Perceptions and Strategies for Developing Social Competence in

Children With ASD and Down Syndrome

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Abstract

This qualitative research project sought to explore discrepancies between research-informed ideal strategies recommended by resource teachers (RTs) and actual strategies used by early childhood educators (ECEs) in a classroom in the Niagara region in Ontario. The exploratory research involved semi-structured individual interviews with 3 RTs and 1 ECE from the Niagara region childcare centres and organizations who participated in semi-structured individual interviews. This study identified strategies recommended by RTs and ECEs to improve social competency in children with ASD and Down syndrome. The finding of this study revealed that although the RTs' recommended strategies were very similar to research-informed strategies found in the literature, the ECEs' strategies differed from the ideal strategies. Some of the reasons reported by the ECEs as to why they used different strategies included teacher–child ratio, lack of professional training, and lack of relevant courses taken in college. Although it is essential that children with ASD and children with Down syndrome work on their peer-relationship skills (as it is their major impairment), it is equally important to address joint attention, communication, and emotion recognition skills, and to learn to follow classroom rules and a routine in order for school readiness. Developing these skills in early childhood is closely related to developing peer-relationship skills later on.

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CHAPTER ONE: INTRODUCTION

In Ontario, the *Child Care and Early Years Act* (Government of Ontario, 2019) promotes having children with developmental delays enrolled in an inclusive setting during the preschool years. Even before the written regulations on inclusive education opportunities for all children, Ontario had a long history of diversity woven into the educational system that led to the inclusive education legislation today. Even though diversity and inclusive vision have been rooted in the culture for some time, it is just recently that childcare has been encouraged to welcome children with developmental delay.

Background

The number of children with autism spectrum disorders (ASD) and Down syndrome has been increasing over the years (Ye, Leung, & Wong, 2017). ASD is an umbrella term that describes a lifelong disorder that mainly affects individuals' communication ability and their relationship with their community (Al Shirian & Al Dera, 2015). The prevalence of ASD has increased considerably in the U.S.A. from 1 in 2,500 children in the 1970s to a currently reported rate of 1 in 59, as estimated by the Centers for Disease Control and Prevention (2019; see also Ye et al., 2017). In Canada, based on 2015 data, 1 in 66 Canadian children and youths have been reported to be diagnosed with ASD. Down syndrome is one of the most common genetic disorders that affects children's intellectual abilities. The prevalence of Down syndrome in Canada is 1 in 750 (Public Health Agency of Canada, 2017); therefore, there is a high probability that childcare settings will include at least one or two children with ASD and/or Down syndrome.

Some researchers (e.g., Akalin, Demir, Sucuoglu, Bakkaloglu, & Iscen, 2014; Buysse, Wesley, Bryant, & Gardner, 1999) believe that the quality of inclusion in preschool is dependent on a teacher's attitudes, professional training, resources, and program philosophy. The inclusion

movement in the education system is thought to provide children with developmental delays opportunities to observe and interact with their socially competent peers, which should promote their social interaction and play skills (Bailey, McWilliam, Buysse, & Wesley, 1998; Brown, Welsh, Hill, & Cipko, 2008). However, some teachers self-reported that they are not competent and confident enough to educate children with special needs due to their insufficient knowledge about inclusive practices (Akalin et al., 2014). Educator quality within high inclusive preschool programs should encourage children's cognitive and social development (Warren, Martinez, & Sortino, 2016). Hence, educators need to focus more on children's social competence by engaging in "teacher-talk" on a daily basis.

Teacher talk is defined as the type and frequency of verbalization used with children by teachers (Kontos & Wilcox-Herzog, 1997). There is a relationship between adult-talk and socially competent behaviour in children and, in particular for this study, children with special needs (Phillips, McCartney, & Scarr, 1987; Sontag, 1997). Social competence develops over time. Social competence is an ability to perceive others' perspective and to learn from the past (Semrud-Clikeman, 2007). Social experience rests on the foundation of parent–child/adult–child and peer relationships, and contributes to a child's later development of prosocial behaviours (Semrud-Clikeman, 2007). The teacher's language can encourage children to share their ideas, thoughts, and emotions (Rainer Dangel & Durden, 2010). The benefit of having social competence lies in supporting children to know how they feel about themselves and how others perceive them. Through the communication of acceptance from significant others, children can develop a sense of worthiness in themselves. Self-worthiness supports children to perceive themselves as good, moral, worthy, decent individuals (Baer & Maschi, 2003). If children are lower in self-worthiness, they may engage in a self-harm action, as their core belief about themselves is unworthy (Baer & Maschi, 2003). Through developing self-worthiness in

themselves, children are also more successful in social interaction with others than children with lower self-worthiness (Baer & Maschi, 2003). Moreover, the research supports that children who have higher social competence have higher academic achievement and lower rates of school drop-out (Ladd, Birch, & Buhs, 1999; Lin & Yawkey, 2014; O'Neil, Welsh, Parke, Wang, & Strand, 1997; Shields et al., 2001). On the other hand, children who have poor social skills would be unable to function successfully in a social context and more likely to feel loneliness and rejection from peers.

Children with ASD and Down syndrome have disadvantages in developing social competence as they have impairments in different developmental areas. Interestingly, Warren et al. (2010) found that children with ASD demonstrated shorter length of conversations compared to typically developing children. If children are disadvantaged in social skills, they need more attention in practising socialization with others. Also, children with ASD in Warren et al.'s (2010) study had more vocalizations that were not responded to by the adults. This could be because Irvin, Boyd, and Odom (2015) found that children who received more behavioural management focused interaction were weaker in social awareness and social cognition. Positive social contacts and supporting object play are related to increasing social competence.

Children with Down syndrome often present as charming, social, friendly, and engaging (Rosner, Hodapp, Fidler, Sagun, & Dykens, 2004). However, they often show delay in speech, so they would more likely depend on gesture to communicate with others (Brady, 2008; Roberts, Price, & Malkin, 2007). For instance, some studies emphasize the importance of teaching children peer-mediated strategies and friendship skills to children with and without special needs in a naturalistic environment so that the children can practice their skills (Kohler & Strain, 1999; Strain & Bovey, 2011). Therefore, there should be specific strategies that promote children's social competence in inclusive preschools and this should include teacher talk.

Purpose of the Study

The objective of this study was to explore relationships between research-informed best practices or ideal strategies to develop social competence in children with ASD and Down syndrome based on literature, and actual strategies used by resource teachers (RTs) and ECEs in a classroom. The study attempted to explore the possible gap between ideal strategies and actual strategies to develop children's social competence. RTs, who work with children with developmental delays in child care settings, and their perspectives about their ability to influence the development of social competence in children with ASD and Down syndrome were explored through semi-structured interviews. Also, in order to understand educators' perceptions of theory to practice, ECEs' verbal engagement with children with and without ASD and Down syndrome and their strategies to improve social competence were explored through using face-to-face interviews. The anticipated outcomes of the study were that RTs and ECEs would conceivably increase their awareness of teacher–child interaction and its relation to social competence in children and to quality practice in the early childhood education field.

Research Questions

This study was designed to answer the following research questions:

1. What are the RTs' perspectives about their own competency in supporting a child's social competence? What strategies do RTs identify as helpful in developing social competence in children with and without ASD and Down syndrome?

2. What are the differences between the RTs' stated ideal strategies and techniques to develop social competence in children with and without ASD and Down syndrome and reality in a classroom?

3. Are there any discrepancies in teacher talk towards typically developing children and children with ASD and Down syndrome?

Rationale

A few studies have explored the relationship between teacher talk and the development of social competence in children with ASD and Down syndrome. Kontos (1999) and Wilcox-Herzog and Kontos (1998) established different teacher-talk categorizations and emphasized the importance of understanding the power of teacher-talk in a classroom. Teacher talk was categorized into four groups: (a) support play with objects, (b) practical personal assistance, (c) support play with objects via questions, and (d) positive social contacts (Kontos, 1999, p. 371). While these are elaborated in Chapter 2, a brief introduction to these categories is warranted here. Often, teacher talk in a classroom is often directed to behavioural management, which means that teachers are not always conscious about how children's social development is holistically affected through the teachers' language. Thus, determining how educators can have positive influence in developing and improving children's social competence through language skills is an important area to investigate. With inclusive childcare practices being the norm, educators need to know and be aware of what kinds of language they need to use with children that effectively promote children's social competence. Although the study by Irvin et al. (2015) was insightful regarding suggesting that a higher or lower rate of no teacher talk towards children with ASD would depend n the autism severity and the degree of cognitive impairment, additional studies are needed to increase our understanding of the relationship between specific teacher talk and socially competent behaviour development in children with ASD and Down syndrome through the pereption of resource teacher's recommended strategies and ECE's strategies.

Importance of the Study

Analyzing teacher talk and how it is used to engage children with or without ASD and

Down syndrome is beneficial for various reasons. Many studies have shown the importance and power of teacher talk in preschool (Irvin et al., 2015; Kontos, 1999; Rainer Dangel & Durden, 2010). Teacher talk can have an influence on various dimensions of social competence. Moreover, teachers are less likely to be conscious about how they talk to children with and without ASD and Down syndrome, as the teachers could focus more on classroom management and children's behavioural management. The results of this study may increase teachers' awareness of the importance and power of teacher talk for children with and without ASD and Down syndrome and bring opportunities for children in a classroom to be exposed to an enriched environment conducive to the development of social competence. In addition, no previous studies have considered RTs' perspectives in working with children's social competence in childcare settings in Ontario. Therefore, my research examines the perceptions, teacher talk, and behaviours of RTs and ECEs to identify the possible congruencies and discrepancies.

Although there are RTs in childcare who work with special needs children, the RT contact time with each child is limited. Each visit can be anywhere from 30 minutes to an hour, once a week or twice a month. Children with developmental delays spend a majority of the time in a childcare setting with ECEs. If the ECEs are not aware of the specific talk that they should be using to enhance and encourage children's social competence, they can undermine the child's capacity to learn and optimally develop. Therefore, this study is needed to explore the gaps in a RT's perceptions and practice, and to see if there are any differences in frequency and quality of talk with children with ASD and Down syndrome compared to children who are typically developing. As such, this study sought to identify the types of talk that are reported to be used with those two groups of children.

Limitations of the Study

The main concerns with teacher talk and socially competent behaviour will be only

examined through RTs and ECEs in the Niagara Region in Ontario. Therefore, the insights gathered from this study are limited. RTs and ECEs who were involved in this study were a small sample size so the results cannot be generalized for the teacher-talk and social competence development strategies and techniques for children with ASD and Down syndrome. Due to the time restriction, observation of children's socially competent behaviours was not included in this study; therefore, although the study addresses RTs' perspectives on how to develop socially competent behaviours through teacher-talk strategies, there is no actual examination on the development of children's social competence. Thus, the suggested strategies in this study's results should be interpreted with caution and with a realization of restrictions. Finally, the study does not generalize teacher talk directed to children with ASD and Down syndrome as there are different severity and degrees of language and cognitive levels in both diagnoses. Instead, the study results demonstrated here can be interpreted as a window to gain insights into the relationship between teacher talk and social competence development in children and to identify similarities and difference between RT and ECE perceptions of teacher talk use to develop social competence in children with ASD and Down syndrome.

CHAPTER TWO: LITERATURE REVIEW

Early childhood is one of the significant stages in developing various skills. From the beginning of a child's life, there is always human involvement, such as parents, grandparents, siblings, and/or friends. One of the biggest changes in the early childhood stage is when many children start attending a preschool, and have an opportunity to socially interact with children their age and with teachers in an all-day setting without their family members' involvement. Through human relationships, children learn companionship, stimulation, and a sense of belonging (Kostelnik, Whiren, Soderman, Rupiper, & Gregory, 2014), as social competence is a learned behaviour. Social lessons that children learn in the early childhood stage will affect how they interact with others and how they act in society as youth and adults (Kostelniket al., 2014). Moreover, there is increasing evidence of support in preventing mental, emotional, and behavioural disorders in adulthood by promoting behavioural and social-emotional competence in children and adolescents (Pendry, Carr, Smith, & Roeter, 2014).

Kontos (1999) argued that a key ingredient of high-quality early childhood education is to have high-quality teacher–child interaction; even though this article is from almost two decades ago, it still applies today (Burchinal, Cryer, Clifford, & Howes, 2002; Vermeer & Bakermans-Kranenburg, 2008). Mitchell-Copeland, Denham, and DeMulder's (1997) study of teacher–child interaction and social competence found that children who have a secure attachment relationship are more likely to re-create this relationship with others; therefore, the children will have higher prosocial behaviour towards their peers. Children learn social skills and social competence through human interactions. In the Japanese language, "learn" is *manabu*. The word *manabu* originates from the word *maneru*, which means to mimic or copy. *Maneru* evolved into *manebu*, and eventually became *manabu*. It means that people, both young and old, "learn/manabu" things from mimicking others' actions or behaviours. Genishi (1998) mentioned

that "adults are the main conversationalists, questioners, listeners, responders, and sustainers of language development and growth in a childcare center or classroom" (p. 4). All children learn from adults who are around them. Therefore, in preschool and childcare settings, the way teachers speak to children during daily interactions will greatly influence how children learn social skills and social competence.

Although social skills are learned in teacher/adult–child interaction, gradually children need to practise these skills in peer relationships, as the central feature of social competence is grounded in peer interaction in preschool (Kwon, Elicker, & Kontos, 2011). All young children require time and guidance in developing social skills and social competence. Children with ASD and Down syndrome have limitations in developing social competence; therefore, they will need a great deal of support in this area of development compared to typically developing children. Teacher–child interaction can be a strong support in developing social competence as children spend the majority of their day in a childcare centre.

Unfortunately, sometimes the "early childhood error" (Kontos, 1999, p. 364) occurs when ECEs prepare appropriate, stimulating learning environments for young children yet fail to follow up with guidance, scaffolding, and supportive and responsive interactions with children through play. Vygotsky's approach to early childhood education presents the importance of adults taking an active, but not intrusive, role with children during play in order to maximize the learning potential (Berk & Winsler, 1995; Kontos, 1999). In accordance with a Vygotskian approach, teachers' active involvement with children with ASD would make a difference in their learning potential, especially in the area of social skills, as social competence is a learned skill.

Social Competence in Early Childhood Education

Social competence has been emphasized in research for a long time, as it plays a critical role in a child's life. Also, the preschool age is a stage when acquisition and expression of social

and emotional behaviours, such as anger, withdrawal, or socially valued behaviours, occur (Bigras & Crepaldi, 2012). In early childhood, one of the major skills that young children develop is social skills and socially competent behaviour as they interact with their peers and adults/teachers. One of the reasons social competence is important is that children with higher social competence will develop a positive attitude toward school, adjust well to school, participate in school activities, participate in peer relationships, and work on sustaining friendships, which can lead to school success, such as higher academic achievements and a lower rate of school dropout (Ladd et al., 1999; Lin & Yawkey, 2014; O'Neil et al., 1997; Shields et al., 2001). Developing social competence may prevent children from having anger-aggression and anxiety-withdrawal as well (Sette, Baumgartner, & MacKinnon, 2015). The next section will review social competence from multiple aspects.

In early childhood education, learning is grounded in social opportunities. For instance, circle time is one social experience as they greet each other, listen to the teacher and their peers, take turns, learn to show interest in others, and so forth. Other social opportunities arise while interacting at mealtime, during free play, or in program spaces where social experiences occur. Social competence is acquired over time. It begins to develop early in children's lives and continues to develop throughout their lives as they interact with others. It also plays an important role in school readiness and academic success (Vaughan Van Hecke et al., 2007). Socially competent children will be flexible to apply different behavioural skills, affective resources, and cognitive resources in the service of attaining personal social goals in social contexts without hindering opportunities to achieve their goals (Shin et al., 2011). Shin et al. (2011) also mentioned that the combination of behavioural skills, affective resources, and cognitive resources will assist children in achieving the social goals of establishing the child's skill set at a given period of

development, and to help children to be successful applicants of the skill set in important social groups, which also enhances their self-esteem, social self-efficacy, and peer acceptance.

<div align="center">**Definitions**</div>

Although social competence is a concept steeped in ambiguity, it is argued in general to serve a very important function in our lives. Developmental conceptualizations of social competence are commonly based on progression of skills and attainment (Howes, 1987; Rose-Krasnor, 1997; Trentacosta & Fine, 2010; Waters & Sroufe,1983). Multiple facets, such as social assertion, frequency of interactions with positive self-concept, social cognitive skills, and so on, construct social competence (Dodge, 1985). In 1973, a group of experts in child development met in Princeton, New Jersey, and attempted to establish an operational definition of social competence (Anderson & Messick, 1974); however, they were unable to establish an unambiguous definition of social competence (Stump, Ratliff, Wu, & Hawley, 2010). Stump et al. (2010) defined social competence as a very broad term and involving the following 29 facets of socially related skills:

1. *Differentiated self-concept and consolidation of identity*

   The child has recognition of his/her different levels and kinds of skills in different areas of cognitive and interpersonal functioning and different interests in differentiated areas. Also, these differentiated skills and functioning will be applied to stabilize his/her identity so that he/she appreciates some consistency of self across time and situations. Shavelson, Hubner, and Stanton (1976) mentioned that self-concept is a multidimensional and a hierarchical structure that grows throughout infancy to adulthood. The self-concept is important in children and adolescents and is contingent on the child's daily emotions and interpersonal experiences (Amado-Alonso, Mendo-Lázaro, León-del-Barco, Mirabel-Alviz, & Iglesias-Gallego, 2018).

2. *Conception of self as an initiating and controlling agent*

   Children with a strong self-concept will exhibit initiation in action and guidance of his/her behaviour in a realistic environment. When children have reached the level of initiating and controlling their behaviours, there will be a confidence in taking responsibility for their learning, skill acquisition, and in the decision-making process. Kostelnik et al. (2014) mentioned that children exercise control in various realms. For instance, infants try to interact with adults, especially caretakers, by smiling and cooing; toddlers have their favourite colours and characters or animals; preschoolers get to be more independent and dress themselves and feed themselves with less assistance from adults. Children gradually understand their own control and form beliefs about the level of their control.

