5-1-2023

Teaching Students with a Mild Intellectual Disability how to Respond to Strangers using Computer-Based Video Instruction

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Teaching Students with a Mild Intellectual Disability how to Respond to Strangers using Computer-Based Video Instruction

A DISSERTATION

Submitted to the Faculty of

Coastal Carolina University in partial fulfillment

of the requirements

for a degree of Doctor of Philosophy in Education

by

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Conway, SC

Date: 7/1/2022

Dissertation Chair: Dr. Suzanne Horn

Abstract

Computer-based video instruction (CBVI) has been effective in teaching students with disabilities various health, community, and safety skills. Research suggests that CBVI is often used in conjunction with community-based instruction (CBI). Frequently, students with severe disabilities or students who are of high school age participate in CBI and/or CBVI and its accompanying research. This study investigated the effectiveness of CBVI to teach students with a mild ID, ages 11-13, appropriate responses to lures from strangers. A single-case, multiple probe across participants design was used to examine the impact of CBVI on one dependent variable, a correct two-step response (verbal and motor) to a lure from a stranger. The two-step response was adapted from the Akmanoglu & Tekin-Iftar (2011) study investigating responses to strangers. Findings from the study suggest CBVI had a positive impact on all participants. Implications for practice and for future research are provided.

Keywords: computer-based instruction, community-instruction, lures from strangers, disabilities

DEDICATION

First, I'd like to dedicate this dissertation to my family and close friends, who spent countless hours assisting me with childcare, encouragement, and mental support when I needed it most. My family and in-laws continuously encouraged me and reminded me of capabilities during this process. My friends never let me walk this alone and supported me daily. My mother always told me to be the best version of myself, and she helped me reached that through this process. Thank you, mom, for setting the example of a strong-willed, God-loving leader.

To my husband, who effortlessly and without complaint supported me on this journey. You lit the flame when the candle seemed dim and never let me forget my reason for perseverance. You are the light of my life and reminded me of my "why" and that I am good enough for this journey. You showed me patience when I did not deserve it and grace when it was hard. You were my biggest cheerleader. I'll love you forever.

To my girls, Harper and Hollis. I hope you saw what hard work looks like. I know you could not understand the missed activities, late night writing sessions, daily meetings, and missed bedtimes but I hope when you get older you remember your mom working hard for a better future. You girls are my reason for living and why I will always strive to be more than average. I hope you see there is nothing that you cannot accomplish and you will someday understand the depth of my love for you.

Finally, I dedicate this dissertation to the two men that have shaped the entire course of my life. To my Grandpa Pickle and Dad, who are watching me from Heaven, it's always been about you.

ACKNOWLEDGEMENTS

I would like to thank my committee members, Dr. Suzanne Horn, Dr. Nicole Uphold, and Dr. Rhonda Miller, for their guidance, feedback, and countless hours dedicated to assisting me throughout my journey. Thank you to Drs. Miller and Uphold for helping me conceptualize this study, from both a methodological and literature point of view. Dr. Horn, thank you for your emotional support, encouragement, and ability to make every hurdle seem positive. There is no doubt my mental state during this process was made better because of your support and guidance.

Dr. Miller, your feedback and expertise on single-case research design assisted me throughout this entire process. Looking back on this journey, what I experienced with you was the most growth and understanding in how to be a consumer of research. Dr. Uphold, thank you for assisting me in crafting this topic. Your passion for special education and transition planning is unmatched. Thank you for helping me see the value of transition planning and sparking a fire in me to advocate for better transition planning for students with disabilities.

I'd like to acknowledge the support and encouragement of the Georgetown County School District, including Mr. Mike Caviris, the special education teachers at my schools, and fellow school psychologists. I will treasure the years of my doctoral journey, and I recognize the unique contributions from each and every one of you.

Lastly, my writing partners and classmates, Sarah, Kat, and Coop. Drafting this dissertation was challenging from the start but with your support, we did it! We wrote together, edited our papers together, and discussed our ideas together. You all make the best of teammates and I'll cherish you forever.

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CHAPTER 1: INTRODUCTION

Background

The Individuals with Disabilities Education Improvement Act of 2004 (IDEA 2004) ensures that all students receive a free and appropriate public education that emphasizes services and related services uniquely designed to meet a student's individual needs. Specifically, these services are designed to prepare students for continuing education, employment, and future independent living, post-secondary education (IDEA, 2004). Depending on the students' disability and needs, these special education services can appear vastly different from student to student. IDEA (2004) requires school districts to consider the unique needs of each child when planning for post-secondary success.

Transition planning is mandated for all students under IDEA 2004. Federal law requires transition planning to begin for students by the time they turn 16 years old. However, 41% of states start this process much earlier, with some states initiating planning at age 13 and others incorporating formal transition planning into elementary school activities (Suk et al., 2020). Nevertheless, educational decisions made at the elementary school impact middle and high school programming, and each pathway developed for a student is impacted by early decision making. Transition planning is designed to assist all students in deciding what they want to do after graduation and how they will get there. Transition plans are considered roadmaps to assist students in successfully transitioning from formal schooling to post-secondary life. The components of an effective transition plan include academic features as well as functional, daily living, and social skills instruction (Neubert & Moon, 2006).

After exiting high school, students with an intellectual disability face many social, daily living, and employment barriers (Schechter, 2018). For students with moderate to severe disabilities, successful transition planning is fundamental to post-secondary success, regardless

of disability status. The education system is designed to prepare students to be successful and productive members of society. A student's transition plan can vary significantly depending on future aspirations, cognitive ability level, and personal interest. Transition services and support can also vary considerably for each individual, with community-based instruction (CBI), social skills, and functional life skills being key components of an effective transition plan for students with a moderate to severe intellectual disability (Bakken, 2019; Walker et al., 2010).

CBI uses the community or natural setting as the classroom (Kluth, 2000). In CBI, students are taught a target skill in the community setting or via a combination of classroom and community instruction. The objective of CBI is to provide meaningful learning experiences for students with disabilities to practice the skills in the environment they would likely occur. This type of instruction also helps promote the generalization of skills to other settings and allows for direct and immediate corrective feedback and teaching.

With the recent Corona Virus Disease-19 (COVID-19) pandemic and its global impact, CBI has been halted for the safety of students. CBI has ceased in many school districts across the United States due to school closures, virtual and e-learning at home, and the need for social distancing in stores (McLaughlin, 2021; Rowe et al., 2020). While this was a significant barrier to CBI, even before the COVID-19 shutdown schools faced barriers to implementing CBI, such as having appropriate funding, limited resources, and constraints of No Child Left Behind (Kim & Dymond, 2010). Additionally, insufficient staff, transportation barriers, and logistical requirements were also reported to interfere with effective CBI (Pickens & Dymond, 2015).

A promising alternative to CBI is computer-based video instruction (CBVI). CBVI has been utilized in classrooms and with children with disabilities for decades and can be an alternative to CBI when logistics, finances, school barriers, and scheduling make CBI difficult (Bates et al., 2001; Bramlett et al., 2011; Cihak et al., 2006; Mechling & Cronin, 2006). CBVI is

an educational methodology that uses computer technology to deliver instruction via videos and online tools (Butcher & Jameson, 2016). CBVI is relatively simple to implement and is time and cost-effective. Additionally, CBVI materials can be used repeatedly each school year and do not require the transportation logistics needed for CBI.

CBVI also requires fewer teachers and school staff to implement than does CBI (Hetzroni & Banin, 2017). The impacts of CBVI have been largely positive in helping students with a mild to moderate disability realize growth towards transition planning goals. Research has demonstrated that CBVI has been used to successfully teach grocery skills (Hansen & Morgan, 2008; Mechling & O'Brien, 2010), social and safety skills (Akmanoglu & Tekin-Iftar, 2011; Hopkins et al., 2011; Shulta-Mehta et al., 2010), and other life skills (DiPippi-Hoy et al., 2009; Mechling & Cronin, 2006) to children with an intellectual and/or developmental disability and can have a similar, positive impact that CBI has on skill attainment.

Some CBVI models incorporate video instruction and a form of CBI. In doing this, students are taught a skill in a simulated/virtual location. The student is then taken to a community setting and asked to replicate skills previously learned in the simulated/virtual location. Students also receive instruction in the community. This method of delivery helps promote generalization and maintenance of acquired skills. In-vivo experiences and components of CBVI support generalization and maintenance of acquired skills. Indeed, research supports that CBVI interventions are most effective when they can mimic real-life scenarios and have some element of in-vivo practice (Branham et al., 1999; Hetzroni & Banin, 2017).

Statement of the Problem

Despite the effectiveness of CBVI on the acquisition and maintenance of vocational, academic, functional, and skills, much research is devoted to either CBI or CBVI for students

with disabilities in the high school setting. Most CBI and CBVI research recruits students with a moderate to severe intellectual disability as participants. Indeed, students with a mild intellectual disability (mild ID) typically have more verbal and social skills compared to their counterparts with severe impairments. However, that does not negate the need or benefit of CBI or CBVI for students with a mild ID. Additionally, most CBVI studies involving students with a mild ID focus on teaching daily living and community skills rather than social and safety skills (Gibson et al., 2017).

A literature review examining CBI research noted that of the 23 studies reviewed, more than half were conducted at a high school (n=14), while eight were conducted at a middle school and six were conducted at the elementary school level (Walker et al., 2010). It was also reported that the studies focused on teaching daily living skills (n=10), community skills (n=8), vocational skills (n=4), and recreation skills (n=2). Of the 23 studies examined, only five studies aimed to improve social skills (safety, asking for help, social interactions with others), and of those studies, three of them occurred before the year 2000 (Collins et al., 1993; Rynders et al., 1990; Souza & Kennedy, 2003; Taber et al., 2002; Taber et al., 2003; Vandercook, 1991). This literature review demonstrates the need for more research on the impact of CBI using students with a mild ID serving as participants.

As time has progressed since the Walker et al., (2010) literature review, the trend remains to include students with more severe disabilities (moderate to severe disabilities) as participants for CBI research (Gibson et al., 2017). A literature review examining instructional methods used to teach employment skills to students with disabilities noted that of the 56 studies examined, subsets of the population of students with disabilities (moderate ID, severe ID, and autism) were studied more than others. Of the studies examined, half used technology for instruction while the other half used live instruction in the classroom. Most studies incorporated technology and a

form of CBI to demonstrate intervention effectiveness. The literature review concluded with a significant amount of support for the efficacy of teaching students with disabilities living skills. While some studies examined social skills, a gap in the literature exists for the effects of CBI on teaching social skills to younger students, as Gibson et al. (2017) noted in their review that half of the studies examined measured social skills as the dependent variable, however, participants were aged 14-22. In addition, a gap exists about the impacts of CBVI on social skills acquisition for younger students.

Students with a mild ID have delays in intellectual functioning, often in the areas of problem-solving skills, decision making, and judgment (Bouck, 2014). Delays in adaptive functioning, such as communication, independent living, and social skills, also impact students with an intellectual disability. Students with a mild ID are likely to be employed with entry-level or blue-collar positions that require social skills for success and employment (Newman et al., 2011). As part of their special education programming and transition plan, students with a mild ID can be directly taught social skills to support them as they navigate the world of relationships, employment, and community living.

In 2001, the US Department of Education funded the National Longitudinal Transition Study- 2 (NLTS-2) to examine post-secondary outcomes for students with disabilities. More than 11,000 students with disabilities were surveyed, along with their parents. Data from the NLTS-2 suggested that students with disabilities have more difficulty with language comprehension, poor academic achievement, problems with personal living and community skills, and less financial independence than their peers without disabilities. Results from the NLTS-2 suggested that students with an intellectual disability report feeling depressed, lack confidence in themselves, and have poor social skills two to three years after graduation compared to their peers (Bouck & Joshi, 2016; Wagner et al., 2005). Additionally, students with a mild ID are more likely to be

victims of crime and taken advantage of in sexual and social situations than typically developing peers, as students with cognitive, problem-solving, and social skills delays might easily misinterpret social situations or have difficulty judging unsafe scenarios (Newman et al., 2011).

In 2021, the United States Department of Justice conducted a study reviewing the victimization rate of individuals with disabilities from over 450,000 eligible households. Statistics suggested that students with disabilities are twice as likely as nondisabled children to be physically abused and almost twice as likely to be sexually abused. The rate of violent victimization against persons with disabilities (ages 12 and older) was almost four times higher than that rate for non-disabled individuals. Abusers and offenders often perceive individuals with disabilities as vulnerable, unable to defend themselves, cognitively unable to identify the offender, and less likely to call for help during a crime. Additionally, individuals with disabilities are less likely to report crimes and be supported by the criminal justice system, as victim advocates lack appropriate training to help these individuals. Individuals with disabilities fear ostracism, have less advocacy support, and are viewed as unable to make their own choices, all contributing to the underreporting of crimes against those with disabilities (Office for Victims of Crime, 2021).

Social skills are an essential component of everyday life and for interacting with others. Having well-developed social skills allows individuals to communicate, connect with others, and relate to others. Social skills are essential building blocks for relationships, employment, friendships, and mental health. Individuals with poor social skills often report higher rates of depression and lower life satisfaction than individuals with adequate social skills (Olivares-Olivares et al., 2019; Simpson et al., 2004). Rates of depression are even higher for individuals with disabilities with social skills deficits (Herman et al., 2018; Wagner et al., 2005).

Despite much research on social skills training (SST) and role-play being devoted to students with autism, students with a mild ID can also benefit from these strategies and methodologies (Hetzroni & Banin, 2017). Students from all different backgrounds and disabilities benefit from direct social skills instruction (Reichow et al., 2008). Social skills training is an evidence-based behavior therapy used to improve social and interpersonal skills for students with an intellectual and/or developmental disability. Social skills training involves an individual introducing a behavior, explaining the behavior, and then modeling the behavior. Important components of SST include positive reinforcement, feedback, direct modeling, role-play, and homework given as practice (Gantman et al., 2012). Social skills training allows students to learn behaviors and social expectations through rules and scripted steps that can be generalized to various situations.

Within SST, role-playing is crucial. Role-playing allows participants to demonstrate and act out skills acquired through personal interactions. Role-playing supports the generalization of learned skills to novel situations. Role-play situations allow for immediate corrective feedback and modeling of appropriate behaviors and expectations. Role-play techniques are effective strategies for teaching social skills to students of all ages (Haydon et al., 2017). Research has demonstrated that video-role playing and video modeling effectively teach social skills to students with autism (Akmanoglu & Tekin-Iftar, 2011; Akmanoglu et al., 2014; Olcay-Gul, 2016). Video role-playing is a type of role-play instruction where role-play scenarios are viewed by students rather than target students actively participating in the acting process. With the current COVID-19 pandemic, video-role playing is becoming an important instructional tool in SST.

Purpose

The purpose of the current study is to examine the effectiveness of an instructional program consisting of CBVI for teaching students with a mild ID how to respond to strangers. The research will extend the limited research on the effectiveness of utilizing only CBVI to teach stranger awareness to students ages 11-13 with a mild ID.

Research Questions

The purpose of the current study was to investigate the following three research questions.

1. Is an instructional program consisting only of CBVI effective in teaching students with a mild ID (between the ages of 11-13) how to respond to a stranger?
2. What are the effects of the instructional program on the generalization of the learned social interactions to novel situations with strangers in real-life experiences?
3. What are parents' and teachers opinions of the instructional program?

Significance of the Study

This study will contribute to the growing body of literature on CBVI to teach students with a mild ID appropriate social skills in several ways. First, it will add to the limited research on utilizing only CBVI for skill acquisition. Second, it will contribute to the research using CBVI for students with a mild ID. Third, it will contribute to the literature using younger students, ages 11-13, as participants. Fourth, few studies exist about using CBVI to respond to strangers, and these findings will contribute to the emerging research. Knowing and demonstrating appropriate social skills is becoming more important for students and adults, especially for those with disabilities.

Fifth, the research will address the need for more CBVI strategies to teach children important life skills, especially in a time of COVID-19 and isolation. As technology is an emerging tool used in 21st-century classrooms, it seems appropriate that interventions incorporate

technology as well. CBVI will be used as a support tool to help students acquire social skills by embedding evidence-based practices such as role-playing and direct video instruction. Sixth, the study will include a generalization measure to determine if the learned skills transfer to real-life situations. Generalization is important when learning any skill, especially social skills. Social skills taught in controlled settings need to be replicated in novel settings to be pertinent to the participant. Lastly, the study will include a measure of social validity to determine if the skills learned are deemed valuable to parents and teachers.

Definition of Key Terms

This work will use several key terms: transition services, intellectual disability, computer-based video instruction (CBVI), and role-playing. The following definitions of those key terms will be applied throughout this work.

Transition Services. Transition services to help students with disabilities move from high school to adult life are defined in federal special education law (IDEA, 2004 (§ 300.43)) as follows:

> The term 'transition services' means a coordinated set of activities for a child with a disability that (a) is designed to be within a results-oriented process, that is focused on improving the academic and functional achievement of the child with a disability to facilitate the child's movement from school to post-school activities, including post secondary education, vocational education, integrated employment (including supported employment), continuing and adult education, adult services, independent living, or community participation; (b) is based on the individual child's needs taking into account the child's strengths, preferences, and interests; and (c) includes instruction, related services, community experiences, the development of employment and other post-school objectives, and, when appropriate, acquisition of daily living skills and functional

vocational evaluation.

The research will occur in the Southeastern United States. Under this state's law, transition services and transition planning begin when a child turns 13. Students who are still 12 but will turn 13 during the IEP also receive transition services. For this research, transition services will be designated as an instructional service on the students' IEP related to an academic goal or behavioral goal.

Mild Intellectual Disability. For this work, a student with a mild ID will be identified as a student with a cognitive processing standard score (SS) at least two standard deviations below the mean (SS= 48-70) plus or minus the standard error of measurement in two major areas of cognitive performance (verbal comprehension, fluid reading, visual processing, working memory, and/or processing speed). The delays must be measured using a standardized and norm-referenced measure of cognitive processing. Delays must also be documented through a psychoeducational evaluation report, on the students' IEP, or in previous psychoeducational evaluation reports.

Students with a mild ID also have adaptive behavior delays. Adaptive behavior includes real-life skills such as grooming, getting dressed, avoiding danger, social skills, making money, making friends, and following school rules. Adaptive behavior also includes the ability to work and take personal responsibility (Zais, 2011). Delays in adaptive behavior at least two standard deviations below the mean (SS= 48-70) plus or minus the standard error of measurement in at least two adaptive skill domains are also required to meet the study criteria for mild ID (Zais, 2011). Adaptive behavior delays must be measured through a valid and reliable measure designed to evaluate adaptive functioning in the following domains: communication, daily living, socialization, and motor skills.

Computer-Based Video Instruction (CBVI). Computer-based video instruction is an instructional paradigm that uses computer technology to deliver training or educational programming to students. For this study, CBVI will be defined as recorded videos of typically developing students engaging in role-play scenarios with a stranger using a proposed strategy. This specific form of CBVI is created using the theoretical framework of programmed instruction, first coined by B.F. Skinner in the 1950s.

Simply put, programmed instruction is an educational technique characterized by self-paced, self-administered instruction that follows a logical sequence of events (Root & Rehfeldt, 2021). Ultimately, Skinner argued that learning could be achieved if content or topics are divided into a series of smaller steps and if the learner gets immediate reinforcement and feedback during instruction (Skinner, 1958). The CBVI used in this study can also be explained using Albert Bandura's theory of observational learning, in which learning occurs through observing the behavior of others. This research assumes the framework of programmed instruction and observational learning during the video instruction phase (Bandura, 1977).

