitudes after professional development, based on research collected through a pretest-posttest design (Griffin et al., 2017; Lys, Ringler, & O’Neal, 2009; Polly, Neale, & Pugalee, 2013; Royster, Reglin, & Losike-Sedimo, 2014; Wilkinson et al., 2016). Only a few studies, such as McKeown, Abrams, Slattum, and Kirk (2015), used a Pre-test, Posttest A, Posttest B design to measure the change in teacher’s attitudes immediately after professional development, and then after some time had passed. Based on this study’s results, science teachers’ attitudes towards inquiry-based science lessons improved immediately following a week-long professional development training and stayed at that elevated level six months later (McKeown et al., 2015).

With training in ASD and instructional strategies for children with ASD being a key component to teacher’s perception of their success with these children, it is important to analyze what makes a training program successful. Staff may have received professional development previously, either through classes in their college programs, “on the job” in relation to a specific
student, from parents of a child with ASD, or popular media, including the Internet, magazines, television, and radio as common sources of information (Corkum et al., 2014). Quality professional development should raise the awareness that ASD impacts students across all environments, but that successfully meeting those needs is an achievable goal (Busby et al., 2012; Chung et al., 2015; Corkum et al., 2014). Presenting evidence-based instructional strategies, best practices for behavior management and implicit skills that need to be taught should all be included (Busby et al., 2012; Corkum et al., 2014). Opportunities to apply the new knowledge through the use of case studies, role-playing, and actual experiences with children with ASD is beneficial (Chung et al., 2015; Corkum et al., 2014). Comparisons to students who do not have ASD and how these strategies can benefit them as well should be considered (Busby et al., 2012; Chung et al., 2015). Finally, opportunities to share ideas and concerns with other professionals are also recommended (Higginson & Chatfield, 2012).

Conclusion

Children with ASD have a wide range of needs, and the severity of those needs vary widely. The American Psychiatric Association (2013a) identify two broad categories of need. First, children with ASD demonstrate difficulties with social communication and social interaction. Second, they demonstrate restricted, repetitive patterns of behavior, interests, or activities. Because many children with ASD have average or above average cognitive skills, academic skills, and expressive language skills, the severity of their needs may be underestimated, until the child becomes overwhelmed and their emotions explode (Christiansen et al., 2016; Moyse & Porter, 2014; Safran, 2002). When emotional outbursts or behavior issues become apparent in school, children with ASD may be isolated from their peers, develop poor
self-images, and suffer from depression, anxiety, and even self-harming behaviors (Barnhill, 2001b; Crosland & Dunlap, 2012; Hume et al., 2009; Safran, 2002).

In general education, children with ASD need assistance navigating the maze of implicit rules, in order to be successful and reduce their frustration. This maze of school functioning skills includes following class rules and routines; working collaboratively; completing tasks; and interacting appropriately with adults and peers (Myles, 2014; Moyse and Porter, 2014). One of the most effective strategies for teaching these implicit skills is through Direct Instruction/behavior skills training (Huang & Wheeler, 2007; Morgan et al., 2015; Shireman et al., 2016).

Teachers’ attitudes and knowledge regarding the instruction of children with ASD can influence the effectiveness of their instruction (Idol, 2006; Kahn, Cheramie & Stafford, 2013; Kranak, Alber-Morgan & Sawyer, 2017). Results show that general education teachers, special education teachers, and other school staff may not always have positive attitudes towards children with ASD (Higginson & Chatfield, 2012; Mavropoulou & Padelia, 2000; Park & Chitiyo, 2011; Robertson et al., 2003; Segall & Campbell, 2012). These negative attitudes may be due to educators feeling they have time constraints, obstructing district policies, or the children present with very difficult behaviors (Busby et al., 2012; Lindsay et al., 2013; Soto-Chodiman et al., 2012). However, one of the most significant factors is the amount of training the educator has had (Chung et al., 2015; Corkum et al., 2014; Higginson & Chatfield, 2012; Moyse & Porter, 2014; Lindsay et al., 2013). Several studies list specific factors that make up quality training for teachers (Busby et al., 2012; Chung et al., 2015; Corkum et al., 2014; Higginson & Chatfield, 2012).
Many of these studies involved quantitative research using a survey to measure educators’ attitudes towards children with ASD (Park & Chitiyo, 2010; Harnum et al., 2006; Mavropoulou & Padeliadu, 2000, Robertson et al., 2003, Segall & Campbell, 2012). Other studies used qualitative focus groups or interviews to assess why educators felt the way that they did (Busby et al., 2012; Lindsay et al., 2013; Soto-Chodiman et al., 2012). Very few studies examined the effect of providing professional development on educators’ attitudes about children with ASD (Higginson & Chatfield, 2012). This gap in the literature begs for further study.
CHAPTER 3

METHODOLOGY

The purpose of this study was to improve educator’s attitudes towards children with ASD by providing them professional development regarding how to teach these children the implicit curriculum of school functioning through a Direct Instruction model. Based on the research questions listed below, a quantitative study had been chosen in order to measure the effect of the independent variable (the professional development intervention) on the dependent variable (the attitude and beliefs of the special educators).

Several studies have been done regarding educators’ attitudes toward educating children with ASD (Mavropoulou & Padela, 2000; Park & Chitiyo, 2011; Robertson et al., 2003; Segall & Campbell, 2012), but very few included quantitative research (Higginson & Chatfield, 2012). Of those few regarding educators’ attitudes, none looked at those attitudes in relation to the skills necessary to navigate the implicit curriculum of school functioning.

In this chapter, I will describe the methodology used for this study and why it was chosen. I will provide information regarding the research design, including the internal and external validity of that design. Also, I will discuss the participants, data collection, data analysis, and limitations of the study.

The research questions for the study and the predictive hypotheses are:

6. Is there a change in special educators’ attitudes after a day of professional development, when compared to their attitudes prior to the professional development?
a. **H₁**: There will be an improvement in special educators’ attitudes after the day of professional development when compared to the attitudes before it.

7. Is there a change in special educators’ attitudes five weeks after a day of professional development, when compared to their attitudes immediately following the professional development?
   
a. **H₂**: There will be no change between the special educators’ attitudes immediately after the day of professional development and five weeks later.

8. Do special educators with bachelor’s degrees have different attitudes than special educators with master’s degrees?
   
a. **H₃**: Special educators with master’s degrees will have more positive attitudes towards children with ASD than special educators with bachelor’s degrees.

9. Are the attitudes of special educators who have attended several types of professional development about children with ASD different than those of special educators who have only attended 1-2 types of professional development?
   
a. **H₄**: Special educators who have attended several types of professional development will have more positive attitudes towards children with ASD than special educators who attended only 1-2 types of professional development.

10. Are the attitudes of educators who have worked with more than 10 children with ASD different than those who have worked with less than 10?

   a. **H₅**: Special educators who have worked with more than 10 children with ASD will have more positive attitudes than special educators who worked with less than 10.
Rationale for Hypotheses

Based on the previous literature, the amount of professional development and training an educator has received correlates with the educators’ attitudes towards children with disabilities (Busby et al., 2012; Higginson & Chatfield, 2012; Lindsay, Prouix, Thomson & Scott, 2013; Soto-Chodiman, Pooley, Cohen & Taylor, 2012). Therefore, H₁, H₃, H₄ and H₅ all predict that there will be a difference in the educators’ attitudes, because the corresponding research questions are using professional development, previous educational training or previous on the job training as the independent variables. For H₂, the concern is that the educators’ attitudes will decrease because any change in attitude may have faded over time. Therefore, no change in the attitudes would show that the day of professional development had a lasting effect on the educators’ attitudes.

Other independent variables used in previous research studies included gender, general educators versus special educators, or teachers versus non-teachers (Mavropoulou & Padeliadu, 2000; Park & Chitiyo, 2010; Seagall & Campbell, 2012). However, those variables were not feasible for this study. The participant group had some male participants, but the number was significantly lower than the number of female participants, and so would not have provided valid results. General educators were invited to participate in the study. Also, the non-teachers in the study are all required to have master degrees for their current positions, so those results would have looked similar to the research question about the educators’ amount of education.
Research Design

I used a quantitative, quasi-experimental method for this study (Mertens, 2015). I wanted to observe if the dependent variable (the beliefs of the special educators) was different after the introduction of the independent variable (the professional development intervention). Quantitative research, versus qualitative research, is the better method when wanting to observe the effect of manipulating a specific variable or variables (Shadish et al., 2002).

Quasi-experiments are similar to randomized experiments in purpose and structural attributes but lack random assignments of units (Mertens, 2015; Shadish et al., 2002). This type of experiment applies since the participants in my study were not randomly selected from the general population. Also, I did not use randomized experimental and control groups.

For the study, I implemented a variation of the one-group, pretest-posttest design (Campbell & Stanley, 1966; Shadish et al., 2002). In this design, “a single pretest observation is taken on a group of respondents (O₁), treatment (X) then occurs, and a single posttest observation on the same measure (O₂) follows” (Shadish et al., 2002, p. 108). In order to measure the maintenance effect of the “treatment” or intervention, I added a second posttest administered about 6 weeks later. The diagram of this design is O₁ X O₂ O₃.

Internal and external validity

With any quantitative study, the issues of internal and external validity need to be addressed. Internal validity means the changes in the dependent variable are due to the changes in the independent variable, and no other factors (Mertens, 2015). External validity means the
study can be duplicated and will again produce the same results, or can be generalized to the
general population (Mertens, 2015).

Campbell and Stanley (1966) list several internal validity factors which can impact the
results of a one-group pretest-posttest design. These include the factors of history, maturation,
testing, and instrumentation. The internal validity threat of “history” acknowledges that
something could have occurred during the course of the study that was not part of the study but
could influence the results (Mertens, 2015; Shadish et al., 2002). For example, in my study, a
special educator could have taken an additional workshop on children with ASD between the
pretest and the posttest, or a family member could have been diagnosed with ASD. Both factors
could influence the attitude of the participant but have nothing to do with my study.

Another threat to internal validity could be maturation. This refers to biological or
psychological changes in the participants during the course of a study (Mertens, 2015). For the
purpose of my study, maturation was not a significant threat, since a significant change in the
participants would not have occurred within the few months of the study. However, if I was
working with preschoolers, or the study occurred over several years, this would have been a
bigger concern.

Testing is a threat to internal validity that occurs when exposure to a test can affect scores
on subsequent exposures to that test (Shadish et al., 2002). In my study, for example,
participants may have answered differently on the posttests because they have had a chance to
think about the questions from the pretest, not from the information they gained from the in-
service. Having participants take the pretest several weeks before the in-service and posttest, as
well as having the second posttest several weeks after the in-service and first posttest, should have reduced the impact of this threat.

The last potential threat to internal validity is instrumentation. It addresses the concern that the instrument for collecting data may change slightly over time (Mertens, 2015). Campbell & Stanley (1966) gives examples such as stretching or fatiguing of scales, condensation in a cloud chamber, or the increased familiarity between the observer and the subject. Depending on the setting, equipment, and internet connectivity between when the participants took the pretest and posttests, instrumentation may or may not be a threat to my study’s internal validity.

One type of external validity threat to my one-group pretest-posttest design study is what Campbell & Stanley (1966) identify as the interaction of the testing (O) and the intervention (X). Mertens (2015) breaks this into the subcategories of pretest sensitization, posttest sensitization, and measurement of the dependent variable. Because the participants were asked to take a pretest and posttests, they may have paid closer attention to the information in the intervention than someone who would not need the information later for a posttest (Mertens, 2015). Also, the type of data collection provided different results than if a different data collection tool was used, such as an interview or focus group (Mertens, 2015). Both Campbell & Stanley, (1966) and Mertens (2015) expressed that this type of external validity threat is especially common when participants are asked to reflect on their attitudes or beliefs, as in my study. When a data collection tool contains statements that the participants may not have wanted to admit to, it can change how the participants’ responded about their attitudes (Campbell & Stanley, 1966).

Campbell and Stanley (1966) identified a second type of external validity threat that could have impacted my study, which is the interaction of selection for the study and the
intervention (X). Mertens (2015) breaks this threat into three subcategories again. First, participants may be motivated to do well simply because they were chosen to participate in the study, which is known as the Hawthorne effect (Mertens, 2015). Second, simply because the intervention is new and different it can have a positive effect, or negative effect, depending on the participant’s desire for, and comfort with, change. Mertens (2015) identifies this as the novelty and disruption effect. Finally, the experimenter effect is where participants are influenced by who the experimenter/interventionist is, and someone else presenting the same intervention would not have the same result (Mertens, 2015). In my study, all three of these factors in this threat category could have impacted the results of the study, especially since I have a supervisory working relationship with all of the participants.

Participants

The participants included special educators who work in a public elementary district in a rural town in the Midwest who indicated they would be attending the district’s in-service day titled “Camp Sped”. They were all adults, age 22 through 69, and were male and female. Approximately 80 special educators were invited to participate in the study. At the time of the study, all were employed in the district and had the appropriate education and licensure for their positions. The range of positions included special education teachers, speech pathologists, occupational therapists, physical therapists, school social workers, and school psychologists. Their years of experience in a public general education school system varied from 1 - 40 years of experience. The participants’ experience with children with ASD was not a criterion for participating in the study, but the majority of participants had some experience in educating a child with ASD.
The special educators in this school district were chosen as part of a convenience sample. As a special education administrator, I have access to the state’s board of education website where I can search for educators’ years of experience in public education and licensures. Also, I am knowledgeable regarding the district’s professional development activities and resources.

**Context of district**

The participants work in a medium-sized public elementary school district. It has a current enrollment of approximately 4,500 students, with 75% White, 22% Hispanic, and 3% other minorities. Approximately 38% of the students are classified as low income and 16% receive special education services (Illinois State Board of Education, 2016). Based on the Illinois State Board of Education (2018) I-STAR FACTS Data System, 7% of the children receiving special education services have the primary eligibility of autism.

The rural town in which the district is located is in a collar county of a major metropolitan area. It has a population of approximately 27,000 with 84% White, 13% Hispanic, and 3% other minorities. Residents have a mean salary of $62,625. Ninety-two percent of the population are high school graduates, but only 25% have continued their education to earn a bachelor’s degree or higher (United States Bureau of the Census, 2015).

**Procedures**

Prior to the study beginning, the special education staff was asked if they would be attending Camp Sped. An invitation to participate in the study, with an embedded survey link to the Pretest, the consent letter, and the agenda for Camp Sped, were then emailed to the staff who indicated they would be attending via their work email address. See Appendices A, B, and C. The
email, consent letter, and the Pretest all contained the statement that the study was completely voluntary, anonymous, and may be ended at any time without penalty or prejudice. On the Pretest, all participants were required to mark either “Yes, I understand and consent to participate” or “No, I do not understand and/or do not consent to participate.” I submitted an IRB application on June 15, 2018, including this procedural information and was informed that my study was exempt on June 20, 2018.

The data was then collected in a Google Drive account, which was password protected and only I have access to. All the participants had marked “Yes, I understand and consent to participate”. A similar email was sent with the embedded link for Posttest A following the day-long professional development program. Finally, following the collaborative professional development five weeks later, a third email was sent with the embedded link for Posttest B.

Once the results from the three data collection tools were collected, they were sorted by the personal login created by each participant. The Pretest had 54 individual responses, Posttest A had 49 individual responses, and Posttest B had 34 individual responses. When the responses from each data collection tool were sorted based on login, only 18 cases matched across all three tools.

The assistance of another special education administrator was enlisted, to anonymously determine if more than 18 participants had completed all three data collection tools, but had simply used different logins for different tools. Only the logins and the list of staff who had indicated they would attend the professional development day were shared with the administrator. The participants’ responses regarding their attitudes were not shared. The administrator was able to contact the staff who had indicated they would attend the professional
development day, and ask them that, if they had chosen to participate in the research study, what logins had they chosen to use. She then matched the corresponding logins, for example pairing “Trout2” with “Fish7”. This aligned 23 cases that matched across all three tools.

One total database was then created by matching up the logins with the responses from each data collection tool. Each data collection tool contained 25 questions which were based on a 5-point Likert-type scale. As dictated by the phrasing of the questions, the scores on eleven of the questions were reversed so that a score of 1 always indicated a negative attitude and a score of 5 always indicated a positive attitude. For each data collection tool, the total score for each participant was calculated and then divided by 25 to determine each participant’s individual mean scores for that particular tool.

The Intervention

Since 2015, the special educators have had a full day of in-service during the summer. Topics for the in-service day have included special education paperwork, questions and answers with special education attorneys, a review of the different special education programs in the district, assistive technology, and bilingual education. All certified special education staff is invited to attend the full day in-service and, if the day is outside of their usual work calendar, they are compensated for their time.

Staff also participate in 50 minutes of staff development every Wednesday. The elementary schools meet before school and the middle school staff meets after school. Participation in Staff Development Wednesday (SDW) is part of the certified staff union contract, so all certified staff must participate in some activity each Wednesday. Once every five weeks, the theme for SDW is collaboration. On those days, special education staff from across
the district come together at one location for the opportunity to meet in small groups regarding topics that impact them. Topics in the past have included best practice for writing IEP goals, service delivery models, and assistive technology.

During this study, the same structure of the full day in-service and the collaborative SDW was implemented. The level of compensation provided to the participants as in previous years was also the same. Staff who had indicated that they would be attending the full day in-service were then invited to participate in the study through the use of an email sent to their work email on July 1, 2018. This email provided a link to a consent form and the Pretest. (See Appendices A, and B). The agenda for the in-service day was also included. (See Appendix C).