3. *Habits of personal maintenance and care*

   Each child measures up to common standards of cleanliness, eating habits, safety practices, and grooming according to his/her peer group level. School aged children are aware of their peers' interests, table manners, and hygiene, and often make comments if the behaviour does not fit the expected standards.

4. *Realistic appraisal of self, accompanied by feelings of personal worth*

   The child is able to conduct a self-evaluation of his/her own abilities and recognition of their personal significance, which will have a strong influence on their behaviour and their actual performance in every area of their life. At the same time, children who have lower capabilities also need to have positive feelings of self-worth, an awareness of their strengths, and a realistic view of their limitations. An affirmative, yet realistic, self-assessment can support resiliency when children face failure or frustration. Children will

do an appraisal of self at a very young age, but around ages 8 to 11, they start to see

themselves in both a positive and negative light (Kostelnik et al., 2014).

5. *Differentiation of emotion feelings and appreciation of their manifestations and*

   implications

   The child will experience various kinds of emotions, recognize his/her emotional

   expression, as well as others' emotional expression. Emotion recognition by children is

   essential. They need to be able to connect with their own emotions, and the emotions of

   others in order to develop interpersonal and interpersonal relationships.

6. *Sensitivity and understanding in social relationships*

   The child has developed an understanding of relationships and accepts the differences in

   his/herself and in others. He/she rejects clearly antisocial values, but he/she endures a

   wide range of values that are different from his/hers.

7. *Positive and affectionate personal relationships*

   The child will have no inhibitions in showing affection to adults and other children and

   are able to build friendships and to make personal connections easily.

8. *Role perception and appreciation*

   There is recognition, in the child's mind, of different roles that he/she, and other children

   and adults can engage in according to different situational and interpersonal contexts. Also,

   he/she knows what is expected of others and of himself/herself in different contexts,

   therefore he/she can apply role expectations to his/her behaviour. The child appreciates the

   diversity of available role options and declines stereotypical boundaries in role opportunities.

9. *Appropriate regulation of antisocial behaviour*

   There is no repeated pattern of extremely disruptive, violent, aggressive, hostile, or other

   types of antisocial behaviour in the child. He/she avoids these antisocial behavioural

moderations, using redirection or other types of methods of instinct adjustment that are at least relatively under his/her cognitive control.

10. *Morality and prosocial tendencies*

The child engages in prosocial behaviour more frequently, when he/she sees an opportunity or recognizes situational expectation. The child's awareness of the reasons and principles of moral and social values and behaviours will increase.

11. *Curiosity and exploratory behaviour*

The child shows interest in his/her environment and continues the exploration without external motivation or pressure, especially in areas of his/her interest.

12. *Control of attention*

The child has the appropriate duration in attending to relevant cues with an appropriate level of concentration.

13. *Perceptual skills*

The child has the ability to perceive a unit or form as separate from its background, discriminates between similar units and forms, analyzes forms into their component units and parts, and synthesizes units or parts into an organized form. Perceptual skills apply to visual perception, auditory perception, tactile perception, and kinesthetic perception. For instance, a child can see each letter in a word, can hear phonetic sounds, and can distinguish similar letters, such as p and q.

14. *Fine motor dexterity*

The child is capable of manipulating small objects and using tools at his/her appropriate developmental level.

15. *Gross motor skills*

A child with social competence displays strong gross motor skills, such as walking,

running, jumping, and reaching, without excessive clumsiness and within the limits of his/her age appropriate physical development. Some studies have shown that it is the child's gross motor abilities and not his/her fine motor abilities that significantly influences social outcomes. The results showed that children with poor motor skills had possibilities of social, emotional, and behavioural difficulties (Dyck et al., 2004; Schoemaker & Kalverboer, 1994; Skinner & Piek, 2001).

16. *Perceptual-motor skills*

The child unconsciously performs a combination of perceptual motor skills at the appropriate level of sensory acuity of visual, auditory, and motor skills behaviour.

17. *Language skills*

The child is capable of understanding the definition of words he/she hears, and recalls, comprehends, and interprets spoken language. As children grow older, the language skills also develop according to their level. McCabe and Meller (2004) found that speech/language impaired children evidenced delayed competencies and that they may be disadvantaged for developing socially competent behaviour.

18. *Categorizing skills*

The child develops a recognition of similarities and differences in objects and categorizes objects or events, and is able to verbalize the underlying principles of categories.

19. *Memory skills*

The child's level of memory skills allows him/her to retrieve information on the basis of relevant cues.

20. *Critical thinking skills*

The child is able to analyze and evaluate situations, conceptions, processes, and products.

21. *Creative thinking skills*

The child generates his/her responses from multiple sources and conceptions and applies creative thinking to a specific situation, while demonstrating flexibility.

22. *Problem-solving skills*

The child uses memory skills, critical thinking skills, and creative thinking to identify, analyze, and solve problems.

23. *Flexibility in the application of information-processing strategies*

The socially competent child takes initiative when he/she realizes that there are various ways to approach exploring their environment and in receiving information. He/she knows how to apply different approaches in a flexible manner.

24. *Quantitative and relational concepts, understandings, and skills*

The child displays conceptual attainment and skills in numbers, number properties, seriation ordinality, conservation, relation and comparison, causality, and measurement and estimation, enumeration, counting, and arithmetic.

25. *General knowledge*

The child has an adequate amount of general knowledge on topics such as health and safety, social environment, physical environment, practical arts, sports and games, art and music. His/her knowledge contributes to the child's ability to develop interpersonal communication and aesthetic satisfaction.

26. *Competence motivation*

The child is internally motivated to improve his/her skills, shows satisfaction with personal improvement or mastery and to search for learning opportunities. These motivations can be stimulated by the effects of success.

27. *Facility in the use of resources for learning and problem solving*

The child has awareness of attaining help and information from multiple external sources, such as from adults, children, books, the library, fire department, school, and the internet, et cetera. He/she knows how to use these resources properly and effectively.

28. *Some positive attitudes toward learning and school experiences*

The child has some positive attitudes toward learning during his/her school experiences.

29. *Enjoyment of humour, play, and fantasy*

The child enjoys and participates in situations with humor, play, and fantasy within the limits of his/her opportunities and abilities. (Anderson & Messick, 1974)

The 29 items listed by Anderson and Messick (1974) to define social competence are very broad compared to other definitions, which are quite limited in aspects of social competence. Baumrind (1978) defined social competence in children by such characteristics as "social responsibility, independence, achievement orientation, and vigor" (p. 249). Baumrind described socially responsible behaviour as friendly, facilitative, and cooperative. He explained independence as the child being ascendant, goal-oriented, and self-determining. He described achievement orientation as the child who seeks challenges and solves problems efficiently. Vigour means the child has vitality and energy. This kind of definition, compared to Anderson and Messick's (1974) definition, is very brief and concise. However, it leaves out many invaluable aspects that need to be considered.

Skill-based social competence is an approach that has been highlighted in past research. This approach has been utilized to create a measurement for social competence, thus it uses behavioural checklists to distinguish competent children from incompetent children (Rose-Krasnor, 1997). Under this approach, social competence is constructed with a set of desirable

skills and behaviours that are efficacious in social interaction, such as "assertiveness, empathy, listening, defining problems, evaluating solutions, negotiation, expression of justified emotions, and realization of one's mistakes" (Shek & Leung, 2016, p. 166). Stump et al. (2010) pointed out that skill-based social competencies seemed to be defined by ideals and positive criteria. However, Rose-Krasnor (1997) pointed out that the skill-based approach focuses on the individual's traits and abilities, rather than from his/her interaction with peers.

Stump et al. (2010) mentioned that social competence qualities reflect culturally specific values. Some of the social behaviour may lead to effective and adaptive functioning in a certain context, yet in other contexts, these behaviours may not be acceptable. Ogbu (1981) mentioned that certain groups of people have unique competencies that are important for their societal needs. Children are taught the same instrumental competencies as they grow up in a specific cultural context, even though there are some individual discrepancies due to personal preferences in social competencies (Ogbu, 1981).

Thus, skill-based social competence development includes the 29 facets of socially related skills, from which four areas of focus were chosen to develop social competence in early childhood: (a) joint attention skills, (b) communication skills, (c) emotional competency, and (d) peer-relationship skills. These areas guide this study to explore strategies to develop children's social competence, as this study attempted to seek ideal strategies and actual strategies that were used by RTs and ECEs to support children with ASD and children with Down syndrome.

Strategies for Social Competence Development

In this section, the focus will be on four different skill specifics in order to develop social competence, therefore preparing children for success in school and beyond. The explored skills are: (a) joint attention, (b) communication skills, (c) emotional competency, and (d) peer-

relationship skills. Moreover, it will look into if there are any differences used when working with children with ASD versus strategies used when working with children with Down syndrome.

Strategies Used for Children With ASD

Given that typically developing children need to be assisted with the development of social competence, the explicit focus on development of social competence for children with ASD becomes absolutely urgent. Children with ASD are distinctly disadvantaged when it comes to developing social competence for school readiness and healthy relationships with others. Social competency skill areas are one of the main deficits that children with ASD face. For instance, children with ASD experience difficulties in initiating or joining social activities, difficulties in understanding others' perspectives, engage in inappropriate behaviours, difficulties in making eye contact, distancing themselves from others, engaining in inappropriate behaviours, having a non-functional use of language, and a lack of communicative gestures (Syriopoulou-Delli, Agaliotis & Papaefstathiou, 2018). One study found that children with ASD who were 4-10 years old showed difficulties in social skills such as cooperation (e.g., sharing, assisting others, and following rules and instruction), assertion (e.g., asking others for information, introducing oneself, and responding to peers' behaviour), and self-control (e.g., appropriately dealing with teasing, turn-taking, and developing compromises; Macintosh & Dissanayake, 2006).

Increasing age-appropriate social skills in preschoolers with ASD requires intentional practices. Parents of children with ASD start to notice and become concerned with their children's social impairments between 12 months and 3 years of age (Radley, Hanglein, & Arak, 2016). Some research showed that females with ASD demonstrated fewer social and communicative difficulties compared to the male participants (Syriopoulou-Delli, et al., 2018).

Head, McGillivray, and Stokes (2014) found that the female participants with ASD demonstrated similar scores as typically developing males, which may mean that the females had similar levels of sociability, emotionality, and friendship. Boys tended to have more negative experiences from previous social interactions than girls, and boys had a higher score in social anxiety and fear of future interactions (Head et al., 2014). However, the social and conversational skills in children with ASD can improve with age (Syriopoulou-Delli et al., 2018). The social skills refer to social responsiveness such as eye contact, play, and facial expression (Syriopoulou-Delli et al., 2018). Simultaneously, children with ASD tend to improve their interactions with adults, but regarding interaction with their peers, it does not develop any further without intentional intervention (Stone & Caro-Martinez, 1990; Syriopoulou-Delli, et al., 2018). In preschool, the RTs and/or classroom one-on-one teachers mostly spend time working with a child with ASD. Depending on a child's developmental level, the RT and classroom teacher may not encourage social interaction with his/her peers, so there is the possibility of the child developing social skills with his/her ECE and RT more than with his/her peers.

Joint attention. Joint attention impairment is one of the main limitations that is noticeable in infants and toddlers with ASD in the area of social communication (Mundy, Sigman, Ungerer, & Sherman, 1986). Joint attention was described as a triadic coordination of attention among the child, a second person, and an object, person, or event. Joint attention skills turn into interaction skills with others, as it supports children to have the common ground in interaction during play. Infants who are typically developing begin to connect words and sentences with objects and events using joint attention (Baldwin, 1995). Some studies showed that the level of vocabulary had a relation to the duration of joint attention engagement (Bruner, 1983; Tomasello & Todd, 1983). However, children with ASD have a tendency to struggle in this area. Joint attention impairment can be observed as early as 6 to 8 months in infancy

(Ibañez, Grantz, & Messinger, 2013). For instance, results of Sigman and Ruskin's (1999) study using observation of preschoolers regarding initiating and responding to joint attention showed that children who were better at initiating joint attention demonstrated improvement in initiating social interaction among children with autism. This early impairment can be a substantial factor for peer engagement and prosocial behaviour for young children with ASD. Children who show a higher level of joint attention engage in higher levels of social play (Chang, Shih, & Kasari, 2016). In sum, if children fail to develop stronger socialization skills due to the joint attention impairments, they will be less likely to develop higher social competence later in their lives.

Kasari, Freeman, and Paparella (2006) investigated children with autism, aged 3 and 4 years, who were randomly grouped into a joint attention intervention, and a control group. The intervention duration was 30 minutes daily for 5-6 weeks. Verbal prompting, modeling, physical prompts, and positive reinforcements were used to get children to respond. Kasari et al.'s (2006) study incorporated four strategies:(a) the child-driven strategy, (b) making environmental adjustments to engage the child, (c) imitating the child's actions with toys, and (d) the child's activity interests to develop a play routine. The results indicated that the children in the joint attention intervention group exhibited significantly more joint attention skills than those in the control group (Kasari et al., 2006). Kaale, Smith, and Sponheim (2012) in turn used Kassari et al.'s (2006) intervention manual to conduct an intervention for children with autism to develop joint attention skills. The results indicated that children in the intervention group who received intervention during their attendance in a preschool program showed they were approximately five times more likely to demonstrate initiation of joint attention skills during preschool teacher–child play compared to the control group, which was only receiving the preschool program. At this point, Kassari et al's. (2006) manual for improving joint attention was the one utilized with young children with ASD.

Communication skills. Children with ASD commonly have conversational deficits, which are a part of their social skill deficits (Bambara, Cole, Kunsch, Tsai, & Ayad, 2016). For instance, children with ASD have problems initiating conversation and introducing new topics, maintaining conversation, and expanding topics of conversation, which means that children with ASD are weak in commenting and asking questions, although the degree of the difficulties in individuals will vary (Bambara et al., 2016). This raises the question of what kind of teacher talk an educator can use in the classroom to effectively interact with children with ASD.

Language is one of the tools that children use to participate in their social world. Research on language socialization situates children as novice members of the community; by interacting with more experienced members in various social situations, children can become competent individuals the community (Blum-Kulka, 1997; Blum-Kulka & Snow, 2002; Heath, 1993; Ochs, 1988; Yifat & Zadunaisky-Ehrlich, 2008). In the past, a great number of mothers were stay-at-home mothers who spent a significant amount of time with young children, allowing their children to develop their communicative skills. However, due to the changes in the social structure of our society, both parents often work outside the home, so children are often enrolled in institutional settings such as childcares and preschools (Corsaro, 2017; Yifat & Zadunaisky-Ehrlich, 2008). Yifat and Zadunaisky-Ehrlich (2008) mentioned that conversational environments in preschool are different from the home environment, as there is less adult–child contact in the childcare centres than in the home. At the childcare centres, children need to compete with other children in order to get the teacher's attention. Yifat and Zadunaisky-Ehrlich pointed out that for children who are typically developed, there is some informal socialization, such as play time and meal time, in preschool as well as formal socialization language use during circle time. However, sometimes children with ASD or other special needs children are excluded from circle time, as it is simply too long for them to sit still in one place and they become

distracted by other children, depending on the severity of their impairments. Circle time provides daily speech activity, different from other activities during the day, where children have an opportunity to share their personal experiences and to foster teamwork experiences (Yifat & Zadunaisky-Ehrlich, 2008).

Moreover, interactions in preschool should serve the purpose of developing children's language skills so that it will lead to their social skill development. Rainer Dangel and Durden (2010) listed seven functions of teachers' language: (a) encouraging participation, (b) responding to children's needs and ideas, (c) managing the class or providing a necessary instruction, (d) fostering children's language, (e) conveying ideas, (f) assessing children's knowledge, and (g) promoting children's thinking (p. 77).

Another strategy that was suggested to develop communication skills was to use the Picture Exchange Communication System (PECS). Yoder and Stone (2006) compared two pre-linguistic communication interventions on spoken communication language acquisition in preschoolers with ASD. The study used the Responsive Education and Prelinguistic Milieu Teaching (RPMT) and PECS curriculums. The PECS had six phases. First, it focused on physically prompted exchange of a single picture and gradually moved onto the exchange of a sentence. The RPMT was designed to facilitate intentional communication towards primary pragmatic functions such as requesting, commenting, and turn-taking. The duration of the treatment was 24 hours over a 6-month period. The results revealed that PECS was more successful than RPMT in helping the children to increase the amount of non-imitative spoken communication and the amount of non-imitative word use.

Thirdly, Chang et al. (2016) indicated the effectiveness of applying the Joint Attention Symbolic Play Engagement and Regulation (JASPER) approach as a social communication

intervention on preschool children with ASD. The children were divided into two different groups, which were immediate JASPER treatment (IT) and Waitlist (WL). The JASPER was adapted to meet the preschool classroom teachers' needs. The participating preschools were already using applied behaviour analytic principles, but by the end of the intervention period, the teachers were demonstrating high-quality JASPER skills. Moreover, the results revealed that the children who were in the JASPER intervention group showed a significant amount of improvement in their initiations of joint attention gestures, joint attention language, child-initiated joint engagement, and increased length of time engaged in language with their teachers.

Venker et al. (2015) expressed controversy as to whether it was beneficial for children to use telegraphic input or grammatical input when speaking to young children with language delays such as children with ASD, although telegraphic speech is a natural stage of a child's language developmental stage. Telegraphic speech is described as speech used in young children's developmental stage where children use primarily content words (e.g., mommy see; want milk; go night night; open please) in their spontaneous spoken language (Brown, 1973; Venker et al., 2015). Venker et al. emphasized that telegraphic speech may have a negative influence on children's language development because it discourages children from using the grammatically correct sentence when they reach the age appropriate learning level of development. Hoff and Naigles's (2002) longitudinal observational study revealed that parents who used more complex syntactic constructions in their talk to their children had a positive impact on their children's language development later on in their lives. Venker et al. pointed out that telegraphic speech does not allow children to be exposed to language that is more complex in construction, especially children with ASD who have a tendency to repeat what they hear. Therefore, this type of speech may limit children with ASD from improving communication skills, if children can understand more complexed language structures than they produce.