Videos for this research will be created and recorded by the researcher. Students used as models for the video will be selected from the school where the research occurs. A laptop computer will be used to view the videos.

Role-Playing. Role-playing will be defined as a reciprocal interchange between two people involving the proposed strategy for interacting with strangers. Reciprocal interchange refers to back and forth actions between two people. For this study, during the CBVI intervention, the participant will observe videos of a stranger and a typically developing student role-playing a response to a stranger in novel settings. After watching the video, the researcher and the participant will then engage in role-playing as probes for the data collection measure. In these role-play scenarios, the principal researcher will act as the stranger for the participant child.

The participant and researcher will act out the behaviors with a scenario provided by the researcher. During the intervention condition, the researcher will provide the student with minimal time for planning responses and reactions. By giving the student minimal time to prepare or rehearse, the child's true abilities will be assessed without the practice effects on performance.

Role-playing between the researcher and the participant will occur daily after each CBVI trial. Data on the dependent variable will be collected by the percentage of correct responses to the stranger. A two-step analysis will be conducted for the target skill based on the work of Akmanoglu and Tekin-Iftar (2011). The correct two-step response will include a verbal and motor response to the stranger within four seconds from the last word of the strangers' statement. Both a motor and verbal response are required to be considered correct.

Assumptions, Limitations, Delimitations

The current study is not without assumptions, limitations, and delimitations. First, assumptions are made about the social validity questions by assuming that parents answered all questions openly and honestly and to the best of their cognitive ability. It is assumed that the parents have the cognitive ability to complete the questions and work technology. It was also assumed that the email addresses provided by parents are accurate and still in use. Assumptions were also made that students were familiar with the laptop devices, as they have engaged in virtual instruction for most of the last school year.

One significant limitation of the study is the current country-wide COVID-19 pandemic and current regulations from the Centers for Disease Control (CDC) and the Department of Health and Environmental Control (DHEC). Due to these regulations, the participants and

researcher must maintain social distancing, making role-play scenarios difficult. Students missing more than 10 days of unexcused absences will not be included in the study. Students placed on quarantine due to COVID-19 for more than ten consecutive days will be dropped from the study. Practice effects and the exposure to skills during quarantine absences cannot be accounted for. Students who opted for virtual instruction were not included in the study, as role-playing between the subject and researcher was designed to be in-person and not done virtually through the computer. Regulations for social distancing and the use of masks could have impacted the validity of the obtained results.

The population parameters of the study were also selective. Simply put, it is impossible to implement the targeted intervention to all students who demonstrate a need; therefore, students with disabilities who had adequate overall attendance and were not considered medically high-risk were included as participants for the study. Students of parents who expressed concern for the health and safety of their child were not used in the study. Lastly, students in grades 6-8 from the school where the lead researcher was employed were used as participants for the study. They were selected for easy access to the population and to expand the current literature on CBVI and younger students.

Summary

The current chapter described the importance of transition planning for students with disabilities. Special education law, federal requirements to ensure an appropriate education, and the importance of post-secondary education and support was reviewed. The benefits of CBI were discussed. The highly unique needs of students with an intellectual disability were reviewed, the characteristics of students with a mild ID were reviewed, and the potential risk factors associated with having an intellectual disability were also reviewed.

CBVI was discussed as an effective means to teach students with and without disabilities various skills, including purchasing skills, academic skills, and social skills. The specific need for students with a mild ID to have adequate social skills for safety and future employment is significant. The need for these skills is growing with each year that passes. Students with a mild disability who spend more time in the general education setting spend less time working on safety, employment, and social skills in the community. CBVI can help fill this void. The need for research to fill the gap of using CBVI to teach social skills to students with a mild ID was presented. The importance of using CBVI for younger students was also given, as was the evidence to support social skills instruction at a young age. Emphasis on the importance of role-playing in social skills instruction was presented along with literature to support these claims.

The following chapter will present a review of the current literature. Significant literature from 2000 and beyond will be reviewed. Specifically, the next chapter will review the history and purpose of transition planning, the history of CBI, barriers to CBI, computer-assisted instruction (CAI), CBVI research, and the importance of CBVI and programmed learning theory combined with generalization strategies. The chapter will conclude with a discussion on CBVI and social skills, CBVI used to teach safety and stranger skills, and role-play as effective means of teaching social skills.

CHAPTER 2: REVIEW OF THE LITERATURE

Transition Services

Millions of students graduate from high school each year and transition into post-secondary activities. Those activities could include attending college, entering the workforce, or enlisting in the military. For students with an intellectual disability, the transition to life after high school can be difficult if they are not properly prepared. The change can be filled with anxiety and apprehension about the future. Graduating students report feeling unprepared for their future at alarming rates and students with disabilities are no exception (Wehman, 2020). Frequently, students with disabilities lack opportunities and options for secondary education and employment (McDonnell & Hardman, 2013). This lack of appropriate support can lead to social isolation, stress, and decreased life satisfaction. Indeed, students with disabilities face the poorest post-secondary outcomes compared to any other minority group (Hiersteiner et al., 2016).

To combat the educational barriers faced by students with disabilities, federal legislation was created under the Education for all Handicapped Children Act of 1975 (EHA) to support states in protecting the rights of students with disabilities. Before the passing of EHA, many students with disabilities were excluded from public education, with one in five children with a disability receiving an education. The Education for all Handicapped Children Act of 1975 was later revised, expanded, and renamed in 1990 to require students with disabilities receive transition planning support through their Individualized Education Plan (IEP). Transition planning is a process used to help students with an IEP decide what they want to do after high school. Students set specific goals during the planning process and receive services and support to reach those goals. Within the transition planning process, students receive transition services. Transition services are a set of coordinated activities based on the student's interests and needs,

including instruction, related services, community experiences, daily living activities, and activities to gain employment (McDonnell & Hardman, 2013).

Transition services are activities designed to assist a student in transition from formal schooling to post-secondary life. There is no one specific transition plan that will meet the needs of all students, nor will one specific transition service be effective for every child. Rather, transition plans and services should be uniquely tailored to the individual and the individuals' future success. Transition services that focus on building community life skills or independent living might be appropriate for one student. In contrast, transition services that are academically focused and prepare a student for college might also be suitable for another student. Regardless of the focus of the transition plan, research has found that students with appropriately designed and implemented transition plans have better post-secondary outcomes (Test et al., 2009; Wehman, 2020).

Kohler et al. (2016) created the Taxonomy for Transition Programming 2.0 to combine the latest research and support to improve post-school success, reduce student dropout, and foster successful transition for students with disabilities to careers and college. The taxonomy for success includes five components: student-focused planning, student-led development, interagency collaboration, family engagement, and program structure. When transition plans include these components, students with disabilities are better prepared for post-secondary life (Kohler et al., 2016).

Additionally, simply having a transition plan and services does not guarantee post-school success. For transition services to be effective, teachers must utilize empirically-based strategies that increase the likelihood of positive post-school outcomes. Rowe et al. (2015) noted that while teachers claimed to be using evidence-based strategies, many of the strategies used had little to no impact on outcomes of students with disabilities. Many strategies utilized were developed

from studies with limited sample sizes, unclear intervention guidelines, and limited procedural fidelity. From their conclusions, Rowe et al. (2015) operationally defined 16 predictors of post-school success that should be considered and included in the transition planning process and when delivering transition support. These predictors include career awareness, exposure to occupational courses, paid employment/work experiences, vocational education, work-study opportunities, community experiences, academic services to meet state exit exam requirements, inclusion in general education, clearly defined programs of study, self-determination and self-advocacy support, social skills instruction, development of independent living skills, parental involvement, an overall transition program framework, and student involvement.

As successful adult outcomes for students with disabilities rely heavily on school programming and planning, teams must focus on activities that transition students from school to adult life. Inter-agency and staff collaboration should be heavily promoted along with parental involvement in transition planning (Carter et al., 2012). It is also important to include components in the transition plan that have been correlated with positive post-school outcomes, such as employment opportunities before exiting high school (Shogren et al., 2013) and developing social and self-determination skills (Sung et al., 2015).

Often, for students with more severe disabilities, transition services focus on developing community and daily living skills. The delivery of these services is frequently achieved through CBI (Boles et al., 2019; Bramlett et al., 2011; Everhart et al., 2011; Gantman et al., 2012; Hansen & Morgan, 2008; Mechling & Cronin, 2006; Mechling & O'Brien, 2010). However, students with a mild ID fall into a predicament. They do not typically require intensive and rigorous daily living and functional skill instruction, often provided in the special education classroom or the community through CBI. Students with a mild ID often have communication skills that disguise social and cognitive deficits, permitting them to spend more time in the

regular education setting. Indeed, students with a mild ID can function better in the real-world setting than their peers with more significant cognitive impairments due to relative communication and social skills strengths (Gibson et al., 2017). Therefore, special attention should be given to developing and implementing transition services for students with a mild ID.

Having a comprehensive transition plan that includes CBI, behavioral skill development, and functional academic instruction is especially significant for students with high-incidence disabilities, such as learning disabilities, emotional disabilities, attention deficit hyperactivity disorder (ADHD), and a mild ID, as these students are most likely to enter the workforce or attend college after high school graduation (Trainor et al., 2016). Moderately strong predictors of positive school outcomes for students with high-incidence disabilities include transition plans with students in general education settings, students receiving social skills instruction and behavioral support, paid work experiences, and students participating in the IEP process (Madaus et al., 2014). However, managing all the expectations of a well-developed transition plan can be difficult for teachers who serve children with various disabilities and needs and difficult to fit into the school day (Kim & Dymond, 2010).

Despite scheduling and planning barriers for students with a mild ID and high-incidence disabilities, positive impacts are noted when students with a mild ID can participate in CBI as part of the transition planning process (Hedley et al., 2017). Being prepared to enter the workforce and earn gainful employment straight from high school is a crucial bridge for students with a mild ID that can be achieved through a well-developed transition plan (Landmark et al., 2010).

Community-Based Instruction

Community-based instruction (CBI) is a vital teaching tool for some students with disabilities in secondary schools. This type of instruction occurs in the community or "real-life"

setting to expose students to various community situations to help learn skills and promote generalization. The overall goal of CBI is to provide hands-on experiences for students with disabilities which allows them to practice skills and receive immediate, corrective feedback (Walker et al., 2010). In some instances, skills are taught inside the classroom and then students have an opportunity to practice those skills in the natural setting (Rowe et al., 2011; Rowe & Test, 2012; Smith et al., 2016). In other circumstances, students learn skills directly in the community setting (Bassette et al., 2018; Taber-Doughty et al., 2013). Evidence suggests that CBI is effective in both of these training formats (Flanagan & Kutscher, 2021; Gibson et al., 2017).

Data suggests that when students with special needs receive instruction in the naturally occurring environment, acquisition and maintenance of skills are often quick and efficient (McCoy et al., 2016; Welsh et al., 2018). Experiences in the natural setting allow students to observe expected and unexpected behaviors, provide reinforcement for the student, and support the maintenance of the acquired skills. Skill generalization is often achieved at higher rates when students receive CBI, either alone in the community or in conjunction with classroom instruction, than when only receiving instruction inside the classroom walls (Barczak, 2019; Cihak et al., 2004). Indeed, students with disabilities need to experience naturalistic teaching, as this might be their only opportunity to receive such exposure.

Cihak et al. (2004) examined the impact of CBI, simulated only instruction in the classroom (SOI), and a combination of the two methodologies with varying delivery (i.e., CBI on one day and SOI on the other, or CBI and SOI on the same day) on the acquisition of functional and vocational skills. Specifically, five students with a moderate ID were taught to follow one-step commands to send a fax, swipe a debit card and press a PIN number to withdraw 20 dollars, purchase two items using a debit card, and use a copy machine to collate a five-page newspaper.

Results suggested that the CBI arrangement resulted in the least number of required sessions to reach mastery compared to SOI. Students receiving CBI only took an average of seven sessions to achieve mastery and four to generalize the skill to a novel setting. Results also indicated that SOI took significantly longer to reach mastery of skills than CBI. Together, CBI and SOI on the same day greatly impacted student acquisition, suggesting a combination of CBI and SOI on the same day can successfully teach functional skills to students with moderate disabilities (Cihak et al., 2004).

A variety of skills have been effectively taught using CBI, including grocery shopping skills (Bates et al., 2001; Cihak et al., 2006; Morse & Schuster, 2000), purchasing skills (Taber et al., 2003; Xin et al., 2005), employment skills (Horn et al., 2020) banking (Barczak, 2019), and community safety skills (Collins et al., 1993; Taber et al., 2002). However, research using CBI to teach community skills has declined since 2005 (Dymond et al., 2018). Yet, despite this decline, teachers still report CBI's efficacy and support its continued use (Hopkins & Dymond, 2020).

A review of the literature on CBI indicates that most CBI studies are conducted in various locations, including grocery stores (Hansen & Morgan, 2008), public stores (Barczak, 2019), and restaurants (Boles et al., 2019). Purchasing grocery items were the most commonly targeted skill, followed by purchasing non-grocery items and understanding community-referenced signs. Skills such as folding clothes, dressing, and learning social skills have received less attention with CBI compared to purchasing skills (Gibson et al., 2017).

Despite most research focusing on independent living skills, CBI can teach almost any skill. The majority of the current research incorporates a type of gradual or least to most prompting and time delay for CBI, with few studies using modeling and role-playing as a means of instruction (Boles et al., 2019; Hedley et al., 2017; Ramdoss et al., 2011; Walker et al., 2010).

Additionally, limited studies incorporate a form of "stranger danger" in CBI or appropriate responses to lures from strangers (Akmanoglu & Tekin-Iftar, 2011; Mechling, 2008).

Mechling (2008) conducted a 30-year review of safety skill instruction for individuals with an intellectual disability. Searching from 30 years of research (from 1976-2006), Mechling concluded that 36 studies and two literature reviews focused on teaching safety skills to students with an intellectual disability. Of the 36 studies, six involved responses to lures from strangers or advancements from strangers, with the largest number of research studies focusing on first aid and pedestrian/street crossing safety. Many of the intervention strategies used in the studies involved using board games, using photos, and teaching participants to "say no" and walk away. Of the six studies, two studies used a component of CBI; however, these studies date before 2001.

Another important trend worth noting is that much of the current research on CBI is devoted to older students in high school (Boles et al., 2019; Gibson et al., 2017; Trevor et al., 2021). Middle school and elementary school students do participate in CBI; however, high-school-aged students are often participants in CBI research. One explanation could be that students in high school are closer to transitioning out of formal schooling and into post-secondary experiences. High school students are expected to shop at grocery stores or purchase items independently, whereas younger students are not. However, early intervention and skill instruction is linked to positive school outcomes, and transition planning does begin in many middle schools across the United States (Papay et al., 2015). The earlier children can be exposed to daily living, functional, and safety skills, the more comfortable and quicker the acquisition of such skills will be. Also, more emphasis on community and independent living skills is placed on high school students and incorporated into transition plans, which could be why much research on CBI is devoted to older students.

When students are taught social skills at a young age, including interacting with peers, adults, and strangers, they are better socially adjusted than peers without such instruction (Deitchman et al., 2010; Simpson et al., 2004). Social skills are building blocks for more communicative skills; therefore, they should be taught early and consistently. When students begin transition planning at a young age and are taught community living, social skills, and independent living skills early, they feel less pressure in high school to learn these skills and are more prepared for community living (Papay et al., 2015).

It would be remiss not to discuss the other alarming piece of data is that most CBI research has been devoted to students with a moderate to severe intellectual disability. Higher-incidence disabilities, such as specific learning disabilities, ADHD, and mild ID, are frequently excluded from CBI research (Trainor et al., 2016). One explanation for this is the perceived "higher need" to assist students with moderate to severe disabilities with functional and community living skills. It is assumed that these students require more support to live independently later in life. Additionally, grants and private funding are available to support students with moderate to severe disabilities to receive CBI (U.S. Department of Education, 2021).

Barriers to Community-Based Instruction

Students with specific learning disabilities, ADHD, and a mild ID can earn a diploma or secure gainful employment after or during high school. Indeed, some of these students are taking a full course load of academic classes, and there is limited time in their schedule for community-based activities (Dunn, 2012). With national standards becoming more rigorous for students with and without disabilities, extracurricular and social activities during the school day are being reduced (Beveridge, 2010). Even elective courses, such as physical education or science, note a decreasing trend in the amount of time spent in each activity (Roda, 2006).

Additionally, standards-based reform has transformed special education over the past two decades, forcing students without severe cognitive impairments to participate more in general education classes and be held to higher academic standards than previous years (Quenemoen & Thurlow, 2017). Students with mild disabilities have less time in their schedules for transition services and CBI than their peers with more significant cognitive deficits due to their participation in regular education and elective classes.

On the one hand, participation in activities with same-aged peers in the students' least restrictive environment (LRE) is best practice. Indeed, research supports that spending more time inside the general education setting leads to better student outcomes (Gallagher & Bennett, 2015). On the other hand, spending more time inside the general education setting will impact services inside the special education classroom, where students can receive more individualized support from the special education teacher. Most often, the impact is typically seen in transition services or areas of social-emotional support. Suppose a student with a mild ID is capable of earning academic credits. In that case, they often do not have room in their schedule or the schedule flexibility needed to leave campus for CBI activities (Best et al., 2015).

Teachers also feel pressure to juggle CBI with other academic requirements. Rooney-Kron and Dymond (2021) sent surveys to 256 special education teachers about possible barriers to CBI experiences. The common barriers reported by teachers included lack of opportunities, resources, time, and key stakeholder support. Over fifty percent of respondents reported barriers with transportation, logistics, staff, and funding as the key reason for limited CBI. Also, teachers reported that lack of financial support and support from the administration limited the types of CBI offered (Rooney-Kron & Dymond, 2021). Similarly, Almalky (2018) noted the same barriers to CBI among teachers in Saudi Arabia, noting concerns for administrative support, liability concerns, and logistical issues as key barriers to implementing CBI effectively.

Additionally, teachers consider the use of CBI relative to the needs of their students. With special education classes becoming more and more diverse, teachers find challenges to selecting appropriate CBI to meet the needs of all students (Hopkins & Dymond, 2020). Teachers must consider the extent to which CBI reduces the amount of time spent inside the general education classroom and weigh the pros and cons (Dymond, 2020; Test et al., 2017).

Computer-Assisted Instruction

Computer-Assisted Instruction (CAI) is grounded in the theoretical framework of programmed instruction, first coined by B.F. Skinner in the 1920s and 1930s (eLearning Industry, 2021). Initially applied to instruction at Harvard University in the 1950s, programmed instruction is an educational technique characterized by self-guided and self-administered instruction (Britannica, 2020). Under this framework, instruction is presented in a logical and methodological sequence, including multiple repetitions and options for practice. Under his theory, Skinner argued that learning could be achieved if the content is divided into smaller steps, with individuals receiving frequent and immediate feedback on their performance. Much like his work using theories of behaviorism, Skinner argued that when learners get immediate reinforcements and rewards, content is better remembered and stored (eLearning Industry, 2021).

There are two basic models under the theory of programmed instruction. The first model is very linear and is how Skinner conceptualized his framework. Under this model, content is divided into smaller, unchanged steps where students respond at individual rates and receive immediate reinforcement and feedback on their results. The second model is branching, expanded from the first model by Norman Crowder (Britannica, 2020). Under this model, students apply problem-solving to a situation through a series of alternative answers. If the student answers correctly, they move on to the next question. If the student answers incorrectly,

they are forced to a remedial format where they practice and learn the skills needed to answer the question successfully. This process is repeated throughout the lesson.