Because of the size of the group on the in-service day, three other special education administrators helped to facilitate the small group portions of the in-service day. All three administrators had previous supervisory and special education experience. They were provided the in-service materials and PowerPoint presentation prior to the in-service day and discussed the purpose of the in-service day and the small group sessions specifically with me. They also acted out the role-playing scenarios that were provided during the in-service.

The in-service was held in a school’s multi-purpose room in the district. The room was arranged with 25 tables which had 4 chairs each as well as seating around the outside of the room. Two projectors, two screens, a podium, and a laptop connected to the projectors were used to present the information. Additional tables were at the entrance to the room, for holding registration materials and packets for distribution. The room arrangement facilitated small group discussion as well as gave everyone a clean line of sight to the screen. See Figure 1.
The set of materials included the agenda for the day, steps for a Direct Instruction lesson, and a list of sample items which are part of the implicit curriculum of school functioning. Two sample case studies of students and explanations of Direct Instruction lessons for each student were in the materials, as a model of how Direct Instruction can be implemented. Four worksheets for participants to complete as part of four small-group activities, gave participants the opportunity to practice each Direct Instruction step, and then share their information with the large group. Finally, as resources for further information, a Direct Instruction Template and

![Figure 1: In-service day room arrangement.](image)
citations of research articles about the implicit curriculum and Direct Instruction were included. (See Appendix E.)

The format of the in-service day was structured as a Direct Instruction lesson about Direct Instruction. First, a PowerPoint presentation was used to facilitate a discussion about the characteristics of children with ASD and introduce the components of Direct Instruction. The PowerPoint was also used throughout the day to facilitate all of the activities. (See supplemental file titled “Helping Children with ASD Unlock the Implicit Curriculum of School Functioning”.)

After the introduction of the Direct Instruction components, we analyzed Step One: Defining the Skill, by defining the implicit curriculum and its impact on student functioning. The case studies were used to model how the skills were defined for the sample students. The small group activity was employed so the participants can practice identifying implicit curriculum skills. During the small group activity, the other special education administrators assisted me in monitoring the participants’ progress and providing feedback to them. Lastly, each group of participants shared their ideas with the large group, so the concept of defining the implicit curriculum skill can be generalized to include others’ ideas. This large group time also allowed all the participants to actively respond to the information being discussed.

Similar steps were used to analyze Step Two: Modeling the Skill. The key components of effective modeling were defined. The special education administrators role-played the Step Two scripts in the case studies. During the small group activity, the participants worked together to create their own sample student, determine the implicit curriculum skill that they wanted to teach that student, and practiced creating a model for teaching that skill to the student. They also
received feedback from the administrators and me. Each group, then, shared with the large
group, for the purpose of generalizing how others have modeled an implicit curriculum skill.

For Step Three: Practicing the Skill and Receiving Feedback, the components of effective
feedback were reviewed. The special education administrators role-played the script for Step 3
from the case studies, modeling how the sample students would be provided feedback. The
participants, in their small groups, reviewed sample scenarios and practiced providing
appropriate feedback, while receiving feedback from me and the administrators. The feedback
from the small groups then shared with the large group in order to help the participants
generalize the idea of effective feedback.

Finally, for Step 4: Generalization, similar steps were used. The components needed for
effective generalization were discussed. The generalization steps from the case studies were
reviewed. Participants went back to the sample students they created in Step 2 and identified
steps for generalizing the implicit curriculum skill. They received feedback again from the
administrators and me. Ultimately, the groups share their ideas with the large group.

The in-service day ended with a review of what was accomplished during the day and a
brief introduction to what would be addressed at the Special Education Collaborative SDW in
September. Further information was shared with the participants; in case they would like to read
more about the implicit curriculum or Direct Instruction. Then they were all be thanked for their
time, thanked for their hard work with their students, and reminded to complete Posttest A if they
were participating in the research study. Posttest A was then emailed to them. (See Appendices
F and G.) See Table 2 for a timeline of the in-service day.
Table 2
Agenda for the Camp Sped In-service Day

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 - 8:30</td>
<td>Registration, Materials Distribution</td>
</tr>
<tr>
<td>8:30 - 8:45</td>
<td>Characteristics of Children with ASD</td>
</tr>
<tr>
<td>8:45 - 9:00</td>
<td>An Introduction to Direct Instruction</td>
</tr>
<tr>
<td>9:00 - 9:15</td>
<td>Step 1 - The Implicit Curriculum of Functioning in the School Setting</td>
</tr>
<tr>
<td>9:15 - 9:30</td>
<td>Case Studies: The Implicit Curriculum</td>
</tr>
<tr>
<td>9:30 - 9:50</td>
<td>Small Group Activity: Defining the Implicit Curriculum with Feedback</td>
</tr>
<tr>
<td>9:50 - 10:15</td>
<td>Large Group Activity: Sharing Definitions</td>
</tr>
<tr>
<td>10:15 - 10:30</td>
<td>Break</td>
</tr>
<tr>
<td>10:30 - 10:45</td>
<td>Step 2 - The Art of Modeling Effectively</td>
</tr>
<tr>
<td>10:45 - 11:00</td>
<td>Case Studies: Role Play of Modeling</td>
</tr>
<tr>
<td>11:00 - 11:30</td>
<td>Small Group Activity with Feedback: Create Case Study and Modeling Script</td>
</tr>
<tr>
<td>11:30 - 12:00</td>
<td>Large Group Activity: Share Case Study and Model</td>
</tr>
<tr>
<td>12:00 - 1:00</td>
<td>Lunch</td>
</tr>
<tr>
<td>1:00 - 1:15</td>
<td>Step 3 - The Art of Corrective Feedback</td>
</tr>
<tr>
<td>1:15 - 1:30</td>
<td>Case Studies: Role Play of Practice with Feedback</td>
</tr>
<tr>
<td>1:30 - 1:45</td>
<td>Small Group Activity with Feedback: Scenarios for Feedback</td>
</tr>
<tr>
<td>1:45 - 2:00</td>
<td>Large Group Activity: Share Feedback for Scenarios</td>
</tr>
<tr>
<td>2:00 - 2:15</td>
<td>Break</td>
</tr>
<tr>
<td>2:15 - 2:30</td>
<td>Step 4 - The Art of Generalization</td>
</tr>
<tr>
<td>2:30 - 2:45</td>
<td>Case Studies: Model of Generalization Strategies</td>
</tr>
<tr>
<td>2:45 - 3:00</td>
<td>Small Group Activity: Generalization for Case Study</td>
</tr>
<tr>
<td>3:00 - 3:15</td>
<td>Large Group Activity: Share Generalization Strategies</td>
</tr>
<tr>
<td>3:15 - 3:30</td>
<td>Conclusion and Thank You!</td>
</tr>
</tbody>
</table>
During the first collaborative SDW of the school year, the educators were given the opportunity to articulate in small groups, based on their job assignments. For example, high incidence teachers in grades K-2 met together and high incidence teachers in grades 3-5 met together. Each group was given questions to discuss, regarding their implementation of the Direct Instruction intervention and any obstacles that they have encountered (See Appendix H).

Due to convenience, the collaborative SDW occurred 5 weeks after the in-service day, on September 12, 2018. After the collaborative SDW, participants were emailed Posttest B to be completed within the next few weeks (See Appendices I and J). See Table 3 regarding the timeline of the research study as well as the procedural tasks.

Data Collection Tool

As part of the Pretest, participants were asked to create a login that is personal to them, contains words and numbers, and is not easily identified by others. The purpose of the login was to track each participant’s data across time. Examples of such logins were the participant’s middle name and house number or the model of their current car and the last four digits of their phone number. They were encouraged not to use a year of any sort since this might be an identifiable piece of information. No other identifiable information was collected, such as the participant’s email address.

The exception to this would be the demographic information collected as part of the Pretest. Participants identified their highest degree achieved (Bachelor/Bachelors+ versus Masters/Masters+). The “learning opportunities for teachers and teacher assistants” item from the study by Corkum et al. (2014) study was used to assess the participants’ previous sources of information regarding ASD. I also used Item 7 from the study done by Higginson and Chatfield...
### Table 3

Research Study Procedures and Timeline

<table>
<thead>
<tr>
<th>Date</th>
<th>Task</th>
</tr>
</thead>
<tbody>
<tr>
<td>April 23, 2018</td>
<td>Sent “save the date” email to staff via work email</td>
</tr>
<tr>
<td>May 24, 2018</td>
<td>Sent RSVP survey to staff via work email</td>
</tr>
<tr>
<td>June 15, 2018</td>
<td>Submitted IRB application</td>
</tr>
<tr>
<td>June 20, 2018</td>
<td>IRB application approved and determined to be exempt</td>
</tr>
<tr>
<td>July 1, 2018</td>
<td>Pretest emailed via <a href="mailto:implicitcurriculum@gmail.com">implicitcurriculum@gmail.com</a> to staff who responded they would be attending Camp Sped</td>
</tr>
<tr>
<td>July 16, 2018</td>
<td>Reminder #1 regarding Pretest emailed to the same staff</td>
</tr>
<tr>
<td>August 6, 2018</td>
<td>Reminder #2 regarding Pretest emailed to the same staff</td>
</tr>
<tr>
<td>August 8, 2018</td>
<td>“Camp Sped” In-service Day</td>
</tr>
<tr>
<td>August 8, 2018</td>
<td>Posttest A emailed via <a href="mailto:implicitcurriculum@gmail.com">implicitcurriculum@gmail.com</a> to staff who responded they would be attending Camp Sped (after 4:00 p.m.)</td>
</tr>
<tr>
<td>August 25, 2018</td>
<td>Reminder #1 regarding Posttest A emailed to the same staff</td>
</tr>
<tr>
<td>September 3, 2018</td>
<td>Reminder #2 regarding Posttest A emailed to the same staff</td>
</tr>
<tr>
<td>September 12, 2018</td>
<td>Collaborative Staff Development Wednesday (SDW)</td>
</tr>
<tr>
<td>September 12, 2018</td>
<td>Posttest B emailed via <a href="mailto:implicitcurriculum@gmail.com">implicitcurriculum@gmail.com</a> to staff who responded they would be attending Camp Sped (after 4:00 p.m.)</td>
</tr>
<tr>
<td>September 27, 2018</td>
<td>Reminder #1 regarding Posttest B emailed to the same staff</td>
</tr>
<tr>
<td>October 10, 2018</td>
<td>Reminder #2 regarding Posttest B emailed to the same staff</td>
</tr>
<tr>
<td>October 24, 2018</td>
<td>Tabulated initial data from Pretest, Posttest A, and Posttest B</td>
</tr>
</tbody>
</table>
(2012), which asks “have you had a student with ASD in your class/on your caseload” (p. 39) (See Appendix D).

The majority of the Pretest, Posttest A and Posttest B were the same. They were comprised of the ASD scenario used by Harnum et al. (2006), the “Autism Attitude Scale for Teachers” by Olley et al. (1986), which is also used by Park and Chitiyo (2010), and portions of the Professional Development Questionnaire used by Higginson and Chatfield (2012). (See Appendices D, G, and J).

For the purpose of this study, the items from the three separate tools were modified slightly. From the study done by Harnum et al. (2006), I used only Scenario 1 since it discussed a child with ASD. I changed item 2 from ‘this child is as smart as me” to “this child is as smart as the other students in my classroom/on my caseload”. Item 3 was changed from “I would not mind this child being in my classroom” to “I would not mind this child being in my classroom/on my caseload”. Finally, Item 6 was revised from “This child is different from you” to “This child is different from other children in my classroom/on my caseload”. I made these changes to make the questions more applicable to educators as opposed to children, who were the participants in the original study. I removed statement 4 “I would play with this child” since it was not applicable to the scope of my study. I also revised statements 1, 2, 6, and 7 to be first person declarative statements. Finally, for the sake of consistency across the assessment tool, I flipped the 5-point Likert scale so that a score of “1” equals the most negative attitude instead of the most positive. Table 4 shows the specific questions used in the data collection tool, classified by the source of each question, the number and assessment tool for each question, the specific language of each question, and if the question needs to be reverse scored.
Table 4
Assessment Tool Questions

<table>
<thead>
<tr>
<th>Assessment Tool and Question Number</th>
<th>The Wording of the Question</th>
<th>Reverse Scoring</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest #1</td>
<td>I understand that my consent to participate in this project does not constitute a waiver of any legal rights or redress I might have as a result of my participation, and I acknowledge that I have received a copy of the consent form. Furthermore, I am aware that my participation is voluntary and may be withdrawn at any time without penalty or prejudice. Mark only one oval. ___Yes, I understand and consent to participate. ___No, I do not understand and/or do not consent to participate.</td>
<td>n/a</td>
<td>Consent Form</td>
</tr>
<tr>
<td>Pretest #2</td>
<td>2. Please input your personal login for this study.</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>Posttest A #1</td>
<td></td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>Posttest B #1</td>
<td></td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>Pretest #3</td>
<td>What is the highest degree you have achieved? Mark only one oval. ___Bachelor's or Bachelor's + ___Master's or Master's +</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td>Pretest #4</td>
<td>What previous professional development activities have you participated in? Check all that apply. ___A least one full course focused on ASD during your formal training ___A course focused on special needs which included information about ASD ___Media such as television, internet, newspapers ___Parents of your students with ASD ___Colleagues with more training/experience ___District sponsored in-services focused on ASD ___Workshops outside of the district ___Personal associations (friends, family) ___Hands-on training (shadowing, visiting other programs/schools) ___Specific books, videos, etc.</td>
<td>n/a</td>
<td>Corkum et al. (2014)</td>
</tr>
</tbody>
</table>
Table 4 (continued)

<table>
<thead>
<tr>
<th>Assessment Tool and Question Number</th>
<th>The Wording of the Question</th>
<th>Reverse Scoring</th>
<th>Source</th>
</tr>
</thead>
</table>
| Pretest #5                          | Have you ever worked with a student with ASD? Mark only one oval.  
___Yes ___No                                                        | n/a             | Higginson & Chatfield, 2012     |
| Pretest #6                          | If yes, please estimate how many students with ASD. Mark only one oval.  
___1-5 ___5-10 ___10-20 ___20 or more                                 | n/a             |                                 |
| Pretest #7                          | A1. This child makes me afraid. Mark only one oval.  
Strongly Disagree 1 2 3 4 5 Strongly Agree                          | Reverse         | Harnum et al., 2006             |
| Posttest A #2 Posttest B #2         |                                                                                                                |                 |                                 |
| Pretest #8                          | A2. This child is as smart as my other students. Mark only one oval.  
Strongly Disagree 1 2 3 4 5 Strongly Agree                          | n/a             | Harnum et al., 2006             |
| Posttest A #3 Posttest B #3         |                                                                                                                |                 |                                 |
| Pretest #9                          | A3. I would not mind this child being in my classroom/on my caseload. Mark only one oval.  
Strongly Disagree 1 2 3 4 5 Strongly Agree                          | n/a             | Harnum et al., 2006             |
| Posttest A #4 Posttest B #4         |                                                                                                                |                 |                                 |
| Pretest #10                         | A4. I would feel comfortable around this child. Mark only one oval.  
Strongly Disagree 1 2 3 4 5 Strongly Agree                          | n/a             | Harnum et al., 2006             |
| Posttest A #5 Posttest B #5         |                                                                                                                |                 |                                 |
| Pretest #11                         | A5. This child is different from other children in my classroom/on my caseload. Mark only one oval.  
Strongly Disagree 1 2 3 4 5 Strongly Agree                          | Reverse         | Harnum et al., 2006             |
| Posttest A #6 Posttest B #6         |                                                                                                                |                 |                                 |
| Pretest #12                         | A6. I would like this child. Mark only one oval.  
Strongly Disagree 1 2 3 4 5 Strongly Agree                          | n/a             | Harnum et al., 2006             |
| Posttest A #7 Posttest B #7         |                                                                                                                |                 |                                 |
| Pretest #13                         | B1. Only educators with extensive special education training can help a child with autism/ASD. Mark only one oval.  
Strongly Disagree 1 2 3 4 5 Strongly Agree                          | Reverse         | Olley et al., 1981; Park & Chitiyo, 2010 |
| Posttest A #8 Posttest B #8         |                                                                                                                |                 |                                 |

(Continued on following page)
Table 4 (continued)