Overall, communication deficits can be a barrier for children with ASD in developing their social competence.

In the development of communication skills in preschool children with ASD, I will be looking at seven teacher language techniques that were listed, PECS, and JASPER and their impact in the classroom when utilized by RTs and ECEs.

Peer-relationships skills. Preschool is the main period when children's interactions with others become very significant. Children develop peer relationships that provide them with opportunities to further develop social skills. Friendship is a specific peer relationship that brings a bond that is voluntary and reciprocal (Freeman & Kasari,1998). The interactions developed during preschool will influence children's school readiness and new friendships made in future school years. Unfortunately, by school-age, children with ASD show less reciprocal friendships and are less accepted by their peers (Estes et al., 2018; Locke, Ishijima, Kasari, & London, 2010; Rotheram-Fuller Kasari, Chamberlain, & Locke, 2010; Rowley et al., 2012). Children who struggle with peer relationships have a higher risk for social isolation, depression, and difficulties in school performance in the long term (Therrien & Light, 2018). Moreover, youths with ASD often expressed a desired for social interaction with their peers; the absence of it lead to higher levels of loneliness than typically developing youth (Bauminger & Kasari, 2000). Thus, supporting children with ASD in improving peer relationships is one of the crucial aspects of learning, and should receive more attention and support in preschool, during the early primary grades, and throughout adolescence.

Although children with ASD rarely join into a peer group during free play, 20% of children with ASD who had friends were observed to have higher joint attention skills and joint engagement than children with ASD who had no friends (Chang et al., 2016). Bauminger and

Kasari (2000) demonstrated that children with high-functioning ASD showed fewer friendship-related behaviours, such as goal-directedness and positive desire and emotion, and lower levels of conversational flow compared to that of typically developing children. Also, a lower degree of positive affect was shown by the children with high-functioning ASD because there was a lower level of shared fun as well as a lower level of intimate and close peer relationships (Bauminger & Kasari, 2000). One of the possible reasons for high-functioning students with ASD to be more isolated in a classroom was that they may not stand out in a classroom compared to children with severe ASD. In other words, children who are typically developing might have a tendency to take on a role of caretaker and to try to be inclusive with children who have severe ASD than children with high-functioning or mild disabilities. Anderson, Moore, Godfrey, and Fletcher-Flinn (2004) conducted an observational study on kindergarten and school-aged children and found that adults who worked with children with ASD were uncertain about their role on the playground; this resulted in teacher interference whereby the teacher blocked opportunities for children to interact with children, instead of encouraging and fostering interactions between children.

On the other hand, Guralnick, Connor, Neville, and Hammond (2008) conducted a study to see whether a relationship between mother and child with regular interaction would have an influence on the child's peer interactions later. The results of the study demonstrated that mother–child interaction influenced children's peer interaction skills later on. Therefore, parent–child interactions allow children to have extensive opportunities to learn interpersonal skills in relation to negotiation, turn-taking, and initiating play, and these skills can be applied to child–child interactions (Guralnick et al., 2008). Hypothetically, then, teacher–child interactions will also have a positive influence on children's peer interaction, especially with children who, in this

day and age, spend more hours with their teachers in childcare centres than with their own parents at home. However, the question arises: How do we, as educators, foster peer interaction skills? Although some studies have shown that children with ASD can develop interpersonal skills with adults, they were not successful in developing social skills with their peers. Based on the studies presented, there should be more attention on developing the social skills of children and their peers, and especially children with ASD.

Another beneficial strategy being used was "social stories," which Malmberg, Charlop, and Gershfeld (2015) describe as narratives that are "written from a first-person perspective that described the context, the appropriate responses in that situation, other people's perspectives on appropriate behavior, and the value of these behaviors" (p. 376). Sani Bozkurt and Vuran (2014) explained that social stories are effective with a child due to the stories' visual content, being used repeatedly, and its easiness to write and apply. The results revealed that social stories were effective in producing positive behaviour. In addition, when the social stories were used with verbal prompts, the participants demonstrated higher levels of targeted behaviour. Therefore, the use of the social stories can be effective for a child with ASD in learning how to interact with others.

Another strategy that can be useful is observational learning, which was originally presented by Bandura (1977) who stated that a child can learn skills by observing other people perform the skills. There is a great deal of research that has been done in the area of observational learning, however, it has been mostly video modeling. Research has shown that modeling is a useful strategy in teaching children appropriate behaviour, especially children with ASD. Ledford, Gast, Luscre, and Ayres's (2008) study showed that the children with ASD learned from observational learning in a small group setting. In accordance with this study, a

child with ASD can learn how to interact, how to behave in a socially appropriate manner, and how to communicate with his/her peers by observing an adult or his/her peers.

Emotional competency. Children with ASD show deficits in recognizing others' emotional and mental states (Golan, Gordon, Fichman, & Keinan, 2018; Hobson 1993; Karmiloff-Smith, Klima, Bellugi, Grant, & Baron-Cohen, 1995). In order to understand emotions, children need to be able to detect emotional cues, such as facial expressions, vocal intonation, contextual information, and body language (Fridenson-Hayo et al., 2016). Williams and Gray (2013) assessed the relationship between the ability of emotion recognition and social skills. The results showed that the children who had accuracy in the recognition of sadness had better social skills development than children who had recognition of happiness, anger, or fear. Williams and Gray mentioned that if a child has difficulty detecting sadness in other children, the child may not be able to have emotional empathy toward them, which could lead to poor social skills. One of the aspects of the difficulties in emotion recognition is that children with ASD showed less focus on people's eye-region of the face (Corden, Chilvers, & Skuse, 2008). Their focus was more on the region of people's mouth, which might possibly limit their ability to accurately recognize emotional expression (Neumann, Spezio, Piven, & Adolphs, 2006; Spezio, Adolphs, Hurley, & Piven, 2007).

However, other studies revealed that children with ASD were as able as typically developing children to recognize all six emotions, with different intensity levels, and that both groups made similar types of errors (Castelli, 2005; Tracy, Robins, Schriber, & Solomon, 2011). Golan et al. (2018) mentioned that the discrepancies in the results from these studies were because studies used different methods to measures the level of emotional recognition.

Children who have a lower level of emotional recognition usually demonstrate difficulties in: (a) recognizing their own emotions at their appropriate age level, (b) accessing ways to self-soothe or relax when they are experiencing strong emotions, and (c) maintaining progress in current activities in the face of possible impeding emotions (Berkovits, Eisenhower, & Blacher, 2017; Gratz & Roemer, 2004; Southam-Gerow & Kendall, 2002). The deficiencies in these skills can negatively affect children in their ability to regulate their emotional intensity, which could interfere with goal-directed and interpersonal skills (Berkovits et al., 2017). Berkovits et al.'s (2017) study found that the levels of emotion regulation were not associated with cognitive or language capabilities.

Chen, Lee, and Lin (2016) used augmented reality (AR), which is presenting real life situations that are digitally controlled and combined with video modeling (VM) and a visual storybook that contains captured pictures from a video (ARVMS). The combined method was used as an intervention to improve the perceptions and judgments of children with ASD as they viewed the facial expressions and emotions of others. The children were to read a storybook and then watch the matched video clip as social stimuli. This intervention helped children with non-verbal social cues to recognize emotions in the facial expressions of the storybook and video characters. Golan et al. (2010) did a similar study by using videos called *The Transporters*. The children watched the video every day for 4 weeks. The results showed that the children who were in the intervention group had a significant improvement in recognizing emotion. Another study by Russo-Ponsaran, Evans-Smith, Johnson, Russo, and McKown (2016) used "MiX" training, which contained an instructional video for each emotion, and asked the children to imitate the facial expressions after watching the video. This was performed for a 1-hour session, twice a week, for

up to 8 weeks. The results also showed that the participating children were able to identify each emotion by facial expressions more accurately and speedily than before the intervention.

Moreover, Conallen and Reed (2017) introduced the use of vocabulary to motivate children to express their emotions instead of focusing on the non-verbal emotion recognition skill method. Emotion-expressing words included fun, boring, like, don't like, easy, and hard. Conallen and Reed suggested that if children with ASD have access to appropriate language that conveys emotional and cognitive states, it would enable children with ASD to initiate a structured conversation about their own emotions.

To develop emotional competency, there are various studies that have focused on showing children with ASD a video clip about a real-life situation while highlighting a certain emotion, which is expressed with facial cues and body language. These interventions have been shown to improve children's emotion recognition and their emotional competency. In preschool classrooms, ECEs and RTs could input a video clip during the circle time and follow up with a discussion about the emotion involved. In the next section, the strategies that are considered effective to develop social competence in children with Down syndrome will be introduced and discussed.

Strategies Used for Children With Down Syndrome

Down syndrome is the most common genetic disorder that is affected by intellectual disability. Even though there is prenatal screening and diagnosis, the rate of Down syndrome is seen in approximately 1 in 800 live births (Patterson & Costa, 2005). Down syndrome is the result of the trisomy of chromosome 21 being damaged (Patterson & Costa, 2005). Children with Down syndrome present stronger orientation to social aspects than students with ASD do and show motivation to engage in social interactions (Fidler & Nadel, 2007). Children with Down

syndrome are usually referred to as sociable, friendly, and affectionate (Fidler, Most, &

Philofsky, 2008).

Joint attention. Joint attention is one of the significant aspects of children's development

in the early stages of their lives. As it was explained earlier in the section of ASD, joint attention

impairments can influence other domains of development, such as language and social

development (Hahn, Loveall, Savoy, Neumann, & Ikuta, 2018; McDuffie, Thurman, Channell, &

Abbeduto, 2017). Hahn et al. (2018) found that children with Down syndrome presented similar

joint attention abilities as typically developing children. Thus, joint attention skills are less likely

be a limitation, but may be commensurate with their developmental level. Also, past research

demonstrated that children with Down syndrome had better joint attention skills than children

with ASD (Adamson, Bakeman, Deckner, & Romski, 2009; Toret & Acarlar, 2011). Hahn et al.

mentioned that children with Down syndrome have higher desires to interact with others, which

gives more opportunities for joint attention than with children who exhibit developmental delays.

Therefore, according to past research, children with Down syndrome have one criteria met for

developing social competence compared to those children who have developmental delays and

have severe joint attention impairments and that is joint attention skills.

Communication skills. Down syndrome is described as developmentally delayed in all

areas of functioning (Rogers, Gordon, Schanzenbacher, & Case-Smith, 2001). The severity can

vary with each child. Children with Down syndrome usually show delay in speech, with their

pre-linguistic stage lasting for several years before they develop their language skills to

communicate well (Brady, 2008; Roberts et al., 2007). During this stage, children usually utilize

gestures, vocalizations, facial expressions, and other movements (Roberts et al., 2007). Children

with Down syndrome usually depend on gestures rather than vocalizations and spoken words in

early childhood (Stefanini, Caselli, & Volterra, 2007). Yoder and Warren (2004) found that 98%

of the children with Down syndrome who participated in their study used one word by age four; by age 5, 73% of the participants had increased their vocabulary up to 50 words. The more gestures used by children with Down syndrome, the later their language developed (Yoder & Warren, 2004).

In order to support children's communication skills development, a study conducted by Fey et al. (2006) examined that the effectiveness of applying a combination of Responsivity Education, which is to support adults/caregivers to maximize the potential of interaction with a child (Mahoney, Perales, Wiggers, & Herman, 2006), and Prelinguistic Milieu Teaching (PMT; see Table 1), which is the intervention that is embedded into social interactions to support communication skills in children with Down syndrome. Results showed that children who had the combination treatment increased in communication skills compared to the children who had no treatment. Moreover, Yoder, Woynaroski, Fey, and Warren (2014) conducted a study on early communication intervention in young children aged 18-27 months, with and without Down syndrome, to see how dose frequency would affect treatment. The low dose frequency was to apply one 1-hour session per week, as opposed to the high dose frequency that applied up to five 1-hour sessions per week. All children received Milieu Communication Teaching (MCT), which was a combination of PMT, Milieu Language Teaching, and Responsivity Education. Yoder et al (2014) found that the high dose frequency group of children with Down syndrome had more spoken word growth than the low dose frequency group. Therefore, the amount of interaction that children receive from adults/caregivers would make a significant difference in the outcome of communication skills development in children with Down syndrome.

Karaaslan and Mahoney (2013) posited another strategy: the Picture Exchange Communication System (PECS). Karaaslan and Mahoney's study showed the effectiveness of

using responsive teaching along with the PECS. Based on the study, children with Down syndrome can develop their communication skills by using responsive education, and ECS, along with higher dose frequency. The outcome has shown to contribute to increased communication skill development in children with Down syndrome.

Table 1

PMT Goals and Procedure

Goals	Specific techniques
1. Establish routines to serve as the context for communicative acts.	a) Imitate the child's motor acts. Imitate the child's vocal acts b) Interrupt the child's established pattern of actions with an adult turn and then wait for the child to take a turn. c) Perform an action the child finds funny or interesting; pause, then repeat to get more laughter. d) When the child produces one part of the routine, oblige by performing the act needed to complete it.
2. Increase the frequency of nonverbal vocalizations.	If the child's incomplete communicative act is focused on a clear referent, a) Recast the child's nonverbal vocalization with a word. If the child's incomplete communicative act is not focused on a clear referent, a) Model vocalizations with sounds and word shapes known to be outside the child's repertoire. b) Model a sound within the child's sound and word shape repertoire. c) Imitate the child's spontaneous vocalizations with sounds and syllable shapes known to be within the child's repertoire. d) Imitate the child's spontaneous vocalizations as precisely as possible.
3. Increase the frequency and spontaneity of coordinated eye gaze.	Create a need for communication within a routine in which the child looks at the object, then a) Provide the child with the desired object or action contingent on looking. b) Verbally prompt for eye gaze. Move the desired object to the adult's face to c) encourage a more explicit look. Intersect the child's gaze by moving the adult's d) face into the child's line of regard. Once the child complies, explicitly acknowledge the e) child's look with fun and well-pleased affect.

Table 1 (cont'd)

PMT Goals and Procedure

Goal	Special techniques
4. Increase the frequency, spontaneity, and range of conventional and nonconventional gestures.	Create a need for communication within a routine (e.g., by placing a desired object out of reach), then a) Provide the child with the desired object or action contingent on the use of a gesture. b) Pretend not to understand by looking and gesturing quizzically and saying "What?" or "What do you want?" c) Ask or tell the child to be more specific (e.g., "Show me which one!" "Which one do you want?"). d) Tell the child, explicitly, to produce a particular gesture (e.g., "Show me!" "Give it to me!"). e) Model an appropriate gesture. Once the child complies, verbally acknowledge child's gesture
5. Combine components of intentional communication acts. The three components of intentional communication acts are eye contact with partner, vocalization and gesture.	If the child produces one or two components of a communication act, wait expectantly (i.e., use time delay) to prompt the second (or third) component. B. If the child produces one or two components of a communication act and does not add another component after the time delay, a) Ask, "What do you want?" or another general prompt and wait again. b) Intersect the child's gaze or use the child's name to prompt eye gaze. c) Model or help the child to produce a gesture. d) If the child has produced a communicative act that is focused clearly on an object, attribute, or event, the clinician should recast the act by producing a word. e) If the child produces components yielding a communicative act, the clinician should not produce a nonverbal model. f) Immediately after the child produces the targeted component, provide the appropriate consequence and verbal feedback, as described under Intermediate Goals 1‑4 above. g) If, after using the methods above, the child fails to produce the targeted act, provide the child with the desired object or action.

Source: Frey et al. (2006, pp. 535–536).

Peer-relationship skills. Children with Down syndrome are seen as friendly and sociable, yet they often face difficulties in peer relationships due to their poor communication skills (Porter, Coltheart, & Langdon, 2007). Kasari, Mundy, Yirmiya and Sigman (1990) found that infants with Down syndrome pay attention to the faces of caregivers and strangers more so than typically developing children. Regarding interaction between typically developing children and children with Down syndrome, a study found that Down syndrome children presented similar peer interaction abilities as mental age matched children (younger) who are typically developing (Guralnick, Connor, & Johnson, 2011). The difference was that children with Down syndrome demonstrated a lower level of conversational skills (Guralnick et al., 2011). Moreover, children with Down syndrome presented a higher level of play when they were matched with familiar friends compared to unfamiliar friends (Guralnick et al., 2011). From this aspect, it can be said that the positive effect of friendship can influence children's peer interactions. Even though children with Down syndrome had a lower degree of group play and peer-related social competence difficulties, being in an environment with typically developing children helped children with Down syndrome to learn and interact with their peers to learn social skills (Lucisano, Pfeifer, Panuncio-Pinto, Santos, & Anhão, 2013). Guralnick et al. (2011) suggested social skills can be well supported by play partners or adults' influence. Social cognition and emotion-regulation impairments were more evident in complexed play structures for children with Down syndrome (Guralnick et al., 2011).

Emotional competency. Some children with Down syndrome may experience difficulties understanding facial emotions. One of the reasons for difficulties of emotion recognition was due to less exposure to conversations that used emotional vocabulary than children who were typically developing (Kasari, Freeman, & Hughes, 2001). Moreover, children

with Down syndrome are more likely viewed as having a happy, friendly nature, so caregivers may not use negative-emotion words with them, which means that the children would have fewer opportunities in learning these emotions within context (Kasari et al., 2001). Cebula, Wishart, Willis, and Pitcairn (2017) explored the effect of exaggerated facial emotions and of emotion labelling, which is the process of showing a child a picture of a person and telling the child which emotion the character is expressing, and then helping the child to match the same emotion with someone else. The results showed that children with Down syndrome had a similar ability to label basic emotions and to accurately recognize specific emotions. However, children with Down syndrome had significant difficulty in recognizing fear compared to typically developing children (Cebula et al., 2017). Also, one of the findings in Cebula et al.'s study revealed that emotion recognition correlated with children's vocabulary comprehension for children with and without Down syndrome.