Regardless of the model, programmed instruction operates under the assumption that learners should take an active role in instruction (Root & Rehfeldt, 2021). Students should also receive immediate feedback and are self-pacing their instruction. Additionally, programmed instruction should occur through gradual steps. The final principle is that the learner should provide some sort of verification that learning was established. The proof can be achieved through assessments and interviews with the learner (Root & Rehfeldt, 2021). CAI does not always imply the use of videos for instructional purposes. CAI can include using static picture prompts, word prompts, or real-life photos used in a story to deliver instruction to students with and without disabilities.

Often, during CAI activities, the computer program serves as the primary delivery of instruction and content. At a secondary level, this may be when the student learns through an independent experience where lessons and activities are assigned for the student to complete. The personalized nature of CAI can be highly modified to meet each student's needs. Often, a predetermined criterion or set length of time is required for a student to reach mastery before moving to another lesson. CAI can also be an instructional tool inside and outside the classroom setting (Hopkins & Dymond, 2020).

CAI methodologies and principles have been applied to many educational fields and courses. Specifically for students with disabilities, CAI has demonstrated positive impacts on acquiring mathematical skills (Kucukalkan et al., 2019), social skills (Robinson-Ervin et al., 2016), literacy skills (Purrazzella & Mechling, 2013; Ramdoss et al., 2011; Spooner et al., 2015), writing skills (Pennington et al., 2014), and science vocabulary (Smith et al., 2013). These positive impacts have been observed in students with differing types of disabilities, including

autism (Root et al., 2017), developmental disabilities (Hu et al., 2020), learning disabilities (Kucukalkan et al., 2019), and emotional/behavioral disorders (Robinson-Ervin et al., 2016).

Students have been using online and virtual learning tools to acquire skills rather than in-vivo experiences for decades (Spitler et al., 2013). CAI has been used to teach students with and without disabilities various topics, including direct curriculum concepts such as math, English language arts, and foreign languages. CAI has also provided academic reinforcement activities for students of all ages (Greer et al., 2014). In light of current world circumstances due to COVID-19, teachers are being asked to teach students online at alarmingly high rates. Whether the environment is fully online or a hybrid format delivery, teachers must adapt curriculum and materials to accommodate virtual platforms. This requirement presents various challenges for students with disabilities (Greer et al., 2014).

A literature review examining the use of CAI interventions to improve social and emotional skills in students with an ASD, conducted by Ramdoss et al. (2011), suggested promising outcomes. Eleven studies were included in the literature review, involving over 300 participants with autism and ranging in ages from 4-79 (M=28). The analysis yielded mild statistically significant results, however, suggested relevant points for practitioners to utilize when conducting CAI. First, they reported that CAI procedures developed by the researcher yielded more positive results when compared to standardized CAI programs. They also indicated a need for a generalization measure with CAI, as the learned behaviors did not generalize into novel settings as predicted in three of the studies examined. Ramdoss et al. (2011) suggest using CAI in conjunction with an activity with peers or an adult, such as role-play or a group discussion, to promote generalization and motivation. They concluded that using relevant, age-appropriate social situations and settings during CAI might also improve motivation and generalization.

Computer-Based Video Instruction (CBVI)

CBVI is grounded on the core basic assumptions of observational learning theory. Observational learning is a form of learning in which the student learns by watching others, retains and internalizes the behavior, and then replicates the behavior themselves (Greer et al., 2007). The basic underlying assumption is that students can learn behaviors through observations, and much learning can happen indirectly. Research indicates positive impacts of indirect learning (McDonald & Ahearn, 2015; Scattone, 2008; Tetreault & Lerman, 2010).

Considered the father of observational learning, Albert Bandura first began using this term in the 1970s to describe behavior acquired with no direct training. In his theory, modeling plays a key component in behavioral acquisition (Bandura, 1977). Observational learning theory is thought to play an important role in social situations and social skills instruction, where students are expected to pick up on the behaviors of others and learn social norms through observing others' behaviors. Often, children learn how to behave and respond to others while watching the behaviors of their parents, siblings, or other peers (Ledford & Wolery, 2015).

In Bandura's theory, four stages are required for learning and retention to be achieved. First, the student must be attentive and focused on the model demonstrating the behavior. For students with disabilities, this might be difficult. However, the use of reinforcement and frequent breaks can be helpful (Ledford & Wolery, 2015). Second, the student must be able to retain the modeled behavior. If the student has difficulty retaining information, re-teaching, acronyms, visual aids, and breaking down steps into smaller chunks might be beneficial. Third, the student must be able to replicate the behavior. The student will need to demonstrate the behavior in some manner, such as role-playing (McLeod, 2016). Lastly, for the student to engage in the desired behavior, the student will need to be motivated to display the behavior. Different motivators encourage each student and children with disabilities are no exception (Cherry, 2021).

Video modeling can be used to teach or modify a skill by having the learner to watch a demonstration of a behavior not previously learned (Akmanoglu & Tekin-Iftar, 2011; Akmanoglu et al., 2014; Walton & Ingersoll, 2013). Research has suggested that video modeling and instruction have become more popular with the increased reliance on technology in the classroom (Allcoat et al., 2021). With advances in technology and reliance on technology for instruction, CAI has evolved. CBVI is a form of instruction delivered through the computer, with roots in CAI, using a video modeling component. With video modeling, the student observes another adult or child engage in a skill that the student is later expected to replicate. The video modeling component can be presented through various formats. Different from CAI, CBVI includes embedded videos as instructional teaching tools. Similar to CAI, CBVI research has demonstrated positive impacts on behavior for students with a variety of disabilities (Greer et al., 2014; Hetzroni & Banin, 2017; Mechling & Hunnicutt, 2011; O'Neill & Rehfeldt, 2017; Rice et al., 2015; Root et al., 2017).

A 2019 meta-analysis analyzing 39 single case studies examining effective intervention strategies for teaching employment skills to individuals with disabilities yielded promising support for the efficacy of CBVI (Boles et al., 2019). Boles et al. (2019) suggested moderate treatment effects resulting from the 20 video modeling interventions reviewed. When examining the differences in CBVI across the type and complexity of target behaviors, Boles et al. (2019) concluded that CBVI yielded weak effects for repetitive behaviors (copying, faxing, stocking items), yet using CBVI to teach social skills behaviors yielded strong effects (interacting with customers and employers, interacting during an interview).

When specifically examining age variations, Boles et al. (2019) concluded that most studies including participants ages 16-21 yielded moderate effect sizes. However, effect sizes were noted for individuals as young as 12. Individuals ages 12-15 yielded the strongest effect

sizes (0.85) compared to other groups, supporting the push for transition services and instruction to begin before the federally mandated age of 16 (Boles et al., 2019). They also concluded that no significant differences existed between individuals with ASD, ASD with ID, ID, or individuals with mild and moderate to severe ID, suggesting that CBVI can be utilized with individuals of various disabilities. Lastly, results suggested similar effect sizes for interventions implemented in natural and simulated settings. These findings support research suggesting CBVI programming is as effective as CBI. Their analysis concluded that video modeling is a quality, effective, and evidence-based practice for individuals with various disabilities and IQ levels.

In addition to its efficacy, teachers consider CBVI for their students easier to implement than CBI, as there are fewer logistical and financial costs involved (Rooney-Kron & Dymond, 2021). CBI is difficult to organize, yet CBVI tools can be easily created, embedded, and used for years. Additionally, CBVI has been described as interactive, captivating, and engaging for students with and without disabilities (Bippert & Harmon, 2017; Chiang & Jacobs, 2010; Mayer, 2003).

CBVI can provide multiple teaching opportunities and examples for students to learn. These opportunities may not typically be available within the classroom walls and open up multiple learning experiences. While research supports multiple modalities to teach skills and promote generalization (Karimi & Nazari, 2021; Westman, 2021), CBVI could possibly be the vessel in which these modalities can be presented (Bell, 2021). For example, if a classroom teacher wishes to teach children how to build an airplane or climb a rock wall, it would be nearly impossible to do this within the school setting and boundaries of the classroom walls. However, CBVI practices could provide endless support and teaching examples through video modeling, role-playing, graduated guidance, and/or group discussion (Boles et al., 2019). Research also

supports that video modeling leads to faster skill acquisition and generalization of daily living skills for individuals with various disabilities (Domire & Wolfe, 2014).

The positive impacts of CBVI strategies are observed across skills, including teaching grocery skills (Goo et al., 2016; Hansen & Morgan, 2008), academic skills (Mechling & Hunnicutt, 2011; Satsangri et al., 2021), purchasing skills (Barczak, 2019; Cihak et al., 2006; Mechling et al., 2003), health safety skills (Wells et al., 2012), food preparation skills (Ayres & Cihak, 2010; Mousa Al-Salahat, 2016), job skills (Mechling & Ortega-Hurndon, 2007) and life skills (Ayres et al., 2009; Bidwell & Rehfeldt, 2004; Boles et al., 2019; Mechling et al., 2014;). Within the last decade, using CBVI strategies to teach social skills to students with disabilities has been given more attention and focus than in the years prior (Boles et al., 2019; Olcay-Gul, 2016; Rice et al., 2015; Simpson et al., 2004). CBVI can be used to present videos in social video stories, used for video role-modeling and video discussions, and even used to deliver video games teaching a target skill (Boles et al., 2019, McCoy et al., 2016).

CBVI and Social Skills

Research is emerging using CBVI to teach children with disabilities social skills (Fisher et al., 2020; Fox et al., 2020; Mailey et al., 2021; McCoy et al., 2016; Ramdoss et al., 2011); however, most of these studies have focused on instruction to students with autism (McCoy et al., 2016). Social skills are important for all students. Current research suggests that social skills deficits, or the inability to acquire various social skills or utilize previously taught skills successfully, are common among students with disabilities, especially those with autism and an intellectual disability (Frye, 2018; Kalyva & Agaliotis, 2009; Lang & Sturmey, 2021; McCoy et al., 2016;). Students can overcome social skills deficits with direct, systematic training that provides feedback, reinforcement, modeling, role-play, and most recently, video modeling (Fox et al., 2020; Godish et al., 2017; Mailey et al., 2021). Research has demonstrated that using one

or all of these components during social skills training can demonstrate positive impacts (Fenty et al., 2008).

Wang et al. (2011) conducted a meta-analysis examining the effectiveness of peer-mediated and video modeling social skills intervention for children with ASD. Of the 12 studies examined, five used video modeling to deliver the intervention, while seven used peer-mediated support to deliver instruction. Wang et al. (2011) found that peer-mediated and video modeling interventions effectively improved social skills for children with ASD, with 75% of studies yielding a large effect size. No strategy was more significant than the other in producing positive impacts, yet Wang et al. (2011) concluded that younger children might benefit more from the intervention than older children. Additionally, the impact of age on intervention outcomes depends on what type of intervention was used, as younger students progressed faster than older students when given video modeling interventions (Wang et al., 2011).

Despite much research on CBVI being devoted to students with an ASD, CBVI has also been utilized to teach students with an ID various social skills. Olcay-Gul (2016) focused on the use of video modeling and social stories to teach students with an ID a target social skill of saying “get better soon” in response to a sick friend. They concluded that all three participants in the study acquired the target skill and maintained the skill for four weeks after completion. In this design, participants watched daily videos lasting approximately two minutes. After the videos concluded, the participants were sent back to the classroom, where an individual entered the room and began coughing. The researcher then asked, “How are you?” and the individual responded with, “I’m sick.” To successfully demonstrate the target skill, the participants needed to state, “Get better soon.” Olcay-Gul (2016) concluded that social stories and video modeling could effectively teach social skills to students with an intellectual disability. Despite the short intervention sessions (no longer than five minutes), both teachers and participants expressed that

the intervention package was entertaining and feasible given the time constraints within the school day. Recommendations to teach different social stories or use different delivery formats (i.e., role-playing or teacher-directed interventions) were suggested.

Hetzroni and Banin's (2017) study investigated the impact of CBVI and group discussion on social skills acquisition. Individuals ages 11-15 having a mild ID were participants in this study. In their research, they addressed the effectiveness of video modeling and group discussion on the following behaviors: entry into the school or classroom, asking permission before taking an item, and playing with a friend. The researchers evaluated actions, verbal statements, and nonverbal statements associated with each of the three behaviors. In their research, participants watched a video clip consisting of 3-5 minute long segments depicting peers acting adequate and non-adequate social behaviors related to the three target situations. After watching the videos, participants engaged in a 20-minute group conversation reviewing the social behaviors, defining adequate and non-adequate behaviors, identifying consequences, and identifying pro-social behaviors. After the group discussion, participants engaged in 10-minute educational games summing up the group discussion via the computer. Each intervention session lasted 50 minutes.

Hetzroni and Banin (2017) concluded that using multiple channels and strategies to teach social skills is beneficial. Not only did the intervention package produce meaningful results for all five participants, but all participants also maintained the acquired skills during a one-month follow-up. Despite finding positive impacts using video modeling, games, and group discussions to improve social pragmatics and understanding of social rules, the researchers concluded that more research is needed to determine if additional strategies (i.e., role-playing, peer instruction/guidance) are equally as effective in teaching social skills combined with CBVI.

CBVI to Teach Safety Skills and Stranger Awareness

Safety skills and stranger awareness are important skills for all students. Students with disabilities are no exception as they have the right to access their community and feel safe when encountering new environments and social situations. Increasing independence in the community is important for individuals with disabilities and can increase self-esteem, improve quality of life, and provide employment opportunities (Kelley et al., 2013). Video modeling has been used to teach safety skills, including extinguishing cooking fires (Mechling et al., 2009), safely navigating public transportation (Mechling & O'Brien, 2010), first aid (Ozkan et al., 2013), and navigating pedestrians in public (Kelley et al., 2013).

With an increased reliance on technology, computers and cell-phones have been used to teach safety skills both inside and outside of the classroom to students with disabilities. In conjunction with a system of least prompts, Bassette et al. (2018) found the use of video modeling effective in teaching students with a moderate ID how to locate signs in the community. Bassette et al. (2018) successfully taught three students how to locate a picture of a key location identifier when lost (a street sign or other sign) and send the picture to a trusted contact (parent and/or teacher). Using two videos, participants watched role-play scenarios where students identified as being lost. One video represented the student being lost, while the other video depicted a cell phone and the steps to taking a photo of a key location identifier. Most students achieved mastery criterion within six sessions and generalized the skill to a department and grocery store.

Akmanoglu and Tekin-Iftar (2011) studied the impact of CBVI on teaching children (ages 6-11) with autism how to respond to strangers. Their multiple probe design assessed the combined effects of video modeling, graduated guidance, and CBI for teaching children with autism how to respond to lures from strangers. Each participant in the study received all phases of intervention. Training occurred during video modeling and CBVI. During these video

modeling sessions, participants in this study watched videos of a stranger delivering a lure to a model peer. The peer provided an appropriate response to the lure on the video. Participants received guidance and feedback from the researchers immediately. During the CBI settings, participants received lures from strangers in the community with immediate feedback and guidance given by the researcher. Six intervention probes were presented in each setting (CBVI and CBI) and repeated until mastery was achieved.

Results suggested that the intervention effectively taught appropriate responses to lures from strangers. In response to lures from strangers, all participants could either verbally state "no" or take 4-5 steps away from the stranger immediately following the lure. Additionally, students maintained the acquired skill for four weeks and generalized it to a novel location in the community. Akmanoglu and Tekin-Iftar (2011) concluded their research by suggesting a need for more studies with varied student populations and instructional formats to fully understand the impact of CBVI on teaching appropriate responses to lures from strangers.

Godish et al. (2017) also used video modeling and discussion to teach abduction skills to four male students, ages seven and eight, with autism. Their research combined video modeling and real-life settings (grocery store, retail store, community park) to teach students with autism how to respond to a lure from a stranger. Appropriate responses to lures included saying no, walking/running away from a stranger to a trusted adult within 10 seconds of the lure, and reporting the lure to an adult within 10 seconds of the lure. Students received CBVI three times/week for one hour sessions. After each session, the participant and researcher discussed the videos and what the student in the video did correctly or incorrectly. Participants then entered community settings where they were probed to demonstrate skill acquisition. If the participant was unable to identify the correct response in to the lure, he then received training in the community setting (via their parents).

Results from Godish et al. (2017) suggested that all four students acquired abduction prevention skills. Two of the three participants demonstrated the acquired skills in the community setting eleven weeks after the study concluded. One participant dropped out of the study before follow-up data was gathered. Their research supported the efficacy of using CBVI to teach abduction safety skills to students with autism.

Bell (2021) further explored using CBVI to teach children with an ASD how to appropriately respond when approached by a stranger. Bell (2021) taught participants, ages 6-12, to assertively yell "no way," "stop," or "go away," and to indicate to strangers they would run away and tell a trusted adult that "someone bothered them." Participants watched four videos (each lasting one minute) depicting appropriate responses to lures from strangers. At the conclusion of each video, participants were asked, "What would you do if you were asked something by a stranger?" Unique to the Bell (2021) study was that students received no additional instruction other than the CBVI. At the research's conclusion, all participants were able to demonstrate the appropriate responses between two and five video modeling sessions and maintained the acquired skills at the one year follow-up assessment. While CBVI has been studied in conjunction with other intervention measures, Bell (2021) demonstrated CBVI alone will suffice as an intervention procedure. Until this research, most CBVI studied included CBVI and discussion, feedback, promoting, and/or gradual guidance.

A recent meta-analysis conducted by Trevor et al. (2021) suggests a gap in the research using CBVI to teach students with a mild ID how to respond to strangers safely. Despite video modeling and CBVI having the largest treatment effect size (.97), of the 31 studies analyzed involving individuals with an intellectual disability and safety skills interventions, only one study (Akmanoglu & Tekin-Iftar, 2011) examined video modeling in response to lures from strangers. Six other studies included in the meta-analysis examined stranger safety and sexual abuse

prevention; however, the majority of these studies were dated before 2000 and did not involve the use of video modeling. Even with the Bell (2021) study being completed after their meta-analysis, these results suggest a clear gap in the research surrounding CBVI and stranger safety involving students with a mild ID.

Role-Playing

Another strategy used in social skills instruction is role-playing. In role-play scenarios, students practice skills by acting out scenarios without scripts to demonstrate appropriate behaviors. Role-play strategies have advantages such as immediate reinforcement and correction of behavior. Like CBVI research, much of the current research on role-play is restricted to students with autism as participants (Bergstrom et al., 2016; Fisher et al., 2020; Leaf et al., 2012; Ratto et al., 2015). Role-play has been used to successfully teach social skills such as initiating conversations (Nurenberger et al., 2013), understanding emotions (Craig et al., 2016), play skills (Chester et al., 2019), and appropriate school behaviors (Hanley et al., 2007).

Both CBVI and role-play techniques have successfully taught students various social skills; however, limited studies exist that combine CBVI and video role-play to teach social skills (Trevor et al., 2021). Simpson et al. (2004) examined the impact of delivering CBVI to students with autism on three social behaviors (sharing, social greetings, and complying with teacher directions). The intervention included both video modeling and role-play, in which participants watched four videos of their non-disabled peers role-playing examples and non-examples of the target behavior. After watching the four videos, participants were given four opportunities to role-play the social behaviors with each other. Target behaviors during role-play included complying with teacher directions, initiating a greeting with others, and sharing materials for the proposed activity.

The researchers implemented a multiple probe across behaviors design, with four students serving as participants from age's five to six. Results suggested that all students increased from baseline to treatment over 24 school days. Simpson et al. (2004) concluded that despite the participants' young age and introducing a new behavior not already in the students' repertoire, students could learn skills from their peers via video modeling. They also noted that this form of intervention is relatively easy to implement and replicate, involves limited logistical and financial burdens, and was judged by parents as effective and important.