<table>
<thead>
<tr>
<th>Assessment Tool and Question Number</th>
<th>The Wording of the Question</th>
<th>Reverse Scoring</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest #14</td>
<td>B2. Mealtime behaviors of children with autism/ASD are disruptive and negatively influence the behavior of children around them. Mark only one oval. Strongly Disagree 1 2 3 4 5 Strongly Agree</td>
<td>Reverse</td>
<td>Olley et al., 1981; Park &amp; Chitiyo, 2010</td>
</tr>
<tr>
<td>Posttest A #9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posttest B #9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest #15</td>
<td>B3. Schools/classrooms with both typically developing children and children with autism/ASD enhance the learning experiences of typically developing children. Mark only one oval. Strongly Disagree 1 2 3 4 5 Strongly Agree</td>
<td>n/a</td>
<td>Olley et al., 1981; Park &amp; Chitiyo, 2010</td>
</tr>
<tr>
<td>Posttest A #10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posttest B #10</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest #16</td>
<td>B4. Typically developing children and children with autism/ASD should be taught in separate schools/classrooms. Mark only one oval. Strongly Disagree 1 2 3 4 5 Strongly Agree</td>
<td>Reverse</td>
<td>Olley et al., 1981; Park &amp; Chitiyo, 2010</td>
</tr>
<tr>
<td>Posttest A #11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posttest B #11</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest #17</td>
<td>B5. Children with autism/ASD can learn from a good teacher. Mark only one oval. Strongly Disagree 1 2 3 4 5 Strongly Agree</td>
<td>n/a</td>
<td>Olley et al., 1981; Park &amp; Chitiyo, 2010</td>
</tr>
<tr>
<td>Posttest A #12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posttest B #12</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest #18</td>
<td>B6. Regular schools/classrooms are too advanced for children with autism/ASD. Mark only one oval. Strongly Disagree 1 2 3 4 5 Strongly Agree</td>
<td>Reverse</td>
<td>Olley et al., 1981; Park &amp; Chitiyo, 2010</td>
</tr>
<tr>
<td>Posttest A #13</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posttest B #13</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest #19</td>
<td>B7. I would not want the children in my class/on my caseload to have to put up with children with autism/ASD. Mark only one oval. Strongly Disagree 1 2 3 4 5 Strongly Agree</td>
<td>Reverse</td>
<td>Olley et al., 1981; Park &amp; Chitiyo, 2010</td>
</tr>
<tr>
<td>Posttest A #14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posttest B #14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest #20</td>
<td>B8. Teachers not specifically trained in special education should not be expected to deal with children with autism. Mark only one oval. Strongly Disagree 1 2 3 4 5 Strongly Agree</td>
<td>Reverse</td>
<td>Olley et al., 1981; Park &amp; Chitiyo, 2010</td>
</tr>
<tr>
<td>Posttest A #15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posttest B #15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest #21</td>
<td>B9. Children with autism/ASD are too impaired to benefit from the learning experiences of a general school/classroom. Mark only one oval. Strongly Disagree 1 2 3 4 5 Strongly Agree</td>
<td>Reverse</td>
<td>Olley et al., 1981; Park &amp; Chitiyo, 2010</td>
</tr>
<tr>
<td>Posttest A #16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posttest B #16</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Continued on following page)
Table 4 (continued)

<table>
<thead>
<tr>
<th>Assessment Tool and Question Number</th>
<th>The Wording of the Question</th>
<th>Reverse Scoring</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest #22 Posttest A #17 Posttest B #17</td>
<td>B10. Schools/classrooms with both typically developing children and children with autism/ASD enhance the learning experiences of children with autism/ASD. Mark only one oval. Strongly Disagree 1 2 3 4 5 Strongly Agree</td>
<td>n/a</td>
<td>Olley et al., 1981; Park &amp; Chitiyo, 2010</td>
</tr>
<tr>
<td>Pretest #23 Posttest A #18 Posttest B #18</td>
<td>B11. If had a choice, I would teach in a school/classroom in which there were no children with autism/ASD. Mark only one oval. Strongly Disagree 1 2 3 4 5 Strongly Agree</td>
<td>Reverse</td>
<td>Olley et al., 1981; Park &amp; Chitiyo, 2010</td>
</tr>
<tr>
<td>Pretest #24 Posttest A #19 Posttest B #19</td>
<td>B12. A good teacher can do a lot to help a child with autism/ASD. Mark only one oval. Strongly Disagree 1 2 3 4 5 Strongly Agree</td>
<td>n/a</td>
<td>Olley et al., 1981; Park &amp; Chitiyo, 2010</td>
</tr>
<tr>
<td>Pretest #25 Posttest A #20 Posttest B #20</td>
<td>B13. Children with autism/ASD cannot socialize well enough to profit from contact with typically developing children. Mark only one oval. Strongly Disagree 1 2 3 4 5 Strongly Agree</td>
<td>Reverse</td>
<td>Olley et al., 1981; Park &amp; Chitiyo, 2010</td>
</tr>
<tr>
<td>Pretest #26 Posttest A #21 Posttest B #21</td>
<td>B14. It’s unfair to ask teachers to accept children with autism/ASD into their school/classroom. Mark only one oval. Strongly Disagree 1 2 3 4 5 Strongly Agree</td>
<td>Reverse</td>
<td>Olley et al., 1981; Park &amp; Chitiyo, 2010</td>
</tr>
<tr>
<td>Pretest #27 Posttest A #22 Posttest B #22</td>
<td>B15. I feel confident about teaching a child with ASD. Mark only one oval. Strongly Disagree 1 2 3 4 5 Strongly Agree</td>
<td>n/a</td>
<td>Higginson &amp; Chatfield, 2012</td>
</tr>
<tr>
<td>Pretest #28 Posttest A #23 Posttest B #23</td>
<td>C2. I feel knowledgeable about ASD. Mark only one oval. Strongly Disagree 1 2 3 4 5 Strongly Agree</td>
<td>n/a</td>
<td>Higginson &amp; Chatfield, 2012</td>
</tr>
<tr>
<td>Pretest #29 Posttest A #24 Posttest B #24</td>
<td>C3. I feel knowledgeable about ASD. Mark only one oval. Strongly Disagree 1 2 3 4 5 Strongly Agree</td>
<td>n/a</td>
<td>Higginson &amp; Chatfield, 2012</td>
</tr>
</tbody>
</table>

(Continued on following page)
<table>
<thead>
<tr>
<th>Assessment Tool and Question Number</th>
<th>The Wording of the Question</th>
<th>Reverse Scoring</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest #30</td>
<td></td>
<td>n/a</td>
<td>Higginson &amp; Chatfield, 2012</td>
</tr>
<tr>
<td>Posttest A #25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posttest B #25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pretest #31</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posttest A #26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posttest B #26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posttest A #27</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posttest B #27</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posttest A #28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posttest B #28</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posttest A #29</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posttest B #29</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Posttest A #30</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Continued on following page)
Table 4 (continued)

<table>
<thead>
<tr>
<th>Assessment Tool and Question Number</th>
<th>The Wording of the Question</th>
<th>Reverse Scoring</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Posttest B #30</td>
<td>D4. The strategies discussed during Camp SPED and the Collaborative SDW will help support students with ASD. Mark only one oval. Strongly Disagree 1 2 3 4 5 Strongly Agree</td>
<td>n/a</td>
<td>Guskey, 2000</td>
</tr>
<tr>
<td>Posttest A #31</td>
<td>D5. I feel that I will implement the strategies discussed during Camp SPED, including direct instruction for teaching the implicit curriculum of school functioning. Mark only one oval. Strongly Disagree 1 2 3 4 5 Strongly Agree</td>
<td>n/a</td>
<td>Guskey, 2000</td>
</tr>
<tr>
<td>Posttest A #32</td>
<td>D6. What are your reasons for answering the previous question (D5) as you did?</td>
<td>n/a</td>
<td>Guskey, 2000</td>
</tr>
<tr>
<td>Posttest B #31</td>
<td>D5. I feel that I will implement the strategies discussed during Camp SPED and the Collaborative SDW, including direct instruction for teaching the implicit curriculum of school functioning. Mark only one oval. Strongly Disagree 1 2 3 4 5 Strongly Agree</td>
<td>n/a</td>
<td>Guskey, 2000</td>
</tr>
<tr>
<td>Posttest B #32</td>
<td>D6. What reasons are there for not implementing these instructional strategies, if any?</td>
<td>n/a</td>
<td>Guskey, 2000</td>
</tr>
<tr>
<td>Posttest A #33 Posttest B #33</td>
<td>D7. Is there any other training or support you would have liked to receive around ASD?</td>
<td>n/a</td>
<td>Higginson &amp; Chatfield, 2012</td>
</tr>
<tr>
<td>Posttest A #34 Posttest B #34</td>
<td>D8. Is there anything else about this process you would like to add?</td>
<td>n/a</td>
<td>Higginson &amp; Chatfield, 2012</td>
</tr>
</tbody>
</table>
On the “Autism Attitude Scale for Teachers” (Olley et al., 1981; Park & Chitiyo, 2010) I removed the demographic questions since they had been addressed previously. I also changed “schools” to ‘schools/classrooms” and “autism” to “autism/ASD” in order to maintain consistency across the assessment tool. Park and Chitiyo (2010) reported that they had modified Olley et al.’s (1981) original form by using person-first language and changing autistic children to children with autism.

From the study done by Higginson and Chatfield (2012), I used Item 7 “Have you had a student with ASD in your class/on your caseload” as part of my demographic information. I used questions 6 - 10 to measures the participants’ confidence and perception of their knowledge. I also included an additional question regarding the need to explicitly teach “school functioning” skills, since this is a significant factor in my study. I included the final six items on Posttest A and B from Guskey’s (2000) Five Levels of Professional Development, specifically Level 1. These questions assess participants’ willingness to use the instructional strategy presented in the day-long in-service and their feedback for further professional development.

The data collected from the Pretest, Posttest A, and Posttest B will be scored with Items B1, B2, B4, B6, B7, B8, B9, B11, B13 and B14 of the Belief Scale being reverse-scored, as suggested by the original author, Olley et al. (1981). Items A1 and A5 of the Scenario will also be reverse scored so that a high score will equate with a positive attitude for all of the questions.

Table 5 shows a representation of how the pretest and two posttest assessment tools align with the five research questions of the study. All the results of the pretest and posttests were collected in a Google account, which was password protected and only I have access. All data will be destroyed five years after the completion of this study.
Table 5
Alignment of Research Questions with Data Collection Instruments/Strategies

<table>
<thead>
<tr>
<th>Research Questions</th>
<th>Pretest with Demographic Information</th>
<th>Posttest A</th>
<th>Posttest B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Is there a change in special educators’ attitudes after a day of professional development, when compared to their attitudes prior to the professional development?</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2. Is there a change in special educators’ attitudes five weeks after a day of professional development, when compared to their attitudes immediately following the professional development?</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>3. Do special educators with bachelor’s degrees have different attitudes than special educators with master’s degrees?</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>4. Are the attitudes of special educators who have attended several types of professional development about children with ASD different than those of special educators who have only attended 1-2 types of professional development?</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>5. Are the attitudes of educators who have worked with 10 or more children with ASD different than those who have worked with less than 10?</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
Data Analysis

The data was analyzed using SPSS. Descriptive statistics were used to analyze the demographic data as well as the data from the pretest and each posttest. The purpose of descriptive statistics is to describe group characteristics on a single variable, such as the mean, median, mode, or standard deviation (Mertens, 2015). Inferential statistics were used to determine if pretest and posttest scores differ significantly from each other (Mertens, 2015). Specifically, repeated measures ANOVA was used, since this study compares the scores of the same participants across time, as measured by the three data collection tools (Field, 2013). This type of design is also known as within-participants design, related design, and within-subjects design (Field, 2013; Gravetter, 2014). Also, mixed design ANOVAs were used to determine if pretest and posttest scores differ significantly from each other based on the independent variables of college degree, the number of professional development types, and the number of children with ASD a participant has previously worked (Mertens, 2015).

With this repeated-measures ANOVA and mixed design ANOVAs, sphericity is assumed, which is the assumption that the relationship between pairs of experimental conditions is similar (Field, 2013). The assumption of sphericity is measured using the Mauchly’s Test of Sphericity. If the sphericity assumption is violated, an adjustment is used, either Greenhouse-Geisser or Huynh-Feldt, based on the sample size (Field, 2013).

Summary

This study used a quantitative research design to address the five research questions. Specifically, a one-group pretest-posttest design (Mertens, 2015) was used. A pretest was sent
out to all of the participants. Approximately 6 weeks later, a full day in-service will be presented to the participants with Posttest A immediately following. Approximately 6 weeks after the in-service day, the opportunity to articulate on the subject was provided and Posttest B will be sent out to the participants. A repeated measures ANOVA and mixed design ANOVAS were used to analyze the data and determine what growth, if any, was made in the participants’ attitudes.

Chapter 3 has described the participants in this study, the data collection tool and how it was administered. The data collection and data analysis procedures were discussed. Finally, limitations of the study were explored. Chapter 4 will report the findings of the research. Chapter 5 will discuss the findings, analyze the data, and offer suggestions for further research.
CHAPTER 4
RESULTS

This chapter will present the results of the data collected. The analysis of the data, based on the five research questions, will also be discussed. Question 1 looks at the relationship between special educators’ attitudes before and after a day of professional development. Question 2 addresses any changes in those attitudes over time. Question 3 examines the relationship between educators’ attitudes and their level of education, specifically a Bachelor’s degree versus a Master’s degree. Question 4 investigates the relationship between educators’ attitudes and the variety of professional development activities the educator has attended, specifically 1-2 types of professional development versus more than 2. Finally, Question 5 considers the relationship between educators’ attitudes and the number of students with ASD the educator has worked with, specifically more or less than 10 students.

Preliminary Analysis

As mentioned in Chapter 3, the results of the Pretest, Posttest A, and Posttest B were collected anonymously and electronically through the use of the different Google Forms. These results were then sorted by the personal login created by the participants. The Pretest had 54 individual responses, Posttest A had 49 individual responses, and Posttest B had 34 individual responses. When the responses from each data collection tool were matched based on login, only 18 cases matched across all three tools. Once the assistance of the other special education
administrator was utilized, the sample size increased to 23 participants who completed all three data collection tools.

Two participants left a few answers blank on one data collection tool, therefore causing their scores to be unusually low. One participant had 2 missing values. The other participant had 5 missing values. For the purpose of correcting these outliers, I estimated the values for each blank item by inputting the mean score of that item from the other two assessment tools. For example, if question A5 had not been completed on Posttest A, but had the value of 4 on the Pretest and 4 on Posttest B, I inputted the value of 4. Once these missing values were inputted, SPSS v. 25 was used to calculate the descriptive statistics, specifically the mean, median, standard deviation, minimum score, and maximum score for each data collection tool. See Table 6.

Table 6
Descriptive Statistics for Each Data Collection Tool

<table>
<thead>
<tr>
<th>Tool</th>
<th>Mean</th>
<th>Median</th>
<th>Standard Deviation</th>
<th>Minimum Score</th>
<th>Maximum Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest</td>
<td>4.283</td>
<td>4.280</td>
<td>0.391</td>
<td>3.44</td>
<td>4.88</td>
</tr>
<tr>
<td>Posttest A</td>
<td>4.461</td>
<td>4.560</td>
<td>0.384</td>
<td>3.52</td>
<td>4.96</td>
</tr>
<tr>
<td>Posttest B</td>
<td>4.473</td>
<td>4.520</td>
<td>0.387</td>
<td>3.64</td>
<td>5.00</td>
</tr>
</tbody>
</table>

Based on the Kolmogorov-Smirnov Test of Normality, the Pretest scores, $D(23) = 0.133$, $p = .200$, and the Posttest A scores, $D(23) = 0.172$, $p = .076$, did not deviate significantly from
the normal. However, the Posttest B scores, $D(23) = 0.205, p = .013$, was significantly non-normal. With a study of this size, tests of normality tend to not detect violations of assumptions, so these results should be considered cautiously.

Research Question 1

Is there a change in special educators’ attitudes after a day of professional development, when compared to their attitudes prior to the professional development?

_Hypothesis:_ There will be an improvement in special educators’ attitudes after the day of professional development when compared to their attitudes prior to the professional development. - Supported.

SPSS v.25 was used to calculate a repeated measures ANOVA, comparing the means of the data collection tool administered in July as the Pretest, in August as Posttest A, and in September as Posttest B. Mauchly’s Test indicated that the assumption of sphericity had been violated, $\chi^2 = 20.83, \rho = .000$. Therefore, the degrees of freedom were corrected using Huynh-Feldt estimates of sphericity ($\varepsilon = .63$). The results show a statistically significant difference between the three data collection tools, $F(1.263, 27.786) = 6.499; \rho < .05$. Specifically, a statistically significant difference exists between the Pretest scores compared to the Posttest A scores and the Pretest compared to the Posttest B scores. See Table 7. This shows that there was an improvement in special educators’ attitudes after the day of professional development when compared to their attitudes prior to the day of professional development.
Table 7

Within-Subjects Contrasts Comparing Data Collection Tools over Time

<table>
<thead>
<tr>
<th></th>
<th>df</th>
<th>Mean Square</th>
<th>$F$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pretest Scores compared to Posttest A Scores</td>
<td>1</td>
<td>.724</td>
<td>6.422</td>
<td>.019</td>
</tr>
<tr>
<td>Posttest A Scores compared to Posttest B Scores</td>
<td>1</td>
<td>.003</td>
<td>.207</td>
<td>.654</td>
</tr>
<tr>
<td>Pretest Scores compared to Posttest B Scores</td>
<td>1</td>
<td>.827</td>
<td>7.524</td>
<td>.012</td>
</tr>
</tbody>
</table>

Research Question 2

Is there a change in special educators’ attitudes five weeks after a day of professional development, when compared to their attitudes immediately following the professional development?

*Hypothesis:* There will be no change between the special educators’ attitudes immediately after the day of professional development and five weeks later. - Supported

As shown in Table 7, there is not a statistically significant difference between the Posttest A scores and the Posttest B scores. This is despite the statistically significant difference between the three data collection tools and the Pretest compared to each of the Posttests. In other words, there was minimal change between the special educators’ attitudes immediately after the day of professional development and five weeks later.

Research Question 3

Do special educators with bachelor’s degrees have different attitudes than special
educators with master’s degrees?