How Does Teacher Talk Influence Children With Social Competence?

Throughout past research, daily teacher–child interactions have shown a positive influence on children's development including children's social, behavioural, and emotional development, which are crucial aspects for developing social competence in children (Hamre & Pianta, 2007; Hu et al., 2017; Phillips, Mekos, Scarr, McCartneym, & Abbott-Shim, 2000). However, children with ASD may have difficulties in developing strong child–teacher relationships due to their deficits in social communication skills and reciprocal social interaction. They also are at greater risk for experiencing behavioural and psychiatric problems compared to typically developing children (Caplan, Feldman, Eisenhower, & Blacher, 2016). Caplan et al. (2016) mentioned that the higher-quality relationships that children with ASD can build, the more positive influence it has on their overall development.

The term adult talk or teacher talk was conceptualized as the type and prevalence of verbalizations intended for children by classroom teachers (Irvin et al., 2015). Some adult talk/teacher talk is specific, and some is used in a general context. Irvin et al. (2015) presented types of adult talk such as "supporting peer relations" (e.g., "Go see if Jennifer wants to play with you"), "supporting object play" (e.g., "Use this wooden bead as animal food, and green grass for the animals to lay on"), "positive social contacts" (e.g., "What did you do over the weekend?"), "behavioural management" (e.g., "Can you please share the blocks with your friends?"), and "practical/personal assistance" (e.g., "Would you like help putting your shoes on?") (p. 131). Stanulis and Manning (2002) mentioned the three following facets of the verbal environment of the early childhood classroom: (a) "how teachers talk to children, (b) how teachers allow children to talk to each other in positive and reinforcing or negative ways, and (c) how teachers help children talk to themselves about their learning and participation in class" (p. 3). These elements will guide all interactions between teacher and child in a preschool classroom.

Gest, Holland-Coviello, Welsh, Eicher-Catt, and Gill (2006) conducted a study in a Head Start program, observing teachers' language use in various contexts within the classroom. The researchers found that the definition of sensitivity and responsivity of teachers was based on the amount of pretend talk, which gives objects characteristics, and decontextualized talk, which refers to non-existential people or objects. Moreover, it was based on how much rich language in terms of vocabulary, elaboration, and cognitive challenge were used around children (Gest et al., 2006).

Children with and without special needs will learn what is appropriate or not in the classroom based on teachers' verbal environment. Teachers need to be aware of how they talk,

their choice of words, and the tone of their voice when talking to the children and staff, especially when children imitate the teacher by expressing the same verbal behaviour toward their peers. Unfortunately, sometimes the teachers' reaction to children who are not following instructions or are acting out might not be appropriate for the other children to observe. The teacher's verbalization will either set a positive or negative environment for the children in fostering their communication skills. Another point of the verbal environment was the way children interacted with one another. In the classroom environment, children are receiving feedback that either affirms or disconfirms their developing sense of self (Stanulis & Manning, 2002). With everyday interactions that occur in the classroom, children develop their self-worth based on what kinds of communication they experience (Stanulis & Manning, 2002), which can improve or hinder children's social competence. It is important to bring attention to teachers' interactions with children with ASD and Down syndrome in fostering children's social competence.

Conclusion

In summation, topical literature addressed teacher talk as a means to develop social competence in children with ASD or Down syndrome. Although social competence is an ambiguous term, it plays an important part in children's development. There is increasing evidence that promoting the development of social competence in children and adolescents is beneficial in reducing mental, emotional, and behavioural disorders in adulthood (Pendry et al., 2014). In order to define social competence, there are different approaches that researchers introduced. For my study, I used the social skills approach which includes the 29 facets of social competency to defined social competence in children as a set of desirable skills and behaviours that are efficacious in social interaction (Shek & Leung, 2016). Strategies to develop social

competence in children with ASD or Down syndrome focused on four areas: (a) joint attention, (b) communication skills, (c) emotional competency, and (d) peer-relationship skills. The strategies used to develop these four areas in children with ASD and children with Down syndrome had similarities. The only difference was that children with Down syndrome often demonstrated the similar joint attention development as children with typically developing children, so there are not many studies done in this area for Down syndrome at this point.

In my research, the social skill approach can be applied to examine what kinds of skills RTs and ECEs should focus on to develop social competence in children with ASD and children with Down syndrome. The purpose of this research project was to analyze the strategies that were used by RTs and the strategies used by ECEs to develop social competence in children with ASD and children with Down syndrome. The study analyzed whether the RTs and ECEs were supporting each other in the process, or whether there were gaps between their strategies. Table 2 represents the summary of the strategies that have been identified in the literature. The research-informed strategies are those used to compare with RTs' and the ECE's reported perception about best practices in early years programs.

Table 2

Strategies Used to Develop Social Competence in Children With ASD and Down Syndrome

Strategy	ASD	Down syndrome
Joint attention	1. Child-driven, 2. Making environmental adjustments to engage the child 3. Imitate the child's actions with toys 4. Child's activity interests to develop play routine	*Not much intervention needed as joint attention is not the children's impairment.

Communication skills	1. Teachers' Language:
	  a) encouraging participation
	  b) responding to children's needs and ideas
	  c) managing the class and/or providing necessary instruction
	  d) fostering children's language
	  e) conveying ideas
	  f) assessing children's knowledge
	  g) promoting children's thinking
	2. Picture Exchange Communication System
	3. Joint Attention Symbolic Play Engagement and Regulation
		1. Responsive Teaching
		2. PMT
		3. Picture Exchange Communication System

Peer-relationship skills	1. Social Story/Scripts 2. Modeling (Observational Learning)	1. Modeling/ Observational learning 2. Play partners
Emotional competency	1. Social Story 2. Modeling 3. Teaching emotion language	1. Teaching emotion language

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CHAPTER THREE: METHODOLOGY

In this research, I employed a qualitative research design. I interviewed three RTs in Southern Ontario who had been working with children with special needs. I also interviewed three ECEs in childcare settings where there were children with ASD and Down syndrome, to understand their perspectives and feelings of competency. My goal was to gain awareness of how teacher talk in the classroom would influence children's social competence through the comparison between RTs' perspectives and ECEs' practice with children. The guiding research questions were:

1. What are the RTs' perspectives about their own competency in supporting a child's social competence? What strategies do RTs identify as helpful in developing social competence in children with and without ASD and Down syndrome?

2. What are the differences between RT stated ideal strategies and techniques to develop social competence in children with and without ASD and Down syndrome and reality in a classroom?

3. Are there any discrepancies in teacher talk towards children with typical development and children with ASD and Down syndrome?

Research Design

This study used a qualitative data collection method, as it was appropriate for the specific context, time, and group of people. The purpose of using a qualitative method was to gain a deeper understanding of others' perspectives, and to emphasize meanings and interpretation (Morgan, 2014). The qualitative data collection method was appropriate for this study, as it allowed the researcher to explore RTs' narratives and ECEs' perspectives towards teacher talk that was directed to children. It examined the nature of espoused strategies and actual practice was enriched with a qualitative approach. Therefore, it was more than just identifying strategies

to develop children's social competence; rather, it was also about exploring how ECEs translate information from RTs into their practice. This would enhance awareness of the importance of communication among educators to ensure best practices were being applied to support the social competence in children with ASD and Down syndrome in the classroom environment. The relationship between the RTs' perspectives about optimal strategies and teacher talk were investigated through interviews.

Population

This study used purposeful sampling as a way to recruit participants. Purposeful sampling is defined as researchers intentionally choosing participants and sites to learn or understand a central phenomenon (Creswell, 2012) and is used broadly in qualitative research for selecting rich information for the most effective use of limited resources (Palinkas et al., 2015). As Creswell and Plano Clark (2011) note, purposeful sampling is useful to select participants and groups of individuals who are especially knowledgeable about the interest of the study or experienced with the phenomenon under study.

Two RTs who had been working with special needs children in Southern Ontario for more than 5 years were recruited to participate in Phase 1. One ECE who had children with ASD in her classroom, was recruited for Phase 2. In total, two RTs and one ECE were recruited for interviews. I decided to choose experienced RTs and ECEs because they would have a wider experience in working with special needs children. The small sample size was due to the time restriction. There was no limitation in regard to gender and ethnicity.

Recruitment

This study received clearance from the Brock University Research Ethics Board before it started. Once the clearance was provided (#18-027), emails were sent to organizations such as Community Living St. Catharines and childcare centres in Southern Ontario for recruiting RTs.

Also, emails were sent to administrators of childcare centres in Southern Ontario to recruit an

ECE. The emails were sent from ECCDC (Early Childhood Community Development Centre) as

a bulk email. The emails for recruiting RTs and ECEs were not sent to the same centres in order

to reduce the risk of getting a RT and an ECE who worked in the same childcare location, which

would possibly create tension between them. Once the emails were sent to organizations and

childcare centres, supervisors and directors were invited to distribute information about the study

through email or by hard copies to their workers who had been working as RTs or ECEs for a

minimum of 5 years. Because the supervisors and directors managed the distribution of the

invitation to participate in this study, there was be no coercion placed on the RTs and ECEs by

the principal researcher.

When RTs and an ECE volunteered to participate in this study, they contacted the student

researcher directly through email. There was no need for them to let their supervisor and their

directors know about their participation, as there was a student researcher's contact information

attached in the initial emails and they were invited to contact the student researcher directly via

email address. Also, this was clearly stated in the emails to reduce the risk of the participants

feeling obligated to participate. Participation in this study was completely voluntary. It was not a

requirement of the employer nor was the employer informed of the participants' identities.

Once the participants contacted the student researcher, they received an invitation letter

and consent form to briefly explain the study and what the researcher was focusing on, as well as

what was involved. Through email, the participants and the student researcher collaboratively

established the details such as time, date, and location of the interviews. The risk of choosing

their workplace as their location was mentioned in the consent forms as well as at the time of

establishing the location, as there was a possibility of a co-worker identifying the participant's

involvement in this study. Since there was a small sample size, it would be easier to identify the

participants if the participants picked their work place to be interviewed. Therefore, a public location (Brock University and the public library) was chosen to keep confidentiality. In regard to time, the interview was held outside of their paid work hours.

Once the details such as date, time, and location were set, all the participants received the interview questions beforehand, so they had the opportunity to prepare for the interview, and more likely reduce the emotional discomfort at the interview. As compensation, all participants received a 10-dollar gift card of their preference for either Tim Hortons or Starbucks.

Data Collection Procedure

The interview style used in this study was face-to-face, one-on-one interviews. This style of interview had advantages and disadvantages. Although face-to-face interviews can be the most time-consuming and costly approach (Creswell & Plano Clark, 2011), they are likely to be influenced by the interviewer's nonverbal engagement (Holbrook, Green, & Krosnick, 2003). The interviewer had the possibility of motivating her participants to offer effort to the cognitive processing requisite for generating optimal answers (Holbrook et al., 2003). Holbrook et al. (2003) also mentioned that respondents and interviewers were allowed to develop more interpersonal trust in face-to-face interviews compared to phone interviews. The respondents might have felt more confident in face-to-face interviews where interviewers protected the respondents' confidentiality (Holbrook et al., 2003). Moreover, the interviewer could also observe the respondents' nonverbal language, therefore the interviewer was more sensitive to the participants' emotional needs.

The interview techniques used in this study was based on a semi-structured format. A semi-structured interview was designed to ascertain subjective responses from participants regarding a particular situation that they had experienced (McIntosh & Morse, 2015). A semi-

structured interview would provide a relatively detailed interview guide or schedule, and flexibility of the participant's response. Also, this interview method held the relevancy of the topic while remaining responsive to the interviewees (McIntosh & Morse, 2015). Moreover, because all the participants were asked the same questions using a semi-structured interview, it made it easier for the researcher to summarize findings and identifying trends. Also, the interview questions were provided beforehand, and the questions did not change in any way on the day of the interview. If participants did not understand the questions, the interviewer was then able to give an explanation beforehand so that the participants had clear understanding of what they were being asked.

All of the participants were asked to print out the consent form before the interview. The consent form did not need to be signed beforehand in order to ensure that the participants understood what was involved in the project. At the beginning of the interview, the consent form was reviewed together so that any questions would be answered before the study began to confirm their participation in the study, and to sign the consent form at that moment. Then, the participants were asked to sign two consent forms. One was for the researcher to take, and the other one was the participants' personal copy. Then, the researcher reviewed the agenda with the participants to provide what was happening in the given time to reduce the potential of psychological stress in this study.

All the participants were then asked to pick their own pseudonyms to protect their identity. The pseudonyms and their titles (such as RT and ECE) were used in this paper, however the names of the childcare centres were not used in reporting the results for the purpose of protecting their confidentiality. Before the interview began, all the participants were informed of the right to withdraw from the interview at any time without any penalty. Moreover, during the

interview, if participants did not feel comfortable answering certain questions due to their personal reasons, they had the right to refuse to answer any question.

Phase 1

Each interview for RTs was approximately 60-75 minutes to provide enough time for the participants to be able to express their experiences and opinions. All the interviews were audio recorded, therefore all the participants were informed in advance through their invitation letter that the interview was audio recorded for accuracy. This was also mentioned before the interview began. The voice recorder was placed on the table. Interview questions were unique to this study as they were specifically designed and were not based on any other interview questions from past research. The main focus of Phase 1 was to seek out strategies and techniques that RTs used and shared with ECEs to encourage social competence in children with ASD, and children with Down syndrome in preschool.

Phase 2

The ECE who agreed to participate in this research participated in a 60-75 minute interview. The interview was audio recorded, therefore the participant was informed in advance through the invitation letter that the interview would be audio recorded for accuracy. This was mentioned before the interview began to remind the participant as well. The voice recorder was placed on the table. Interview questions were unique to this study as they were specifically designed and were not based on any other interview questions from past research. The main focus of Phase 2 was to seek out ECEs' classroom teacher talk that was directed to typically developing children, children with ASD, and children with Down syndrome, as well as strategies that the ECE used to develop social competence in children.

If, at any point, any participant would withdraw from the interview, the participant would have been asked if he/she wanted the data to be used in the study. If not, then he/she would be

asked if he/she wanted the data to be destroyed right away. There were no consequences

regarding any withdrawal at any time during the study.

Both RTs and ECEs were invited to review the transcript of their own interview once the

researcher finish transcribing the audio recorded interview, which was approximately one week

later. An interview script was sent back to the participants through email for their review and to

invite feedback so that if they desired to modify or clarify their scripts, they had an opportunity

to do so. All the participants were given a week to review the written transcription. If a

participant failed to return their written script to the researcher after a week, she received a

reminder with 3 extra days to complete and resubmit it. However, after that, if the researcher did

not receive the revised script, then the researcher used the original script to complete the research

analysis.

Data Analysis Procedure

The data analysis began with typing the interview conversation verbatim into a text file

on the researcher's PC laptop. This process was called transcription which converts audio

recorded discussion into text data (Creswell, 2012). Then, the written transcription was sent to

each participant for review and for any changes. Once the researcher received the revised

transcription from the participants, the data analysis proceeded. Thematic analysis was used in

the data analysis process. In this process, NVivo 12 was utilized to analyze the data. Thematic

data analysis was used for managing data without losing the context, for immersing oneself in

the data, and for organizing and focusing the interpretation process (Mills, Durepos, & Wiebe,

2010). In this approach of data analysis, coding was used as a basic strategy to analyze the data

gathered. Coding investigates text for recurrent themes, topics, or relationships, and marking

similar passages with a code for categorization in the theme building process (Mills et al., 2010).

The research questions in this study were used in the coding process to build themes at the beginning as a guide.

Ethical Considerations

Potential risk involved in this study was that participants might have felt inadequate in skills and abilities to work with children with special needs, and the participants might have been afraid that the information they shared during the interview might have reached their supervisor. However, all the participants' identifying information was kept confidential in order to eliminate the risk. If the participants chose to be interviewed at their work site, colleagues might be able to identify them as participants in the study. However, at the time of establishing location, all the participants were informed of the risk of choosing their work site as their location. Therefore, each participant was given the opportunity to choose the time, date, and location of the interview that best protected his/her confidentiality.

In regard to confidentiality, all the personal identifiers such as participants' names, email addresses, names of the organization, and child care centres were collected, but those personal identifiers did not appear in the study report. Those personal identifiers were collected for the member-checking purpose. The participants' names were replaced with a pseudonym to protect their identities. Their pseudonyms and their titles (such as RT and ECE) were then referred to throughout the report of the findings in order to distinguish and compare the results.

Data collected during this study was stored in a computer with a password. Also, the file itself had its own password to further secure the data. Data was kept for 5 months and then confidentially destroyed at the completion of the MRP. Only my faculty supervisor, Dr. Mary-Louise Vanderlee and the student researcher, had access to the data.

Scope and Limitations

In this study, one probable limitation of the current investigation could be the small sample size of the RTs and ECE who voluntarily participated in this study. There were only two RTs and one ECE engaged in this study. The negative methodological restriction was having only one option for the interview, which was face-to-face. This created inconvenience for the participants due to the distance and time factors. Additional limitation in this methodology was that because there was no qualification stated in the recruitment process that the participants had to have experience working both with children with ASD and with Down syndrome, the researcher did not find any participants with some experience working with children with Down syndrome. Another possible limitation in this study was that even though this study focused on socially competent behaviours of children with ASD and Down syndrome, there was no child involvement to measure whether there was an increase of social competence in children with ASD and Down syndrome. The last potential limitation was that this study did not require specific severity of ASD and Down syndrome. The severity of these two diagnoses would have resulted in differences of what kinds of adult talk were directed to those children with ASD and Down syndrome. Therefore, the results help us to examine and to learn from participants' perspectives rather than to provide generalized results.