To review the recent literature, Table 1 summarizes studies focusing on CBI, CBVI, CBVI and social skills, CBVI and safety skills, and CBVI and role-playing. Table 1 includes research conducted from 2010-2022.

Table 1

Summary of Current Literature

Community-Based Instruction (CBI) from 2010-2022				
Reference	Participant Demographics	Independent Variable/ Purpose	Study Design	Findings
Rowe & Test (2012)	Four students ages 16 (with LD, autism, ED)	CBI and static picture prompts used to teach students to use a debit card for a purchase and track expenses (20 total steps)	Multiple probe across participants design. Students received training in school and the community setting and same script was followed. Materials in school training session mimicked real-life materials	All students reached mastery criterion (20/20 steps) over two trials and generalized to four different community settings for at least five weeks
Taber-Doughty et al. (2013)	Four students with a moderate ID (ages 16-18)	VM with CBI to teach various independent task performance, depending on the setting (school, grocery store, bowling alley)	Multiple baseline across settings. Students were required to watch a video completing a task and then complete the same task independently. Videos were shown in the instructional setting and students were graded on number of steps completed, number of task transitions completed, and the duration of the task	Students demonstrated increased independence and less time to complete tasks as the intervention progressed. All students met mastery criteria in bowling alley and grocery store and all but one achieved mastery in school setting

Bassette et al. (2018)	Three students ages 13-17 with a moderate ID	VM in conjunction with a five-level system of least prompts to assess students ability to demonstrate appropriate safety skills	Multiple probe across student design. Intervention was in two phases (classroom and department store). VM intervention- students watched two video clips that showed a model identifying he/she was lost and pointing to a sign for location. Next video clip depicted how to use a cell phone for help. Students used role-play to demonstrate acquisition	All three demonstrated mastery and generalized to novel setting. Took on average four sessions for mastery and generalized immediately
Horn et al. (2020)	Four students with ASD ages 17-20	CTD with eCoaching training program to assess employment skills acquisition of sorting men's clothing by size.	Multiple probe across participants design. Students were prompted to sort shirts by sizes, in the men's department store. Students were given direct coaching and used eCoaching online intervention tool to provide reinforcement and corrective feedback	All four students demonstrated mastery of acquired skills within 4/5 sessions and maintained at least four weeks after intervention ended
Computer-Based Video Instruction (CBVI) from 2010-2022				
Mechling et al. (2014)	Three students (ages 15-17) with a moderate ID	Examine the impact of three procedures VP, VM, and CVM on the acquisition of three behaviors (putting away household items, multi-step cleaning procedures, folding)	Multiple probe across behaviors design with alternating treatments. VP session- student completed a task at a time and clicked through the video after each step.VM session- student had to watch entire video model before beginning the task. CVM- student performed the task while the video was playing and the video repeated until student was done	VP, CVM, and then VM were most effective (in that order). All students met criterion for mastery in VP condition for all three tasks
Goo et al., (2016)	Four male students with moderate ID ages 17-20	Using CBVI to teach grocery purchasing skills to identify three specific grocery items	Multiple probe across students design. CBVI in the classroom used to teach 17 steps of grocery purchasing skills (via 17 short instructional videos). The CBVI program delivered prompts as reinforcement or to "try again."	All participants reached mastery criterion by 4-6 sessions and generalized to a novel grocery store

Mousa Al-Salahat (2016)	Three males ages 15-17 with a moderate ID and DS	CBVI (via video modeling) to teach how to make a sandwich (broken down into 12 steps)	Multiple probe across participants design. Students watched a peer with downs syndrome make a sandwich and receive praise for it. Students watched the video and were given a chance to perform the task. Correct response earned praise incorrect earned watching the video again	All students achieved mastery criterion (100% accuracy) within 20 sessions. Students maintained mastery criteria at two week follow-up
O'Neill & Rehfeldt (2017)	Four students (ages 19-21) diagnosed with an LD	Using video-modeling, instructional videos, rehearsal, and feedback to teach students with disabilities how to respond to interview questions	Multiple probe across participant design. Students received a pretest then computerized BST. The BST included 8 questions, each with their own (3-5 minute video). Videos included rehearsal, feedback, and direct instruction	All participants reached mastery at 6-7 sessions and two maintained mastery for two months follow-up
Satsangri et al. (2021)	Three students (ages 16) with an LD in math	CBVI in conjunction with a system of prompting to teach algebra (specifically graphing equations)	Single-subject multiple probe design. One instructional video (7 min long) was created in conjunction with an app to allow students to use a stylus pen to solve problems. Students watched the same video repeatedly until mastery	All three students demonstrated mastery by 5-7 sessions. Students also maintained skills post-intervention (for at least 5 sessions)
CBVI and Social Skills Instruction from 2010-2022				
Akmanoglu et al. (2014)	Four students ages 4-6 diagnosed with autism	CBVI and graduated guidance (teacher coaching) together compared to CBVI alone to teach students how to role-play	Adapted alternating treatment designs. All treatment was presented inside the classroom. Participants were taught two different role-play skills from the following: breakfast play and carrying fruits. Role-play skills and treatment conditions were randomized	Both treatment methods were equally as effective for three participants. For one participant, only CBVI and graduated guidance was effective. Most students reached mastery within 20-30 sessions and maintained skills up to four weeks.

Olcay-Gul (2016)	Three participants (ages 20-23) diagnosed with a moderate ID	CBVI and teaching students to "get better soon" in response to a sick person	Multiple probe across participants design. Students watched daily intervention videos created by researcher, using video role-play, to tell a sick person to feel better. Intervention session lasted no more than five minutes. Probes administered in classroom to demonstrate skills acquisition	All three participants reached mastery within five sessions and maintained for at least four weeks after
Robinson-Ervin et al. (2016)	Six students (ages 12-13) with ED	Impact of CBVI on social skills acquisition (following directions and remaining on-task)	Multiple probe across participants design. Students watched videos discussing what social skills were, why they were important, and complete mini assignments after watching videos of appropriate ways to follow directions and remain on task. Program consisted of CBVI and explicit social skills instruction in a small group. Lessons were presented daily and lasted 30-40 min	All students showed improvement at the end of the program/intervention (20 sessions). Skills generalized to other settings in the school (different classrooms and elective classes). Students with more interest in the intervention performed better
Hetzroni & Banin (2017)	Five participants (ages 11-15) with a mild ID	Impact of CBVI on three behaviors: entry into school or classroom, asking for permission to take an item, and playing with a friend	Single-subject across multiple baseline design across situations. Participants watched 3-5 minute video clip for each behavior, of peers acting expected and non-expected behaviors. After videos, students participated in 20 minute small group discussion and then 10 minutes of role-play	All students reached mastery criteria within six sessions and maintained for at least a month after the study conclusion
CBVI and Safety/Danger Skills from 2010-2022				
Akmanoglu & Tekin-Iftar, (2011)	Three students (6-11) diagnosed with autism	CBVI and graduated guidance for teaching students with autism how to protect themselves from lures of strangers by saying "no" or taking five steps back from the stranger after the lure	Multiple probe across participants design. Students watched videos of strangers giving lures to children and children giving correct responses. Students received training in community in classroom. In community setting, researchers gave immediate feedback on performance	All students achieved criterion mastery within 10 instructional sessions. Students maintained skills for four weeks and generalized to novel settings

Mechling & O'Brien (2010)	Three adults (ages 12-20) diagnosed with mild to moderate ID	CBVI to teach students to request to stop using a bus signal and exit a city bus in response to a predetermined target	Multiple probe across participants design. Instruction took place inside the classroom. Students watched video recordings (via first person mode) of an individual walking to the bus stop, getting out a bus pass, sitting down, riding the bus, looking for landmarks, and pressing stop at the designated landmark. Videos were presented using PowerPoint with a voice over explaining each step	All students achieved criterion mastery within 5-6 sessions, generalized to in-vivo experiences, and maintained for as long as 52 days post intervention
Ozkan et al. (2013)	Five students (8-13) diagnosed with a mild to moderate ID	CBVI to teach students to call specific emergency services in specific situations (i.e. fire versus police) and to orally recite the phone number (from a total of 9 emergency numbers)	Multiple probe across behaviors. Instruction occurred 3-5 days per week in students' classroom. Students watched a video starting with "what would you do if X." Each video consisted of a different scenarios and response. Videos lasted approximately 10 minutes	All five students reached mastery criterion within 12-46 sessions depending on the emergency service being presented. Participants maintained skills 4, 8, and 12 weeks post intervention
Kelley et al. (2013)	Four adults (ages 18-26) with a mild to moderate ID	CBVI (using an iPod) on pedestrian navigation from various locations (correct and independent travel of a route and percent of correct pictured landmarks identified for each route)	Multiple probe across participant design. Students were given a map and told how to get to various points. CBVI occurred on the iPod, as students were told to use the iPod to navigate their way. IPod training sessions lasted 10 minutes. Researcher followed students to provide support if lost or technical support	All four participants reached mastery criterion within 10 sessions and students could navigate routes independently and with researcher from 67-232 days post intervention.
Godish et al. (2017)	Four male students (7-8) diagnosed with autism	CBVI to teach boys with autism how to respond to stranger lures at a grocery store, community location, and park (by either yelling no, running away within 10 seconds from a lure, and/or telling an adult within 10 seconds from the lure)	Non-concurrent multiple baseline design across participants. Sessions lasted three times per week for one hour sessions. Students received in classroom and training in the home. Students watched three videos (5-6 minutes long) and discussed them with the researcher after watching them	All students reached mastery 4-6 sessions after intervention began. One student dropped from the study. All remaining students (3) maintained skills seven weeks after intervention.

Bell (2021)	Six children (ages 6-11) diagnosed with autism	CBVI to teach students how to respond when approached by a potential abductor (saying no, stop, or go away and tell a parent)	Multiple baseline across participants design. Four videos were created to simulate stranger encounters. Each video lasted one minute and depicted correct responses to abductors. Students were then taken to the community for generalization	All participants reached mastery criteria within 2-5 sessions. Students maintained skills three months post intervention
CBVI and Role-Play from 2010-2022				
Walker et al. (2016)	Five participants ages 18-22 with a moderate to mild ID	CBVI and a simulated reality program to teach interview (eye contact, posture, hand gestures) and social skills (appropriate hand shaking, appropriate communication) through role-playing and coaching	Multiple probe across days design. Students received CBVI, via virtual reality interviews followed immediately by in-person coaching sessions. Interview sessions consistent of 11 questions	All five participants achieved mastery from 6-8 sessions

Note: LD: Learning Disability; ED: Emotional Disability; ID: Intellectual Disability; VM: Video Modeling; CTD: Constant-Time Delay; VP: Video Prompt; CVM: Continuous Video Modeling: DS: Downs' Syndrome; BST: Behavior Skills Training

Focus of the Current Study

Previous studies have focused on CBVI to teach students with disabilities life and functional skills. While some studies address social skills, few studies specifically address safety skills and appropriate interactions and responses to strangers (Akmanoglu & Tekin-Iftar, 2011; Bell 2021; Godish et al., 2017; Trevor et al., 2021). When investigating further, these few studies do not incorporate CBVI as the sole instructional component (Bell, 2021). Additionally, most of the literature presented focuses on students with a moderate to severe intellectual disability as participants for CBVI (Trainor et al., 2016) and students with autism as participants for social skills instruction. The current study is designed to examine the effectiveness of an instructional program consisting only of CBVI for teaching students with a mild ID how to respond to strangers.

Summary of the Literature Review

Transition services are required for all students with disabilities. Transition services are federally required to begin at age 16; however, many states begin the transition planning process much earlier. The earlier the transition planning is initiated, the better the outcome for students, as it is demonstrated that students with disabilities have poor post-secondary outcomes (Greene & Kochhar-Bryant, 2003). Students with disabilities have higher dropout rates and unemployment than their typical peers. Students with an intellectual disability have one of the poorest post-secondary outcomes out of all disability classifications, as students with cognitive impairments have deficits in social, cognitive, and adaptive skills (Francis et al., 2018).

A promising form of intervention to teach social, functional, and life skills is CBI, where students go out into community settings and receive direct skills instruction. CBI has been used successfully to teach various skills to students with disabilities (Walker et al., 2010). CBI also shows strong support for generalization and maintenance of acquired skills (Cihak et al., 2004).

As effective as CBI is, there are times when CBI is not feasible, either due to the school's location, teacher, logistical, and scheduling barriers, health concerns, and/or mobility concerns. Additionally, CBI has essentially been put on hold with the recent COVID-19 pandemic, with schools and businesses requiring social distancing and COVID-19's disruption of the entire United States education system. However, CAI and intervention strategies have continued without pause. Grounded in the theory of programmed instruction, CAI can provide students with simulated community experiences delivered in the home or classroom's comfort, safety, and security. Using the concepts of self-guidance and self-administration, CAI also effectively teaches a variety of functional, social, and life skills (Hu et al., 2020; Kucukalkan et al., 2019; Purrazzella & Mechling, 2013; Root et al., 2017).

CAI can serve as a powerful intervention tool, incorporating static pictures, games, stories, and videos depicting real-life situations. CBVI is one adaptation of CAI. CBVI instruction is grounded in Albert Bandura's observational learning theory, which purports that learning occurs by watching others, retaining and internalizing the presented behaviors, and replicating them. CBVI with role-modeling in which students vicariously learn through others is a seamless example of observational learning in action.

With a growing emphasis on 21st-century learning and developing 21st-century skills, the efficacy of CBVI methodology to teach students with disabilities basic skills should be further explored. It is important to consider the sole strategy of CBVI for an intervention package for students with disabilities, as it could be quick and efficient for teachers given their current job demands. Using only CBVI, teachers would not need to provide individual or small group teaching or actively participate in the intervention. Additionally, using students with a mild ID as participants in research is not as common as using students with moderate to severe disabilities. When CBVI studies target social skills deficits, few target safety skills when encountering strangers (Robinson & Graham, 2019). The current research aims to address this gap in research. The CBVI in the present study replicated the intervention strategy utilized by Akmanoglu & Tekin-Iftar (2011) to examine the combined effect of CBVI for students with a mild ID on the acquisition of a strategy to respond to strangers.

CHAPTER 3: METHODOLOGY

As reviewed in chapter 2, CBVI is a powerful tool for teaching students with and without disabilities. Research supports using CBVI to teach a variety of both functional and academic skills to students with disabilities. CBVI is cost-efficient, easy to implement, and logistically feasible given the current COVID-19 pandemic. Students with a mild ID often have delays in social and communicative skills.

Research examining CBVI to teach students with disabilities social skills suggests positive outcomes (Fisher et al., 2020; Fox et al., 2020; Mailey et al., 2021; McCoy et al., 2016; Ramdoss et al., 2011). However, research using CBVI to teach social skills is emerging, especially when examining the impact for students with a mild ID. Studies that have evaluated the effectiveness of CBVI to teach social skills have utilized strategies such as video and peer modeling combined with gradual guidance (Akmanoglu & Tekin-Iftar, 2011), group discussion (Boles et al., 2019; Hetzroni & Banin, 2017) and/or social stories (Olcay-Gul, 2016; Scattone, 2008) however, limited recent studies have examined utilizing only CBVI to teach students with a mild ID how to respond to strangers. Additionally, when teaching how to respond to strangers using CBVI, much research is devoted to participants with autism or severe disabilities (Akmanoglu & Tekin-Iftar, 2011; Akmanoglu et al., 2014; Gibson et al., 2017; Olcay-Gul, 2016). A gap in the literature exists on the effect of CBVI for teaching students with a mild ID how to respond to strangers.

The purpose of this study was to investigate (a) the effectiveness of CBVI for students with a mild ID on the acquisition of strategy used to respond to strangers, (b) the degree to which these acquired skills generalized to novel situations, and (c) the perceptions of the parents and teachers on effectiveness and value of learning appropriate interactions with strangers through CBVI. This chapter addresses the participants, setting, materials, dependent variable,

independent variable, procedures associated with the experimental conditions, treatment fidelity, research design, and data analysis.

Participants

Four students with a mild ID from an intermediate and middle school participated in the study. Participants were included in the study if they met the following inclusion criteria: (a) has a diagnosis of mild ID with an Intelligence Quotient (IQ) IQ Standard Score (SS) ranging from 48-70, plus or minus the standard error of measurement in two significant areas of cognitive performance (verbal comprehension, fluid reading, visual processing, working memory, and/or processing speed) measured by a norm-referenced measure of cognitive processing (Zais, 2011), (b) has delays in adaptive behavior at least two standard deviations below the mean (SS=48-70), plus or minus the standard error of measurement in at least two adaptive skill domains measured by a norm-referenced teacher and parent adaptive behavior rating scale, (c) is annually assessed by the state assessment, (d) can manipulate a computer, (e) has adequate mobility skills, (f) has transition or social-emotional services listed on their IEP, and (g) demonstrates attending and imitating skills of at least five minutes.

All students who met the above criteria were included as participants in the study except for the following: students were excluded from the study if they took the annual state alternative assessment, had missed more than 10 days of unexcused instruction, and/or were enrolled in the district virtual education program. The primary researcher of this study verified the above inclusion criteria by reviewing each student's academic and special education records (for criteria a-c and f) and through direct observations and parent/teacher reports of the student (criteria d, e, g).

For social validity measures, parents' ages ranged from 40-55. Teachers who responded to the questionnaire were between the ages of 50-60 and had an average of 25 years of teaching.

The primary special education teachers who worked directly with the participants completed the survey. Teachers who completed the survey held certifications in teaching children with severe disabilities were both females.

Consent was obtained through legal guardian permission. Guardians signed parental consent forms allowing the researcher to access educational records. The legal guardian also signed informed consent to allow the student to participate in the study and verified that results might be used for publication within the appropriate confines of confidentiality (see Appendix A). Participants also signed assent forms (Appendix B) to participate in the study. Before written assent, the principal researcher read the assent forms to each participant once parental consent was obtained. Student descriptions including age, gender, disability, psychoeducational evaluation scores, special education services, and overall social skills are included below.

Joshua

Joshua is a 13 year, 7-month-old African American male enrolled in seventh grade at a middle school. Joshua was diagnosed with a mild ID, according to his educational records. According to the most recent evaluation data, Joshua earned an IQ SS of 70 on the Kaufman Assessment Battery for Children- Second Edition Normative Update (KABC-2NU; Kaufman & Kaufman, 2018). Results suggested his overall weaknesses fell within the following cognitive abilities: verbal comprehension, long-term retrieval, visual processing, and nonverbal reasoning. Joshua's mother completed the Adaptive Behavior Assessment System- Third Edition (ABAS-3; Harrison & Oakland, 2015) as part of his evaluations. Her ratings suggested delays in social (SS=70) and conceptual skills (SS=68). Joshua received all core academic instruction inside the special education self-contained classroom. He transitioned to elective classes, lunch, and recess independently throughout the day. Joshua was described by his teachers as helpful and creative.

Academically, Joshua is reading independently on a second-grade level. He is able to identify first and second-grade sight words but struggles with reading fluency, decoding, and phonological awareness according to i-Ready diagnostic assessments (Curriculum Associates, 2021). According to teacher data and i-Ready diagnostic assessments, Joshua writes on a kindergarten level. He has math skills that fall within the first-grade level, with weaknesses in math computation, basic math fluency, and addition/subtraction with regrouping.