**Hypothesis:** Special educators with master’s degrees will have more positive attitudes towards children with ASD than special educators with bachelor’s degrees. - **Unsupported**

Of the 23 cases used for this study, five indicated that their highest degree was a Bachelor’s or Bachelor’s +, and 18 cases indicated their highest degree was a Master’s or Master’s+. A mixed design ANOVA was used to analyze the data. Mauchly’s Test indicated that the assumption of sphericity had been violated, $\chi^2 = 19.89$, $\rho = .000$. Therefore, the degrees of freedom were corrected using Huynh-Feldt estimates of sphericity ($\varepsilon = .66$). The assumption of equality of variances was met using the Box’s test, $F (6, 306.731) = .732$, $\rho = .624$.

Figure 2 shows that the Bachelor’s / Bachelor’s + mean is consistently higher than the Masters / Masters + group. However, there is no statistically significant difference $F (1.326, 27.847) = .099$, $\rho < .05$. Therefore, special educators with master’s degrees do not necessarily have more positive attitudes towards children with ASD than special educators with bachelor’s degrees.

**Research Question 4**

Are the attitudes of special educators who have attended several types of professional development about children with ASD different than those of special educators who have only attended 1-2 types of professional development?

**Hypothesis:** Special educators who have attended several types of professional development will have more positive attitudes towards children with ASD than special educators who attended only 1-2 types of professional development. – **Supported**
Of the 23 cases used for this study, two indicated that they had attended 1-2 types of professional development, while twenty-one cases indicated that they had attended more than 2 types of professional development. Again, a mixed design ANOVA was used to analyze the data. Mauchly’s Test indicated that the assumption of sphericity had been violated, $\chi^2 = 19.60$, $\rho = .000$. Therefore, the degrees of freedom were corrected using Huynh-Feldt estimates of sphericity ($\varepsilon = .67$). The Box’s Test was not able to be calculated since the sample size for staff that attended only 1-2 types of professional development was so small.

Figure 3 shows that the scores for participants who attended more than 2 types of professional development were slightly higher than participants who attended only 1-2 types of professional development. However, there is no statistically significant difference between the
two groups, $F (1.332, 27.967) = 2.375, \rho < .05$. Therefore, special educators who have attended several types of professional development may be more positive towards children with ASD than special educators who attended only 1-2 types of professional development, but not enough to be statistically significant.

![Estimated Marginal Means of MEASURE_1](image)

**Figure 3:** Comparison of the means based on the number of professional development types.

**Research Question 5**

Are the attitudes of educators who have worked with 10 or more children with ASD different than those who have worked with less than 10?

**Hypothesis:** Special educators who have worked with 10 or more children with ASD will
have more positive attitudes than special educators who worked with less than 10. – **Supported**

Of the 23 participants in the study, nine indicated that they had worked with less than 10 students with ASD, and 14 indicated they had worked with 10 or more students with ASD. Again, a mixed design ANOVA was used to analyze the data. Mauchly’s Test indicated that the assumption of sphericity had been violated, \( \chi^2 = 19.652, \rho = .000 \). Therefore, the degrees of freedom were corrected using Huynh-Feldt estimates of sphericity (\( \varepsilon = .67 \)). The assumption of the equality of variances was met using the Box’s test, \( F(6, 1913.444) = 1.241, \rho = .282 \). See Figure 4.

![Figure 4: Comparison of the means based on the number of students with ASD.](image-url)
The mean of the participants who worked with 10 or more students with ASD is consistently higher that of the participants who worked with less than 10 students. However, there is no statistically significant difference $F(1.330, 27.933) = .588, p < .05$. Therefore, special educators who have worked with 10 or more children with ASD may have more positive attitudes towards those children than special educators who have worked with less than 10 children with ASD but not with a significant difference.

Additional Participants’ Reactions

Additional questions regarding participants’ reactions to the intervention were included in Posttest A and Posttest B. The overall reactions were very positive. On a scale of 1-5, with 1 being “Strongly Disagree” and 5 being “Strongly Agree”, the highest mean average, at 4.72, was for the statement “the information presented during Camp SPED made sense to me.” The lowest mean average, at 4.03, was for the statement “The information presented during Camp SPED and discussed at the Collaborative SDW has added to my knowledge.” See Table 8.

Staff participating in the Collaborative SDW were asked to complete a 3 question survey about their use of Direct Instruction to teach skills in the implicit curriculum of school functioning to a student with ASD. Of the 10 groups that completed the surveys, nine state that they had used it with at least a few students. Skills that were addressed included opening a locker, daily living skills, social skills, reading, abstract thinking, self-regulation and emotional awareness, math, following school routines, expressive language, and life skills. Obstacles that kept the educators from implementing this intervention included other staff enabling students, lack of buy-in from team members, lack of time, and students’ skill and performance levels.
### Table 8

Participants Reaction to the Camp SPED intervention and Collaborative SDW

<table>
<thead>
<tr>
<th>Question</th>
<th>n</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>PA D1. The information presented during Camp SPED made sense to me.</td>
<td>47</td>
<td>4.72</td>
</tr>
<tr>
<td>PA D2. The information presented during Camp SPED is useful to me.</td>
<td>46</td>
<td>4.49</td>
</tr>
<tr>
<td>PA D3. The information presented during Camp SPED has added to my knowledge.</td>
<td>47</td>
<td>4.15</td>
</tr>
<tr>
<td>PA D4. The strategies discussed during Camp SPED will help support students with ASD.</td>
<td>47</td>
<td>4.65</td>
</tr>
<tr>
<td>PA D5. I feel that I will implement the strategies discussed during Camp SPED, including direct instruction for teaching the implicit curriculum of school functioning.</td>
<td>47</td>
<td>4.61</td>
</tr>
<tr>
<td>PB D1. The information presented during Camp SPED and discussed at the Collaborative SDW made sense to me.</td>
<td>34</td>
<td>4.63</td>
</tr>
<tr>
<td>PB D2. The information presented during Camp SPED and discussed at the Collaborative SDW is useful to me.</td>
<td>34</td>
<td>4.31</td>
</tr>
<tr>
<td>PB D3. The information presented during Camp SPED and discussed at the Collaborative SDW has added to my knowledge.</td>
<td>34</td>
<td>4.03</td>
</tr>
<tr>
<td>PB D4. The strategies discussed during Camp SPED and the Collaborative SDW will help support students with ASD.</td>
<td>34</td>
<td>4.38</td>
</tr>
<tr>
<td>PB D5. I feel that I will implement the strategies discussed during Camp SPED the Collaborative SDW, including direct instruction for teaching the implicit curriculum of school functioning.</td>
<td>34</td>
<td>4.38</td>
</tr>
</tbody>
</table>
These responses indicate that educators may have a strong grasp of Direct Instruction, but not necessarily the set of skills that make up the implicit curriculum. The typical obstacles found in a school setting also interfered with this intervention.

Conclusion

In this chapter, the five research questions were reviewed based on the results of the data collected. Hypotheses 1 and 2 were found to be supported and the results were statistically significant. Hypotheses 4 and 5 were supported, but the results were not statistically significant.

Hypothesis 3 was not supported. Participants’ reactions to the Camp Sped intervention and Collaborative SDW were also shared. In the next chapter, the findings and interpretations, limitations, and implications of the study will be discussed, as well as possible directions for future research.
CHAPTER 5
DISCUSSION

The purpose of this study is to improve educators’ attitudes towards children with ASD by providing them professional development regarding how to teach these children the implicit curriculum of school functioning through a Direct Instruction model. In this chapter, I will review the findings of the study, with that purpose in mind. Limitations will be discussed. Implications of the study findings will be analyzed, as well as their application to Guskey’s (2000) five levels of professional development, which was one of the frameworks of the study. Finally, recommendations for future directions of research will be discussed, including issues that arose as the study was implemented and ways the study can be broadened in its scope.

Study Findings

This study involved five research questions, and five predictive hypotheses, specifically:

1. Is there a change in special educators’ attitudes after a day of professional development, when compared to their attitudes prior to professional development?
   
a. H1: There will be an improvement in special educators’ attitudes after the day of professional development when compared to the day before it.

2. Is there a change in special educators’ attitudes five weeks after a day of professional development, when compared to their attitudes immediately following the professional development?
a.  

H₂: There will be no between the special educators’ attitudes immediately after the day of professional development and five weeks later.

3.  
Do special educators with bachelor’s degrees have different attitudes than special educators with master’s degrees?

a.  
H₃: Special educators with master’s degrees will have more positive attitudes towards children with ASD than special educators with bachelor’s degrees.

4.  
Are the attitudes of special educators who have attended several types of professional development about children with ASD different than those of special educators who have only attended 1-2 types of professional development?

a.  
H₄: Special educators who have attended several types of professional development will have more positive attitudes towards children with ASD than special educators who attended only 1-2 types of professional development.

5.  
Are the attitudes of educators who have worked with more than 10 children with ASD different than those who have worked with less than 10?

a.  
H₅: Special educators who have worked with more than 10 children with ASD will have more positive attitudes than special educators who worked with less than 10.

The results of the study show that H₁ was supported, which is also consistent with previous literature (Busby et al., 2012; Higginson & Chatfield, 2012; Lindsay, Prouix, Thomson & Scott, 2013; Soto-Chodiman, Pooley, Cohen & Taylor, 2012). Based on the data from Pretest and Posttest A, special educators’ attitudes did change after a day of professional development. In fact, the attitudes improved at a statistically significant rate. This hypothesis ties directly to
Guskey’s (2000) second level of professional development, which examines if the “professional development experience led to any change in participants’ knowledge, skill level, and … their attitudes and beliefs” (p. 121). For this study, we are focusing only on the attitudes and beliefs of the participants.

The results of the study show that $H_2$ was also supported. Based on the data from Posttest A and Posttest B, educators’ attitudes did not decrease over time. Therefore, it can be surmised that the day of professional development had a lasting effect on the educators’ attitudes.

These results concur with results found in the literature. Using a pretest-posttest design, Griffin et al. (2017), Lys et al. (2009), Polly et al. (2013), Royster et al. (2014), and Wilkinson et al. (2016) all demonstrated an improvement in teachers’ attitudes after professional development. Higginson and Chatfield’s (2012) study showed an improvement in teacher’s attitudes specifically towards children with ASD after several professional development opportunities were made available to them.

Guskey (2000) emphasizes the importance of assessing the participant’s learning. Evidence regarding participants’ learning in relation to professional development validates the relationship between what was intended and what was achieved. It is an indicator of the effectiveness of professional development. Finally, this evidence is vital to the implementation of any change process within an organization. This study focuses on changing the participants’ attitudes, but as documented previously, an educators’ attitudes can have a tremendous effect on the child’s success in school (Barnhill, 2001a; Chung et al., 2015; Corkum et al., 2014).

The results of the study are less clear cut regarding $H_3$, $H_4$, and $H_5$. $H_3$ considered previous educational training as an independent variable, specifically a Bachelor’s degree versus
a Master’s degree. The prediction was made that educators with a Master’s degree would have consistently higher attitudes. However, this was not the case. Educators with a Bachelor’s degree/Bachelors + had consistently higher attitudes and showed slightly more improvement than those with Masters/Masters +. One reason for this may be that the Bachelors/Bachelors+ subgroup was much smaller, with only 5 participants compared to 18 participants with Masters/Masters+. Therefore, a change in one participant’s attitude could have a much larger impact on the groups’ average. Another reason could be that educators with Masters Degrees tend to have more experience and educators with more experience are less likely to change their attitudes until after they have seen a new instructional approach or innovation be successful for their students in their own classroom (Guskey, 2000). Whatever the reason for the findings, they should be interpreted cautiously.

\( H_4 \) considered the independent variable of previous professional development, specifically the variety of professional development in which a participant may have participated. Participants were divided based on if they had participated in 1-2 types of professional development versus more than 2 types. The results of the study show that those who had participated in more than 2 types of professional development had more positive attitudes, but again the group that had participated in only 1-2 types was so small, with only 2 participants, these results cannot necessarily be indicative of a larger sample. Still, these results support the literature (Griffin et al., 2017; Guskey, 2000; Higginson and Chatfield, 2012; Lys et al., 2009; Polly et al., 2013; Royster et al., 2014; and Wilkinson et al., 2016) which indicates that professional development can improve teachers’ attitudes.

\( H_5 \) studied previous work experience with children with ASD as an independent variable,
specifically if a participant reported that they had worked with less than 10 students or 10 or more students with ASD. Of the 23 participants in the study, nine indicated they were in the former category and 14 indicated they were in the latter. The participants who indicated they had worked with 10 or more students with ASD consistently had more positive attitudes, possibly indicating that working with children with ASD is an effective method of professional development. Also, as Guskey (2000) mentions, educators’ attitudes change after they have seen success with their own students. Therefore, if they have worked with children with ASD, and seen how successful Direct Instruction and other approaches have been with these students, they would then feel more positive about implementing Direct Instruction again. However, because the sample sizes are again extremely small, caution should be used in interpreting these results. These limitations, as well as others presented in this study, will now be discussed further.

Limitations

Although this study broadens the research regarding professional development and its impact on educators’ attitudes, several limitations should be noted. As mentioned in the previous section, the sample size in the entire study is small, with only 23 participants, and become even smaller when divided into two groups based on other independent variable criteria. This increases the chances of statistical bias, and the results of this study should be considered accordingly.

The size of the study also limits the diversity in the participants, which is also limited because the study took place in one school district. Variables such as race, gender, and school setting are often considered in research studies such as this one, but because the participants were
predominately white females all teaching in a rural elementary school district, these factors were moot. Again, the results of this study should be considered accordingly.

Implications of Findings

Despite these limitations, the implications of this study’s findings are worth considering. The intended benefit of broadening the research regarding professional development and its impact on educators’ attitudes has been achieved. Specifically, a detailed explanation of the implicit curriculum of school functioning, data collection of educators’ attitudes towards children with ASD, and whether those attitudes can be improved through the use of professional development has been provided. A review of the literature produced limited studies that looked at the relationship between professional development and educators’ attitudes over time or professional development about children with ASD measured through quantitative methods. This study addresses both of these aspects.

As one of the frameworks, Guskey’s (2000) five levels of professional development, specifically the first two levels, help to define the implications of this study. These levels address the questions of whether or not the participants liked the professional development and whether or not the professional development led to any change in the participants’ knowledge, skill level, or attitudes and beliefs. Each aspect has valid implications for the study.

Guskey (2000) identifies the first level as important because positive reactions are a prerequisite to higher level evaluation results. For this study, participants were asked about their reactions to the intervention and following the day of professional development. Their responses to both questions were positive, indicating the participants enjoyed the professional development experience and would be open to its message.
The second level of Guskey’s (2000) is important for three reasons. It validates the relationship between what was intended and what was achieved. Also, data collected at this level is a primary indicator of the effectiveness of the professional development experience. Finally, participants gaining new knowledge, or in this study improving their attitudes, is vital to the implementation of any new initiative. For this study, educators’ attitudes were assessed and shown to improve after the implementation of the professional development intervention. Also, educators’ attitudes stayed at that elevated level, demonstrating the improvement in attitudes had a lasting effect. Therefore, the data validated that what was intended was achieved, that the professional development experience was effective, and that the groundwork had been laid for further development of the overall initiative to assist children with ASD to learn the implicit curriculum of school functioning.

Several open-ended questions were asked of the participants as well. Of those who completed Posttest A, 23% stated they would implement the strategies discussed in the Camp SPED intervention because they are effective teaching methods for children with ASD. Other popular answers, each provided by 17% of the participants, were that the educators already use these strategies with their students and that these strategies can benefit all students, not just those with ASD.

When asked about any other training or support the participant would like to receive around ASD, 18% of the participants who completed Posttest A and/or Posttest B responded that they would like to see this information shared with general education teachers and/or paraprofessionals. Behavior and sensory strategies were requested by 13% of the respondents and 10% requested training on specific programs, including assistive technology. Finally, 5%
responded that they would like further information about this topic, and that “we have just exposed the tip of the iceberg."

**Implications for Special Educators.**

The implications of the study for special educators, or any educator, is that professional development can affect your attitude towards working with a specific population of students. It can provide tools that an educator may not have had previously, or re-energize an educators’ motivation to use the tools that have always been available. If an educator is looking for new solutions, or feeling frustrated with a particular situation, seeking out professional development is a research-based solution (Griffin et al., 2017; Higginson and Chatfield, 2012; Lys et al., 2009; Polly et al., 2013; Royster et al., 2014; and Wilkinson et al., 2016).

Educators should also be aware of the effect their attitude can have on the education of their students. A person’s attitude affects how he or she reacts to others, cognitively, emotionally, and behaviorally (Chung et al., 2015). A teacher’s attitude toward his or her students can display acceptance or disapproval, enthusiasm or rejection, and can contribute to the success or failure of those students (Horrocks, White, & Roberts, 2008). For a child, a teacher’s attitude can have a tremendous effect on the child’s success in the classroom. Research has shown that it can impact the expectations towards the child, the confidence the child has in himself or herself, how a child performs in class and on state tests, as well as the acceptance of that child by the other students (Barnhill, 2001a; Chung et al., 2015; Corkum et al., 2014; Idol, 2006; Kahn et al., 2013; Kranak, 2017).
Implications for Special Education Administrators.

For special education administrators, the implications of this study are similar. Professional development is a proven method for improving educators’ attitudes (Griffin et al., 2017; Higginson and Chatfield, 2012; Lys et al., 2009; Polly et al., 2013; Royster et al., 2014; and Wilkinson et al., 2016). Also, an educator’s attitude can have a direct correlation with the success of their students (Barnhill, 2001a; Chung et al., 2015; Corkum et al., 2014; Idol, 2006; Kahn et al., 2013; Kranak, 2017). Therefore, the resources spent on professional development are resources that are well spent.