Conclusion

This study explored the congruence between the RTs' perspectives and the classroom ECE's practice in developing social competence through various strategies of using teacher talk. This investigation applied a qualitative research method to gain understanding on the topic. The study utilized interviewing the RTs and the ECE. The interview discussion was entered verbatim into a computer text file for analyzing with assistance of NVivo 12. These data will be exhibited and analyzed in Chapters 4 and 5.

CHAPTER FOUR: DATA ANALYSIS

The objective of the study was to explore the teacher's talk that was used by ECEs in a classroom with children with autism spectrum disorder (ASD) and Down syndrome to improve their social competence. The prevalence of children with ASD has been increasing in classrooms. Even though there are supports from RTs in guiding the process of skill development, their visits in preschool are once a week to twice a month, which may not provide enough quality time with each special needs child. Therefore, ECEs have a greater responsibility and opportunity in developing social proficiency in children with ASD and Down syndrome as they are with the children on a daily basis. The study explored whether or not there is a gap that exists between RTs' conception of social competence and strategies/techniques used to support children's development of social competence compared to the ECEs. To identify if there was a gap, interviews were conducted with RTs and ECEs. In order to create uniformity and easier comparison in data, the semi-structured interview style was applied. There were two different groups involved in this research, which are RTs and ECE. A total of three interviews were conducted.

This chapter provides a description of the study participants, then presents the summary of findings derived from the interviews of the RTs followed by the results of the ECE interviews. The final section provides the results of the analysis between the two groups to reveal the gaps between the RTs' conception and explicated practices and the ECE's perceptions of practice.

Description of the Participants

The following section briefly presents the interviewees' characteristics in order to understand the background of the research participants. This information was collected through

the pre-interview questions at the onset of the interview. All the participants' names presented

throughout the paper are pseudonyms.

There was a total of three participants: two were RTs and one was an ECE, with each

identifying as female. They all had an Early Childhood Education diploma from college because

in order to work as a RT in the Niagara Region; it is a mandatory to have an ECE diploma. All

the participants had some experience working in a childcare setting in the past. One RT, Katie,

worked as an ECE for 3 years and had experience with children from infants to preschool.

During the 3 years of working in a childcare centre, she had a responsibility of providing a

support for children on the Autism spectrum. She has been working as a RT for 5 years. The

other RT, Julie, worked as an assistant teacher in childcare centres for 4 years before she became

a RT. She had 10 years of experience working as a RT. The ECE, Mary, had 10 years'

experience working in childcare centres.

Practitioner's Own Competency in Supporting a Child's Social Competence

Perceptions of the RTs' own competency working with children with ASD and Down

syndrome in regard to supporting child's social competency in preschool was presented

throughout the interviews. The RTs' own competency was expressed through the amount of

experiences they have gained over the years of working as a RT. They have experiences working

with children with a wider range of the spectrum to provide diverse levels of supports that the

child needs. This is how they gained their professional knowledge so they have a better

understanding of what works and not.

I had a lot of experience from taking that program and completing my placement hours.

… I actually provided a lot of support to a child on the autism spectrum, who was quite

severe. So, I did gain a lot of experience with this specific child and that was kind of my

introduction to Autism. (Katie, RT)

Developing Individualized Plan to Support Social Competence

In order to develop an individualized support plan, the RTs visit the child once a week to

observe his/her behaviour to examine any developmental delays and they also spend time with

them on the floor to see the child's developmental stage. The individualized plan is guided by the

child's interest as well as the developmental milestones. The individualized support plan would

be established with the child's ECE and family. The RT would then develop a plan using a

variety of strategies that would increase the child's social skills. Therefore, the RTs' acquired

professional knowledge and experience would be vital in choosing strategies that would work

with a particular special needs child.

My role generally is to attend each centre once a week. And depending on the child's

needs, I will do a little bit of coaching staff as well as working with children. I develop an

individualized support plan for each child on my caseload. (Julie, RT)

We try to implement an assessment tool and get to know them first. (Katie, RT)

Strategies to Support Teachers in Implementing Individualized Plan

Both RTs expressed their perception that ECEs do not have the knowledge to support the

children's social competency development. Some of the reasons why RTs had modest

confidence in ECEs was that the ECEs' complaints about not being able to implement

Individualized Support Plans in the classroom was due to the teacher–child ratio, and the lack of

education and training in working with special needs children in general.

We hear a lot of complaints around implementing ISPs (individual support plans) because

the staff has other kids that need their attention also. (Katie, RT)

… educating ECEs, a lot of times they think children are being bad, and just don't

understand the function of the behaviour, and why the child might be behaving that way.

… I think ECEs need some more support and education. (Julie, RT)

The ECE expressed difficulties in working with children with ASD and the lack of

support and knowledge in dealing with the myriads of needs children with ASD have in their

development. In her interview, Maria revealed that ECEs need more training and education to

deal with the matter of not having enough RT support. Moreover, compared to the school setting,

childcare centres did not have additional funding to have an extra ECE teacher or teacher

assistant to work with a child with ASD or any other special needs child. Therefore, children

with special needs are included in a regular teacher–child ratio that was set by the ministry.

One of the biggest challenges is that, as we know, I've heard the people quote that if you

know one child with Autism, and you [only] know that one child with Autism, [which

means] that every single child is totally different from the others. One of the biggest

challenges is that, yes you know the diagnosis, you've reviewed the past history, but that

doesn't equip you to deal with anything to do with that child. And the second is that when

you are in the childcare rather than a school board, you don't always have support or ever

have support. You have somebody like a RT that comes in a preschool program or ELKP,

but they only come once a week. And more often than not, the childcare program does

not have additional funds to pay for staff to be one-on-one. So, [children with ASD] are

often having to be just a part of the ratio that is expected by the ministry, so you don't

often get that support. … One staff ends up with nine to 10 in order to put one [child with

ASD]. (Maria, ECE)

One RT emphasized her attempt to educate ECEs to understand the importance and value

of engaging a child with ASD in activities and play that has been planned and recommended in the child's individualized plan. It is of utmost importance that ECEs understand that a special needs child must be supported throughout his/her daily routine, as such attention would increasingly develop his/her social skills. Moreover, the individualized plan is vital to stimulate the child's interest, which would empower the child's learning and development. Therefore, supporting teachers is very important in view of the fact that teachers are the ones that spend most of the time with special needs children. If teachers refuse to view the individualized plan as a beneficial tool and fail to apply the strategies to a child's daily routine throughout the week, there will be little positive outcomes.

> … it can definitely be a challenge to engage these kids. Often with the kids on the spectrum, they can [have their] very own agenda. So really trying to inform and educate ECEs, as well, about how to engage these kids so that they are not just wandering the room. We really want all of the children to get the most out of the program … for them to see it as being beneficial for the children rather than being extra work for them. (Katie, RT)

> As a resource consultant, I provide information, hands out and consult with the ECE to help them get a better understanding of where the child is developmentally and together along with the families we establish a support plan. I stress to the ECEs the importance of getting to know their children. Spending time and getting to know that child's likes and dislikes. (Julie, RT)

Julie was also competent in her strategies that she utilized for supporting children's social competency, not only for children with ASD, but also for children with typical development. She also emphasized that by using certain strategies, it creates an inclusiveness in the classroom: "It

is proven that if you use it consistently, it's effective for all children in the classroom" (Julie, RT).

Strategies to Support Families to Reinforce the Individualized Plan

The RTs spend a substantial amount of time working with families to support their concerns and their understanding of their child's behaviour and age-appropriate developmental level, so that each child with special needs can obtain an early intervention to assist in his/her development. In order for families to accept the individualized plan and to reinforce it, the families need their understandings and knowledge increased regarding their child's development. The RTs' professional knowledge about ASD and other special needs can support a family's ability to work with the RT as a team.

> … we have a lot of families that are in denial, especially, when the children are coming to us when they are 18 months or 24 months. They just think that the development is typical and it takes us time to establish relationships with families and help guide them to so that we can encourage them to speak to their pediatrician about making a referral. We educate families on typical development and share any red flags/concerns we have with the families. Some families are eager and willing to have their child assessed, while others, it can take them time to warm up to the idea. We really want children to successfully transition to school and having a diagnosis when a child meets the criteria's helps them access various supports and funding opportunities. (Julie, RT)

One RT expressed her ability to support social competency in children by explaining the importance of educating families and ECEs as well as working with children with ASD in a classroom one-on-one setting. The RTs presented as having better knowledge in supporting children with ASD. Also, she has access to certain programs to help children with ASD that

childcare centres do not have: "Also, I spend a lot of time with the families. I can also access a program called Additional Support Funding where we can apply for a centre, amount of hours a day" (Julie, RT).

Perception of Teacher Talk

The interview questions examined how teacher talk was perceived by the RTs and the ECE, and if there were any differences when used with typically developed children or special needs children. The RTs recognized the importance of utilizing the teacher talk strategy as a way to develop children's social competence, but emphasized that it should be primarily utilized by the ECEs as children generally spend more time with their teacher in a childcare setting than they spend with their parents/guardian. The teacher talk can have an enormous impact on a child's social competence. The RT stated that it is a misconception to consider it unnecessary to incorporate less teacher talk with children that are nonverbal.

> I think teacher talk is very important in developing children's social competency. When kids are in childcare they are sometimes spending more time with their teachers throughout the week than they are with their own family. It can seem like children on the spectrum don't require "teacher-talk" because they are non-verbal or prefer to be on their own agenda. They may get passed over during group time because they don't respond to a direct question. It is important to advocate for these little ones because they also require and benefit from teacher-talk to help support their social competency, just maybe in a different way. (Katie, RT)

In regard to whether there are differences in the use of teacher talk when applied to typically developed children, or children with ASD, or children with Down syndrome, both RTs and the ECE agreed that there would be no differences in the way they would use the teacher talk

strategy. Interestingly, Julie emphasized that teacher talk was typically more dramatic when incorporated with children with ASD and Down syndrome than with typically developed children. Another difference was in using stretch words. Often teachers would stretch each word when directed to children with ASD in order to increase the time for the child to process the word.

Although, there were no differences in teacher talk use with children who are typically developed compared to children with ASD and children with Down syndrome, Julie observed that some educators engaged children with atypical development, yet are less interactive socially than children who are typically developed. Therefore, educators may spend less time with children with special needs who are playing quietly and tend to be withdrawn.

> Absolutely, so the children in a corner playing well, not well, but in teacher's view, they are behaving well. There is less engagement. … Children that are quiet, children that are withdrawn. Those are the children that usually get missed because they are not causing problems per se in the classroom, but at the same time they are not engaging. So, I think that they get a lot less time spent with the educators. (Julie, RT)

One of the things that the RT pointed out was the importance of not talking negatively about or to a child, as it does not support his/her social competence development. Teachers should not assume that special needs children do not understand what is being said when the teachers are talking negatively.

> You don't always think that they [children] are listening to what you are saying right in front of them. I think that's a big mistake. A lot of teachers, in their frustration, are saying "oh, well he's had an awful day! Not listening, and this and that!" This does not support children's social competence whatsoever. (Katie, RT)

An important thing to remember about teacher talk is that it should be used to prepare children for social opportunities, through providing them appropriate words and helping them to understand socially appropriateness in behaviour.

RTs' Strategies for Developing Social Competence

This section presents the strategies that the RTs found most effective in supporting children's social competence. Importantly, each of the participants revealed that they had little or no experience working with children with Down syndrome, therefore all the strategies mentioned in this section were used for children with ASD. The strategies used are categorized into four parts: joint attention; communication; emotion; and peer relationship. Katie mentioned that even though she did not have experience working with children with Down syndrome, she would have implemented the same techniques in order to develop the children's social competence. However, when working with children with different special needs and different characteristics and severities, there is a need for applying specialized techniques for each child, yet the core strategies may stay the same. It takes time for RTs and educators to recognized what is working and what is not for each special needs child.

Joint Attention

Julie insisted that joint attention is one of the first fundamental skills that young children need to develop prior to verbal communication. Many children that the RTs work with are very young, so they do not even initiate eye contact. The children also do not demonstrate any interest in what other peers are doing. The RTs expressed the importance of concentrating on face-to-face interaction to develop joint attention: "It's very important for children with autism to get [foster] joint attention skills for their language and social kills. Joint attention is really the foundation for social skills" (Julie, RT).

Child driven. Both RTs emphasized the importance of child-driven RT support to enhance a child's skill development. The RT would most likely play on the floor with the child, as he/she believes that all children learn best through play. The objective of the RT is to be recognized by the child and to build a relationship with the child so that eventually she/he feels comfortable with the RT being close by.

> We are all on the floor playing with the children. We know children learn best through play. Following their lead is very important. … If you cannot play with them and can't get them recognize you as a play partner, then you are not going to be able to achieve…especially with younger kids. (Julie, RT)

Making environmental adjustment to engage the child. The RTs would begin an intervention based on child's interests, then gradually she/he would add another dimension. By starting with what the child is interested in, there are more chances of engaging the child in an intervention.

> She was interested in movement, and very sensory, visual aspect. I started doing things with fingers, driving the fingers up her arms, driving the fingers down her arm. Then, I was able to take a car and drive up and down, but I needed to start with what she was interested. If I took something else and start, she would have not acknowledged me. (Julie, RT)

Imitate the child's actions with toys. Julie mentioned that in order to support the child to develop joint attention, she would imitate whatever the child is doing to grab his/her attention and to help the child realize there is a person in his/her play. Grabbing the child's attention is foundational to developing joint attention because the child will start to make an eye contact with a person.

We quite often start by following the child's lead. So, if they are really interested in their fingers, then I might be in there doing the same things until they start noticing that I'm in their play and I'll stop and wait to see if there is an interaction. (Julie, RT)

Child's activity interests to develop play routine. One RT mentioned that in order to start working on eye contact it is vital to follow the child's lead and to mimic the child's actions and sounds, which would attract the child's attention.

We quite often start by following child's lead. So, if they are really interested in their fingers, then I might be in there doing the same things until they start noticing that I'm in their play and I'll stop and wait to see if there is an interaction. I'm going to do it again and try to build our relationship and with time change this activity to something more functional. (Julie RT)

Julie also mentioned that in order to develop joint attention skills, children need to be able to make eye contact with others first. Both RTs suggested that they would use simple games such as peek-a-boo (hiding her face with her hands and then saying peek-a-boo and pulling her hands away) and tickling the child (tickling the child's face or tummy with their fingers). These games are repetitive and would eventually teach the children what to expect.

It could be lots of silly games like peekaboo and tickles and it is very repetitive so that they will soon know what to expect and anticipate. It's just that really simple early social interaction. (Katie, RT)

In addition to playing games, the RTs do a lot of stopping and waiting in order to give children time to receive the message, to process it, and to respond to your action. Such techniques are always repetitive so that the child would develop a play routine as well.

She loves puzzles. I would take out a puzzle and hold a puzzle piece and start holding it

up to my eye and waited till the second she gave me the gaze and gave her the piece

immediately. (Julie, RT)

Communication

Picture Exchange Communication System (PECS). RTs Katie and Julie emphasized

the value of the picture exchange communication system as having great ideas for developing

essential communication skills. Both RTs emphasized the importance of daily introducing visual

cues, for children with ASD. A visual cue could be a ring with various pictures of the children's

environment. The pictures are attached to a ring. When a teacher wants to give the children a

transitional instruction she would show the children one of the pictures so they would know the

next transition within their daily schedule. There is a picture for each daily transition. The benefit

of using visual cues would be to encourage communication, as the children may not always

understand verbal language. Therefore, visual pictures may stimulate their connection with the

behaviour expected.

Knowing that they need a combination of verbal language, gestures and visuals. We have

a lot of children that are [only] using visuals that's language on its own. Using gestures

and pictures are very, very, important to a lot of children. (Julie, RT)

Visuals worked really well with a little girl on my caseload. We started using the

real objects such as a diaper. Then, we took a picture of the diaper and we were able to

use the generic graphic over time. It really helped this child to understand. … And using

a visual accompanied with your verbal instruction. There are lots of studies around the

importance of visuals. We all use visual supports on a daily basis so we are just trying to

stress that to staff that these visuals can be so beneficial because it helps to retain that

information for these kids, rather than just telling them verbally. (Katie, RT)

An additional visual cue used with children is a First/Then board, which is a tool to support

children in preparing them for sequential scheduling on a daily routine and is introduced during

an activity so that the children can comprehend transitions.

I have seen so much success with visuals especially around transitions and using

first/then boards can also be really great. It helps to see what is happening in the moment

and what is coming next. It can be around difficulty with processing, are they able to

comprehend what you just told them? Maybe they will have more success on a daily

basis with visual support. It never hurts to try. (Katie, RT)

Hanen program. Both RTs concurred that using strategies from the Hanen program can

enhance children's communication skills. Niagara Children's Centre provides valuable training

symposiums for RTs.

We use a lot of Hanen programs. Niagara Children's Centre has done a lot of training

with resource consultants over the years with different Hanen programs. … Talk Ability,

Make Play Rock, Learning Language and Loving it, we've done quite a few training

sessions and I often find myself using strategies from these trainings. (Julie, RT)

Very expressive language. Another strategy that Julie found useful was to use

expressive language to gain a child's attention. With this technique, the RT would stretch the

sound of certain words so that the child with ASD would have time to process what they just

heard. It is important to give the children time to process what they hear in order to reach the

goal of a positive response.