Socially, Joshua was described by his teachers as friendly. According to his teacher, he does not initiate conversations with others or understand appropriate boundaries with adults, as he often touches or hugs adults at unexpected times. Joshua is more likely to talk and interact with adults than his same-aged peers. Joshua has expressive and receptive communication deficits that negatively impact his social skills, as he has difficulty with vocabulary, expressing his feelings, and sustaining a reciprocal conversation with others. According to his teacher, he rarely initiates conversations with others yet talks to those who first talk to him. Joshua's strengths lie within his positive attitude towards school and others, cooperation, and willingness to do what is asked.

Joshua's IEP includes transition services of 30 minutes per day to address future aspirations of becoming a chef. His IEP goals address delays with reading comprehension, reading fluency, answering 'wh' questions, money, addition, subtraction, and written expression. Observations and reports from his teacher indicate that Joshua can independently open his computer, retrieve assignments, and complete assignments for 15-20 minute intervals. He reportedly initiates classwork and assignments without teacher support. He can copy and imitate three-step directions. Additionally, he can navigate the school setting without physical support or accommodations and participates in PE classes similar to his peers.

Terry

Terry is an 11 year, 6-month-old African American male enrolled in sixth grade at an intermediate school. Terry was diagnosed with a mild ID, and according to most recent evaluation data, Terry earned an IQ SS of 67 on the Wechsler Intelligence Scale for Children-Fifth Edition (WISC-V; Wechsler, 2014). Terry's psychoeducational evaluation report indicated that his verbal communication skills were poor (SS=60); therefore, Terry was administered the Wechsler Nonverbal Scale of Ability (WNV; Wechsler, 2006) and earned an IQ SS of 68. Terry's overall weaknesses lie within the following cognitive abilities: verbal comprehension, visual processing, working memory, and processing speed. Terry's mother completed the Developmental Profile- Third Edition (DP-3; Alpern, 2007) as part of his evaluation, and her ratings suggested delays in adaptive behavior (SS=72). Terry's adaptive delays lie within his communication and social skills.

Terry received all core academic instruction inside the special education self-contained classroom. Throughout most of Terry's academic career, he received his primary academic instruction inside the special education setting. Throughout the day, Terry transitioned to elective classes, lunch, and recess independently and did not demonstrate a need for mobility accommodations when transitioning. Teacher observations suggested he demonstrates adequate mobility skills. Terry was described by his teachers as compliant and sweet. He is soft-spoken but will respond to teacher requests.

Socially, Terry's teacher reported that he has few friends inside the classroom and spends free time with only one male peer in the class. According to his mother, he is not involved in afterschool activities. According to i-Ready diagnostic assessments, Terry is academically performing on a first-grade level in both math and reading. He struggles with decoding, reading fluency, and basic math computation skills. His teacher reported that Terry's strengths lie in his pleasant demeanor, upbeat attitude, and eagerness to participate in class activities.

Terry's IEP did not include specific transition goals or services, as he is 11 and the age of transition planning in the current state does not formally begin until the age of 13; however, Terry's IEP included social-emotional goals and services to address delays with appropriate interactions with peers and adults. Terry's IEP included 400 minutes per week of behavior support to address social skill delays. According to his IEP, Terry does not sustain reciprocal conversations with adults. His teacher reported that he gravitates towards adults in social situations and is overly friendly with peers, which can cause him to be bullied. His IEP goals addressed delays with peer relationships, reading comprehension, reading fluency, and math problem-solving. Observations and reports from his teacher indicate that Terry could independently open his computer, retrieve assignments, and complete assignments for 15-minute intervals. He was able to copy and imitate three-step directions given at one time. He reportedly initiates classwork and assignments without teacher support.

Natalie

Natalie is a 13-year 5-month-old Hispanic female enrolled in seventh grade at a middle school. Natalie was diagnosed with a mild ID, and according to most recent evaluation data, she earned an IQ SS of 62 on the WISC-V (Wechsler, 2014). Natalie's overall weaknesses lie within the following cognitive abilities: verbal comprehension, visual processing, and working memory. Natalie's mother completed the Vineland Adaptive Behavior Scales- Third Edition (VABS-3; Sparrow et al., 2016) as part of her evaluations, and her ratings suggested delays in adaptive behavior (SS=63). Natalie's adaptive delays lie within her communication, social skills, and daily living skills.

Natalie received all core academic instruction in math, ELA, science, and social studies inside the special education classroom. She has received instruction via this format for her entire academic career. Throughout the day, Natalie transitioned to elective classes, lunch, and recess

independently without accommodations for mobility. Natalie was described by her teachers as easy to please. She could be anxious at times, and she has indicated to her teachers that she does not prefer to be in large crowds. According to her teacher, Natalie has only one friend but has verbally expressed the desire for more friends to her mother and teachers. She was not involved in afterschool activities and, according to her mother, has limited opportunities for socialization at home.

Academically and according to i-Ready diagnostic assessments, Natalie was performing at a kindergarten-grade level in both math and reading. According to her teacher, recent IEP data, and checklists, she struggled with phonics, vocabulary, and sight word recognition. She struggled with measurement and data, double-digit addition and subtraction, and place value in math. Natalie's strengths fell within her ability to socialize with those she feels comfortable with, her politeness, and her sense of humor.

Natalie's IEP included specific transition services of 30 minutes per day to address future aspirations of working in fashion or a clothing store. Her IEP goals addressed delays with reading comprehension, answering 'wh' questions, creating short stories and verbally sequencing events, oral expression, addition and subtraction, and writing with correct spelling and punctuation. Observations and reports from her teacher indicated that Natalie could independently open her computer, retrieve assignments, and complete assignments for 30-minute intervals. She was able to copy and imitate five-step directions. She reportedly initiated classwork assignments without teacher support.

Michael

Michael is a 13 year six-month-old African American male enrolled in seventh grade at a middle school. Michael was diagnosed with a mild ID, and according to most recent evaluation data, Michael earned an IQ SS of 62 on the WISC-V (Wechsler, 2014). Michael's

psychoeducational evaluation report indicated that his verbal communication skills were poor (SS=61); therefore, Michael was administered the Wechsler Nonverbal Scale of Ability (Wechsler, 2006) and earned an IQ SS of 64. Michael's overall weaknesses lie within the following cognitive abilities: verbal comprehension, visual processing, working memory, nonverbal reasoning, and processing speed. Michael's mother completed the VABS-3 (Sparrow et al., 2016) as part of his evaluations, and her ratings suggested delays in adaptive behavior (SS=62). Michael's adaptive delays lie within his communication, social skills, and daily living skills.

Michael received all core academic instruction inside the special education self-contained classroom. Beginning in second grade, Michael has received his primary academic instruction inside the special education setting. Michael transitioned to elective classes, lunch, and recess independently throughout the day and did not demonstrate a need for mobility accommodations when transitioning. Teacher observations suggested he demonstrates adequate mobility skills. His teachers described Michael as very cooperative, friendly, and helpful. Michael was reported to be kind to others and often kept to himself inside the classroom.

Socially, Michael's teacher reported that he has friends inside the classroom; however, he did not socialize with others not in his class. According to his mother, he is not involved in afterschool activities or church organizations. According to i-Ready diagnostic assessments, Michael is academically performing on a first-grade level in both math and reading. He struggles with sound-ID, decoding, letter recognition, and basic math computation skills. His teacher reported that Michael's strengths fell within his willingness to cooperate, friendliness, and kind attitude.

Michael's IEP included specific transition services of 30 minutes per day to address future aspirations of working in a video-game store. His IEP included goals to increase reading

compression, math computation, math problem solving, written expression, language processing, and typing speed. Michael also received 30 minutes of monthly occupational therapy support to increase his typing speed. His IEP also included social-emotional goals to address initiating interactions with others. According to his IEP, Michael does not sustain reciprocal conversations with adults or peers. Observations and reports from his teacher indicate that Michael could independently open his computer, retrieve assignments, and complete assignments for 20-minute intervals. He was able to copy and imitate two-step directions given at one time. He was reportedly independent with initiating and completing classwork in the school setting.

Researcher

The primary experimenter, researcher, and data collector for this study was a doctoral candidate in multidisciplinary education. The primary researcher held a Bachelor's degree in Psychology and Sociology, a Master's degree in Psychology, and an Educational Specialist degree in School Psychology. The researcher held a teaching certification in School Psychology and has practiced in a school setting for the last ten years. The researcher has conducted research in cyberbullying, post-secondary transition assessments, and math interventions for students with a mild ID.

Independent Observer

A special education teacher certified to teach students with multiple and severe disabilities helped gather data for procedural reliability by conducting observations as the independent observer. The independent observer used the procedural reliability checklist (Appendix F) to identify the appropriate steps of the intervention delivered by the researcher. The observer also conducted observations for interobserver agreement using Appendix C. The special education teacher was not a teacher of the participants and had at least five years of teaching experience.

Setting

The four participants were in grades 6-8 and attended an intermediate and middle school in the Southeastern United States. The schools were approximately less than one mile apart. At the intermediate school, approximately 414 students were enrolled. Forty-eight percent of the students lived in poverty, receiving free or reduced lunch. The school consisted of the following demographics: 74% Caucasian, 19% African American, and 7% Hispanic or Latino. At the middle school, approximately 317 students were enrolled. Thirty-eight percent of students lived in poverty, receiving free or reduced lunch. The school consisted of the following demographics: 73% Caucasian, 22% African American, 4% Hispanic or Latino, and 1% Asian American.

Before beginning the study, an Institutional Review Board approval was obtained. The CBVI intervention trials occurred in a self-contained classroom for students with various disabilities in grades 4-6 (intermediate school) and 7-8 (middle school). In both classrooms, the baseline, intervention, and maintenance trials occurred at a small table at the back of the classroom. Pre-generalization and generalization probes took place at the playground of each school. In each classroom where CBVI was delivered, there were chrome book computers for every student and a SmartBoard in the classroom. During the intervention phase, CBVI video vignettes were shown on the researchers' Dell 5400 laptop computer, located within the students' classroom. In both classrooms where CBVI was delivered, one special education teacher and three adult paraprofessionals were present. Additionally, class ratios were equal, as there were seven students in each class. The intervention was conducted in ten-minute sessions for five days per week.

Materials

Observation Protocol

Observers evaluated the role-play probes using an observation protocol developed by the primary researcher (Appendix C). The observer recorded, on paper, the time of day the trial/session began and ended, the experimental phase, the setting, and the correct behaviors demonstrated during role-play by circling yes or no on the observation protocol for each probe. The observer also determined if the 2-step behavior was correctly demonstrated, which included both a verbal and motor response from the participant within 4 seconds from the last word of the stranger's statement for each of the four probes within the trial. The statement/lure being utilized for the probe was pre-written down on the observation protocol for the observer to reference to know when to begin the 4-second timing. A stopwatch was used for timing via the observer's i-Phone.

Appendix G lists the 44 stranger statements utilized during the baseline, intervention, and maintenance conditions. The lures created were authoritarian (e.g., "Your mom asked me to pick you up. Come here."), incentive-based (e.g., "Hi. Come here and play with my cell phone."), and/or assistance-based (e.g., "I think I'm sick. Will you help me?"). The principal researcher and independent observer each had a list of the 44 lures during data collection for reference.

Before the start of the study, all 44 statements were randomized in a sequence for each participant, using a random number generator. If the participant received all 44 statements during the study (baseline, intervention, maintenance), the random number sequence repeated itself. Additionally, a space for additional comments was provided on the protocol.

Video Vignettes

The CBVI included video vignettes created by the principal researcher. Video vignettes were filmed from the perspective of a third person, using the participants' peers as models. The vignettes were filmed to demonstrate how to appropriately respond to strangers. Stages of the vignette were acted, via role-play, in the video. Four separate videos were created, each

beginning with differing opening statements from a stranger, such as “Hey, don’t I know you? Come here,” “Hi, it’s Jamie. I know your mom, come over here,” “Hey, I’m lost can you come here and help me,” or, “Hi, I need some help. Can you help me?” The strangers used during the CBVI videos were different for all four videos. The strangers were an acquaintance of the principal researcher. Four students were selected to be model peers for the intervention, two boys and two girls. The chosen students were between the ages of 11-13, with each child filming one video. The children selected were from the school where the intervention took place and/or were acquaintances of the principal researcher. The setting of the recorded CBVI videos changed locations to include a parking lot, an outside area, a wooded area, and a picnic area as the background. The vignette lasted approximately 30 seconds.

The principal researcher’s voice was recorded within the video vignette, stating the appropriate responses as they appeared in the video. The appropriate responses to the strangers were replicated from the Akmanoglu & Tekin-Iftar (2011) study. For example, in the video, the stranger approached the child actor and stated one of the opening phrases, the video paused, and the participant heard the researcher’s voice say, “Say no.” The child actor then said, “No.” The video paused, and the participant heard the researcher’s voice say, “Take 4-5 steps back.” The child actor then took 4-5 steps back away from the stranger. The video ended after the child actor took 4-5 steps back away from the stranger.

Video vignettes 1 and 2 used female students as the model and included the demonstration of how to appropriately respond to strangers in the settings of the wooded area and parking lot. Video vignettes 3 and 4 used male students as the model and included the demonstration of how to appropriately respond to strangers in the outside area and the picnic/play area. Video presentation sequence (either video 1, video 2, video 3, or video 4) was randomized by a random number generator for each participant before the research study. The

randomized sequence was repeated in that order for the student during the intervention condition. For example, if the student was randomly assigned the sequence of video 1, video 2, video 3, and video 4, that sequence was repeated throughout the intervention condition.

Other Technology

The principal researchers' Latitude 5400 laptop computer was used to play CBVI video vignettes for the participants in the study. The principal researchers' iPhone 11 was used to capture and record the CBVI video vignettes created for the participants to view. The researcher's iPhone 11was also used for recording the researcher's voice in the video. The iPhone 11 was password and face identification protected. Once the video vignettes were filmed, the videos were uploaded to the researcher's Latitude 5400 laptop computer and saved within a password-protected file. Video vignettes were deleted from the principal researchers' iPhone 11.

Dependent Variable and Response Definitions

There was one dependent variable in this study, the percentage of correct responses from participants to the stranger's statement. This study utilized the two-step task analysis developed by Akmanoglu and Tekin-Iftar (2011). There was only one possible correct participant response during the trials, which was defined as the participant giving a verbal response (saying no) and motor response (going 4-5 steps away from the stranger) within 4 seconds of the time he/she is delivered the last word of the statement from the stranger. The possible incorrect participant responses during the trials were as follows: (a): the participant did not give a verbal response (saying no) and/or a motor response (going 4-5 steps away from the stranger) within 4 seconds of the time he/she is delivered the last word of the statement from the stranger, (b): the participant gave a verbal response (saying no) but went with the stranger, and (c): the participant walked

away from the stranger (4-5 steps away) but did not give a verbal response (saying no) within 4 seconds of the time he/she is delivered the last word of the statement from the stranger. Incorrect responses were recorded; however, only correct responses during the daily trials were counted towards criterion. The criterion to move from intervention to maintenance condition was 100% correct response for three consecutive trials. Appendix C was used to record the data taken on the dependent variable during baseline, intervention, maintenance, and generalization probes.

Independent Variable

The CBVI intervention strategy for interacting with strangers was based on an adaptation of the work of Akmanoglu and Tekin-Iftar (2011). The Akmanoglu and Tekin-Iftar (2011) study included the combined use of CBVI, graduated guidance, and CBI to teach students with autism how to respond to lures from strangers. For the current study, the components of CBVI remained similar to those in the Akmanoglu and Tekin-Iftar (2011) study, including the video instruction for students to give a verbal response (saying no) and motor response (taking 4-5 steps away from the stranger) within 4 seconds of the time he/she was delivered the last word of the statement from the stranger. Similar to the Akmanoglu and Tekin-Iftar (2011) study, participants watched video vignettes of strangers and peer students interacting and role-playing the target skill. However, in the current study, participants did not receive graduated guidance or CBI. Rather, CBVI alone was presented, via videos, with no further instruction. Four role-play probes were administered within each session during baseline, intervention, and maintenance trials (i.e., each trial will consist of four role-play probes). The number of correct responses (0, 1, 2, 3, 4) was divided by the total number of probes (n=4) and multiplied by 100 to calculate a percentage. As stated earlier, a correct response included giving both a verbal response (saying no) and a motor response (taking 4-5 steps back from the stranger) within 4 seconds from the last word of the stranger's statement.

Bandura's theory of observational learning was used to develop the independent variable. Based on his own research, Bandura believed that learning consists of observing and modeling another's behavior. Bandura purported that individuals can learn from others through direct observation and challenged the notion that learning was a direct result of experience with the environment (Bandura, 1977). For example, under his theory of observational learning, Bandura argued that an individual could watch someone walk into a hole in the road and fall, and from that situation, learn that he or she should not walk into the hole or else they will also fall. The observing individual did not physically need to fall into the hole to understand the impact. Rather, was able to watch it happen and learn from that. This intervention followed a similar assumption: students could watch their peers' role-play interactions with strangers via a video and learn how to interact with strangers without direct experience or small group training.

Experimental Procedures

The experimental procedures consisted of five phases: pre-generalization, baseline, intervention, maintenance, and generalization. It is important to note that the special education teacher continued with daily instruction during all phases. Participants did not receive instruction on interacting with strangers, nor did they engage in role-play scenarios in their daily classroom lessons.

Pre-Generalization

One week before beginning the study, participants were taken individually to the playground with the principal researcher while the stranger was out of view. The principal researcher indicated she needed to retrieve something from the hallway and for the participant to wait outside. A stranger who agreed to participate in the study approached the participant on the playground and attempted to interact with the participant. All students received the following lure in the pre-generalization condition, "Hey, I'm lost. Can you help me?" Immediately after the

participant's response to the lure, the principal researcher came back into view of the participant and took the participant inside.

During the pre-generalization condition, data on the dependent variable was taken via one probe at the playground. Data were recorded on an observation protocol (Appendix C). To collect data for the pre-generalization condition, the principal researcher watched the participant and the stranger interact through the library window, which was close to the exit door to the playground. All participants received the pre-generalization role-play probe within the same week, with the same adult who served as the stranger. The pre-generalization probe was administered to ensure the participant did not already demonstrate the targeted behaviors before the intervention in the real-life setting. If the participant identified the target behavior during this condition, they were removed from the study.

Baseline

After the pre-generalization phase, data on the dependent variable was gathered over five trials, with one trial a day for five days. Each trial consisted of four role-play probes. Data was recorded on an observation protocol for each participant (Appendix C). Data were recorded by the principal researcher and independent observer (for 55% of probes) inside the classroom. The independent observer collecting data for interobserver agreement (IOA) watched the researcher and participant in real-time during the trial. The independent observer was seated at the back of the room and was present in the classroom before the start of the intervention.

Within each baseline trial, four role-play probes were administered. At the beginning of the first role-play probe, the principal researcher stated, "Let's role play. I'll be the stranger, and you be the child," and delivered the preassigned lure from Appendix G. As noted earlier, selection of the lure (1-44) from Appendix G was randomized by a random number generator. After the participant's response, the principal researcher stated, "Let's role-play again" and

delivered a different pre-assigned and randomized lure to the participant from Appendix G. This sequence was repeated for the remaining two role-play probes within that trial. The process was the same for all five baseline trials for each participant. Role-play probes administered during the baseline condition did not include any responses from the principal researcher. During the baseline condition, the special education teacher continued with daily instruction as planned for that day.

Intervention

Once baseline was stabilized and data demonstrated a stable and predictable pattern documenting a low number of correctly identified behaviors, the participant with the lowest baseline score entered the intervention condition first while the other participants remained in the baseline condition. The next participant in the study moved from the baseline to intervention condition when the participant receiving intervention reached 75% correct or better (e.g., demonstrated both with a verbal and motor response within 4 seconds of the strangers lure for 3 out of 4 probes within that trial), over three consecutive trials. Before the second participant moved into intervention, one baseline trial was administered to all participants in baseline (Ledford & Gast, 2018). This trial was administered to demonstrate a continued stable trend in baseline. The same procedures applied to all participants entering the intervention condition.