A large variety of professional development opportunities are available to staff, such as through classes in college programs, “on the job” experiences, from the family members of a child with a disability, or popular media, including the Internet, magazines, television, and radio (Corkum et al., 2014). However, quality professional development should raise the awareness of educators that meeting the needs of all students is an achievable goal (Busby et al., 2012; Chung et al., 2015; Corkum et al., 2014). It should include evidenced-based instructional strategies, best practices for behavior management, and implicit skills that need to be taught (Busby et al., 2012; Corkum et al., 2014). Opportunities to apply new knowledge through the use of case studies, role-playing, and actual experiences with children are beneficial (Chung et al., 2015; Corkum et al., 2014). Comparisons to other students and how these strategies can be used with a variety of students should be considered (Busby et al., 2012; Chung et al., 2015). Finally, opportunities to share ideas and concerns with other professionals are also recommended (Higginson & Chatfield, 2012).
The purpose of this study was to improve educator’s attitudes towards children with ASD by providing them professional development regarding how to teach these children the implicit curriculum of school functioning through a Direct Instruction model. The intended benefit was to broaden the research regarding professional development and its impact on educators’ attitudes. Based on the results and implications of the study, both goals have been achieved. However, that does not mean that there are no directions for future research. These directions, recommendations, and suggestions will be discussed next.

Future Directions for Research

The first recommendation for future research would be to revise the login system used in this study. Of the 68 participants that completed at least one of the three data collection tools, six participants did not use a consistent login across the three data collection tools and 14 used a login that included their last name. My conclusion to this is that the instructions about the login were not as clear as I had hoped. Possibly providing a set format, such as using your middle name and your house number, or being more specific about not using identifiable information would have alleviated these issues.

Also, 13 participants completed Posttest A and/or B, but did not complete the Pretest. This may have been due to the Pretest not being available for emailing until after they had left for summer break. A reminder was emailed prior to the school year ending, and some participants may have simply chosen not to participate in the Pretest, but my recommendation would be to complete the entire study across the time span of one school year, if possible, to minimize this situation.
Other independent variables used in previous research studies included gender, general educators versus special educators, or teachers versus non-teachers (Mavropoulou & Padeliadu, 2000; Park & Chitiyo, 2010; Seagall & Campbell, 2012). In this study, the participant group had some male participants, but the number was significantly lower than the number of female participants, and so would not have provided valid results. General educators were not included in the group invited to participate in the professional development or the study. Also, the non-teachers in the study are all required to have master degrees for their current positions, so those results would have looked similar to the research question about the educators’ amount of education. Therefore, the variables of gender and job classification were not feasible for this study but may be appropriate in future research.

Other recommendations for future study would be to vary the length of the professional development. Several previous studies included week-long trainings or shorter trainings that occurred periodically across several months or a full school year (Griffin et al., 2017; Higginson & Chatfield, 2012; Lys et al., 2009; McKeown et al., 2009; Polly et al., 2013; Royster et al., 2014; Wilkinson et al., 2016). Varying the length of the professional development may vary the effectiveness of the professional development, or a comparison of a one day of training versus several days of one-hour training may be beneficial.

The professional development intervention focused on direct instruction as the instructional strategy for teaching the implicit curriculum to children with ASD. Direct instruction is an evidence-based method, but including other evidenced-based methods, such as video modeling, would be another area for future research. Due to the time constraints of this
study, I decided to focus on only one instructional strategy, but varying the length of the intervention may provide more flexibility in what instructional strategies are discussed.

For the sake of convenience, this study was completed with staff members from one school district. Varying the location of the study, or including more than one school district would be another avenue for future research. Comparing the results from a larger district versus a smaller district, or urban district versus rural district would provide additional insight as well.

Guskey (2000) states that change can be “dynamic and large scale, but in practice is implemented through a series of smaller steps” (p. 38). With that thought in mind, this study focused on only the first two levels of Guskey’s (2000) five levels of professional development. The next steps in a larger plan would include assessing the knowledge and understanding the participants gained about the implicit curriculum, either through a self-assessment of the knowledge participants felt they had gained or through a direct assessment regarding the content of the professional development day. On-the-job observations could also be completed, in order to observe educators teaching lessons regarding the implicit curriculum through a Direct Instruction approach.

Future research could include an assessment of available organizational supports and resources. This assessment would fall in line with Guskey’s (2000) Level 3. It would include not only a review of district policies and financial resources but also collegial and administrative support. This data could be collected through the use of direct observations, analyses of school and district records, and questionnaires or interviews of participants.

Guskey’s (2000) Level 4 addresses participant’s use of new knowledge and skills. Future research regarding this area would include identification of critical indicators which define what
actions or behaviors should be evident in a Direct Instruction lesson about implicit curriculum skills. Along with the 5-6 indicators, descriptive examples would be developed and a timeline would be established for the implementation of these critical indicators. Assessments of these critical indicators could then include interviews or conferencing with the participants, their supervisors, and/or their students. Questionnaires, reflective journals, or portfolios could also be used.

The final level deals with student learning outcomes, in other words, “what impact did the professional development program or activity, have on students” (Guskey, 2000, p. 210). In regards to the implicit curriculum, results in this area might include a reduction of children with ASD receiving office referrals, being referred for more restrictive placements, and having implicit curriculum goals included on their IEPs. Students may be interviewed about their satisfaction with school or observed in specific settings to see if they implement the strategies they were taught for dealing with the implicit curriculum.

These opportunities for future research would build upon and broaden the scope of the research introduced in this study. The use of Guskey’s five levels would further ensure that the professional development accomplished the goals it set out to address and that students received the benefit of their educators’ new knowledge. Modifying the variables would allow my research to apply to a larger venue.

Conclusion

As a director of special education and a family member to someone diagnosed with autism spectrum disorder, I have seen firsthand how children with ASD can struggle to interpret the world around them. The relationship between these students’ success with the implicit
curriculum of school functioning and the attitudes of the educators’ working with these students has not been measured in a quantifiable manner. With this study, I have broadened the research regarding professional development and its impact on educators’ attitudes, specifically by showing that educator’s attitudes towards children with ASD can be improved through professional development regarding how to teach these children the implicit curriculum of school functioning through a Direct Instruction model.

The process of completing this study has improved my attitude as a special education administrator as well. I was always aware that professional development was beneficial for educators, but the research has clarified for me how powerful it can be. I now share a wider variety of professional development opportunities with my staff and work to present quality professional development to them when I have the opportunity. I have seen the success professional development programs can accomplish, and it has motivated me to continue that success.

As a family member to someone diagnosed with ASD, the path to success is not as clear cut. Resources for adults with any type of disability are limited, especially adults with ASD, and recommending professional development to family members is not always a feasible option. Also, dealing with a lifelong disorder such as ASD will never be managed through a quick fix such as a few professional development experiences.

This study was organized into five chapters. Chapter 1 introduced the study, presented the problem statement, purpose, and research questions. It concluded with the conceptual frameworks, the significance of the study, methodology, delimitations, and definitions of key vocabulary. Chapter 2 provided a literature review of research on the effect of educators’
attitudes, the characteristics of children with ASD, educators’ attitudes towards children with ASD, the need for effective instruction, the implicit curriculum of school functioning, Direct Instruction, and the effect of professional development. Chapter 3 described the research method and design, the participants in this study and the professional development intervention, the data collection process, data analysis procedures, and limitations. Chapter 4 reported the findings of that research. Finally, Chapter 5 discussed the study’s findings including limitations and implications of those findings and offered suggestions for further research.

Children with ASD can have needs in a variety of areas, and this study has focused on only one aspect of those needs and one instructional strategy for addressing that aspect. Further research is certainly warranted and will be ongoing as the needs of these children change. As one participant in the study stated, “we have only exposed the tip of the iceberg” and the work needed in the field of special education is ongoing.
REFERENCES


APPENDIX A

EMAIL INVITATION TO PARTICPATE IN RESEARCH STUDY COMPLETE PRETEST
Email subject line: “Helping Children with ASD” Dissertation Study: Pretest

Thank you for the work you do for the children in our district!

I am requesting your participation in my dissertation research study, titled “Helping Children with ASD Unlock the Implicit Curriculum of School Functioning”. Certified special education staff in our district who will be attending Camp Sped on August 8, 2018, are invited to participate. The purpose of this study is to improve educator’s attitudes towards children with ASD by providing them professional development regarding how to teach these children the implicit curriculum of school functioning through a Direct Instruction model. Participation in the research study, which is not required for participation in the in-service day and will be anonymous, has the intended benefit of self-reflection of one’s attitudes and the opportunity to see personal growth across time. The agenda for Camp Sped is attached.

Please read through the attached Consent Letter. If you consent to participate in this study, you will be asked to complete a pretest and two posttests, one on Wednesday, August 8 right after Camp SPED and a second after the first Collaborative Special Education Staff Development Wednesday (SDW). Participation in this dissertation research study is not required for participation in Camp SPED or the Collaborative Special Education SDW, but would be greatly appreciated! Please help me to further the field of curriculum and instruction by broadening the research regarding professional development and its impact on adult learners’ attitudes.

Your participation in the research study is completely voluntary, anonymous, and may be ended at any time without penalty or prejudice. Your responses on the pretest and posttests will only be identifiable by a personal login that you create and only you will know. All data will be collected in a Google Drive account, which will be password protected and only I will have access. All data will be stored on this Google account, with no identifying information, and destroyed five years after the completion of this study.

If you have questions about this research study, you can contact me at implicit_curriculum@gmail.com or (815)814-5774. You are also welcome to contact my dissertation committee co-chairs: Dr. Mary Beth Henning at mhenning@niu.edu or 815-753-8591 and Dr. Jesse Johnson at jwjohnson@niu.edu or (815) 753-4267.

In order to consent to participating in this study and complete the Pretest, please [click on this link].

Thank you for your consideration!

Debbie Barton
APPENDIX B

CONSENT LETTER
I agree to participate in the research study titled, “Helping Children with ASD Unlock the Implicit Curriculum of School Functioning” being conducted by Debra Barton, a graduate student at Northern Illinois University. I have been informed that the purpose of this study is to improve educator’s attitudes towards children with ASD by providing them professional development regarding how to teach these children the implicit curriculum of school functioning through a Direct Instruction model.

I understand that if I agree to participate in this study, I will be asked to complete an online pretest and two online posttests. The information in the posttests will be related to what is discussed at the Camp SPED in-service day on August 8, 2018 and the first Collaborative Special Education Staff Development Wednesday (SDW), but I understand that I do not need to participate in the research study or the pretests and posttests in order to attend Camp SPED on August 8 or participate in the SDW activity. I understand compensation for Camp SPED will be based on attendance, as it has been in the past, and not based on participation in this research study.

I am aware that my participation is completely voluntary, anonymous, and may be withdrawn at any time without penalty or prejudice. Also, if I have any additional questions concerning this study, I may contact Debra Barton at implicit.curriculum@gmail.com or (815)814-5774, Dr. Mary Beth Henning at mhenning@niu.edu or 815-753-8591, or Dr. Jesse Johnson at jwjohnson@niu.edu or (815) 753-4267. I understand that if I wish further information regarding my rights as a research subject, I may contact the Office of Research Compliance at Northern Illinois University at (815) 753-8588.

I understand that participation in the research study has the intended benefit of self-reflection of one's attitudes and the opportunity to see personal growth across time.

I understand that all information gathered during this study will be kept anonymously. My responses on the pretest and posttests will only be identifiable by a personal login that I create. All the results of the pretest and posttests will be collected in a Google Drive account, specifically set up for this study in which only Ms. Barton will have access. All data will be stored on this Google account, with no identifying information, and destroyed five years after the completion of this study.

I understand that my consent to participate in this project does not constitute a waiver of any legal rights or redress I might have as a result of my participation, and I acknowledge that I have received a copy of this consent form.

By participating in the Google Form assessment tools, I am giving my consent to participate in this research study.
APPENDIX C

CAMP SPED AGENDA
Welcome to Camp Sped 2018!

**Agenda**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 - 8:30</td>
<td>Registration, Materials Distribution</td>
</tr>
<tr>
<td>8:30 - 9:00</td>
<td>Characteristics of Children with ASD&lt;br&gt;An Introduction to Direct Instruction</td>
</tr>
<tr>
<td>9:00 - 10:15</td>
<td>Step 1 - The Implicit Curriculum of Functioning in the School Setting</td>
</tr>
<tr>
<td>10:15 - 10:30</td>
<td>Break</td>
</tr>
<tr>
<td>10:30 - 12:00</td>
<td>Step 2 - The Art of Modeling Effectively</td>
</tr>
<tr>
<td>12:00 - 1:00</td>
<td>Lunch</td>
</tr>
<tr>
<td>1:00 - 2:00</td>
<td>Step 3 - The Art of Corrective Feedback</td>
</tr>
<tr>
<td>2:00 - 2:15</td>
<td>Break</td>
</tr>
<tr>
<td>2:15 - 3:15</td>
<td>Step 4 - The Art of Generalization</td>
</tr>
<tr>
<td>3:15 - 3:30</td>
<td>Conclusion and Thank You!</td>
</tr>
</tbody>
</table>
APPENDIX D

PRETEST
Helping Children with ASD Unlock the Mysteries of Functioning in a School Setting Pretest

Thank you for taking the time to participate in this research study. You will be asked to complete four sections of questions. The first section will ask for basic demographic information, which will be used to compare one group of participants to another. The second section asks you to read a scenario about a fictitious student and then give your perceptions of the student. The third section asks you to rate statements regarding your beliefs about children with autism spectrum disorder (ASD). The fourth section asks your opinion about your knowledge of ASD. Please be assured that any information you give will be compiled and your contribution will remain anonymous. To start, please complete the question below. Thank you!

* Required

1. I understand that my consent to participate in this project does not constitute a waiver of any legal rights or redress I might have as a result of my participation, and I acknowledge that I have received a copy of the consent form. Furthermore, I am aware that my participation is voluntary and may be withdrawn at any time without penalty or prejudice. *
   Mark only one oval.
   
   [ ] Yes, I understand and consent to participate.
   [ ] No, I do not understand and/or do not consent to participate.

Personal Login

For this study, you will be asked to complete a version of this assessment tool more than once. So that the researcher can compare your results over time, you are asked to create a personal login to be used only for this study. It should contain a word and numbers that are easy for you to remember, but are not easily identified by others. Examples of such logins would be your middle name and house number or the model of your car and the last four digits of their phone number. Do NOT use a year of any sort, since this might be an identifiable piece of information.

2. Please input your personal login for this study.

Demographic information

Please complete the following section to categorize your current position, education, and training regarding children with autism spectrum disorder (ASD). This information will be kept confidential and only used as a point of comparison with other participants in this study.

3. What is the highest degree you have achieved?
   Mark only one oval.
   
   [ ] Bachelor’s or Bachelor’s +
   [ ] Master’s or Master’s +
4. What previous professional development activities have you participated in? (Check all that apply.)
   Check all that apply:
   - A least one full course focused on ASD during your formal training
   - A course focused on special needs which included information about ASD
   - Media such as television, internet, newspapers
   - Parents of your students with ASD
   - Colleagues with more training/experience
   - District sponsored in-services focused on ASD
   - Workshops outside of the district
   - Personal associations (friends, family)
   - Hands-on training (shadowing, visiting other programs/schools)
   - Specific books, videos, etc.

5. Have you ever worked with a student with ASD?
   Mark only one oval.
   - Yes
   - No

6. If yes, please estimate how many students with ASD.
   Mark only one oval.
   - 1-5
   - 5-10
   - 10-20
   - 20 or more

Scenario
Please read the following passage carefully. After the passage has been read, you will be given statements to which you will have to agree or disagree with. Below each sentence is a set of numbers which range from 1 (strongly disagree) to 5 (strongly agree). For each sentence, you should mark the number that shows how much you agree or disagree with the statement. The more strongly you agree with the statement, the higher will be the number you circle. Please make sure that you answer every item. As much as you can, try to respond to each item independently. When making your choice, do not be influenced by your previous choices. It is important that you respond according to your actual beliefs and not according to how you feel you should believe.

Sam is a new student at school. Sam does not play or talk with the other children and finds it hard to make friends. Sam is mostly very quiet and very still. When Sam speaks it usually is the same word over and over again. For example Sam might say “My name is Sam. My name is Sam. My name is Sam”. Sam does not normally show feelings like happiness, sadness or anger. Sam spends a great deal of time sitting in a chair and rocking
back and forth very quickly. Sam also has a silver ball that is very special. Sam likes to hold the ball and watch it.