A lot of speech pathologist will tell me to be very expressive, to be very big and to be

very loud to have sounds, especially children that are not verbal, we are making a lot of

sounds … stretching them out so that they are a little bit longer so they will have a little

bit more time to process what they hear. … They need to be able to send that message;

we need to give them time to send that message. We need to remind ourselves, I just

asked a question or modeled a fun sound. Now, I have to wait to see what they are

going to do. (Julie, RT)

Modeling. If a child is on the higher functional end of the spectrum, has verbal

communication skills, and shows a desire to socialize with his/her peers, then modeling will be

used so that the child would be able to see how to communicate and how to behave in a variety

of contexts. An example of modeling would be where a teacher demonstrates what an

appropriate behaviour is in the specific context, and/or how to approach a his/her peer so that

the child can imitate the teacher to gain the skills in communication with others: "Those are the

kiddos that I would encourage a lot of modeling and provide social script for" (Katie, RT).

Scripts. A script strategy is where a teacher provides a child with exact words to use in

a specific context. It is often applied to older children who have stronger language skills, and

who have a propensity to mimic what others say. However, some children with ASD have a

difficulty connecting with and personalizing the subject within a sentence. Therefore, on the

strength of their echolalia, if caretakers provide a script, it can be beneficial in developing

communication skills, which intensifies social competence.

Because kids on the spectrum often have that echolalia, so their phrases can become

very scripted and so if it's going to be scripted, you want it to be grammatically correct.

So, we often say "I want a cookie." And then try to make sure that you touch them so that know you are referring to them. (Katie, RT)

Social story. Social story is when the RT reads a book that talks about socially acceptable behaviour and/or has scripts for a child to mimic. This strategy can be utilized in a group time with other children, or one-on-one. This approach provides a visualized social situation in story form, so that the children can have a better understanding of appropriate behaviour and word choices in a given situation.

Social stories can also be beneficial for teaching a specific expected behaviour. Helping to prepare these kids for all these social opportunities by giving them appropriate words to use, and helping them to understand what is socially appropriate, I think that's important. (Katie, RT)

Simple and short. Both RTs referred to the use of short and simple language to ensure a child will have a better comprehension in verbal directions and instructions. The degree of simplicity and the length of the sentences can fluctuate in accordance with the child's developmental level: "I often suggest keeping communication short and simple" (Katie, RT).

Gesture use. Julie discussed that she would talk to the children with ASD in the same way as she would talk to typically developing children. The implementing of gestures is imperative to a lot of younger-aged children as some of the children do not have high oral language skills. Generally, children combine gestures with verbal language, so for the teachers to identify the particular behaviour with the specific gesture can support the children to communicate effectively: "Knowing that they need a combination of verbal language, gestures and visuals. … Using gestures and pictures are very, very, important to a lot of children" (Julie, RT).

Emotional Competency

Katie presented a variation to visual aids, which would enhance the emotional aspect of developing social competency within children who have ASD. She focused on teaching children to recognize and understand social cues among peers. Katie discovered that reading the children books that talked about emotional feelings, such as anger, fear, or sadness gave the children visualized opportunities to learn social cues expressed by people within their environment. Furthermore, in a given situation that involved a child's emotions was an opportunity to verbally connect the child with his/her emotion and with the behaviour of the child. The RTs identified that they take the time to explain the emotion involved so that it supports the children's emergent understanding of expressions as part of communication and social interaction. In order words, the RTs would make emotional descriptions explicit.

Provide them with words to use in social situations. And encourage books that talk about emotions and feelings to help kids to read the social cues of others. You know "hey, look at Jonny over there, when you knocked his tower over, it made him feel sad. Do you see his face looks sad?" So, you are really trying to kind of explain that to them, too, because that's not always coming naturally to them. (Katie, RT)

Peer-Relationship Skills

Katie highlighted modeling and social scripts as invaluable strategies for building communication skills and emotion development that support children in teaching them how to interact with their peers. Children need to learn how to identify social cues in others, so when they are doing something that makes their peers feel uncomfortable or upset, they will recognize it and will stop their unwanted behaviour, or to understand that behaviour is socially unacceptable. Social stories can be another beneficial tool for training children with ASD to

learn about specific behaviour and what is socially appropriate so that they can be more competent in their peer relationship.

However, Julie mentioned that some teachers do not see the significance of working on children's peer-relationship skills in a preschool classroom as they may see the children as too young to comprehend the group concept and are too "I" focused. However, it is important for special needs children to learn to be relational in order to function as part of a group and to be able to follow the routine along with other children.

> It is more important for educators that the child is following the routine. That means they are transitioning well, sitting down for snack, sitting down for lunch time. Having the child follows the routine is a really important to most educators. … I will say that behaviour is more of the focus than play and social skills initially. From my observations, the educators need the day to run smoothly before they can start focusing on other skills. (Julie, RT)

In summary of the RTs' strategies for developing social competence, the RTs first focus on joint attention skills by practicing eye contact with children with ASD. In order to develop joint attention skills, the RTs recommended four strategies: (a) child-driven, (b) making environmental adjustments to engage the child, (c) imitate the child's actions with toys, and (d) play routines with child activity interests. In regard to communication skills, eight items were identified that support children with ASD: (a) the Picture Exchange Communication System, (b) the Hanen program, (c) expressive language, (d) modeling, (e) scripts, (f) social stories, (g) simple and short, and (h) gestures (see Table 3). Emotion development is supported by using books that talk about emotions and making the emotional description more explicit by RTs and educators providing the children with words to use. Peer-relationship skills are less worked on by educators and RTs, due to age and time limitations. The greater focus is on foundational skills, such as joint attention skills, communication skills, and following a routine.

Table 3

Strategies Used by RTs

Area of focus	RTs' strategies
Joint attention	1. Child-driven, 2. Making environmental adjustment to engage the child 3. Imitate the child's actions on toys 4. Child's activity interests to develop play routine
Communication skills	1. Picture exchange communication system (as well as First/Then board) 2. Hanen program 3. Very expressive language 4. Modeling 5. Scripts 6. Social Stories 7. Simple and short 8. Gesture use
Emotional competency	1. Providing words to use 2. Books that talks about emotions
Peer-relationship skills	1. Modeling 2. Social stories/scripts

Comparison of RTs' Strategies to ECE's Strategies

This section provides a comparsion of RTs' and the ECE's strategies corresponding to joint attention, communication, emotional competency, and peer relationship skills.

Joint Attention

Child driven. During the interview, although the ECE did not allude to developing eye contact or joint attention, some of the strategies that the ECE presented were similar to the RTs' strategies. One of the strategies that Maria reported was in reference to a child playing alone and not having any interaction with his/her peers. In such situations, Maria would incorporate parallel play, which is playing in the vicinity of the child until he/she begins to feel comfortable with the teacher's presence. At that point, she would gradually move into the child's world. She would not directly interact with the child. Instead she would give the child time to accept her presence without feeling threatened.

> I know she is really shy, so I would make sure that I do interact with the kid in proximity with her, and she started to talk with me now. She likes to stand with me and do different things, but taking a really long time to feel comfortable. That's a normal developing child, if not a little ahead of the game child, then what is someone on the spectrum going be like? It's going take a lot longer to warm up to them. (Maria, ECE)

Environmental adjustment to engage the child. The other strategy mentioned was to follow the child's lead, and to interpose something that involves what the child is interested in so that gradually the child will expand his/her play area.

> We would put different sensory items in there [water table] as well as when the water was going, we would add bubbles and colours, or fish, and change it to animals. … And we were able to redirect him and doing things like blocks and stuff. (Maria, ECE)

In comparison, the ECE and the RTs had some similar strategies, such as the child-driven strategy and incorporating it with environmental adjustment. The discrepancies were that the

RTs appeared to use more intervention strategies than the ECE. Secondly, the RTs have better qualifications in supporting children with ASD than the ECE. There seems to be a deficiency in ECEs of understanding the essential progression necessary for supporting a child with ASD and of the in-depth need of special needs children.

Communication

Scripts. Script strategy was also mentioned by Maria to enhance a child's communication skills. This was consistent with the RTs' suggested strategy:

> You use simple language, by getting him to try and add those add things so he will repeat to you. When he is pointing at a snack "Do you want some snack?", he has to say back to you "I want some snack." (Maria, ECE)

Simple and short. As with the RTs, the ECE identified the need to keep language simple and short as a strategy to support communication skills, so that the child will receive the core message. The strategy should be modified in accordance with the child's developmental level in comprehension and language skills. Maria also added that instruction should be broken down into smaller stages so that the child will have a clear focus on what he/she needs to do first.

> One action at a time, "Go wash your hands"; "Have a seat"; "Do you want crackers?" One step at a time. For another child, I might say all at the same time because they are able to follow four steps at a time. (Maria, ECE)

Gesture use. Gesture and verbal communication are viable tools when combined to communicate with a child with language difficulty so that the child would be able to understand better what the teacher wants him/her to do. This strategy is also reflective of what the RTs described as effective.

> So, the child that liked water had huge speech and language issues. When he first started [to attend the childcare centre], he was actually in SK [Senior Kindergarten]. He literally

had one or two words. He gained more vocabulary, but we would use one or two words.

If he was hitting another child, we would say "stop" instead of "Gentle hands with your

friends, Jonny. He doesn't like it when you hit him." Just use one word and the physical

action to support it. Stop or Come, or different things like that. (Maria, ECE)

Modeling. Modeling was also indicated by the ECE to enhance communication skills

especially in an older child. Maria stated that a child with ASD, whom she once had in her class,

had a tendency to follow others, so if he was with children who were good models in behaviour

and communication skills, he would copy what they said and did. This point can be categorized

as modeling, which RTs mentioned as ideal.

Older boys often try to support the other children in the game and help them with

disagreements, help them work through these disagreements. And that one on the spectrum

looks at the other boy, what he is doing and he often tries to copy what he is doing. He will

say, "I see we are disagreeing on stuff. Let's work through this."(Maria, ECE)

Emotional Competency

Maria supported a child with ASD with his/her emotional challenges by working to

create understanding and awareness among the other children of that child's immediate needs,

whereas the RTs recommended strategies that focused on the child's emotional response, such as

social story books, which could lead to discussion to connect the child with his/her feelings.

Maria added that she would discuss the incident to support the child to understand the cause of

the emotion and/or inappropriate behaviour:

All the things that he had challenges with were celebrated during that game. So that's

something we really liked to play with. … He had a nasty temper when he gets upset

about things. … "You know what? Leave him be. Let him have his things. He is very

upset right now, but if you give him space, he would work it out and when he is done, he will come back and play with us." (Maria, ECE)

He would do whatever he needed to do [to cope with his anger] and he would come back, and I would say, "Do you feel better now? Ok, do you want to talk about it?" Sometimes we talk about it, or we would pull in the other child, if the other child was involved to cause that to happen. Then, "What can we do to make it better?" (Maria, ECE)

The ECE talked about social cues and how important it is for children with ASD to develop their social skills to live a quality life. For instance, if a child was not aware of personal space, then she would take a step back and make the child aware of the fact that there is a personal space that exists for everyone: "We can make them aware it doesn't make me comfortable, so I need you to take a step back when you are talking, or you can step back" (Maria, ECE).

The ECE did not discuss the use of social stories to address social cues so that the children with ASD will have opportunities to learn about how certain behaviours will affect the other children in a classroom. Since the ECE's example was dealing with a child who was older, there were some differences in strategies that were suggested to use for children with ASD. However, there is a need for age-appropriate social skills to be constructed.

Peer-Relationship Skills

Peer modeling. Maria reported that in order to support peer-relationship skills, with a child with ASD, peer modeling can be effective. Maria would help children to realize some of the difficulties that a child with ASD have by keeping the focus on increasing the understanding of the children. Peer modeling is when a mature child whose behaviour is appropriate be the role

model for a child with ASD, so that the child can observe the age-appropriate peer relationships and appropriate social behaviours:

> The children were able to see that he was having a challenging time and incorporating himself in the game sometimes, so we will invite him. So, for him, social competence is being able to take the invite and being able to participate in a game successfully and having good role models for him to follow, because he follows one of the children who is often in his group. (Maria, ECE)

Encourage participation. The ECE reported the importance of encouraging a child to participate in activities with her/his peers. She would provide activities that the child with autism is interested in. This method can create a socializing opportunity for the child with ASD.

> A lot more likely that if you are planning things that the particular child is interested in, and you want him to be involved in, he will be involved if he is interested in that. Then it becomes a lot more social opportunities. You can say, "Let's do partners when we are doing this. Would you both like to do this together?" so when they are interested in and enjoying themselves, you are enjoying yourself too. (Maria, ECE)

Furthermore, Maria was able to use this particular game that the child with ASD was interested in to present a different strength that a person can have. The game created an opportunity for children with typical development to realize that everyone has strengths that might be different from his or hers. Such awareness can possibly help children to accept the personal differences and to value each other's strength rather than focusing on each other's weaknesses.

> That really made him feel good about that, everyone wanted to be a partner with him and I would encourage them to celebrate how intelligent he was and how much he was

different than anyone. That was one of the things that we would like to do to encourage

him to be a part of that. … When you find something that a child is really excited about,

or really good at, show everyone else how good they are at that. They often want to be

included. (Maria, ECE)

The ECE suggested that peer modeling and encouraging participation could be very

effective in supporting peer-relationship skills. Peer modeling offered the child with ASD an

opportunity to observe socially acceptable behaviour, and age-appropriate peer relationships.

Also, Maria recommended encouraging participation in activities that are in the range of the

child with ASD's interest and strength. This strategy provides children with the opportunity to be

able to understand and realize each other's strengths. The inconsistency between the ECE and

the RTs' strategies was that there was no indication of their using social stories and social

scripts. The possible reason for the discrepancies was the differences in age of each group. The

RTs strategies were focused around toddlers to preschool age, while the ECE's strategies were

implemented with school age children

Conclusion

To summarize the various components of the teacher talk and strategies that the RTs and

the ECE practised, there were some similarities and some discrepancies in the types of strategies

implemented to improve the children's social competence. The techniques were presented

around the four areas: joint attention, communication skills, emotional competency, and peer-

relationship skills. The four areas identified will be discussed in detail in Chapter 5. Although the

interview questions attempted to seek out the strategies used for children with ASD and Down

syndrome, three participants had inadequate experience working with children with Down

syndrome. The RT stated that the same strategies as ASD would apply to the children with Down

syndrome (see Table 4 for the summary for strategies identified by RTs and ECE).

Table 4

Strategies Used by RTs and ECE to Develop Social Competence in Children With ASD and

Down Syndrome

Area of focus	RTs	ECE
Joint attention	1. Child-driven 2. Making environmental adjustment to engage the child 3. Imitate the child's actions with toys 4. Child's activity interests to develop play routine	1. Play near the child till a child feels comfortable 2. Made environmental adjustment to engage the child
Communication skills	1. Picture exchange communication system (as well as First/Then board) 2. Hanen Program 3. Very expressive language 4. Modeling 5. Scripts 6. Social Stories 7. Simple and short 8. Gesture use	1. Encourage participation 2. Simple and short 3. Gesture use 4. One step at a time 5. Modeling
Peer-relationship skills	1. Modeling 2. Social stories/scripts	1. Peer modeling 2. Encouraging participation
Emotional competency	1. Providing words to use 2. Books that talk about emotions	1. Find an activity that the child can celebrate his struggles 2. Give him space 3. Teaching social cues 4. Teaching socially appropriate behaviour

In regard to joint attention and communication skills, the RTs demonstrated the in-depth understanding of strategies to develop skills in children with ASD, while the ECE applied some similar strategies, yet the results revealed that the ECE appeared to be insufficient of knowledge and training to efficiently develop specific skills in children with ASD in contrast to the RTs' efficiency. In the area of peer-relationship skill development, the RTs' strategies presented the use of modeling and social stories/scripts. The methods used to develop emotional competency were books that talk about emotions and providing words to express emotion. The major differences that were uncovered in these two areas of development were that the RTs worked with a child with ASD to develop skills, whereas the ECE worked with children in a class to gain a better understanding of the child with ASD.

CHAPTER FIVE: DISCUSSION

The purpose of this qualitative research was to examine the perspectives of RTs and ECEs regarding teacher talk and strategies, and to explore discrepancies in ideal strategies versus actual strategies used in classrooms in order to develop social competency in children with ASD and Down syndrome. The research hoped to uncover individual experiences through guided questions in a semi-structured interview, and to investigate the possibility of providing a more proficient learning environment for children with ASD and Down syndrome in order to reach and enhance their developmental potential as they transition to school. Consequently, conducting this research has offered insight regarding ECEs' perception of their own capacity to increase the quality of inclusiveness for children with ASD and Down syndrome. Additionally, discussion during the interview process provided the opportunity to explicitly consider what kinds of teacher talk and strategies would generate proficiency in children's social competence. The themes were derived from the participants' interviews. This chapter provides a synthesis of the findings with connections to literature, discrepancies between RTs' and ECE's strategies to improve social competence in children with ASD and Down syndrome, discusses implications for ECEs' strategies in a classroom, and makes suggestions for future research.

Developing social competence is one of the difficulties facing children with ASD and children with Down syndrome (Kasari et al., 2006). The rationale for this difficulty is that the children often have impairments in various areas, such as joint attention, communication skills, social skills, et cetera (Kasari et al., 2006). Therefore, it is important for ECEs who are working with special needs children to become aware of the vital importance of focusing on social competence development and to provide extra support for the children in social competence development. In this comparison of strategies and teacher talk use reported among RTs and

ECEs, some of the strategies and teacher talk had similarities, yet there were some differences in strategies and approaches as well. Moreover, this study's focus unveiled the struggles that RTs face in working with ECEs in a childcare setting.

Connection to Approach in Defining Social Competence

Social competence is a broad term and there are various definitions which exist to define this term to best describe what social competence looks like in children. In this study, a social skill approach was utilized as a foundation for analyzing strategies to support children to be socially competent beings. This approach focused on an individual's traits and ability rather than on interaction between peers (Rose-Krasnor, 1997). From the 29 facets of socially related skills listed by Anderson and Messick (1974; see Chapter 2), four areas—joint attention, communication skills, emotional competency, and peer-relationship skills—were selected to guide this study and examine the strategies that were suggested by the RTs and the ECE. From the perceptions and practices reported by the RTs and the ECE, social competence was targeted using more than the four areas. In addition, the RTs mentioned that at the preschool level, ECEs value foundational skill development such as learning to follow a routine and rules more than working on peer relationship skills. Preschool children, especially those who have ASD or Down syndrome, need to focus more on the foundational skills at this level, while children with typical development may be already at the level of working on peer-relationship skills.