The intervention was shown as a CBVI video created by the principal researcher. The video was shown to the participant on the researchers' Dell 5400 laptop computer. The intervention was implemented with consistency to each participant. During each trial, the researcher had the pre-assigned CBVI video waiting for when the participant arrived. For the first intervention trial, the following script was provided: "You are going to watch a short video.

You are going to begin now." The participant then selected the play feature to access the video. The researcher ensured the participant was seated in front of the computer and watched the video, as evidenced by them looking at the screen. The researcher sat within two feet of the participant and monitored their behavior to ensure they were on-task. The researcher was seated slightly to the back of the participant, as not to cause distraction or interfere with watching the CBVI video. Since the video did not require participants to press any buttons or manipulate the computer after pressing play, the students were not required to engage with the computer after starting the video; rather, they were required to sit and watch the video.

Role-Play Probes

At the immediate start of the second intervention trial, the researcher stated to the participant, "Let's role play," and the researcher said, "I'll be the stranger, and you be the child. Make sure you role-play each behavior you saw yesterday during the video." The researcher and the participant stood three feet away from each other. Wearing a mask was optional for the participant, but the researcher did not wear a mask. The researcher then delivered one of the pre-assigned and randomized statements from Appendix G. If the participant made an error during the role-play probe, the researcher ignored the response and recorded it as incorrect. If the participant correctly identified the two steps, the researcher stated, "That's correct, good job: and recorded the response as correct. The researcher then stated, "Let's role play again," and a different pre-selected statement from Appendix G was delivered. All role-play probes within the trial (n=4) followed the same format as described above. After the four role-play probes, the participant watched the preassigned CBVI vignette. The researcher stated, "You are going to watch a short video. You are going to begin now" and the CBVI vignettes began. Data on the dependent variable was recorded on an observation protocol (Appendix C).

Role-playing occurred at the beginning of every intervention trial, except for the first trial, as a data collection measure. This was done to reduce the possibility that the participants immediately recalled the steps from the video and simply repeated those previously seen during CBVI.

Maintenance

After achieving the criterion for mastery, which was100% correct responses for three consecutive trials on all four probes within that trial, the participant entered the maintenance condition. Maintenance trials occurred again in the classroom once a week until all participants reached the maintenance condition. Maintenance trials were conducted the same manner as baseline trials, and the same response definitions were used.

Generalization

Once all participants successfully reached the maintenance condition, generalization trials occurred at the participants' playground. Similar steps occurred for the generalization condition as the pre-generalization condition. A different stranger from the pre-generalization phase was used in the generalization condition. Post-generalization probes were administered within the same week that the final participant was in the maintenance phase of the intervention. All participants received generalization trials within the same day. The following statement was used for the generalization trial, "Hi, come here. Can you help me find my friend?"

Treatment Fidelity

Procedural Reliability

The independent observer used a 20-step checklist to gain procedural reliability to determine if the independent variable was used as initially planned (Appendix F). The independent observer was directed to circle the "+" or "-" on the checklist. A "+" indicated the step was completed, and a "-" indicated the step was not correctly performed. Steps 1-17 were

only used for baseline and maintenance conditions, while steps 1-20 were used for the intervention condition. Therefore, N/A was recorded if the participant did not have the opportunity to perform the behavior. N/A was already determined and circled by the primary researcher before the observation. Procedural reliability was gathered for 30% of all baseline trials, 59% of all intervention trials, and 70% of all maintenance trials. Procedural reliability was not taken during the pre-generalization and generalization probes. Procedural reliability was calculated by taking the number of correct steps, dividing by the number of possible steps, and multiplying by 100 to obtain a percent correct score.

Interobserver Agreement

IOA was gathered on the dependent variable by the independent observer for 33% of the baseline, 52% of the intervention, 70% of the maintenance, and 50% of post-generalization trials. IOA was collected in person, with the independent observer watching the trial as it occurred. IOA was established to ensure that the data reported was as reliable and consistent as possible (Kennedy, 2005). The researcher trained the independent observer before the start of the study. Training sessions between the primary researcher and independent observer occurred after the school day using the observational protocol (Appendix C). The researcher and independent observer hand-scored sample probes by watching videos of correct and incorrect responses to lures from strangers. The principal researcher created the sample probe videos and included the videos created for the research study and outtakes of those videos where participants acted out incorrect behaviors'. The researcher and independent observer independently watched the four video vignettes of correctly acted behaviors and four video vignettes of incorrectly acted behaviors until 100% agreement was reached. The presentation of these videos during IOA training sessions was randomized. During IOA training sessions, an agreement was be calculated

through an item-by-item comparison of agreements and disagreements (Tekin-Iftar & Kircaali-Iftar, 2006).

For this research, IOA data was calculated using the item-by-item method (Tawney & Gast, 1984; Tekin-Iftar & Kircaali-Iftar, 2006). An agreement occurred when both the researcher and observer agreed that the correct 2-step behavior (verbal and motor response) was identified/acted by the participant. A disagreement was recorded if the task was not scored identically. Within each trial, IOA was gathered on each of the four role-play probes. IOA was calculated by dividing the number of agreed items for each probe divided by the number of agreed and disagreed items and multiplied by 100.

Social Validity

Social validity data were gathered at the end of the intervention via a phone interview with parents and teachers by the principal researcher. The principal researcher called all parents and interviewed them within the same week. The social validity questionnaire was used to measure the parental (Appendix D) and teacher (Appendix E) perception of the ease and effectiveness of CBVI. Parents and teachers were interviewed after the generalization probes were administered. The questionnaire consisted of five/six yes or no questions addressing the efficacy and ease of the CBVI program and if parents perceived the program to be beneficial to their child and child's behavioral performance. At the end of the interview, parents and teachers could add comments or elaborate on their responses. Parent and teacher reports are summarized in the results section and discussed in chapter five.

Content Validity

The content included in the CBVI is a replication of the steps used in Akmanoglu and Tekin-Iftar's (2011) study. While the video locations, stranger lures, and peer models differed between the two studies, the two-step process taught to participants via video role-play remained

the same. The Akmanoglu and Tekin-Iftar (2011) study combined CBVI, graduated guidance, and CBI in their instructional program. In contrast, the current study included only CBVI as the instructional component within the intervention package.

Research Design

The current study employed a single-case design. A multiple-probe across participants design was used (Kratochwill et al., 2010; Horner & Baer, 1978; Kadzin, 1976) to determine the effects of CBVI consisting of video modeling on the acquisition of a behavioral strategy to respond to strangers. A single-case design was chosen due to the low incidence of students with a mild ID and the limited number of students at the school settings with a mild ID. Reversal or withdrawal designs were not appropriate for this research study, as the strategies being taught cannot be unlearned or withdrawn from the participant (Cook & Cook, 2018). Additionally, continuous measurement of the baseline, as in multiple baselines design, was rejected in favor of a multiple-probe design. Continuous measurement of the baseline could result in practice effects; therefore, baseline measurement occurred intermittently during baseline (Horner & Baer, 1978).

The dependent variable in this study could also be measured repeatedly, which makes a multiple-probe across participants design a favorable choice. In this design, experimental control was demonstrated when the participant responded at or near baseline levels during probe trials before the intervention was introduced. The criterion was reached only after the intervention was introduced (Tekin-Iftar & Kircaali-Iftar, 2006; Wolery et al., 1998).

Data Collection

At the beginning of each trial, data was collected and recorded by the researcher. Data was collected using the observation protocol (Appendix C). The expected behaviors were broken down into a two-step analysis on the protocol. Each behavioral step, verbal and motor, was either circled as “yes” for a correct display of the behavior and “no” for an incorrect display of the

behavior. For the final scoring of the probe, both the verbal and motor behaviors needed to be circled "yes," indicating both behaviors were displayed by the participant for the probe to be considered correct overall. Across all baseline, intervention, and maintenance conditions, four probes were administered within each trial. One probe was administered in the pre-generalization and post-generalization trials. The percent correct was calculated by dividing the number of correct overall probes by the number of probes (4) and multiplied by 100 for a percentage. The total percent correct was recorded on the observation protocol. Accuracy was checked using interobserver agreement observations and procedural reliability ratings described previously.

Data Analysis

Graphic data on the participants' performance during baseline, intervention, maintenance, and generalization phases of the study was recorded visually on line graphs. Visual analysis of the graphs was conducted to observe the effects of the independent variable on the dependent variable. The line graphs were examined for three different dimensions: level, trend, and variability (Kratochwill et al., 2010; Kennedy, 2005). Level referred to the change in the level of the dependent variable from condition to condition. The level is the mean score for the data within a phase. Changes in the level of the dependent variable from baseline to intervention were recorded for each participant. If the dependent variable was much higher or much lower in one condition than another, the data suggested the treatment had an effect.

In this research, the trend referred to a gradual increase in the dependent variable across observations, after the intervention was introduced. The increasing trend in the dependent variable should occur only after the intervention was introduced to suggest causality and a positive treatment effect. The trend is the upward slant of the best fit straight line placed over the data points. The trend for each participant in each phase was evaluated as positive or negative.

The variability of the data referred to the degree that the data points deviated from the trend line and was measured as high, medium, or low. In other words, the variability was the fluctuation of the data around the mean. A student must have demonstrated low variability in the baseline condition, suggesting a low and stable trend, to move from baseline condition to intervention condition. Low variability established a consistent pattern within the phase, which allowed for comparison of the next phase when the independent variable was introduced.

Lastly, the percentage of nonoverlapping data (PND) was calculated. Scruggs et al. (1987) suggest that for single-case designs, calculating the percentage of all data points in the intervention phase that exceed the value of the maximum point in the baseline phase (or PND) is a strong predictor of treatment efficacy. PND values over 90% suggest a highly effective treatment. Values of 70-90 are considered effective, values of 50-70 are considered questionable, and values below 50 are considered ineffective treatment (Scruggs et al., 1987). PND on the dependent variable was calculated for each participant.

Social Validity

The parent and teacher responses for social validity were analyzed for the total number of "yes" responses and the number of "no" responses to each question. The number of responses to "yes" and the number of responses to "no" were summarized for each participant and recorded on Table 3 and Table 4. Open-ended responses were reviewed by the observer and reported in a summary format in chapter 5.

Summary

This chapter presented an outline of the participants, setting, materials, dependent variable, and response definitions selected for the study. The independent variable and conditions associated with the experimental design were also discussed. Treatment fidelity and social validity measures were reviewed. Lastly, the research design and justification and data collection

and analysis procedures were discussed. The next chapter will review the results of the study and the data analysis.

CHAPTER 4: RESULTS

The purpose of the current study was to examine the effectiveness of an instructional program consisting of CBVI for teaching students with a mild ID how to respond to strangers. The research extended the limited research on the effectiveness of only utilizing CBVI to teach stranger awareness to students ages 11-13 with a mild ID. The research questions were:

1. Is an instructional program consisting only of CBVI effective in teaching students with a mild ID (between the ages of 11-13) how to respond to a stranger?
2. What are the effects of the instructional program on the generalization of the learned social interactions to novel situations with strangers in real-life experiences?
3. What are parents' and teachers' opinions of the instructional program?

This chapter will present the results of the study in the following sections: (1) results of CBVI on teaching students ages 11-13 with a mild ID how to respond to a stranger, (2) results of the generalization of the learned skill to a novel setting, (3) results related to social validity, (4) results related to procedural reliability, and (5) results related to interobserver agreement.

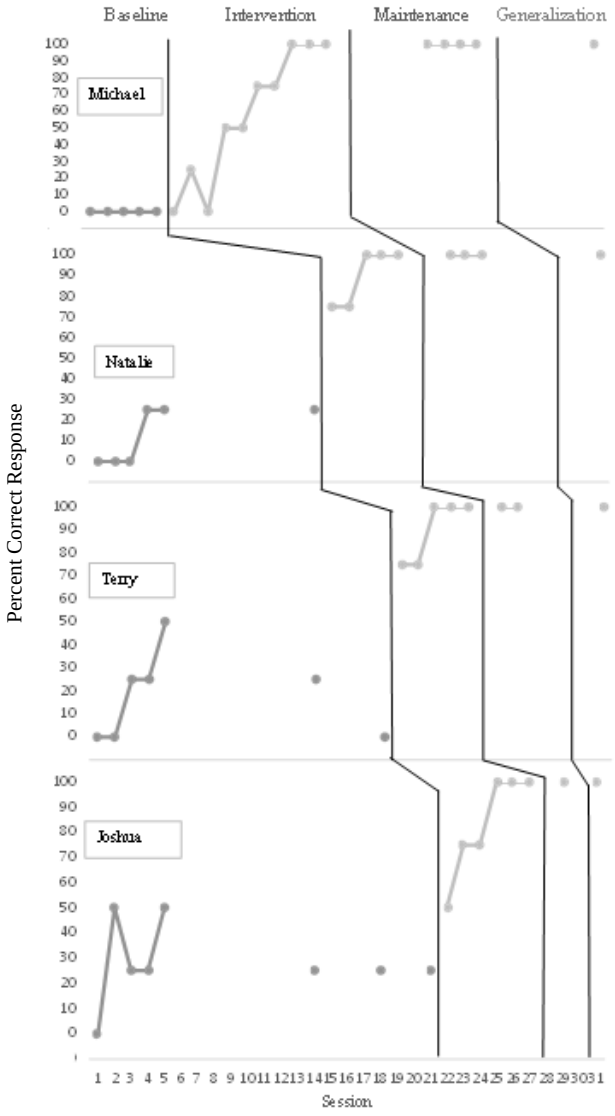
Response to Strangers

Students with a mild ID have difficulties responding to strangers. Students with a mild ID often have impaired social, communication, and adaptive skills. The dependent variable in this study was the percent of correct responses from the participant to the strangers' statements. Figure 1 provides a visual display of results for participants' responses to strangers during baseline, intervention, maintenance, and generalization conditions. This study utilized the two-step task analysis developed by Akmanoglu and Tekin-Iftar (2011). There was only one possible correct participant response during the trials, which was defined as the participant giving a verbal response (saying no) and motor response (going 4-5 steps away from the stranger) within 4 seconds of the time they are delivered the last word of the statement from the stranger. Results

for all participants indicated a functional relationship between the developed CBVI and the student's response to a stranger. A positive experimental effect was observed for all four participants.

Figure 1

Percent of Correct Responses from Participants to Strangers



Note: Each data point represents the average score of four probes.

To describe the effects of the intervention, visual analysis was used to examine changes in the data within and between conditions, including differences in level. Visual inspection of the data indicates all four participants showed a change in the level of correct responses to stranger lures after implementation of the CBVI (Figure 1). Level was calculated as the mean within each condition. Inspecting the level between phases also offers information about the immediacy of the intervention effect. The more immediate the effect after the intervention is introduced, the more conclusive is the functional relation between the variables (Kennedy, 2005). Trend results were positive for all four students. Trend refers to the line of best fit that can be placed over the data within a phase (Kennedy, 2005).

The percentage of non-overlapping data (PND) was calculated for the intervention phase. PND values over 90% indicate a highly effective treatment (Scruggs et al., 1987). Values of 70-90 are considered effective, values of 50-70 are considered questionable, and values below 50 are considered ineffective treatments. Table 2 summarizes the participants' mean scores for baseline and intervention conditions and the PND.

Table 2

Summary of Mean and Range Scores for Baseline and Intervention Reported in Percentages

	Baseline		Intervention	
Participant	**Mean**	**Range**	**Mean**	**PND**
Michael	*0*	*0*	57.5	80
Natalie	*12.5*	*0-25*	90	100
Terry	*17.9*	*0-50*	90	100
Joshua	*28.1*	*0-50*	83.3	83.3

Michael

During baseline, Michael did not correctly identify the correct two-step response during any of the five trials (n=20 probes). Intervention scores had an average of 57.5%. Visual analysis of the graph shows an ascending trend during intervention. By the end of the intervention, experimental effect was established. For Michael, the change was gradual. Changes in the level of the dependent variable were noted during the fourth session. Michael's trendline began positive and returned to baseline on the second trial. However, after the fourth trial, data began to trend positively, maintaining a higher trend than when in the baseline condition.

Michael took 11 trials to reach the mastery criterion (100% correct trials over three consecutive days). Data were not gathered during the first intervention session for any participants, as the first session consisted only of CBVI. At intervention trial nine, baseline measures were administered to all remaining participants in baseline to demonstrate a continued stable trend for the remaining participants. The total instructional time for Michael to reach the mastery criterion was 2 hours over 11 consecutive trials (days). Michael had 80% PND, suggesting the treatment was effective.

Maintenance data collected one, two, three, and five weeks (due to spring break) after the intervention ended were all 100% correct. One generalization probe was administered to Michael

approximately one week after the intervention ended for the final participant. The generalization probe took place at the school playground with a novel stranger. Generalization data was 100% correct.

Natalie

During baseline, Natalie's scores ranged from 0% to 25% correct during the six trials (n=24 probes), with an average of 12.5% correct. Intervention scores had an average of 90% correct. Visual inspection of the graph shows an ascending trend during intervention. Data demonstrated a clear and immediate level and trend change. By the end of the intervention, experimental effect was established. Natalie took six trials to reach the mastery criterion. On intervention trial four, baseline measures were administered to all remaining participants in baseline to demonstrate a continued stable trend for the remaining participants. The total instructional time for Natalie to reach the mastery criterion was 55 minutes over six consecutive trials (days). Natalie had 100% PND, indicating that the intervention was highly effective for her.

Maintenance data collected one, two, and four weeks (due to spring break) after the intervention ended were 100% correct. One generalization probe was administered to Natalie approximately one week after the intervention ended for the final participant. The generalization probe took place at the school playground with a novel stranger. Generalization data was 100% correct.

Terry

During baseline, Terry's scores ranged from 0% to 50% correct during the seven trials (n=28 probes), with an average of 17.9% correct. Intervention scores had an average of 90% correct. Visual inspection of the graph shows an ascending trend during intervention. By the end of the intervention, experimental effect was established. Data demonstrated a clear and

immediate level and trend change. Terry took six trials to reach the mastery criterion. At intervention trial four, the final baseline measure was administered to the last remaining participant in baseline. The total instructional time for Terry to reach the mastery criterion was 60 minutes over six consecutive trials (days). Terry had 100% PND, indicating that the intervention was highly effective.

Maintenance data taken one and three weeks (due to spring break) after the intervention ended was 100% correct responses. One generalization probe was administered to Terry approximately one week after the intervention ended for the final participant. The generalization probe took place at the school playground with a novel stranger. Generalization data was 100% correct.

Joshua

Joshua's scores ranged from 0% to 50% during baseline, with an average of 28.1% correct during the eight trials (n=32 probes). Intervention scores had an average of 83.3% correct. Visual inspection of the graph shows an ascending trend during intervention. By the end of the intervention, experimental effect was established. Data demonstrated a clear and immediate level and trend change. Joshua took seven trials to reach the mastery criterion. The total instructional time for Joshua to reach the mastery criterion was 60 minutes over seven consecutive trials (days).

Joshua had 83.33% PND, suggesting the treatment was effective. Maintenance data taken two weeks after the intervention ended (due to spring break) was 100% correct. One generalization probe was administered to Joshua approximately one week after the intervention ended. Generalization data was 100%.

Trinity

Trinity's scores ranged from 0% to 50% correct during baseline, with an average of 21% correct over seven trials (n=28 probes). Before her fourth baseline session, Trinity was placed on home-based instruction due to anxiety. She did not return for the remainder of the intervention and, therefore, was removed as a participant from the study as she no longer met the inclusion criteria.