7. A1. This child makes me afraid.  
   Mark only one oval.
   
   1 2 3 4 5
   
   Strongly Disagree ○ ○ ○ ○ ○ Strongly Agree

8. A2. This child is as smart as my other students.  
   Mark only one oval.
   
   1 2 3 4 5
   
   Strongly Disagree ○ ○ ○ ○ ○ Strongly Agree

9. A3. This child is as smart as my other students.  
   Mark only one oval.
   
   1 2 3 4 5
   
   Strongly Disagree ○ ○ ○ ○ ○ Strongly Agree

10. A4. I would not mind this child being in my classroom/on my caseload.  
    Mark only one oval.
    
    1 2 3 4 5
    
    Strongly Disagree ○ ○ ○ ○ ○ Strongly Agree

11. A5. I would not mind this child being in my classroom/on my caseload.  
    Mark only one oval.
    
    1 2 3 4 5
    
    Strongly Disagree ○ ○ ○ ○ ○ Strongly Agree

12. A6. I would feel comfortable around this child.  
    Mark only one oval.
    
    1 2 3 4 5
    
    Strongly Disagree ○ ○ ○ ○ ○ Strongly Agree
13. A7. This child is different from other children in my classroom/on my caseload.  
Mark only one oval.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Agree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

14. A8. I would like this child.  
Mark only one oval.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Agree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Beliefs Scale  
Each of the following sentences is a statement about a belief. Below each sentence is a set of numbers which range from 1 (strongly disagree) to 5 (strongly agree). For each sentence, you should mark the number that shows how much you agree or disagree with the sentence. The more strongly you agree with the sentence, the higher will be the number you circle. Please make sure that you answer every item. As much as you can, try to respond to each item independently. When making your choice, do not be influenced by your previous choices. It is important that you respond according to your actual beliefs and not according to how you feel you should believe.

15. B1. Only teachers with extensive special education training can help a child with autism/ASD.  
Mark only one oval.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Agree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mark only one oval.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Agree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mark only one oval.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Agree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Mark only one oval.

1  2  3  4  5

Strongly Disagree        Strongly Agree

Mark only one oval.

1  2  3  4  5

Strongly Disagree        Strongly Agree

20. B6. Regular schools/classrooms are too advanced for children with autism/ASD.  
Mark only one oval.

1  2  3  4  5

Strongly Disagree        Strongly Agree

21. B7. I would not want the children in my class/on my caseload to have to put up with children with autism/ASD  
Mark only one oval.

1  2  3  4  5

Strongly Disagree        Strongly Agree

22. B8. Teachers not specifically trained in special education should not be expected to deal with children with autism  
Mark only one oval.

1  2  3  4  5

Strongly Disagree        Strongly Agree

23. B9. Children with autism/ASD are too impaired to benefit from the learning experiences of a general school/classroom  
Mark only one oval.

1  2  3  4  5

Strongly Disagree        Strongly Agree
24. B10. Schools/classrooms with both typically developing children and children with autism/ASD enhance the learning experiences of children with autism/ASD
Mark only one oval.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

Strongly Disagree   Strongly Agree

25. B11. If had a choice, I would teach in a school/classroom in which there were no children with autism/ASD
Mark only one oval.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

Strongly Disagree   Strongly Agree

26. B12. A good teacher can do a lot to help a child with autism/ASD
Mark only one oval.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

Strongly Disagree   Strongly Agree

27. B13. Children with autism/ASD cannot socialize well enough to profit from contact with typically developing children
Mark only one oval.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

Strongly Disagree   Strongly Agree

Mark only one oval.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

Strongly Disagree   Strongly Agree

**Knowledge Section**
Each of the following sentences is a statement about your confidence and your knowledge. Below each sentence is a set of numbers which range from 1 (strongly disagree) to 5 (strongly agree). For each sentence, you should mark the number that shows how much you agree or disagree with the sentence. The more strongly you agree with the sentence, the higher will be the number you circle. Please make sure that you answer every item. As much as you can, try to respond to each item independently. When making your choice, do not be influenced by your previous choices. It is important that you respond according to your actual beliefs and not according to how you feel you should believe.
29. C1. I feel confident about teaching a child with ASD.
Mark only one oval.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

30. C2. I feel knowledgeable about ASD.
Mark only one oval.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

31. C3. I have knowledge of the characteristics that impact a person with ASD.
Mark only one oval.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

32. C4. I have knowledge of the sensory difficulties pupils with ASD can experience.
Mark only one oval.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

33. C5. I have knowledge regarding the need to explicitly teach school functioning skills to children with ASD.
Mark only one oval.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX E

CAMP SPED MATERIALS PACKET
Welcome to Camp Sped 2018!

**Agenda**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 - 8:30</td>
<td>Registration, Materials Distribution</td>
</tr>
<tr>
<td>8:30 - 9:00</td>
<td>Characteristics of Children with ASD</td>
</tr>
<tr>
<td></td>
<td>An Introduction to Direct Instruction</td>
</tr>
<tr>
<td>9:00 - 10:15</td>
<td>Step 1 - The Implicit Curriculum of Functioning in the School Setting</td>
</tr>
<tr>
<td>10:15 - 10:30</td>
<td>Break</td>
</tr>
<tr>
<td>10:30 - 12:00</td>
<td>Step 2 - The Art of Modeling Effectively</td>
</tr>
<tr>
<td>12:00 - 1:00</td>
<td>Lunch on their own</td>
</tr>
<tr>
<td>1:00 - 2:00</td>
<td>Step 3 - The Art of Corrective Feedback</td>
</tr>
<tr>
<td>2:00 - 2:15</td>
<td>Break</td>
</tr>
<tr>
<td>2:15 - 3:15</td>
<td>Step 4 - The Art of Generalization</td>
</tr>
<tr>
<td>3:15 - 3:30</td>
<td>Conclusion and Thank You!</td>
</tr>
</tbody>
</table>
Steps for a Direct Instruction Lesson

Step 1: The special educator defines the skill to be taught and breaks it into manageable steps.

Step 2: The special educator models the skill.

Step 3: The student role-plays the skill, and is given immediate corrective feedback.

Step 4: The student is given the opportunity for generalized practice of the skill with other individuals or in alternative environments.

Practice is continued until 90-95% mastery is reached
Checklist of Sample Items for the Implicit Curriculum of School Functioning

Student’s Name: ____________________ Student’s Grade: ____________________

Please place a “C” by the items the student is currently struggling with and a “F” by the items that the child may struggle with in the future, due to an upcoming transition and the child’s current level of functioning. Finally, circle the one or two skills that are currently the highest priority and warrant direct instruction.

___ Share ideas in a classroom discussion or cooperative lesson
___ Choose a partner for an activity
___ Express their needs appropriately to adults and peers
___ Participate appropriately in a small group activity
___ Understand how to behave when being reprimanded by the teacher
___ Learn from others by observing, such as what to do when entering a room or when to get out your school supplies
___ Demonstrate appropriate behaviors to show attention to the task at hand
___ Obtain knowledge from a variety of formats including lectures, cooperative group lessons, and independently obtained information
___ Demonstrate empathy and not appear rude
___ Follow school rules that vary from one situation to the next
___ Respond appropriately in class discussions
___ Maintain focus in non-preferred activities and discussions
___ Talk about a variety of topics or age-appropriate topics
___ Sustain attention for school work

___ Complete school work in a variety of settings
___ Participate in peer activities such as the playground or cafeteria
___ Move from class to class or ride the bus when it is noisy
___ Respect personal space with peers and the teacher
___ Maintain a quiet voice and non-disruptive behaviors in class
___ Understand that different teachers have different rules and expectations
___ Identify a teacher’s comment, tone, or expression as a warning to stop a behavior
___ Identify unfamiliar people that can be trusted, such as a bus driver or custodian.
___ Identify when not to share the honest truth.
___ Greet the teacher when you enter class, unless they are talking to someone else.
___ Avoid interrupting someone, unless it is an emergency.
___ Differentiate between vocabulary you only with peers and vocabulary you can also use with a parent or teacher.
___ Follow directions given to a group
Case Study A: Billy

**Description of Billy:**

Ben is a first grader and has an IEP under the eligibility of Developmental Delay. He attended a self-contained classroom for children with autism for two years of early childhood education and kindergarten. Because his academic skills are at or close to grade level, and he is becoming more social, his IEP team determined that mainstreaming into a 1st grade classroom should be initiated. At first, the goal for mainstreaming was for socialization and communication opportunities. Billy would come during calendar and story time, where he learned to tolerate the larger group, interact with his non-disabled peers, and be exposed to different concepts. Now he mainstreamed into a general education classroom for about half of his day and the team would like to him to complete some academic work in the general education setting.

**Present Level of Performance:**

Academically, Billy has skills that are at, or slightly below, grade level. Reading is almost to the 25th percentile on the Aimsweb Reading Fluency Benchmark 1st grade passage. Math is a little above the 30th percentile on the Aimsweb Math Calculation Benchmark 1st grade passage. He is working on reading Level A Primer books from Reading A-Z and is able to add single-digit numbers on worksheets using visual assist dots (Touch Math) with 90-100% accuracy. At his last re-evaluation, his IQ was determined to be in the low average range on a Test of Non-Verbal Intelligence, though it was noted this might be an underestimation of his
ability. On the Autism Diagnostic Observation Schedule-2 (ADOS-2), Billy demonstrated behaviors consistent with a high level of spectrum related symptoms, and was within the range of autism. However, he has no medical diagnosis of autism.

Socially, Billy is aware of his classmates and what is going on around him. At times, he will initiate interactions. He demonstrates he is proud of his accomplishments by saying "Mrs. Smith, Mrs. Smith, Look, I'm doing it!" very excitedly. He can be stubborn and resistant at times, but responds well to consistency and follow through of consequences. Fire alarms, tornado drills, going to unfamiliar places or doing unfamiliar activities can result in Billy demonstrating anxious behaviors such as talking louder, crying and screaming. In the special education classroom, strategies such as social stories, talking him through it, and repetitive exposure to new things have helped Billy to overcome his anxiety.

In the special education classroom, Billy is able to manage his physical needs and materials. He follows an individual picture schedule independently. He initiates helping others (helping to pick up items that a student had accidentally dropped, saying "I help pick up, too."). He completes workshop-type activities; such as, sorting, assembly, disassembly, patterning.

In the general education classroom, Billy has struggled to complete work. He is able to work for about 15 minutes on preferred activities such as Science, which is hands on, or Social Studies, which is more social with peers. However, he struggles to complete less preferred work, such as independent whole group reading work. When prompted to complete work, Billy often becomes upset, cries, and screams. Unstructured times, such as recess and lunch, are more successful in the general education setting. He will seek out familiar peers and will choose to be near them, though he may not interact with them.
**Step 1: The special educator defines the skill to be taught and breaks it into manageable steps.**

For Billy to have continued success in the general education classroom, he must be able to complete work in that setting without becoming upset, crying or screaming. Because Billy does not demonstrate these behaviors in the special education classroom, the special education teacher and general education teacher have agreed that it is not a lack of academic knowledge that is keeping Billy from performing in the general education class. Providing supports such as visuals, "if, then" requests, headphones, controlled choices, one to one assistance, social stories, modified work expectations, and time outs had all been tried, but were not successful. Extremely simplified work had been provided, but had not alleviated the problem. Providing different motivators such as earning time with peers or on the IPad had been offered but had not been effective.

The team theorized that components of the implicit curriculum in the general education, which are different than the implicit curriculum in the special education class, are interfering with Billy’s work production. For example, the general education teacher usually gives directions to the entire class when starting an independent work activity. Then the students collect their materials, and start on the activity. In the special education classroom, the teacher gives the directions to the student individually, since the students are rarely working as a whole group. After completing the Checklist of Implicit Curriculum Items for School Functioning, they have identified that they should provide direct instruction to Billy regarding how to “complete school work in a variety of settings.” The team including the following long term goal into Billy’s IEP with appropriate short term objectives: “within one year, Billy will initiate an independent work task within the same time limit as his peers 9 out of 10 times in the general
education class.” The team completed the Direct Instruction Template, which is based on the work of Morgan et al., (2015).

**Step 2: The special educator models the skill.**

While Mrs. G’s class is out of the room, the special educator and Mrs. A, Billy’s assistant, go into the general education classroom and have the following conversation.

Special Educator: “When Mrs. G gives the class directions, you listen, whisper the direction to Mrs. A, and get to work.”

Special Educator: “So, I hear ‘Class, please get out your math packet and a pencil. We are going to work on page 5,’ I say to Mrs. A ‘get math packet and pencil. Work on page 5’. I get out my math packet and my pencil (does so). I go to page 5 (does so). I start my work (pretends to do so).

Special Educator: “Again, I listen, tell Mrs. A, get to work. If I am not sure, I ask for help.”

**Step 3: The student role-plays the skill, and is given immediate corrective feedback.**

Special Educator: “Now you do it.”

Special Educator: “Class, get out your crayons. We are going to color the ‘at’ words.”

Billy: “Crayons, color words”, gets crayons

Mrs. A: “Good job, Billy. You listened, said it, and got your crayons. You earn a penny.”
Special Educator: “Get out a pencil. We are going to write our spelling words on the paper that is being passed out.”

Billy: “Uuuuhhh”, rocks in seat

Mrs. A: “Billy, say the directions”

Special Educator: (after counting to three and getting no response) “Get out a pencil. We are going to write our spelling words on the paper that is being passed out.”

Billy: “Pencil, write words”, does not get a pencil

Mrs. A: “Good job, Billy. You said the directions. You earn a penny. Now get out your pencil.”

**Step 4: The student is given the opportunity for generalized practice of the skill with other individuals or in alternative environments.**

If Billy failed to repeat a direction two times in a row, the direction was told to him by the assistant, Mrs. A, and a new direction was given by the special educator. Ten different directions were given, for the purpose of easy data calculations during a session. Each session took approximately 15-20 minutes and occurred once a day. When Billy repeated the directions with 90% accuracy in three consecutive sessions, the activity was repeated in the general education classroom with the general education teacher and the same assistant. Once the repetition of directions had reached 90% accuracy in the general education classroom, the requirement of following the direction in the general education setting was then added before Billy would receive the token reinforcement.
Case Study B: Anna

Description of Anna:

Anna is a 5th grade girl who will be transitioning to middle school in a new school next year. She currently attends a general education classroom and receives speech therapy as well as special education reading services under the special education eligibility of autism. There is a supplemental student assistant in the classroom to provide extra support to Anna throughout the day. Some of these extra supports include re-teaching of concepts, breaking information down, redirecting, and keeping Anna on task and following the routine.

Present Level of Performance:

Anna is a strong visual learner, whether it be with pictures or words. She works well with hands on and hand eye tasks. She is at grade level for reading fluency but at only the 18th percentile for reading comprehension skills, as measured by grade level passages from the Aimsweb MAZE benchmark. She does better in the classroom because visual supports and multiple choices are given, instead of just open ended questions. But even with those supports, she struggles to find answers that are not directly taken from the text and require some inferencing. In math, Anna's Aimsweb benchmarking scores for math computation fluency fell at the 32nd percentile in the fall and at the 26th percentile in winter 2017, placing her in the low average range. When given visual supports, Anna is able to complete language based tasks successfully. When given only oral information, her skills fall below the average range on
standardized testing. Anna’s cognitive skills were measured as part of her last three-year re-evaluation and her skills fell in the solidly average range, based on the Comprehensive Test of Nonverbal Intelligence-2 (CTONI - 2). She has a medical diagnosis of autism.

In regards to her social emotional functioning, Anna’s mother reported that Anna is showing some increased signs of stress as the demands of school have increased. In school, she demonstrates her emotions by cheering for herself when she is working, crying at times, or talking to herself (scripting) in order to reduce anxiety. She will share with her parents when something has bothered her, but does not share those feelings at school. Also, Anna may speak so softly at times that it is difficult to understand her. She is very well liked by her peers and is able to initiate conversations with them. She enjoys adult and peer interaction.

In the classroom, Anna struggles to complete work and sustain attention, especially when asked to do non-preferred independent tasks. Anna has access to a supplemental student assistant in the classroom, to help her stay focused, organized, and handle frustrations. She uses a loud voice in class at times and her assistant cues her to lower her voice and use her social cues. Anna needs time to adjust to a new routine and classroom. When there is a change in the routine or normal day, this can be upsetting to Anna. Even a change in activity, such as moving from reading words to answering questions, can be a situation where Anna needs a clear notification of the switch. Usually, it helps to give Anna forewarning, but at times, like with a fire drill, it may only make her more anxious. Loud and unexpected noises can be upsetting to Anna. She has access to noise cancelling headphones, but is not always willing to use them.
Step 1: The special educator defines the skill to be taught and breaks it into manageable steps.

Because Anna is transitioning to an unfamiliar building where the class periods are 45 minutes long and then everyone moves to a new classroom, her IEP team is concerned about her success in the new setting. The team has documented that Anna struggles to interpret the hidden meanings in her reading, struggles when only oral information is given, does not always read social activities accurately, can be easily frustrated, and is not comfortable advocating for herself. Therefore, she is a good candidate for direct instruction in the implicit curriculum of a middle school setting, prior to starting at the middle school.

In preparation for transitioning to middle school, Anna’s special education teacher has contacted a 6th grade special education teacher and they have discussed the implicit curriculum of functioning in a 6th grade general education classroom. After completing the Checklist of Implicit Curriculum Items for School Functioning, they have identified that Anna will need assistance “understanding that different teachers have different rules and expectations.” The team agreed to add the following long term goal and appropriate short term objectives to Anna’s IEP: “By August, Anna will name three implicit curriculum items that are specific to a classroom at the middle school, when shown a picture of that classroom.

In preparation to meeting this goal, Mrs. Franklin, a 6th grade special educator, made a copy of a 6th grade student schedule and took pictures of the different classrooms a 6th grade student would encounter. These included the language arts room, the science lab, the locker room for PE, and the STEM lab. After consulting with each of the teachers in those classrooms, she then created a list of implicit curriculum expectations for each room. She then put the
information together in a booklet titled “What to expect in 6th Grade”. The booklet was then given to the 5th special education teacher, who used the materials to complete the Direct Instruction Template, which is based on the work of Morgan et al., (2015).