Implications for Practice

The main purpose of this study was to fill the gap between ideal teacher-talk strategies in the literature and real strategies that were used in a classroom in order to support children's social competence development. Social competence that children learn and develop in the early childhood stage will affect how they interact with others and how they act in society as youths

and adults (Kostelnik et al., 2014). Social competence plays a vital role in children's quality of life. Therefore, this research study has implications for RTs, ECEs, and the general public.

Practitioners' Own Competency in Supporting a Child's Social Competency

In regard to the RTs' expressed competence in supporting a child's social competence, their competence was strongly predicated by their substantial amount of experience of working with ASD, various training sessions in ASD, as well as working with the children's families. The finding was related to other findings from past studies, which showed that years of experience in the field had a closer relationship with practitioner's self-efficacy beliefs (Ghaith & Yaghi, 1997; McMullen, 1997).

Developing an Individualized Plan to Support Social Competence

In developing an Individualized Support Plan (ISP), the RTs developed their competence as they acquired sufficient experience in working with children with ASD and as they attained professional knowledge from attending various training sessions, specifically focusing on autism and strategies to develop plans for children with ASD. Attending professional development and workshops can provide sustainability for practitioners to gain knowledge and skills to be a life-long learner (Dyment et al., 2014). Therefore, it is evident that RTs become competent and confident in working with ASD as they attend professional development workshops specifically to learn about ASD and how to support children and how to develop an ISP.

Although the RTs showed a considerable amount of competence in working with ASD, their competence level with Down syndrome was insufficient as they had little or no experience in working with children with Down syndrome. The RTs' response was to apply the same strategies that they used for children with ASD to enhance their social competence development, that they used to support a child with Down syndrome. However, even if you have a great deal

of experience with children with ASD, each child is so unique that strategies used for one particular child may not work for a different child. Bradley, Krakowski, and Thiessen (2008) mentioned that trial and error is crucial because as RTs teach and support a child with special needs, they will learn new things from each particular experience with a child. According to the strategy comparison chart shown in Table 2, the strategies listed were quite similar in both diagnoses. The only difference that was presented in Table 2 was that a child with Down syndrome often has the similar joint attention skills as typically developing children (Hahn et al., 2018). At the present time, there is not much joint attention intervention research available.

Strategies to Support Teachers in Implementing the Individualized Plan

My findings reveal concerns raised by the RTs as to how effectively their suggestions and strategies are being implemented by ECEs in order to assist children with ASD in their skill development. Some of the reasons why ECEs were unsuccessful in implementing the ISP were the teacher–child ratio, and the lack of education and training by the ECEs in working with special needs children. Maria mentioned that it was her difficulty to know how to support children with ASD, as each one had a variety of needs that could be quite different from each other. Also, teacher–child ratio contributed negatively to ECEs not being able to adequately support children with ASD in their social competence development, as there was not sufficient support from the RT and no extra staff to work with a child with ASD one-on-one.

Another possible factor was that ECEs are daily inundated with various responsibilities. Since there are no regulations concerning how many special needs children and how many atypical behavioural problem children an ECE should be responsible for along with the number of children presenting typical development, it only stands to reason that an ECE realistically may not have the time to dedicate to the ideal strategies that have shown to support the development

of special needs children. When a RT visits a childcare centre, he/she works with one child at a time and does not have the responsibility of managing the whole classroom as the ECE does. Teacher–child ratio for the ECE can contribute negatively in supporting children with ASD and other special needs. ECEs have to balance their time, energy, and attention to meet other children's needs as well as the child with special needs and/or children with behavioural issues. These children require a lot of attention and care. Therefore, from the perspective of the ECEs, the strategies given within an ISP require too much time, and therefore are too difficult to maintain any kind of consistency, due to student and program demands. This resulted in some ECEs not being able, even if willing, to follow the ISP that RTs presented and expected ECEs to implement with each special needs child in the preschool setting. This teacher–child issue was mentioned by Hestenes, Cassidy, Hegde, and Lower's (2007) study as well. Hestenes et al. (2007) mentioned that teacher–child ratios were predictors of program quality in an inclusive classroom, while if a classroom was non-inclusive, then teacher–child ratios were not the predictors of program quality. Therefore, the teacher–child ratio and the severity of children with special needs should be considered in reducing the number of special needs children given to one ECE. There is a possibility that there is a need for new childcare regulations regarding teacher–child ratio with consideration given to children with special needs and behavioural problems.

Without consideration of the number of children with special needs in the teacher–child ratio, it is possible that some childcare centres may not want to accept a child who is severe on the spectrum as the child would require too much attention and time. It is much easier for a daycare to accommodate two or three typically developed children whose needs could be met within the same time frame as one child with special needs. This might cause an issue for other childcare centres that may have an increased number of children on the spectrum and therefore

require more staff, or would put an enormous load on ECEs working there. If there were more funding available to support enhanced RTs' presence, this would better support children's social development in the long run.

An additional possible reason as to why there was an issue in implementing the ISP was that ECEs are lacking in professional knowledge about ASD and how to invest in children's development who struggle with ASD. Their lack of understanding may impede ECEs from implementing the ISP in a consistent manner. One of the contributing factors to their limited knowledge could be seen in various ECE programs. For instance, many ECE programs only have a single course that focuses on special needs. Therefore, these factors contribute to ECEs' own lack of confidence and competence in working with children with ASD and other disabilities. This notion is supported by literature. For example, Garbett (2003) mentioned that relevance of course content was associated to practitioners' competence and confidence. Having an in-depth course focused on children with special needs would support ECEs to be more competent to work with children with ASD in developing the child's social competence. Moreover, as the RTs continue to develop and strengthen their understanding about ASD through various professional development opportunities, ECEs could also gain understanding of the effectiveness of certain strategies RTs utilize to support children's developmental skills, but only if the ECE is given time to observe the strategies in practice, like a mentorship model.

This study found that, overall, RTs do support the ECE in helping children with special needs and in implementing the ISP. They do this by modeling and providing information. However, the two questions that arise are: Could RTs provide much more support to ECEs than they do? What other types of support could they provide in helping ECEs with implementing the ISP for developing social competence of a special needs child? Since this study revealed that

ECEs are not trained to be specialized in working with children with special needs, they may require more daily support in how to implement developmental strategies and interact with special needs children. Even though RTs work one-on-one with a child in the same classroom as ECEs, ECEs may not have attentiveness towards how the RT is implementing the strategies with the specific child on the caseload**.** Hoffman et al. (2015) mentioned that cooperating teachers use talk around practices to provide understanding in dealing with concepts in representing experiences. Interactions and conversations around practice permeate with content, expectations, understandings, and strategies (Hoffman et al., 2015). According to this research, modeling was used by RTs during their visits, so that ECEs could observe and learn how to work with a child with special needs, yet it was questionable how much time ECEs would have to observe and pay attention to how RTs interact with a child and the types of strategies they would use with the child, as their attention has to be on all the other children in the room. Therefore, taking time to have instructional conversations with RTs and to observe their practice with special needs children might be affected by their supervising children in a classroom at the same time.

Having adequate experience working with children with special needs can also support ECEs to have a deeper understanding of the children and to be inclined to support children with special needs. Walls (2007) found that students who were in a special education teacher training program, which is equivalent to the RTs' program, have stronger efficacy beliefs towards the inclusion of young children with special needs in contrast to students who were enrolled in an early childhood education program only. The findings from this study are also associated with Walls's study as the RTs were more competent and confident in supporting children with ASD and showed confidence in the strategies that they used to develop skills in children with special needs. ECE programs should be encouraged to require students to have an opportunity to shadow

a RT for a limited time period as a part of their second-year placement program. Also, research on the efficacy of such a practice could move such a request to a mandate of research informed best practices by ECE diploma programs.

Strategies to Support Families to Reinforce the Individualized Plan

Working with families to develop the ISP is one of the responsibilities that RTs reported during the interview as being essential. An important strategy was said to be hosting meetings with parents/families to share successes and concerns about their child's behaviour and development. The RTs described some parents/guardians as being in denial for long periods, which delays the assessment and proper diagnosis to receive other supports from different organizations and prevents early intervention. Building relationships with parents/guardians are the beginning of reinforcing the ISP in the home environment. Building a relationship with the family of a child with special needs can have its own idiosyncrasies because parents/guardians all have their distinctive cultural backgrounds they can share with the RT. Having this information can assist the RTs with development of target instructional plans that could be more effective.

Moreover, educating families about their child's needs and concerns is very important. This study showed that some parents have a high tolerance for their child's inappropriate behaviour and that they may not consider the child's behaviour as abnormal. Parents may lack understanding of a child's appropriate development and how to support the child with learning and behavioural difficulties. The RT supports the parents/guardians by educating them and providing them with information. Koegel, Schreibman, Britten, Burke, and O'Neill (1982) mentioned that parents who attended parent training programs showed optimism about their ability to effectively support their child's development. Therefore, educating parents/guardians

about the diagnosis of their child, the concerns of the teachers and parents/guardians, and about the child's age-appropriate development are crucial in delivery of early intervention in supporting a child with special needs and their family.

Discrepancies in Teacher Talk With Typically Developing Children and Children With ASD and Down Syndrome

Teacher talk occupies a significant proportion of the preschool program, as teachers interact with children and communicate with them throughout the day. This study explored the discrepancies between teacher talk executed with typically developed children against teacher talk directed to children with ASD and Down syndrome. The RTs underlined that the teacher's misconception of not needing to use a lot of teacher talk with non-verbal children is a misdemeanour. From the RTs' observation, some ECEs may possibly less engage children with special needs due to some children being quiet and withdrawn. This concern was mentioned in the literature by Warren et al.'s (2010) study. Warren et al. said that more teacher talk was directed toward typically developing children compared to children with ASD. However, regardless of having a possibility of children with special needs being less engaged in teacher talk, in this study, the RTs and the ECE expressed the recognition of importance of using the same teacher talk with children who are typically developing, children with ASD, and children with Down syndrome, for teacher-talk is beneficial for all children regardless of whether they have good communication skills or not.

The RTs insisted that negative teacher talk in front of children with and without special needs would not develop children's social competence under any circumstance. Even though a child may not have great speech, it is a misconception for teachers to think that the child does not understand what they are talking about. Receptive language skills develop before speaking.

Therefore, negative or lack of teacher talk will not foster social competence in children with and without special needs (Sameroff, 2010). Sameroff's (2010) study results revealed that teacher talk over time was tightly associated with the children's social competence development. As Kontos and Wilcox-Herzog (1997) defined, teacher talk as a type and frequency of verbalization directed to children by teachers, so everything he/she would say in front of the children would have either a positive or negative effect on children's social competence. Children receive feedback that either affirms or disconfirms their developing sense of self (Stanulis & Manning, 2002). Daily interaction that occurs in the classroom will influence children in developing their self-worth. This is based on what kinds of communication they experience (Stanulis & Manning, 2002). Duchans (1989) also insisted that children who reacted in a negative manner sensed rejection. Hence, ECEs and RTs need to be consistently aware of who is around them if they discuss the behaviour of a child with a co-worker, supervisor, RT, or family as they should respect and support children's emotional development.

<div align="center">**Comparison of Strategies for Developing Social Competence**</div>

This section examines how teacher talk can be used to develop children's social competence in the areas of joint attention, communication skills, peer-relationship skills, and emotional recognition, and how the gap between ideal strategies and actual strategies used in a classroom can be filled.

Joint Attention

Joint attention is recognized as a fundamental skill that young children need to develop in order to move on to the next level of social skills, which is interaction skills (Baldwin, 1995; Bruner, 1983; Tomasello & Todd, 1983). My study revealed that RTs mainly focused on developing joint attention skills in children with ASD, as this is one of the core impairments in

young children with ASD (Mundy et al., 1986). The results of this study revealed that one of the strategies that were used by RTs was to follow the child's lead. Kasari et al. (2006) also showed in their study that the child-driven strategy was the first approach that they emphasized in their program. Doing what a child is interested in allows the teacher to have a greater possibility of grasping the child's attention, which leads to having a commonality between the child, another person, an event, or an object, which is the element of joint attention (Baldwin, 1995).

In addition, making environmental adjustments are vital for developing joint attention because children's attention would be encouraged greatly if toys and the environment are within their interest range. The next stage was to imitate that specific child's actions with toys and then to wait until the child demonstrates some indication of noticing that the person has joined in the play. This is also supported by Kasari et al.'s (2006) study. This process of imitating the child's actions with toys would happen repeatedly in order to build a relationship with the child with ASD. Kasari et al. (2006) mentioned that this repetition of the play can develop a play routine so the child can understand what to expect in that play. Moreover, this process and strategy that the RT used would help children with ASD to develop eye contact and joint attention. The RTs' strategies were very similar to Kassari et al.'s (2006) intervention manual, and the results were substantiated by Kassari et al.'s study. Even though my study did not measure the amount of improvement in joint attention, if this strategy was used in an intervention, children would show five times more initiation of joint attention according to Kassari et al.'s study.

This study also revealed that physical social games, such as peek-a-boo, tickling, and chasing, were used to develop young children's joint attention in an earlier stage. This method was used in Naber et al.'s (2008) study as well and improved children's joint visual attention, which was the duration of attention of a child. This strategy appeared to have higher

effectiveness in developing children with ASD to make eye contact with others through its repetitive use so that the child would soon anticipate what happens next in play. An important procedure in this method is to remember to stop and wait to observe the child's response to the play. If the child is engaged in the play of social games, then the child might show some type of reactions such as anticipation, laughing, or making a sound. The waiting period provides an opportunity for the child to respond to your actions and gives him/her the opportunity to develop eye contact. Therefore, it is important to incorporate the moments of waiting.

In reviewing RTs' strategies and those found in the literature, I found they were comparable. However, the strategies used by the ECE had dissimilarities with the ideal literature and RTs' strategies. Both the RTs and ECE focused on the child-driven strategy and making environmental adjustments in order to build skills around the child's interest. However, the differences in strategies were that the ECE would just play near a child to help the child become comfortable with the intrusion in his/her personal space. Once the child accepted the intrusion, the teacher would begin to directly interact with the child, whereas the RTs would imitate what the child did and imitate any sound that the child made as a means to get involved in the child's play. It is possible that the ECE did not have enough professional knowledge to know how to effectively support the child's joint attention skills.

The teacher using the teacher-talk strategy in developing joint attention is more likely to use his/her voice and words to get the child's attention, which can be considered a positive social contact so that the child can develop his/her relationship with others and begin to acknowledge a person in play. Overall, the teacher talk is a useful tool to improve eye contact and joint attention in children with ASD. However, it was utilized more by the RTs than the ECE, perhaps due to the RTs' professional knowledge of how to develop joint attention skills in children with ASD.

Communication Skills

   Seven functions of teacher talk. Children with ASD's communication deficits can be apparent (Bambara et al., 2016), especially starting in preschool stages. In this research, the RTs drew attention to the fact that sometimes a child who was non-verbal and quiet could easily be left alone in the classroom if he/she was not necessarily causing problems. During the interview, the RTs' and the ECE's teacher talk strategies to improve children with ASD's communication skill development was derived from Rainer Dangel and Durden's (2010) seven functions of teacher talk: (a) encouraging participation, (b) responding to children's needs and ideas, (c) managing the class or providing necessary instruction, (d) fostering children's language, (e) conveying ideas, (f) assessing children's knowledge, and (g) promoting children's thinking (p. 77). Both RTs and the ECE alluded to these functions. The RTs and the ECE used a combination from the seven teacher-talk functions based on each child's developmental needs to streamline a strategy plan. The functions that the RTs and the ECE did not stress were used mainly with children who were lower on the spectrum, or children who had higher language skills.

   This study did not investigate the frequency of the seven functions of teacher talk (Rainer Dangel & Durden, 2010, p.77) used by teachers throughout the day. However, based on the results of this study, it appears that the RTs reported to use several of the seven functions of teacher talk in one-on-one play time, while the ECE used them within the routine such as at the snack and bathroom time. It is important that children with special needs should have an open door to be involved in most natural environments for consistent opportunities for communication and interaction with adults and with typically developing peers (Vivanti, Duncan, Dawson, & Rogers, 2017), as children with ASD and Down syndrome need positive interaction with adults so that they can gradually build skills to interact with others.

PECS. The Picture Exchange Communication System (PECS) was one of the strategies highlighted by the RTs to use with children with ASD and was also discussed in the seven functions of teacher talk. Yoder and Stone (2006) revealed that PECS was more successful in increasing the amount of non-imitative spoken language and non-imitative word use in children with ASD. However, the ECE did not mention the use of it. Moreover, this was one of the issues that the RTs faced in working with ECEs in childcare centres. Sometimes there is no consistency in using PECS to support a child's transitions in his/her daily routine. The possible reasons could be teacher–child ratio, ECE's lack of knowledge about special needs, and/or the teacher's attitude toward inclusion and working with special needs children.

Hanen program. Another strategy that was underlined by the RTs, but not by the ECE, was the Hanen program. The RTs had received training from this program from a speech therapist. According to my findings, the RTs tend to use the strategies from the Hanen program while working with children with ASD to develop their early stages of communication, which involves developing joint attention, and communication skills. The effectiveness of the strategies was revealed in McConachie, Randle, Hammal, and LeCouteur's (2005) study. Their results showed that this program increased the adults' responsiveness and the children's vocabulary. Moreover, Carter et al. (2011) also supported the efficiency of the program by presenting the results of toddlers who showed significant improvement in their communication skills, generalizing skills to unfamiliar contexts and people, and maintaining these skills for 4 months. Therefore, it is an effective strategy to be practiced in the preschool program to support children with ASD.