Social Validity

Table 3 and Table 4 represent results related to social validity. After the generalization probe, parents and teachers were administered a questionnaire (Appendix D and Appendix E) via interview format consisting of five yes/no questions. The principal researcher interviewed all parents within the same week. At the end of the interview, parents were allowed to provide additional comments.

Parental Perceptions

Table 3 represents the parental social validity responses. Since Trinity dropped from the study, her mother was not interviewed; therefore, four parents responded to the survey. All four parents responded yes to the five questions, indicating they felt their child enjoyed and benefited from the intervention, that the intervention improved their interactions with strangers, and that their child would benefit from continued instruction in stranger awareness. All four parents also reported that knowing how to respond to a stranger is important.

When providing additional comments, one parent reported feeling satisfied knowing her child was safer after participating in the study. Two parents reported that their children came home from school and shared the strategies taught in the intervention and, therefore, felt their children enjoyed the intervention. One parent asked if the same type of intervention method (CBVI) could be used to teach other skills, as her child reported he liked to "watch the people on

the computer acting." All parents commented with gratitude and thanks for including their child in the study.

Table 3

Social Validity Questions and Responses for Parents

Question	Yes	No
1. My child enjoyed participating in this role-play activity.	4	0
2. Did this intervention help improve your child's interaction with strangers?	4	0
3. Do you think your child benefitted from being a participant in the study?	4	0
4. Do you think your child would benefit from continued social skills instruction on this topic?	4	0
5. Do you think knowing how to respond to a stranger is an important skill to have?	4	0

Teacher Perceptions

Table 4 represents the teacher responses to social validity questions. Students in the study represented two classrooms; therefore, two teachers responded to the survey. The interview survey consisted of six yes/no questions. Teachers reported that the intervention appeared easy to implement, as they observed the researcher and participant during the intervention and saw how quickly the intervention was implemented. Both teachers reported that they felt the students enjoyed the intervention and that the intervention was helpful, as evidenced by the students talking excitedly about their participation. Both teachers also reported that this was something they will likely implement in the future and that stranger awareness is an important skill to have.

When providing additional comments, the middle school teacher reported that this intervention was important to her class, as she has not been allowed to go out in the community for CBI due to COVID-19 restrictions and transportation issues. She also reported this is an important skill for the females in her classroom, as female students in her class are overly

friendly with others. She indicated she would like to share these videos with all students in her classroom.

The teacher from the intermediate school reported being surprised by how easy and quick the intervention was to administer, as she was able to watch the intervention inside the classroom. She indicated that the earlier we begin transition planning for students with disabilities, the better the outcomes will be. She was encouraged by the outcomes and was asked if the researcher could continue her work with other students in the classroom.

Table 4

Social Validity Questions and Responses for Teachers

Question	Yes	No
1. My students enjoyed participating in this role-play activity.	2	0
2. Did this intervention help the students interact appropriately with other strangers?	2	0
3. Do you think the students benefitted from being part of this study?	2	0
4. Do you think the study was easy to implement?	2	0
5. Is this something you could do in your classroom?	2	0
6. Do you think knowing how to respond to a stranger is an important skill to have?	2	0

Procedural Reliability

An independent observer collected procedural reliability for 30% of all baseline trials, 59% of all intervention trials, and 70% of all maintenance trials. Procedural reliability was not taken during the pre-generalization and generalization probes. Procedural reliability was calculated by taking the number of correct steps, dividing by the number of possible steps, and multiplying by 100 to obtain a percent correct score. Procedural reliability was 99% for baseline, 99% for intervention, and 100% for maintenance trials.

Interobserver Agreement

An independent observer collected interobserver agreement data for 33% of the baseline, 52% of the intervention, 70% of the maintenance, and 50% of generalization trials. For this research, IOA data was calculated using the item-by-item method (Tawney & Gast, 1984; Tekin-Iftar & Kircaali-Iftar, 2006). IOA was calculated by dividing the number of agreed items for each probe divided by the number of agreed and disagreed items and multiplied by 100. Interobserver agreement for baseline trials was 100%. Interobserver agreement for intervention

trials was 100%. Interobserver agreement for maintenance trials was 100%. Interobserver agreement for generalization trials was 100%.

Summary

Findings from this study indicate that all four participants increased their ability to safely respond to the lures of strangers during the intervention condition. Acquisition of the targeted skills was relatively quick for all four participants, ranging from six trials to eleven trials to reach the mastery criterion. As each trial represents one day, 75% of the students (Natalie, Terry, and Joshua) acquired the skill within approximately one week. Michael took approximately two weeks to acquire the skill. All four participants generalized the skill to a novel setting.

Social validity data revealed that all parents felt the intervention was beneficial to their child and was a useful skill to have. Teachers reported the intervention was quick and efficient and something they could incorporate into their classrooms. Teachers considered this intervention acceptable and important. Chapter five presents an in-depth discussion of all these results.

CHAPTER 5: DISCUSSION

The purpose of this study was to examine the effectiveness of an instructional program consisting of CBVI for teaching students with a mild ID how to respond to strangers. The purpose was to extend the limited research on the effectiveness of utilizing only CBVI to teach stranger awareness to students with a mild ID between the ages of 11 and 13. Current research surrounding the use of CBVI often excludes students with low incidence disabilities under the age of 13 (Boles et al., 2019; Gibson et al., 2017), and when young students are included as participants, limited studies exist teaching stranger safety skills to students with a mild ID.

The primary measure was the correct identification of a two-step behavioral response to the lure of a stranger. The behavioral response was developed by Akmanoglu and Tekin-Iftar (2011) and included both a verbal and motor response, with both responses needed to be considered correct. The current study employed a single-case design. A multiple probe across participants design was utilized to determine the relationship between the intervention and the dependent variable. A multiple probe across participants design was selected, as repeated measurement of the baseline would likely result in practice effects. Additionally, reversal or withdrawal designs are not considered appropriate for the skill being taught, as the target skill is a safety skill. Students' ability to generalize the skills to a novel setting was also measured.

Results of this study indicated a functional relationship between the CBVI consisting of video role-play and the acquisition of a two-step behavioral strategy to interact with strangers. During intervention, all students increased their scores from baseline and did so relatively quickly. After six intervention trials, Natalie and Terry correctly demonstrated the two-step behavioral strategy with 100% correct responses over three trials. Joshua took seven trials to reach mastery criterion. Michael took the longest of the four participants, with 11 intervention trials required to reach the criterion for mastery.

The participants' total instructional time ranged from approximately 50 minutes (Natalie, Terry, Joshua) to two hours (Michael). All participants had 100% correct responses over all maintenance trials. Michael, who took the longest instructional time to acquire the skill, demonstrated maintenance for up to five weeks post-intervention. Additionally, all four participants could generalize the acquired strategy to a different setting with a novel stranger. Teachers and parents reported the intervention was socially important and valuable. The following is a discussion of the results, limitations to the study, recommendations for future research, and implications for practice.

CBVI and Response to a Stranger

The results of the present study indicate that for all four participants, CBVI resulted in increased appropriate responses to strangers. All participants increased their scores from baseline. On average, students needed seven CBVI sessions to reach the mastery criterion. Three of the four participants met the criterion within six to seven CBVI sessions. One participant reached the criterion within 11 CBVI sessions. All participants quickly reached the mastery criterion (100% correct responses to all four probes within a trial, for three consecutive trials). The results suggest this intervention can be a quick and efficient way to teach appropriate responses to strangers. These results resemble those from previous studies that demonstrated rapid acquisition of safety skills using CBVI (Bell, 2021) and rapid acquisition of social skills (Macpherson et al., 2014) using CBVI.

Additionally, all participants maintained their skills throughout the study, with Michael maintaining the skill five weeks after his intervention ended. No other instructional methodologies, feedback, or teaching were provided to the participants aside from the direct CBVI, suggesting that CBVI by itself can be utilized to teach safe responses to strangers. Previous research using CBVI to teach danger skills and social skills, including the Akmanoglu

& Tekin-Iftar (2011) study for which the current study used as a framework, included CBVI and an additional component for skill acquisition. Other research has incorporated CBVI and additional components, such as direct and individual instruction (Mechling et al., 2014), peer modeling (Mousa Al-Salahat, 2016), CBI (Goddish et al., 2017), or feedback (Goo et al., 2016; O'Neill & Rehfeldt, 2017). These results expand the current literature that suggests using only CBVI to teach safety skills can be an effective intervention (Bell, 2021).

The participants in this study were also younger (ages 11-13) than most students included in CBVI research. Most CBVI research is dedicated to transition-age children (Boles et al., 2019; Gibson et al., 2017; Trevor et al., 2021; Walker et al., 2010). This research suggests that transition planning at a young age can be incorporated into a child's instructional programming with minimal time taken from academic instruction, as the average length of each CBVI session was ten minutes per day. With teachers being required to teach at a fast pace and most instructional time focused on academics (Merritt, 2016), this intervention appeals to both teachers and students. Teachers report needing quick, easy, and effective instructional programs that require minimal planning and preparation on their end, and the results of this research fit those demands (Hopkins & Dymond, 2020). While the initial development of the CBVI took approximately five hours (i.e. recruiting participants, creating four videos, finding community locations), once the initial materials were developed, this intervention was easy to implement. The initial start-up time required is a one-time occurance that teachers must consider, however, the repeated use and ease of implementation must also be considered.

In addition, previous research using CBVI often focuses on students with severe disabilities or autism as participants (Akmanoglu & Tekin-Iftar, 2011; Akmanoglu et al., 2014; Gibson et al., 2017; Olcay-Gul, 2016). The current research expands the effectiveness of CBVI for students with a mild ID. When teaching social and safety skills to students, students with

autism are often included as participants, as the disability is marked by impairments in social interactions and reciprocal communication (Charlop et al., 2018). However, students with a mild ID also have communication and social impairments and can benefit from safety and social skills instruction (Gibson et al., 2017; Hedley et al., 2017; Hetzroni & Banin, 2017). The current research supports the benefits of expanding social and safety skills instruction to students with various disabilities.

The current study also extends the research that suggests CBVI alone, without CBI, can be an effective means of instruction for students with disabilities. While research has suggested that CBVI and CBI can be a powerful combination to increase skill acquisition and increase generalization (Boles et al., 2019; Mechling, 2008; Ramdoss et al., 2011), the current results suggest that CBVI on its own can be a powerful instructional tool as well. With the current COVID-19 pandemic and teacher and logistical barriers to implementing CBI, the current intervention is a promising solution to address barriers out of a teacher's control. Having an intervention that requires limited technology, space, and resources for implementation might be appealing to school staff. Incorporating CBVI within part of the transition planning process is also a convenient way to teach transition skills.

CBVI and Skill Generalization

During the pre-generalization phase, all four students could not identify the correct two-step behavioral strategy to respond to a stranger. At the end of the intervention, all four participants generalized the learned skill to a novel situation with a stranger in a real-life setting. All students were able to identify and demonstrate the two-step behavioral strategy correctly. While Joshua only had one week between his final intervention session and generalization, Michael had four weeks between intervention and generalization and demonstrated the correct behavioral response in a novel setting.

Generalization is an essential component of single-case research design (Kennedy, 2005). In an ideal research design, students from differing populations would participate in research. However, that is not logistically possible. Generalization of the research results allows students to demonstrate that they can take what they learned and apply it to a novel, real-life setting, thus allowing the researcher to measure how broad the behavior can be demonstrated. Students need to be able to take skills learned, via a computer or in the classroom, and demonstrate that to a new situation. Generalization of the skills demonstrates a transfer of knowledge from one setting to another and is especially important when learning social and safety skills (Akmanoglu & Tekin Iftar, 2011; Bassette et al., 2018; Mechling & O'Brien, 2010; Robinson-Ervin et al., 2016).

Discussion of Social Validity

Social validity data were collected from parents and teachers. Parents and teachers were asked to answer questions via an interview with the principal researcher about the intervention's ease, effectiveness, and importance. Gathering both teacher and parental input is important to understand the social validity of the intervention from multiple perspectives. Parental support and teacher buy-in are important for the success of an intervention (Carter et al., 2012). Parents and teachers should feel included in their child's education and be able to provide input (Rooney-Kron & Dymond, 2021). Research suggests that students with disabilities have better post-secondary outcomes when both teachers and parents are involved in the transition planning process (Rowe et al., 2015; Kim & Dymond, 2010; Rooney-Kron & Dymond, 2021). With teachers reporting limited time in the day to plan and prepare lessons, having a quick, easy, and effective intervention that can be repeatedly implemented is valuable.

Parental Perceptions. All four parents who responded to the interview questionnaire reported feeling that their children benefitted from being part of the study. Not only did parents report that the intervention helped improve their child's interaction with strangers, some parents

indicated their child had open conversations with them about the importance of stranger safety and not talking to strangers. All four parents reported that knowing how to respond to a stranger was an important skill for their child and all four parents wished for continued instruction on social skills and stranger safety for their children.

In the section for open-ended comments or remarks, one parent was in favor of safety skills and stranger awareness instruction beginning in early elementary school. She reported that she has been talking about stranger awareness with her daughter since she was five. She felt all schools should discuss safety skills with students, regardless of disability status. One parent indicated that the world is not as safe as it used to be and that she felt incorporating a computer component into the intervention was what kept her son engaged. Three out of four parents asked if the intervention could be continued or used to teach a different social or safety skill.

Teacher Perceptions. Two teachers represented the classrooms where students were selected. Both teachers responded positively to the intervention questionnaire, indicating that their students enjoyed the activity and benefitted from participating in the study. Equally as important, both teachers felt the intervention would be easy to implement and something they could incorporate with all their students with differing disabilities. Both teachers noticed improvements in their students' ability to respond to strangers. In a section for open-ended comments or remarks, one teacher reported that her typical CBI experiences are still on hold or are limited in number due to COVID-19. She felt this was a promising alternative to CBI, given the pandemic. Additionally, another teacher reported being pleased with the computer component of the intervention, especially since kids enjoy the computer, the computer is engaging, and much instruction has switched to online since COVID-19.

Limitations

Several factors limited this study. First, due to the small sample size, the findings of this study might be hard to generalize to other populations, including those with lower cognitive abilities. Second, participant attrition occurred. One participant dropped from the study as she experienced anxiety due to circumstances within her family and had difficulty transitioning from home to school. As a result of her school anxiety, she was placed on home-based instruction for the remainder of her 2021-2022 school year, which disqualified her as a participant in this study. Before being placed on home-based instruction, her baseline data was stable with low variability, similar to other participants' baseline data. Based on other participants' performance during the intervention phase, one might predict she would have responded positively to the intervention; however, those conclusions cannot be made on her performance.

Third, the current worldwide COVID-19 pandemic limited these results, as students who opted for virtual instruction were not included in this research. The current research study was designed to be implemented via face-to-face with participant and researcher interaction important for the role-play data collection measures. In previous school years before COVID-19, virtual instruction was not an option for students. However, due to health and safety concerns, students in grades kindergarten through six were given the option to attend school virtually for the 2021-2022 year. Three students from one classroom and two from the other opted for virtual instruction, which limited the participant selection process.

Fourth, the principal researcher also served as the stranger for the daily role-play probe sessions. The familiarity with the researcher could have impacted the participants' responses, as they might not have viewed the researcher as someone dangerous. Due to COVID-19 and restrictions on adults in the building, this limitation could not be avoided.

Fifth, parents and teachers were interviewed to gather social validity data. Parents were first emailed the survey to compete anonymously; however, the response rate was low; therefore,

the principal researcher called parents and spoke to teachers in person. Social validity responses were not anonymous; therefore, it is difficult to rule out the Hawthorne Effect, where individuals change their behavior because they know they are being observed and interviewed. The researcher cannot rule out that the respondents may have provided answers they thought would be positive or pleasing to the principal researcher. Also, the parents did not observe the intervention taking place; therefore, their responses to the social validity questions were based on reports from their children and observations of their behaviors at home, without direct observation of the intervention taking place.

Only two teachers represented the results from the social validity questionnaire. While that occurred because students represented only two classrooms, having two teachers respond to the questionnaire might make it difficult to generalize their responses and perceptions to other individuals. More individuals responding to the questionnaire might strengthen the social validity findings.

Lastly, the setting of the research is a limitation. The research took place in two schools in the Southeastern United States, which might not be representative of the United States. Being confined to the classroom walls, where instruction for other students was still taking place, could be a limitation. Participants might have responded to the intervention differently if the setting had been changed to a smaller or more private location or if more settings were used for the role-play probes.

Recommendations for Future Research

Future studies using CBVI to teach appropriate responses to strangers should use differing and larger populations. Since this is the only known study utilizing only CBVI to teach students with a mild ID appropriate responses to strangers, it would be useful to generalize these results to students of differing disabilities, including participants with autism, learning disorders,

ADHD, and those with moderate to severe intellectual disabilities. It would be important to utilize students of the same age (ages 11-13) to demonstrate generalization across disabilities and ages.

In addition, future research could be directed at replicating the study but with younger participants. Research has suggested that the earlier the transition planning can begin, the better the outcomes for students (Greene & Kochhar-Bryant, 2003; Papay et al., 2015). Therefore, replicating this study with younger participants might be social and academically beneficial. Research has also suggested that implementing social skills training at a young age is helpful for students with disabilities (Deitchman et al., 2010).

All four participants in this study demonstrated adequate communication skills before the intervention. Throughout the intervention, all four students attempted to discuss their decision to say “no” to the stranger in more depth than what was required. Two students tried to reason with the stranger during role-play and explain why they should not go with her. While the dialogue helped understand the participants thinking responses, it opened a door for conversation and persuasion from a potential stranger. The study's goal was to have the student immediately say no and walk away. Conversing with the stranger about the moral and safety concerns of interacting with strangers was not anticipated. Future research should consider additional components of the CBVI to include more dialogue or more steps involved in correct responses (i.e., more verbal responses and motor responses than utilized in the current study).

Perhaps future research could include a discussion session after the role-play probes, in which the participant and researcher discuss why it is not safe to go with strangers. The discussion session could include multiple scenarios or “what-ifs” in which the participant would be required to reason through a stranger safety situation. Additionally, the two-step analysis in the current study could be expanded to include more steps and actions identified by the

participant. Future research should explore the idea of engaging in safe "small-talk" with strangers to assist in helping students with a mild ID respond to a stranger's simple question but not divulge too much personal information during a conversation. At a young age, intervention should focus on keeping children safe in response to any stranger; however, as children get older, teaching safe "small-talk" could be a useful social skill for teenagers and young adults to learn.

While research suggests that varying forms of CBVI are a powerful instructional tool for teaching household tasks (Mechling et al., 2014), purchasing skills (Goo et al., 2016), interview skills (O'Neill & Rehfeldt, 2017), algebra (Satsangri et al., 2021), social skills (Olcay-Gul 2016; Robinson-Ervin et al., 2016), and safety skills (Akmanoglu & Tekin-Iftar, 2011; Bell, 2021; Ozkan et al., 2013; Goddish et al., 2017), adding various instructional settings and CBI might also be helpful for generalization. Future research should include role-playing probes in a naturalistic setting with multiple strangers serving as adults during the role-play probes. Indeed, there could be stronger generalization effects when different settings are used during the intervention (Karimi & Nazari, 2021; Westman, 2021).

Additionally, future research could explore the topic of responding to strangers who are community helpers, for example, police officers or firefighters and/or public workers, such as librarians or nurses. CBVI could be utilized to teach students to respond differently to strangers in uniforms compared to strangers at a grocery store. A helpful intervention could also be to utilize CBVI to assist in decision making, for example, when it might be safe or necessary to talk to strangers, but with caution. Future research could incorporate an instructional component that teaches participants that not all strangers are bad, yet to initially treat even strangers in uniforms with apprehension.