**Step 2: The special educator models the skill.**

While at a table in a classroom, Anna and the special educator have the following discussion.

  Special Educator: “Anna, I have just received this booklet from Mrs. Franklin, a special educator from the Middle School. It is all about 6th grade at the middle school. Let’s read through it together.” *(They do so.)*

  Special Educator: “Now that we have read it once, I want you to show me a picture and then ask me about that classroom.”

  Anna: “Okay, what room is this?”

  Special Educator: “That’s the locker room. When you enter the locker room, you go to your assigned locker, unlock the padlock and get changed quickly.”

  This interaction would continue with the other classrooms.

**Step 3: The student role-plays the skill, and is given immediate corrective feedback.**

  Special Educator: “What do you do when you enter this room, the Language Arts Room?”

  Anna: “You go to your assigned seat and get out your materials.”
Special Educator: “Correct! The list of the materials is on the board and you put your backpack under your seat.”

Special Educator: “What do you do when you enter this room, the STEM Lab?”

Anna: “You go to your assigned seat and get out your materials.”

Special Educator: “No, what do you do when you enter the STEM Lab?”

Anna: “I don’t remember.”

Special Educator: “You put your backpack by the green wall with the other students’ backpacks, and then sit with your group at the table and wait for instructions. What do you do when you enter the STEM Lab?”

Anna: “You put your backpack by the green wall, and then sit at the table and wait.”

Special Educator: “That’s right! Good job!”

Special Educator: “What do you do if other students are not following these rules?”

Anna: “I take a big breath in and out, relax, and say nothing.”

Special Educator: “That’s right, you relax and say nothing. You are modeling what to do by doing it, not telling them.”

**Step 4: The student is given the opportunity for generalized practice of the skill with other individuals or in alternative environments.**
When the 5th grade special educator met with Anna twice a week for a Direct Instruction session about the 6th grade implicit curriculum. When Anna gave incomplete information, she was initially praised and then the complete information was given. When Anna was incorrect, she was told the correct information, and the question was repeated giving Anna the opportunity to answer correctly and be praised. Every session ended with the question from the special educator, “what do you do if others are not following these rules?” and Anna was prompted in the same fashion to give the correct response.

A few weeks later, Anna, the special educator, and several other students and staff went for a tour of the middle school. As they were shown the different rooms, the special educator would ask Anna similar questions about the implicit curriculum in each room. Over the summer, Anna was also able to bring the booklet home so that she could periodically review it with her parents.
What to Expect in 6th Grade
Because 6th grade is at the Middle School, students change classes about every 45 to 50 minutes. Here is an example of a 6th grade student’s schedule. You will have the same classes, and the length of the periods will be the same, but the order of the classes may be different. You will get your specific schedule at Open House on August 17.

### Sample Schedule

<table>
<thead>
<tr>
<th>Class</th>
<th>Term</th>
<th>Room</th>
<th>Teacher</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Studies</td>
<td>01-04</td>
<td>P1126</td>
<td>Hiatt, L</td>
<td>7:35AM- 8:28AM</td>
</tr>
<tr>
<td>Language Arts</td>
<td>01-04</td>
<td>P1126</td>
<td>Hiatt, L</td>
<td>8:31AM- 9:23AM</td>
</tr>
<tr>
<td>Pre-Algebra</td>
<td>01-04</td>
<td>P1124</td>
<td>Carvell, A</td>
<td>9:28AM-10:08AM</td>
</tr>
<tr>
<td>Lunch</td>
<td>01-04</td>
<td>Cafeteria</td>
<td>Staff,</td>
<td>10:13AM-10:53AM</td>
</tr>
<tr>
<td>Band</td>
<td>01-04</td>
<td>P1147</td>
<td>Berens, K</td>
<td>10:58AM-12:02PM</td>
</tr>
<tr>
<td>Science</td>
<td>01-04</td>
<td>P1122</td>
<td>Palm, B</td>
<td>12:05PM-12:35PM</td>
</tr>
<tr>
<td>Physical Education</td>
<td>01-01</td>
<td>Gym</td>
<td>Skrzypinsk</td>
<td>12:38PM- 1:08PM</td>
</tr>
<tr>
<td>Physical Education</td>
<td>02-02</td>
<td>Gym</td>
<td>Klosowicz,</td>
<td>12:38PM- 1:08PM</td>
</tr>
<tr>
<td>Physical Education</td>
<td>03-03</td>
<td>Gym</td>
<td>Yurkewycz,</td>
<td>12:38PM- 1:08PM</td>
</tr>
<tr>
<td>Health</td>
<td>04-04</td>
<td>P1101</td>
<td>Chaney,S</td>
<td>12:38PM- 1:08PM</td>
</tr>
<tr>
<td>Physical Education</td>
<td>04-04</td>
<td>Gym</td>
<td>Taylor, B</td>
<td>12:38PM- 1:08PM</td>
</tr>
<tr>
<td>Art</td>
<td>01-01</td>
<td>P1142</td>
<td>Grabow, C</td>
<td>1:11PM- 2:05PM</td>
</tr>
<tr>
<td>Stem</td>
<td>02-02</td>
<td>P1152</td>
<td>Watson, N</td>
<td>1:11PM- 2:05PM</td>
</tr>
<tr>
<td>Steam</td>
<td>03-03</td>
<td>P1134</td>
<td>Grabowski</td>
<td>1:11PM- 2:05PM</td>
</tr>
<tr>
<td>Foreign Lang</td>
<td>04-04</td>
<td>P1133</td>
<td>Bever, T</td>
<td>1:11PM- 2:05PM</td>
</tr>
<tr>
<td>Music Appreciation</td>
<td>04-04</td>
<td>P1129</td>
<td>McNeil, L</td>
<td>1:11PM- 2:05PM</td>
</tr>
</tbody>
</table>

- The classes in white are your Core Academic classes. You will have those everyday all year long in a classroom with the teacher listed on the schedule. The order of these classes, may be different on your schedule than it is on this sample schedule.
- Lunch is highlighted in yellow. You will have that everyday all year long in the cafeteria. There will be several teachers in the cafeteria to watch the students.

- Band is highlighted orange. You will have that everyday all year long with Mr. Berens, the Band teacher. It will always be right after lunch.

- PE / Health is highlighted in blue. For PE, you need to first go to the locker room to change. After PE, you will go back to the locker room to change. You will have PE with a PE teacher every day, except for the 6 weeks that you have health with Mr. Chaney. When you have health, you will go to his classroom, and you wear your regular clothes. You do not have to change into your PE uniform.

- Exploratories are highlighted in pink. They are 5 classes that are only 6 weeks long. You will have an exploratory class each day at the same time, but which class it is, and who teaches it, will change every 6 weeks.

Each classroom has a different set up and slightly different expectations. These are explained in the following pages, so you can learn them now and know what to expect in 6th grade. Not all students have learned these expectations. If other students are not following these guidelines, that is okay. You can take a big breath in and out, relax, but say nothing. You are being a good visual model of what to do.
• When entering the social studies classroom, students go to their assigned seat. The materials needed for the class are listed on the board. Students remove what they need from their backpack and put their backpack under their chair.

• The teacher may lecture first or have independent work first. During the teacher lecturing, students should take notes and occasionally look at the teacher to show that they are listening.

• Independent work would be either reading, writing, or completing a worksheet or test. Students should be quiet, start their work right away, and continue to work until the teacher says stop or the bell rings.
Science Lab

- When entering the science classroom, students sit at their assigned table and seat. If it is a lab day, it will say so on the board. On lab days, all your materials should stay in your backpack until the teacher tells you to get something out. If it is not a lab day, you should get out the materials listed on the board. Your backpack should go beside your table’s leg.

- If it is not a lab day, the teacher will be giving notes, like in the Social Studies class. If it is a lab day, you will get a worksheet with the directions for the lab passed to you. You will be working with your partner, who is sitting at your table with you. You and your partner will take turns getting materials from around the room, doing the steps of the lab, and answering the questions about the lab. You should talk about the lab, instead of other topics. Working well with your partner is part of your lab grade.

- If you finish the lab early, and have independent work time, first check that the lab worksheet is complete and your materials are put away neatly. You and your partner can then talk quietly about a topic you both enjoy, or you can read a book if your partner is talking quietly with someone else or reading.
The Locker Room

- When you enter the locker room, you go to your assigned locker, unlock the padlock and get changed quickly. The video at www.youtube.com/watch?v=igbN_rPcwT0 shows how you can appropriately get changed around your peers.

- The gym teacher may walk through the locker room and give directions. You should listen carefully, but keep changing until you are finished. You do not need to stop what you are doing to give the gym teacher eye contact or look like you are listening.

- You will only have about 5 minutes to get changed into your gym uniform and then into your regular clothes after PE. You may want to practice changing quickly at home, with a parent timing you, so you can easily do it within the proper amount of time.

- If a peer talks to you, respond to them politely, but keep changing your clothes. You do not want to stop changing your clothes to talk with them. Also, this is one time you do not need to make eye contact. If someone comments about how you look while you are changing, ignore them. It is not appropriate for them, or you, to comment about other people look when they are changing clothes.
When you enter the STEM Lab, you place your backpack against the green wall, with the other students’ backpacks. Then you sit at your spot at a table and wait for class to begin. While waiting, you could talk with your partner in a normal level voice about things that interest both of you.

The teacher will start the class by reviewing the steps of the project you are working on. He or she will tell the class where everyone should be in the process of moving towards completion of the project. You should be working on that step that day, or completing the step right before it. If you get farther behind then that, talk to your partner or group doing your independent work time about how to catch up. If you and your peers can not come up with a solution, you should all talk with the teacher.

The majority of the class will be working with your partner or group, which might be 3-4 other students. You should take turns doing portions of the project, or work together to get portions of the task completed. You should listen to and try out your peers’ ideas about to complete the task, even if you do not think it is necessarily correct. They may have ideas different than yours that are still good. When giving your ideas, you should wait your turn to talk, talk in a calm voice, and stay calm if they do not agree with you.
**Small Group Activity #1: Identifying Implicit Curriculum Skills**

Based on your personal experience, the Checklist of Sample Items, and/or the examples given, list one or two school functioning skills that are part of the implicit curriculum for each skill deficit. Once this small group activity is completed, you may be asked to share with the whole group.

<table>
<thead>
<tr>
<th>Skill Deficits</th>
<th>Impact on School Functioning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deficits in social emotional reciprocity</td>
<td></td>
</tr>
<tr>
<td>Deficits in nonverbal communication</td>
<td></td>
</tr>
<tr>
<td>Deficits in developing, maintaining, and understanding relationships</td>
<td></td>
</tr>
<tr>
<td>Stereotyped or repetitive motor movements, use of objects, or speech</td>
<td></td>
</tr>
<tr>
<td>Insistence on sameness, inflexible adherence to routines; ritualized patterns of behavior</td>
<td></td>
</tr>
<tr>
<td>Highly restricted, fixated interests that are abnormal in intensity or focus</td>
<td></td>
</tr>
<tr>
<td>Hyper- or hypo-reactivity to sensory input; Unusual interest in sensory aspects of the environment</td>
<td></td>
</tr>
</tbody>
</table>
Small Group Activity #2: Creating Your Own Case Study and Modeling Script

In your small group, create a short case study of a student as well as a sample script which can be used to model the successful completion of an implicit curriculum skill. Remember to create a model similar to the desired setting and developmentally appropriate to the student in the case study. Once this small group activity is completed, you may be asked to share with the whole group.

Student’s Grade:

Present Levels / Analysis of the Problem:

Skill from the Implicit Curriculum Checklist that you would like to work on:

Script for use as a model of this skill:
Small Group #3: Corrective Feedback Scenarios

Read through the short scenario at your table. And then discuss as a small group what corrective feedback you would give. Remember, start with a positive statement that is specific, and then provide constructive criticism on one aspect of the performance described in the scenario.

Scenario Title:

Positive feedback that is specific:

Corrective feedback that is constructive and specific to one aspect of the behavior:
Scenarios

1. Jason, a 4 ½ year old preschooler with ASD, is working on the skill of ‘sharing with a friend’. He can (a) offer a toy to a peer, (b) ask a peer for a toy, or (c) offer to trade toys with a peer, but is not able to put the three steps together. What feedback, positive and corrective, would you give to Jason?

2. The school team has discovered that Maria, though very bright in math, is not able to ask the general education for assistance. As part of a Direct Instruction lesson, Maria was asked to practice the skill. She could complete the steps of raising her hand and saying “help please” but was not able to give further information about the help she needed. What feedback, positive and corrective, would you give to Maria?

3. Eddie and Sam are 6th grade boys with ASD. The school is having the first dance of the year in one week, and they have expressed anxiety about the dance. As part of a Direct Instruction lesson about what to do at a dance, the boys practiced how to ask a girl to dance. They would say the same words as the modelled script, but did not demonstrate the proper non-verbal skills. What feedback, positive and corrective, would you give to Eddie and Sam?

4. When you are in a class with an assistant, you observe the assistant is giving verbal praise on a regular basis, but then prompting him to do the next step without waiting for the child to initiate the step himself. What feedback, positive and corrective, would you give to the assistant?
Small Group Activity #4: Providing Generalization for Your Student

Based on the case study you created in Small Group Activity #2, discuss the steps you would take to ensure generalization of the implicit curriculum skills. Consider what factors you would vary, and if you would increase the complexity of the desired behavior.

Opportunities for practice.

Techniques for varying the practice in order to increase generalization.
Direct Instruction Template

Step 1: The special educator defines the skill to be taught and breaks it into manageable steps.

Step 2: The special educator models the skill.

Step 3: The student role-plays the skill, and is given immediate corrective feedback.

Step 4: The student is given the opportunity for generalized practice of the skill with other individuals or in alternative environments.

Practice is continued until 90-95% mastery is reached.
Implicit Curriculum References


Direct Instruction References


APPENDIX F

EMAIL INVITATION TO COMPLETE POSTTEST A
Email subject line: “Helping Children with ASD” Dissertation Study: Posttest A

Thank you for the work you do for the children in our district!

You have just completed the Camp SPED in-service day. As part of my dissertation research study, titled “Helping Children with ASD Unlock the Implicit Curriculum of School Functioning” I am requesting that you complete the second data collection assessment, Posttest A. If you completed the Pretest, it would be extremely beneficial and important to me for you to continue your participation by completing this posttest!

As stated previously, all the certified special education staff in our district who attend Camp Sped are invited to participate. The purpose of this study is to improve educator’s attitudes towards children with ASD by providing them professional development regarding how to teach these children the implicit curriculum of school functioning through a Direct Instruction model. Participation in the research study, which is not required for participation in the in-service day and will be anonymous, has the intended benefit of self-reflection of one’s attitudes and the opportunity to see personal growth across time.

The consent letter for the research study is once again attached. The last part of the research study will occur after the first Collaborative Special Education Staff Development Wednesday (SDW). Participation in this dissertation research study is not required for participation in the Collaborative Special Education SDW.

Your participation in the research study continues to be completely voluntary and anonymous due to your responses only be identifiable by a personal login that you create and only you will know. All the results of the pretest and posttests will be collected in a Google Drive non-district account specifically set up for this study, in which only I will have access.

If you have questions about this research study, you can contact me at dbarton@gmail.com or (815)814-5774. You are also welcome to contact my dissertation committee co-chairs: Dr. Mary Beth Henning at mhenning@niu.edu or 815-753-8591 and Dr. Jesse Johnson at jwjohnson@niu.edu or (815) 753-4267.

In order to complete Posttest A, please click on this link: https://docs.google.com/forms/d/e/1FAIpQLSfMw3DKGYBYdSMhODGpbzzJsr9Gk4nBzLv-8LGsZ1fP1Rn3OA/viewform?usp=sf_link

Thank you for your consideration!
Debbie Barton
APPENDIX G

POSTTEST A
Helping Children with ASD Unlock the Mysteries of Functioning in a School Setting Posttest A

Thank you for taking the time to participate in this research study. You will be asked to complete four sections of questions. The first section asks you to read a scenario about a fictitious student and then give your perceptions of the student. The second section asks you to rate statements regarding your beliefs about children with autism spectrum disorder (ASD). The third section asks your opinion about your knowledge of ASD. The fourth section will ask you to review the in-service training today. Please be assured that any information you give will be compiled and your contribution will remain anonymous through the use of your personal login. Again, thank you for your cooperation!

* Required

Personal Login

For this study, you are being asked to complete a version of this assessment tool more than once. So that the researcher can compare your results over time, you have been asked to create a personal login to be used only for this study. It should have contained a word and numbers that are easy for you to remember, but not easily identified by others. Examples of such logins would be your middle name and house number or the model of your car and the last four digits of their phone number. You should *NOT* have used a year of any sort, since this might be an identifiable piece of information.

1. Please input your personal login for this study.

Scenario

Please read the following passage carefully. After the passage has been read, you will be given statements to which you will have to agree or disagree with. Below each sentence is a set of numbers which range from 1 (strongly disagree) to 5 (strongly agree). For each sentence, you should mark the number that shows how much you agree or disagree with the statement. The more strongly you agree with the statement, the higher will be the number you circle. Please make sure that you answer every item. As much as you can, try to respond to each item independently. When making your choice, do not be influenced by your previous choices. It is important that you respond according to your actual beliefs and not according to how you feel you should believe.