Social stories and scripts. Both the RTs used social stories and scripts, yet this was not in the ECE's suggested strategies. The social story approach has been presented as an ideal

strategy to use with children with ASD in order for them to learn socially appropriate behaviour and words choices (Sani Bozkurt & Vuran, 2014). Sani Bozkurt and Vuran (2014) mentioned the effectiveness of social story use due to its being visual, and being used repeatedly with a child. This study revealed that social story can improve the children's targeted behaviour to become more positive and prepare children for various social opportunities as this strategy provides children with appropriate words in an appropriate context.

The approach of using scripts was mainly used with a child who is high functioning. This was mentioned by the RTs and the ECE. According to my study, social scripts seem to be an effective strategy as well to teach social communication and other social skills for children with ASD who have higher communication skills. When RTs use the script strategies, they provide exact words that a child can imitate and eventually the child can apply what he/she has learned to a given situation. This strategy has been found to be an effective method in developing social communication skills (Weiss, Hilton, & Russo, 2017). If a child has the ability to learn good verbal language skills and can practice using the strategies of social stories and scripts on a daily basis, then this kind of support will help them to communicate with their peers.

Peer-Relationship Skills

Peer-relationship skills were thought to be one of the important skills that children with ASD need to develop for school readiness. In the previous studies, the classroom teachers in preschool programs practiced a low amount of teacher talk that was related to supporting peer relations compared to other areas such as routines and activity related teacher-talk (Kontos, 1999). Another study that was done by Irvin et al. (2015) found that teacher talk that was directed to supporting peer relations was also lower in contrast to positive social contact, supporting object play, and practical/personal assistance.

This study found that with many caseloads in preschool programs, children who have ASD were more severe on the spectrum, so the finding did not support ECE's focus being on developing peer relationship with children with ASD. For ECEs, it is more important for a child to learn and follow the routine than improve peer relationship skills. Moreover, some parents request that the teachers make sure the child is following the same routine as the rest of the children in the classroom. The RTs and the ECE both mentioned that behaviour management and establishing a routine is more of a focus for ECEs, especially in working with children with ASD. Once a child has the fundamental skills, the teachers are more likely to move on to the next developmental level, which is to work on the child's peer relationship skills. Also, working on joint attention, positive social contact, supporting object play, and practical/personal assistance will eventually affect peer relationships and social competence. This result was also supported by Irvin et al.'s (2015) study results.

If a child is at the level of moving on to developing peer relationship skills, this study's findings revealed that the RTs would move forward with modeling and social stories to improve peer relationship skills in children with ASD. Modeling is supported by Bandura's (1977) observational learning, which is to observe others and imitate others behaviour. Ledford et al.s' (2008) study showed that children with ASD also learned from observing others in a small group setting. Findings in this study also showed that when a child with ASD interacts with other specific children, it is important for teachers to be aware of the connection because a child with ASD will follow his/her friends' behaviour and verbal language use. Crozier and Tincani (2007) found that social stories with verbal prompts produced higher levels of targeted behaviour. The social story approach was not really mentioned by the ECE; however, if a child is at a certain level of cognition and language skills, then the social story is a well suggested strategy for

teachers to use in a classroom in building peer relationship skills as well as socially acceptable behaviour. These strategies can be used for both children with and without ASD. Again, there are other skills that children with severe ASD need to develop before they can move on to peer relationship skills in the preschool level according to this study's results. Thus, peer relationship was not the core focus in childcare centres.

Emotional Recognition

Emotional recognition difficulties have been recognized in children with ASD (Golan et al., 2018; Hobson, 1993; Karmiloff-Smith et al., 1995). On the other hand, the results of this study indicated that using social stories that talk about emotions and feelings can be beneficial for children with ASD to develop emotional recognition in others. Also, providing children with words to use for expressing their emotions was mentioned as a beneficial strategy as well. Golan et al.'s (2010) study showed that ECEs who read children social stories about emotions and watched videos that demonstrated modeling showed an increase in the children's ability to recognize emotions in others after 4 weeks compared to the other group of children that did not receive this intervention. Modeling was not mentioned by either the RTs or the ECE as a strategy that they incorporated in their routine. Modeling as a means to emotional recognition is something that should be included in the inclusive early childhood programs as a part of their daily activities along with the use of social stories to teach children with and without ASD about emotions.

On the other hand, the ECE uses a strategy that verbally notifies a child about his friends' social cues and emotions. This method can be used if a child has understanding of emotions and social cues. However, if the child has a weakness in this area, then the ECE's strategy should be

accented with other strategies such as using social stories and talking about emotions and feelings as a part of activities.

There are several differences between ideal strategies that were suggested by RTs, and actual strategies that are used in the classroom. The ECE worked more towards helping typically developed children have a better understanding of why a child with ASD would behave in a certain way. This is also an important aspect of creating an inclusive learning environment. However, it is also crucial to teach a child with ASD and Down syndrome to be able to express their emotion and to know other's emotional cues and social cues in order to develop his/her social competence to support him/her for school readiness.

One of the solutions that can support ECEs to use the idealistic strategies in their classroom settings is to form new regulations for daycares that would lower the teacher–child ratio in each classroom to improve the quality of inclusiveness and teacher intervention within the classroom. Another intervention is to form new regulations surrounding how many special needs children, and the level of severity of each child's special needs, should be given to one ECE within her ratio of children. Included in this consideration are the children with behavioural problems. This research provided a snapshot of how RTs view the inclusion in preschool programs and how ECEs are doing in regard to developing social competence in a child with ASD and Down syndrome as well as ECE's own view of developing social competence through teacher-talk use in a classroom. Ratio was one of the factors that discouraged the teachers from using certain strategies and considering how teacher talk has influenced development in children's lives. Having a 1 to 8 teacher–child ratio in a preschool group, and a special needs child as a part of the ratio, are presented as a struggle that teachers face in childcares. Thus, not having a maximum number of children allowed within the ratio might be helpful in supporting

both the child with and without ASD and Down syndrome, as well as behavioural problem children.

A further option for change is to hire extra staff to work with children with special needs in order to increase the quality training time with the special needs children. According to the RTs in the Niagara Region, presently, a supervisor of a childcare centre can request an assistant teacher in a classroom in order to support a child with severe special needs who presents a concern of danger due to his/her behaviour. However, this system's qualification could be changed to include a wider range of special needs so that more children with special needs can benefit from the present system.

Another possibility to support special needs children in the classroom is to increase the number of visits and the time that RTs spend with special needs children each week. RTs often have many children that are diagnosed or waiting to be diagnosed on their caseloads. By reducing the number of children on their caseload, they may be able to increase the amount of time they spend with each child, and to apply interventions more frequently. Another consideration, might be to by increase the amount of time a RT would spends at a childcare to oversee and train assistant teachers to help with special needs children. An assistant would support the ECE as well. By hiring an assistant teacher with a 1year diploma instead of more ECEs or more RTs would limit the amount of funding needed to provide support in each childcare and would provide a higher quality of service for children with special needs to develop their skills effectively.

Another intervention would be to increase the academic requirements for ECEs to two courses on the special needs of children for student's core academic training. The increased knowledge would deepen their understanding, remove preconceived ideas, and extend their

knowledge of how to help special needs children so that ECEs would not view children with ASD or Down syndrome as behavioural issues.

Moreover, attending quarterly or yearly training sessions/workshops could provide ongoing support for ECEs to learn new strategies of how to interact with children with ASD and Down syndrome. As mentioned by the RTs in the interview, they are trained to use the Hanen program, which could be provided for ECEs to be better prepared to know how to communicate and interact with special needs children. Also, ECEs will be reminded how important it is to work on children's social competence. As it was pointed out, sometimes teachers want to leave a child with ASD alone, especially if he/she is playing quietly, because the teacher might fear that if he/she tries to work with the child with ASD the child might have a meltdown and disrupt the whole class.

Therefore, it is very possible that children with ASD or Down syndrome do not get a lot of attention from their teacher because they may not willingly come to the teachers to talk, or even try to get the teachers' attention throughout the day, like the typically developing children would do. Past studies have shown that children with autism engaged in 26% fewer conversational turns due to a lack of response by adults, and their non-social tendencies (Warren et al., 2010). Therefore, it is important for ECEs to be aware of the fact that children with ASD and children with Down syndrome do benefit from teacher talk in order to develop social competence in the same way as typically developing children.

Limitations

While this study had only three participants involved, which was a smaller number than anticipated, the richness of data obtained permitted a high level of analysis to be completed in a systematic manner. The data presented in this study is not generalizable. However, it is

congruent with the findings of other literature. A second limitation is the narrow window of time that was allowed for the researcher to complete the study. Due to the time limitation, this study did not investigate how strategies and teacher talk would actually improve social competency in children with ASD and children with Down syndrome, or allow time to observe educators' practices to see if their actual practices aligned with reported practices. Another limitation was that all the participants did not have enough experience to include the challenges and strategies that could be used in working with children with Down syndrome, thus the data about Down syndrome was not investigated in detail. The study only looked at the idealistic strategies and strategies that are used in a classroom according to the ECE participant. All the data was self-reported by the participants; therefore, the data was somewhat biased in the sense that the participants have selective memory, which means that the participants might have selected certain experiences to be presented and not others that could have changed the findings.

Implications for Future Research

In order to understand how teacher talk affects social competency in children with ASD and Down syndrome, the method of this study needs to be changed. If the method had included observation of ECE, RTs, and children in a classroom, it may have provided better data to explore in this field of study. Furthermore, if this study can be allowed to be conducted as a longitudinal study, the result might show better data as to how teacher talk influences social competence in children with ASD and Down syndrome. This can be turned into an intervention for teachers as well as children. This study in a different geographic area might deliver different insights into the concept and ideal strategies as well as strategies that are used in a classroom. Moreover, if this study was conducted on school-aged children with ASD and Down syndrome, it might show different teacher talk, idealistic strategies, and actual strategies used by teachers in

a classroom. Furthermore, there were not many studies done in relation to children with Down syndrome and joint attention skills. Therefore, it might be interesting to conduct a research about children with Down syndrome and joint attention skill intervention in the early childhood education field.

Conclusion

Overall, this research has provided some insight in regard to the teacher-talk approach and other strategies used in developing social competency in children with ASD and Down syndrome. There are multiple differences in strategies that were considered by RTs, in order to develop social competence in children with ASD, in comparison to the strategies that were mentioned by the ECE. This study also has revealed some possible difficulties that RTs face in working with an ECE in a childcare centre, such as the lack of teacher talk and other strategies used in a classroom by the ECE. That could be the result of the teacher–child ratio being too high, which might have made the ECEs become overwhelmed and stressed with trying to manage the whole classroom plus a child with special needs as a part of the ratio, especially if the special needs child has severe behavioural issues and needs. Moreover, peer-relationship skills are not the focus in the preschool program because children who have ASD and Down syndrome needed basic skills such as joint attention, communication skills, positive social contact, object play, and learning to follow routine. However, the results showed that working on these skills eventually leads to peer relationship skills and emotional recognition skills. In this matter, previous study by Irvin et al. (2015) indicated a consistency in the outcomes. My research added differences in strategy used by RTs and ECE on top of teacher talk.

Furthermore, there is much more room for future research regarding teacher talk and social competence development in children with ASD and Down syndrome in preschool

programs to better benefit this field of study. This study can benefit childcare programs, ECEs, RTs, inclusiveness efforts, and children with ASD and other special needs so that they can all be supported and provide the best environment for all children to reach their potential, as well as to increase the quality of inclusion in childcare programs in the Niagara Region.

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Appendix A

Interview Schedule for Resource Teachers

I. **Opening**

Thank you for taking time to participate in this interview. I really appreciate your contribution.

A. My name is Sayaka and I am a student in the Master of Education program at Brock University. Thank you for allowing me to conduct an interview with you, so that I will have a better idea of what kinds of strategies and techniques you as resource teachers value in developing social competence in children with ASD and Down syndrome. I would like to ask you some questions about your experience working with preschool children with special needs, how you value developing social competence in children with ASD and Down syndrome, what kinds of strategies and techniques you have used with children with special needs and so on. I would like to gain some insight from you to help early childhood educators to improve their skills in children's socially competent behaviour development in early childhood.

I am hoping to be able to improve the preschool inclusive program to support and assist children with ASD and Down syndrome as the ratio of these children in a classroom has been increasing. The interview should take about 60-75 minutes. If the interview goes over this time, I will ask you then, if you want to continue or stop there. If we need to go over, it will be the maximum of another 10 minutes. Before we start the interview, do you have any questions or concerns? The interview will be audio recorded for accuracy, as it was mentioned in the information letter. Any experience and opinion is important so please feel comfortable to share your experiences and opinions. If there are any questions that you do not want to answer due to your personal reasons, it is ok to skip the question.

*Teacher talk such as "supporting peer relations" (e.g., "Go see if Jennifer wants to play with you."), "supporting object play" (e.g., "Use this wooden beads as animal food, and green grass for the animals to lay on."), "positive social contacts" (e.g., "What did you do over the weekend?"), "behavioural management" (e.g., "Can you please share the blocks with your friends"), and "practical/personal assistance" (e.g., "Would you like a help putting your shoes on?") talking to adults.

II **Pre-Interview:**

Let me begin by asking you some questions about you as a resource teacher.

- What is your education background?

- How long have you been working as a resource teacher?

- Have you ever worked in a child care as a teacher?

- How often have you worked with children with ASD and Down syndrome?

- Are you currently working with children with ASD and Down syndrome?

- How many children with ASD and Down syndrome are you working with right now?

- From your experience, what are some difficulties in working with children with ASD and Down syndrome as a resource teacher in preschool?

- Tell me about your experiences working with early childhood educators in child cares?

III Research Questions

Strategies and techniques

- What strategies and techniques have you used to develop social competence in children with special needs (if the participants have worked with children with ASD and Down

syndrome, then this question's "special needs" become "with ASD and Down syndrome")?

- Do you use different teacher-talk for children with ASD and Down syndrome compared with children who are typically developing? Why or why not?

- How is it important for the teacher to use specific teacher-talk such as behavioural management or social skill to support children's social competence development?

Supporting children

- In your opinion, what types of teacher talk is most effective in improving social competence in children with ASD and Down syndrome?

- What would be your suggestions/recommendation to early childhood educators when working with children with ASD and Down syndrome?

IV **Closing**

A. Thank you very much for the time that you gave me during your busy schedule and your insight and experiences regarding social competence. I appreciate you sharing with me your experiences working with children with special needs. Is there anything else you think would be helpful for me to know, so that I can successfully inform the knowledge to help improve our childcare programs in Niagara region for early childhood educators? Once I finish transcribing the interview, I will send you the transcript so that you can review it and make any necessary changes/revisions. Thanks again.

Appendix B

Interview Schedule for ECEs

I. Opening

Thank you for taking time to participate in this interview. I really appreciate your contribution.

A. My name is Sayaka and I am a student in the Master of Education program at Brock University. Thank you for allowing me to conduct an interview with you, so that I will have a better idea of what kinds of strategies and techniques you as resource teachers value in developing social competence in children with ASD and Down syndrome. I would like to ask you some questions about your experience working with preschool children with special needs, how you value developing social competence in children with ASD and Down syndrome, what kinds of strategies and techniques you have used with children with special needs and so on. I would like to gain some insight from you.

I am hoping to be able to improve the preschool inclusive program to support and assist children with ASD and Down syndrome as the ratio of these children in a classroom has been increasing. The interview should take about 60-75 minutes. If the interview goes over this time, I will ask you then if you want to continue or stop there. If we need to go over, it will be the maximum of another 10 minutes. Before we start the interview, do you have any questions or concerns? The interview will be audio recorded for accuracy, as it was mentioned in the information letter. Any experiences and opinion is important so please feel comfortable to share your experiences and opinions. If there are any questions that you do not want to answer due to your personal reasons, it is ok to skip the question.

*Teacher talk such as "supporting peer relations" (e.g., "Go see if Jennifer wants to play with you."), "supporting object play" (e.g., "Use this wooden beads as animal food, and green grass for the animals to lay on."), "positive social contacts" (e.g., "What did you do over the weekend?"), "behavioural management" (e.g., "Can you please share the blocks with your friends"), and "practical/personal assistance" (e.g., "Would you like a help putting your shoes on?") talking to adults.

II. Pre-Interview

Let me begin by asking you some questions about you as a resource teacher.

- What is your education background?

- How long have you been working as an early childhood educator?

- How often have you worked with children with ASD and Down syndrome?

- Are you currently working with children with ASD and Down syndrome?

- How many children with ASD and Down syndrome do you have in your classroom?

- From your experience, what are some difficulties in working with children with ASD and Down syndrome as a teacher?

- Tell me about your experiences working with a resource teacher in your classroom?

III. Research Questions

Strategies and techniques

- What is your definition of social competence?

- What strategies and techniques have you used to develop social competence in children with special needs (if the participants have worked with children with ASD and Down

syndrome, then this question's "special needs" become "with ASD and Down syndrome")?

- Do you use different teacher-talk for children with ASD and Down syndrome compared with children who are typically developing? Why or why not?

- How is it important for the teacher to use teacher talk to support children's social competence development?

Supporting children

- In your opinion, what types of teacher talk is most effective in improving social competence in children with ASD and Down syndrome?

- What would be your suggestions/recommendation to other early childhood educators when working with children with ASD and Down syndrome?

IV. Closing

Thank you very much for the time that you gave me during your busy schedule and your insight and experiences regarding social competence. I appreciate you sharing with me your experiences working with children with special needs. Is there anything else you think would be helpful for me to know, so that I can successfully inform the knowledge to help improve our childcare programs in Niagara region for early childhood educators? Once I finish transcribing the interview, I will send you the transcript so that you can review it and make any necessary changes/revisions. Thanks again.