Sam is a new student at school. Sam does not play or talk with the other children and finds it hard to make friends. Sam is mostly very quiet and very still. When Sam speaks it usually is the same word over and over again. For example Sam might say “My name is Sam. My name is Sam. My name is Sam”. Sam does not normally show feelings like happiness, sadness or anger. Sam spends a great deal of time sitting in a chair and rocking back and forth very quickly. Sam also has a silver ball that is very special. Sam likes to hold the ball and watch it.
2. A1. This child makes me afraid.  
   Mark only one oval.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. A2. This child is as smart as my other students.  
   Mark only one oval.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. A3. This child is as smart as my other students.  
   Mark only one oval.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. A4. I would not mind this child being in my classroom/on my caseload.  
   Mark only one oval.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. A5. I would not mind this child being in my classroom/on my caseload.  
   Mark only one oval.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7. A6. I would feel comfortable around this child.  
   Mark only one oval.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. A7. This child is different from other children in my classroom/on my caseload.  
   Mark only one oval.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9. A8. I would like this child.  
Mark only one oval

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Agree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Beliefs Scale
Each of the following sentences is a statement about a belief. Below each sentence is a set of numbers which range from 1 (strongly disagree) to 5 (strongly agree). For each sentence, you should mark the number that shows how much you agree or disagree with the sentence. The more strongly you agree with the sentence, the higher will be the number you circle. Please make sure that you answer every item. As much as you can, try to respond to each item independently. When making your choice, do not be influenced by your previous choices. It is important that you respond according to your actual beliefs and not according to how you feel you should believe.

10. B1. Only teachers with extensive special education training can help a child with autism/ASD.  
Mark only one oval

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Agree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mark only one oval

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Agree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mark only one oval

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Agree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mark only one oval

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strongly Agree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
14. **B5. Children with autism/ASD can learn from a good teacher.**
   *Mark only one oval.*
   
   1 2 3 4 5
   
   Strongly Disagree  ○ ○ ○ ○ ○  Strongly Agree

15. **B6. Regular schools/classrooms are too advanced for children with autism/ASD.**
   *Mark only one oval.*
   
   1 2 3 4 5
   
   Strongly Disagree  ○ ○ ○ ○ ○  Strongly Agree

16. **B7. I would not want the children in my class/on my caseload to have to put up with children with autism/ASD**
   *Mark only one oval.*
   
   1 2 3 4 5
   
   Strongly Disagree  ○ ○ ○ ○ ○  Strongly Agree

17. **B8. Teachers not specifically trained in special education should not be expected to deal with children with autism**
   *Mark only one oval.*
   
   1 2 3 4 5
   
   Strongly Disagree  ○ ○ ○ ○ ○  Strongly Agree

18. **B9. Children with autism/ASD are too impaired to benefit from the learning experiences of a general school/classroom**
   *Mark only one oval.*
   
   1 2 3 4 5
   
   Strongly Disagree  ○ ○ ○ ○ ○  Strongly Agree

19. **B10. Schools/classrooms with both typically developing children and children with autism/ASD enhance the learning experiences of children with autism/ASD**
   *Mark only one oval.*
   
   1 2 3 4 5
   
   Strongly Disagree  ○ ○ ○ ○ ○  Strongly Agree
20. B11. If had a choice, I would teach in a school/classroom in which there were no children with autism/ASD
Mark only one oval.

1 2 3 4 5

Strongly Disagree □ □ □ □ □ Strongly Agree

21. B12. A good teacher can do a lot to help a child with autism/ASD
Mark only one oval.

1 2 3 4 5

Strongly Disagree □ □ □ □ □ Strongly Agree

22. B13. Children with autism/ASD cannot socialize well enough to profit from contact with typically developing children
Mark only one oval.

1 2 3 4 5

Strongly Disagree □ □ □ □ □ Strongly Agree

23. B14. It’s unfair to ask teachers to accept children with autism/ASD into their school/classroom
Mark only one oval.

1 2 3 4 5

Strongly Disagree □ □ □ □ □ Strongly Agree

Knowledge Section
Each of the following sentences is a statement about your confidence and your knowledge. Below each sentence is a set of numbers which range from 1 (strongly disagree) to 5 (strongly agree). For each sentence, you should mark the number that shows how much you agree or disagree with the sentence. The more strongly you agree with the sentence, the higher will be the number you circle. Please make sure that you answer every item. As much as you can, try to respond to each item independently. When making your choice, do not be influenced by your previous choices. It is important that you respond according to your actual beliefs and not according to how you feel you should believe.

24. C1. I feel confident about teaching a child with ASD.
Mark only one oval.

1 2 3 4 5

Strongly disagree □ □ □ □ □ Strongly agree

25. C2. I feel knowledgeable about ASD.
Mark only one oval.

1 2 3 4 5

Strongly disagree □ □ □ □ □ Strongly agree
28. C3. I have knowledge of the characteristics that impact a person with ASD. 
Mark only one oval.

1 2 3 4 5

Strongly disagree □ □ □ □ □ Strongly agree

27. C4. I have knowledge of the sensory difficulties pupils with ASD can experience. 
Mark only one oval.

1 2 3 4 5

Strongly disagree □ □ □ □ □ Strongly agree

28. C5. I have knowledge regarding the need to explicitly teach school functioning skills to 
children with ASD. 
Mark only one oval.

1 2 3 4 5

Strongly disagree □ □ □ □ □ Strongly agree

Camp SPED evaluation
Please be assured that any information you give will be compiled and your contribution will remain confidential.

29. D1. The information presented during Camp SPED made sense to me. 
Mark only one oval.

1 2 3 4 5

Strongly Disagree □ □ □ □ □ Strongly Agree

30. D2. The information presented during Camp SPED is useful to me. 
Mark only one oval.

1 2 3 4 5

Strongly Disagree □ □ □ □ □ Strongly Agree

31. D3. The information presented during Camp SPED has added to my knowledge. 
Mark only one oval.

1 2 3 4 5

Strongly Disagree □ □ □ □ □ Strongly Agree
32. D4. The strategies discussed during Camp SPED will help support students with ASD.
   *Mark only one oval.*

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

33. D5. I feel that I will implement the strategies discussed during Camp SPED, including direct instruction for teaching the implicit curriculum of school functioning.
   *Mark only one oval.*

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

34. D6. What are your reasons for answering the previous question as you did?

   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________

35. D7. Is there any other training or support you would have liked to receive around ASD?

   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________

36. D8. Is there anything else about this process you would like to add?

   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________
APPENDIX H

STAFF DEVELOPMENT WEDNESDAY DISCUSSION QUESTIONS
Which group are you in? (Highlight the group that applies.)

<table>
<thead>
<tr>
<th>Pre-K Teachers</th>
<th>Pre-K Support Staff</th>
<th>High Incidence Teachers K-2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Incidence Teachers K-5</td>
<td>Low Incidence Support Staff K-5</td>
<td>High Incidence Teachers 3-5</td>
</tr>
<tr>
<td>Low Incidence Staff 6-8</td>
<td>High Incidence Staff 6-8</td>
<td>High Incidence Support Staff K-5</td>
</tr>
</tbody>
</table>

1. Did anyone in the group implement Direct Instruction to teach skills in the implicit curriculum of school functioning to a student with ASD?

2. If so, what skill will you address?
   a. How did you model the skill?
   b. When and where did the student practice the skill?
   c. How successful was this intervention for the student?

3. If not, what obstacles kept you from implementing this intervention?
APPENDIX I

EMAIL INVITATION TO COMPLETE POSTTEST B
Email subject line: “Helping Children with ASD” Dissertation Study: Posttest B

Thank you for the work you do for the children in our district!

You have just completed the first Collaborative Special Education Staff Development Wednesday (SDW). As part of my dissertation research study, titled “Helping Children with ASD Unlock the Implicit Curriculum of School Functioning”, I am requesting that you complete the last data collection assessment, Posttest B. Again, it is very important to me that you continue to participate in the study by completing this final posttest.

As stated previously, all the certified special education staff in our district who attend Camp Sped are invited to participate. The purpose of this study is to improve educator’s attitudes towards children with ASD by providing them professional development regarding how to teach these children the implicit curriculum of school functioning through a Direct Instruction model. Participation in the research study, which is not required for participation in the in-service day and will be anonymous, has the intended benefit of self-reflection of one's attitudes and the opportunity to see personal growth across time.

The consent letter for the research study is once again attached. Your participation in the research study continues to be completely voluntary and anonymous. Your responses on the pretest and posttests will only be identifiable by a personal login that you create and only you will know. All the results of the pretest and posttests will be collected in a Google Drive non-district account specifically set up for this study, in which only I will have access.

If you have questions about this research study, you can contact me at dbarton@gmail.com or (815)814-5774. You are also welcome to contact my dissertation committee co-chairs: Dr. Mary Beth Henning at mhenning@niu.edu or 815-753-8591 and Dr. Jesse Johnson at jwjohnson@niu.edu or (815) 753-4267.

In order to complete Posttest B, please click on this link: https://docs.google.com/forms/d/e/1FAIpQLSf3uVVPzq_nrA3dJCwF31ITVAfXhESYE9awiosC6OTehhh3A/viewform?usp=sf_link

Thank you for your consideration!

Debbie Barton
APPENDIX J

POSTTEST B
Helping Children with ASD Unlock the Mysteries of Functioning in a School Setting Posttest B

Thank you for taking the time to participate in this research study. You will be asked to complete four sections of questions. The first section asks you to read a scenario about a fictitious student and then give your perceptions of the student. The second section asks you to rate statements regarding your beliefs about children with autism spectrum disorder (ASD). The third section asks your opinion about your knowledge of ASD. The fourth section will ask you to review the in-service training today. Please be assured that any information you give will be compiled and your contribution will remain anonymous through the use of your personal login. Again, thank you for your cooperation!

* Required

Personal Login

For this study, you are being asked to complete a version of this assessment tool more than once. So that the researcher can compare your results over time, you have been asked to create a personal login to be used only for this study. It should have contained a word and numbers that are easy for you to remember, but are not easily identified by others. Examples of such logins would be your middle name and house number or the model of your car and the last four digits of their phone number. You should NOT have used a year of any sort, since this might be an identifiable piece of information.

1. Please input your personal login for this study.
   *

Scenario

Please read the following passage carefully. After the passage has been read, you will be given statements to which you will have to agree or disagree with. Below each sentence is a set of numbers which range from 1 (strongly disagree) to 5 (strongly agree). For each sentence, you should mark the number that shows how much you agree or disagree with the statement. The more strongly you agree with the statement, the higher will be the number you circle. Please make sure that you answer every item. As much as you can, try to respond to each item independently. When making your choice, do not be influenced by your previous choices. It is important that you respond according to your actual beliefs and not according to how you feel you should believe.

Sam is a new student at school. Sam does not play or talk with the other children and finds it hard to make friends. Sam is mostly very quiet and very still. When Sam speaks it usually is the same word over and over again. For example Sam might say “My name is Sam. My name is Sam. My name is Sam”. Sam does not normally show feelings like happiness, sadness or anger. Sam spends a great deal of time sitting in a chair and rocking back and forth very quickly. Sam also has a silver ball that is very special. Sam likes to hold the ball and watch it.
2. A1. This child makes me afraid.
   Mark only one oval.

   1 2 3 4 5

   Strongly Disagree  □ □ □ □ □  Strongly Agree

3. A2. This child is as smart as my other students.
   Mark only one oval.

   1 2 3 4 5

   Strongly Disagree  □ □ □ □ □  Strongly Agree

4. A3. This child is as smart as my other students.
   Mark only one oval.

   1 2 3 4 5

   Strongly Disagree  □ □ □ □ □  Strongly Agree

5. A4. I would not mind this child being in my classroom/on my caseload.
   Mark only one oval.

   1 2 3 4 5

   Strongly Disagree  □ □ □ □ □  Strongly Agree

6. A5. I would not mind this child being in my classroom/on my caseload.
   Mark only one oval.

   1 2 3 4 5

   Strongly Disagree  □ □ □ □ □  Strongly Agree

7. A6. I would feel comfortable around this child.
   Mark only one oval.

   1 2 3 4 5

   Strongly Disagree  □ □ □ □ □  Strongly Agree

8. A7. This child is different from other children in my classroom/on my caseload.
   Mark only one oval.

   1 2 3 4 5

   Strongly Disagree  □ □ □ □ □  Strongly Agree
9. A8. I would like this child.  
Mark only one oval.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

Strongly Disagree |   |   |   |   | Strongly Agree

**Beliefs Scale**

Each of the following sentences is a statement about a belief. Below each sentence is a set of numbers which range from 1 (strongly disagree) to 5 (strongly agree). For each sentence, you should mark the number that shows how much you agree or disagree with the sentence. The more strongly you agree with the sentence, the higher will be the number you circle. Please make sure that you answer every item. As much as you can, try to respond to each item independently. When making your choice, do not be influenced by your previous choices. It is important that you respond according to your actual beliefs and not according to how you feel you should believe.

10. B1. Only teachers with extensive special education training can help a child with autism/ASD.  
Mark only one oval.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

Strongly Disagree |   |   |   |   | Strongly Agree

Mark only one oval.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

Strongly Disagree |   |   |   |   | Strongly Agree

Mark only one oval.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

Strongly Disagree |   |   |   |   | Strongly Agree

Mark only one oval.

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

Strongly Disagree |   |   |   |   | Strongly Agree
14. B5. Children with autism/A$D can learn from a good teacher. Mark only one oval.

   1  2  3  4  5

   Strongly Disagree   Strongly Agree

15. B6. Regular schools/classrooms are too advanced for children with autism/A$D. Mark only one oval.

   1  2  3  4  5

   Strongly Disagree   Strongly Agree

16. B7. I would not want the children in my class/on my caseload to have to put up with children with autism/A$D. Mark only one oval.

   1  2  3  4  5

   Strongly Disagree   Strongly Agree

17. B8. Teachers not specifically trained in special education should not be expected to deal with children with autism. Mark only one oval.

   1  2  3  4  5

   Strongly Disagree   Strongly Agree

18. B9. Children with autism/A$D are too impaired to benefit from the learning experiences of a general school/classroom. Mark only one oval.

   1  2  3  4  5

   Strongly Disagree   Strongly Agree


   1  2  3  4  5

   Strongly Disagree   Strongly Agree
20. B11. If I had a choice, I would teach in a school/classroom in which there were no children with autism/ASD 
Mark only one oval.

1 2 3 4 5

Strongly Disagree  Strongly Agree

21. B12. A good teacher can do a lot to help a child with autism/ASD 
Mark only one oval.

1 2 3 4 5

Strongly Disagree  Strongly Agree

22. B13. Children with autism/ASD cannot socialize well enough to profit from contact with typically developing children 
Mark only one oval.

1 2 3 4 5

Strongly Disagree  Strongly Agree

23. B14. It’s unfair to ask teachers to accept children with autism/ASD into their school/classroom 
Mark only one oval.

1 2 3 4 5

Strongly Disagree  Strongly Agree

Knowledge Section
Each of the following statements is a statement about your confidence and your knowledge. Below each statement is a set of numbers which range from 1 (strongly disagree) to 5 (strongly agree). For each statement, you should mark the number that shows how much you agree or disagree with the sentence. The more strongly you agree with the sentence, the higher will be the number you circle. Please make sure that you answer every item. As much as you can, try to respond to each item independently. When making your choice, do not be influenced by your previous choices. It is important that you respond according to your actual beliefs and not according to how you feel you should believe.

24. C1. I feel confident about teaching a child with ASD. 
Mark only one oval.

1 2 3 4 5

Strongly disagree  Strongly agree

25. C2. I feel knowledgeable about ASD. 
Mark only one oval.

1 2 3 4 5

Strongly disagree  Strongly agree
26. C3. I have knowledge of the characteristics that impact a person with ASD.  
Mark only one oval.  

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Strongly agree</td>
</tr>
</tbody>
</table>

27. C4. I have knowledge of the sensory difficulties pupils with ASD can experience.  
Mark only one oval.  

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Strongly agree</td>
</tr>
</tbody>
</table>

28. C5. I have knowledge regarding the need to explicitly teach school functioning skills to children with ASD.  
Mark only one oval.  

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Strongly agree</td>
</tr>
</tbody>
</table>

Camp SPED evaluation  
Please be assured that any information you give will be compiled and your contribution will remain confidential.

20. D1. The information presented during Camp SPED and discussed at the Collaborative SDW made sense to me.  
Mark only one oval.  

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Strongly agree</td>
</tr>
</tbody>
</table>

30. D2. The information presented during Camp SPED and discussed at the Collaborative SDW is useful to me.  
Mark only one oval.  

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Strongly agree</td>
</tr>
</tbody>
</table>

31. D3. The information presented during Camp SPED and discussed at the Collaborative SDW has added to my knowledge.  
Mark only one oval.  

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Strongly agree</td>
</tr>
</tbody>
</table>
32. D4. The strategies discussed during Camp SPED and the Collaborative SDW will help support students with ASD.
   *Mark only one oval.*

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

   Strongly Disagree   Strongly Agree

33. D5. I feel that I will implement the strategies discussed during Camp SPED the Collaborative SDW, including direct instruction for teaching the implicit curriculum of school functioning.
   *Mark only one oval.*

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

   Strongly Disagree   Strongly Agree

34. D6. What reasons are there for not implementing these instructional strategies, if any?

   
   
   

35. D7. Is there any other training or support you would have liked to receive around ASD?

   
   
   

36. D8. Is there anything else about this process you would like to add?

   
   
   

Powered by Google Forms