Rather than role-play probes in the classroom, it could be beneficial to role-play in various community or school settings to collect data, similar to the research by Olcay-Gul (2016)

and Akmanoglu & Tekin-Iftar (2011). Adding additional settings and strangers will assist in the generalization of the skill across locations. Akmanoglu & Tekin-Iftar (2011) utilized various settings and strangers in their research. The first phase of their study consisted of CBVI in the classroom, and the second phase utilized CBI through different settings on the school campus. During the second phase, 27 strangers were used to deliver the lures to participants. This instructional design was beneficial for students with autism; however, research replicating this design with students with a mild ID could also be a topic of further research.

Future research should gather social validity measures for participants. Participants in this study were verbally fluent and could sustain reciprocal conversation with adults. The researcher underestimated the conversational skills of the participants in the current study. More research is needed on how the participants felt and on their perceptions of the ease and efficacy of this intervention. The results would be useful data for the instructional and transition planning process.

Lastly, future research should continue to explore using only CBVI (i.e., CBVI and no other instructional method) to teach various skills, from community-referenced to social skills. Other social skills, including initiating and sustaining conversations, saying thank you, comforting a friend, or even other safety skills such as calling 911 in an emergency, could easily be taught using only CBVI. Research utilizing only CBVI could expand these results and those from Bell (2021) that only utilized CBVI as an instructional practice.

Implications for Practice

Based on the findings of this study, in conjunction with previous research studies, it appears that CBVI is a powerful tool to teach students with a mild ID how to respond to strangers with two simple steps, saying no and walking away. The CBVI utilized in this research was easy and simple to implement. While the initial development of the intervention took

approximately five hours, the finished product (i.e. CBVI videos) can be utilized for years. Within two weeks, all four participants reached the mastery criterion. All participants maintained their skills and generalized those skills to a novel setting and situation. CBVI can be utilized to teach almost any skill, in any location, with any population (Boles et al., 2019), thus extending its power beyond the classroom walls.

Safety skills are important for all children. Assertively addressing a potential abductor by saying "No" will bring attention to the stranger from others and will halt their actions. In addition, walking or running away will get the child out of a dangerous situation and away from the potential abductor. Short, simple, and assertive steps are important for students to utilize during stressful and life-threatening situations. Educators can utilize the underlying strategies and methods of CBVI to teach safety skills and social, community, life, and transition skills.

The current results expand the findings from Bell (2021), who used only CBVI to teach students with autism how to respond to strangers. These results suggest that CBVI is a valuable instructional tool for students of varying disabilities and ages. In addition, this research extends the work of Akmanoglu & Tekin-Iftar (2011), who utilized CBVI and CBI to teach students with autism how to respond to strangers. However, the current research applied only CBVI, which was time and cost-efficient and included fewer staffing and logistical requirements than the Akmanoglu & Tekin-Iftar (2011) study.

In light of the current COVID-19 pandemic, CBI was paused for many students. Due to the disruption of the entire educational system in the United States, students lost valuable instruction in learning life and social skills in the community. The current research results suggest that, for certain skills, students might not require all the elements of CBI to acquire social and safety awareness skills. While CBI is certainly valuable, and research has demonstrated the effectiveness of CBI for years across skills (Bakken, 2019), CBI is not

logistically feasible for all students (Hopkins & Dymond, 2020). All participants in this research study were able to acquire the target skill relatively quickly, maintain the skill from one to five weeks, and generalize the skill to a new setting with a novel stranger. With a growing emphasis on technology in the classroom (Allcoat et al., 2021), the current research expands the positive outcomes associated with CAI and CBVI.

The preparation time, intervention session length (approximately five minutes), and logistical requirements make this research appealing to teachers and staff who are already burdened with teacher preparation (Hopkins & Dymond, 2020) and content recovery due to learning loss from COVID-19 (Kaffenberger, 2021; Kuhfeld et al., 2020). This intervention could be utilized during social-emotional learning activities or when direct instruction is provided to other students in small groups. The intervention can be created and implemented by a classroom teacher, as the only requirement from the classroom teacher would be to create the videos and engage in role-playing. The creation of the videos, recruitment of students for video-modeling, and scouting of locations for videos is the most time-consuming piece of the intervention. Once the videos are created, they can be utilized for years to come. The videos themselves take anywhere from one to five minutes to create but can be replayed in the classroom during school and be shown to children of all ages. The creation of the videos is considered a minor requirement compared to the potential benefits of saving a child's life from a stranger. In addition, the students themselves could easily be taught to retrieve the videos and play them without teacher support. To save more valuable instruction time, the intervention could also occur in a small group instructional arrangement.

Students with a mild ID who are trying to earn a high school diploma often have limited time in their schedules for CBI or extensive transition planning. This study demonstrates that even quick interventions requiring a limited number of resources can be beneficial for teaching

stranger awareness. CBVI can be incorporated rather quickly into a student's daily routine, requiring five minutes or less of academic time per day. Progress monitoring of these skills can also be done with quick and simple observations throughout the school or via teacher checklists and interviews. While this intervention aimed to teach stranger awareness, conclusions can be drawn from these results and previous studies that other social, safety, and community-referenced skills can be taught in the same way (Boles et al., 2019; Gibson et al., 2017; Green et al., 2017; Hansen & Morgan, 2008; Mechling & O'Brien, 2010; Root et al., 2017; Rice et al., 2015).

One final implication for practice is the support for transition planning to begin at an earlier age than what is federally mandated. The current research supports the movement for transition planning to begin during the early teenage years. The participants in this study were between the ages of 11 and 13 and responded positively to the intervention. We must not wait until children are 16 to consider the transition from school to post-secondary opportunities. While most educators see the value in early transition planning (Carter et al., 2014), more informal intervention opportunities should be provided before formal transition planning, such as those presented by the current research. Expanding the idea of transition planning to include social skills training, community experiences, and safety skills instruction for students in elementary school will be helpful across the lifespan.

Conclusion

Research exploring the use of CBVI suggests that CBVI frequently includes a CBI component (Bassette et al., 2018; Horn et al., 2020; Taber-Doughty et al., 2013), includes students with more severe disabilities as participants (Gibson et al., 2017; Trainor et al., 2016), and includes older students as research participants (Boles et al., 2019). In addition, much CBVI research has focused on teaching community-referenced skills (Gibson et al., 2017; Mechling &

O'Brien, 2010; Ozkan et al., 2013). Limited research exists about utilizing only CBVI to teach stranger awareness to young students with a mild ID. This study expands the body of research and contributes to the efficacy of utilizing CBVI to teach transition skills to students.

Transition services are a coordinated set of activities designed to assist students with disabilities in the transition from high school to post-secondary life. Under federal law, transition planning begins at the age of 16; however, many states begin transition planning before this requirement. The results from the current research support the benefits of beginning transition planning in elementary school. This research supports incorporating social skills and safety skills in the early transition planning process. Social skills are the building blocks for future success post-high school and should be taught early in a child's educational career (Deitchman et al., 2010; Newman et al., 2011).

The present study offers several contributions to the literature on CBVI and teaching appropriate responses to stranger lures. Findings from this study indicate that the use of CBVI has a positive effect on teaching responses to stranger lures. Under this multiple-probe design, experimental control across four participants was provided for CBVI and teaching appropriate responses to strangers. Along with high treatment fidelity, the description of the intervention procedures was thorough and allows for others to replicate the study across settings and participants.

The present study adds to the literature by demonstrating that CBVI can be used on its own to teach young children with a mild ID how to respond to strangers. Students with a mild ID are often unable to participate in the level of transition planning activities that students with more severe disabilities participate in (especially CBI) due in part to their academic requirements. Also, managing all the expectations of a well-developed transition plan can be difficult for teachers who serve children with various disabilities and can be difficult to fit into the school day

(Kim & Dymond, 2010). This relatively quick, easy to implement, and effective intervention can be a solution to these difficulties facing overburdened teachers and students.

In addition, these research findings suggest that the acquired skills via CBVI can be generalized to a new setting with a novel stranger. All participants in the study increased their scores from baseline during the intervention. Participants learned how to respond to strangers via CBVI, maintain those skills, and demonstrate the skill in a real-world setting.

Teachers and parents reported positive responses to the intervention. Both parents and teachers viewed the research as socially valid and an important skill for children. Teachers appreciated the ease of implementation and the positive impacts on their students' stranger awareness skills. After participating in the study, parents reported feeling safer for their children. They expressed the desire for their child to participate in more CBVI and expand it to other social skills.

In conclusion, the present study resulted in improved responses to stranger lures for all participants. The research contributes to the field of education and special education a research-based practice that improves the safety skills of students ages 11-13 with a mild ID. With an education system relying heavily on technology and 21st-century skills, the design of this study is appealing, as it is easily incorporated into classroom instruction and delivered virtually. The rapid skill acquisition for all four participants makes this research design appealing to teachers and beneficial for students.

References

Akmanoglu, N., & Tekin-Iftar, E. (2011). Teaching children with autism how to respond to the lures of strangers. *Autism, 15*(2), 205-222. https://doi.org/10.1177/1362361309352180

Akmanoglu, N., Yanardag, M., & Batu, E. S. (2014). Comparing video modeling and graduated guidance together and video modeling alone for teaching role playing skills to children with autism. *Education and Training in Autism and Developmental Disabilities, 49* (1), 17-31. http://www.jstor.org/stable/238806

Allcoat, D., Hatchard, T., Azmat, F., Stansfield, K., Watson, D., & von Mühlenen, A. (2021). Education in the digital age: Learning experience in virtual and mixed realities. *Journal of Educational Computing Research, 59*(5), 795-816. https://doi.org/10.1177/0735633120985120

Almalky, H. A. (2018). Investigating components, benefits, and barriers of implementing community-based vocational instruction for students with intellectual disability in Saudi Arabia. *Education and Training in Autism and Developmental Disabilities, 53*(4), 415–427. https://www.jstor.org/stable/26563483

Alpern, G. (2007). *Developmental Profile Third Edition (DP3). Technical Manual.* Western Psychological Services

Ayres, K., & Cihak, D. (2010). Computer-and video-based instruction of food-preparation skills: acquisition, generalization, and maintenance. *Intellectual and Developmental Disabilities, 48,* 195-208. http://www.jstor.org/stable/23880166

Ayres, K., Maguire, A., & McClimon, D. (2009). Acquisition and generalization of chained tasks taught with computer based video instruction to children with autism. *Education and Training in Developmental Disabilities, 44*(4), 493–508. http://www.jstor.org/stable/24234258

Bakken, J. P. (2019). *Special education transition services for students with disabilities: An introduction*. Emerald Publishing

Bandura, A. (1977). *Social Learning Theory.* Prentice Hall.

Barczak, M. A. (2019). Simulated and community-based instruction: Teaching students with intellectual and developmental disabilities to make financial transactions. *Teaching Exceptional Children, 51*(4), 313-321. https://doi.org/10.1177/0040059919826035

Bassette, L. A., Taber-Doughty, T., Gama, R. I., Alberto, P., Yakubova, G., & Cihak, D. (2018). The use of cell phones to address safety skills for students with a moderate ID in community-based settings. *Focus on Autism and Other Developmental Disabilities, 33*(2), 100–110. https://doi.org/10.1177/1088357616667590

Bates, P. E., Cuvo, T., Miner, C. A., & Korabek, C.A. (2001). Simulated and community-based instruction involving persons with mild and moderate mental retardation. *Research in Developmental Disabilities, 22*, 95-115. https://doi.org/10.1016/S0891-4222 (01)00060-9

Bell, B. (2021). Using video modeling to teach abduction-prevention skills to children with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 9 https://doi.org/10.1007/s10803-021-05241-z

Bergstrom, R., Najdowski, A., Alavardo, M., & Tarbox, J. (2016). Teaching children with autism to tell socially appropriate lies. *Journal of Applied Behavior Analysis, 49*(2), 405-410. https://doi.org/10.1002/jaba.295

Best, K., Scott, L. A., Thoma, C.A. (2015). Starting with the end in mind. In R.G. Craven (Eds.), *Inclusive education for students with intellectual disabilities* (pp. 45-73). Information Age Publishing, INC

Beveridge, T. (2010). No child left behind and fine arts classes. *Arts Education Policy Review, 1*, 4-7. https://doi.org/10.1080/10632910903228090

Bidwell, M. A., Rehfeldt, R. A. (2004). Using video modeling to teach a domestic skill with an embedded social skill to adults with severe mental retardation. *Behavioral Interventions, 19*, 263-274. https://doi.org/10.1002/bin.165

Bippert, K., & Harmon, J. (2017). Middle school teachers' perceptions of computer-assisted reading intervention programs. *Reading Psychology, 38*(2), 203–230. https://doi.org/10.1080/02702711.2016.1245691

Boles, M., Ganz, J., Hagan-Burke, S., Hong, E. R., Neeley, L.C., Davis, J. L., & Zhang, D. (2019). Effective Interventions in teaching employment skills to individuals with developmental disabilities: A single-case meta-analysis. Review Journal of Autism and Developmental Disorders, 6, 200-2015. https://doi.org/10.1007/s40489-019-00163-0

Bouck, E. C. (2014). The post school outcomes of students with mild intellectual disability: does it get better with time? *Journal of Intellectual Disabilities Research, 58*(6), 534-548. https://doi.org/10.1111/jir.12051

Bouck, E. C., & Joshi, G. S. (2016). Transition and students with mild intellectual disability: Findings from the National Longitudinal Transition Study–2. *Career Development and Transition for Exceptional Individuals, 39*, 154-163. https://doi:10.1177/21651 43414551408

Bramlett, V., Ayres, K. M., Cihak, D. F., & Douglas, K. H. (2011). Effects of computer and classroom simulations to teach students with various exceptionalities to locate apparel sizes. *Education and Training in Autism and Developmental Disabilities, 46*(3), 454-469. http://www.jstor.org/stable/23880598

Branham, R. S., Collins, B. C., Schuster, J. W., & Kleinert, H. (1999) Teaching community skills to students with moderate disabilities: Comparing combined techniques of classroom simulation, videotape modeling, and community-based instruction. *Education and*

Training in Mental Retardation and Developmental Disabilities, 34, 170–81. http://www.jstor.org/stable/23880124

Britannica. (2020, October 3). Programmed learning. https://www.britannica.com/biography/B-F-Skinner

Butcher, K. R., & Jameson, J. M. (2016). *Computer assisted and web-based innovations in psychology, special education, and health*. Associated Press

Carter, E. W., Austin, D., & Trainor, A. A. (2012). Predictors of postschool employment outcomes for young adults with severe disabilities. *Journal of Disability Policy Studies, 23,* 50-63. https://doi.org/10.1177/1044207311414680

Carter, E. W., Brock, M.E., Trainor, A.A. (2014). Transition assessment and planning for youth with severe intellectual and developmental disabilities. *The Journal of Special Education, 47*(4), 245-255. https://doi.org/10.1177/0022466912456241

Charlop, M.H., Lang, R., Rispoli, M. (2018). *Play and social skills for children with autism spectrum disorder.* Springer. https://doi.org/10.1007/978-3-319-72500-0

Cherry, K. (2021). How observational learning affects behavior. https://www.verywellmind.com/what-is-observational-learning-2795402

Chester, M., Richdale, A. L., McGillivray, J. (2019). Group-based social skills training with play for children on the autism spectrum. *Journal of Autism and Developmental Disorders, 49,* 2231-2242. https://doi.org/10.1007/s10803-019-03892-7

Chiang, H. Y., & Jacobs, K. (2010). Perceptions of a computer-based instruction system in special education: high school teachers and students views. *Work, 37*(4), 349–359. https://doi.org/10.3233/WOR-2010-1089

Cihak, D., Alberto, P. A., Kessler, K. B., & Taber, T. A. (2004). An investigation of instructional scheduling arrangements for community-based instruction. *Research in Developmental Disabilities, 25,* 67-88. https://doi.org/10.1016/j.ridd.2003.04.006

Cihak, D., Alberto, P. A., Taber- Doughty, T., Gama, R. I. (2006). A comparison of static picture prompting and video prompting simulation strategies using group instructional procedures. *Focus on Autism and Other Developmental Disabilities, 21*(2), 89-99. https://doi.org/10.1177/10883576060210020601

Collins, B. C., Stinson, D. M., & Land, L. (1993). A comparison of in vivo and simulation prior to in-vivo instruction in teaching generalized safety skills. *Education and Training in Mental Retardation, 28,* 128-142. http://www.jstor.org/stable/23878848

Cook, B. G., & Cook, L. (2018). Using single-case research designs to examine the effects of interventions in special education. *Learning Disabilities Research & Practice, 33*(4), 182-191

Craig, A. B., Brown, E. R., Upright, J., & DeRosier, M. (2016). Enhancing children's social emotional functioning through virtual game-based delivery of social skills training. *Journal of Child and Family Studies, 25,* 959-968. https://doi.org/10.1007/s10826-015-0274-8

Curriculum Associates. (2021). i-Ready. Data. Instruction. Results. Retrieved December 2, 2021 from https://www.curriculumassociates.com/products/i-ready

Deitchman, C., Reeve, S. A., Reeve, K. F., Progar, P. R. (2010). Incorporating video feedback into self-management training to promote generalization of social interactions by children with autism. *Education and Treatment of Children, 33*(3), 475-488. http://www.jstor.org/stable/42900080

DiPippi-Hoy, C., Jitendra, A.K., Kern, L. (2009). Effects of time management instruction on adolescent's ability to self-manage time in a vocational setting. *The Journal of Special Education, 43*(3), 145-159. https://doi.org/10.1177/0022466908317791

Domire, S. C, & Wolfe, P. (2014). Effects of video promoting techniques on teaching daily living kills to children with autism spectrum disorders: A review. *Research and Practice for Persons with Severe Disabilities, 39*(3), 211-226. https://doi.org/10.1177/1540791455557

Dunn, C. (2012). Transition. Retrieved November 28, 2012 from https://council-for-learning-disabilities.org/transition-planning-for-individuals-with-learning-disabilites/

Dymond, S. K. (2020). Community skills. In P. Wehman & J. Kregel, (Eds.), *Functional curriculum for elementary and secondary students with special needs* (4th ed., pp. 165–184). Pro-Ed

Dymond, S. K., Butler, A. M., Hopkins, S. L., & Patton, K. A. (2018). Curriculum and context: Trends in interventions with transition-age students with severe disabilities. *The Journal of Special Education, 53*, 152-162. https://doi.org/10.1177/0022466918768776

eLearning Industry. (2021, October 3). Instructional design models and theories: Programmed instruction educational model. https://elearningindustry.com/programmed- instruction-educational-model

Everhart, J. M., Alber-Morgan, S. R., & Park, J. H. (2011). Effects of computer-based practice on the acquisition and maintenance of basic academic skills for children with moderate to intensive educational needs. *Education and Training in Autism and Developmental Disabilities, 46*(4), 556-564. http://www.jstor.org/stable/24232366

Fenty, N., Miller, M., & Lampli, A. (2008). 20 ways to embed social skills instruction in inclusive settings. *Intervention in School and Clinic, 43*(3), 186-192. https://doi.org/10.1177/1053451207312922

Fisher, W., Luczynski, K., Blowers, A., Vosters, M., Pisman, M., Craig, A., Hood, S., Machado, M., Lesser, A., & Piazza, C. (2020). A randomized clinical trial of a virtual-training program for teaching applied-behavior-analysis skills to parents of children with autism spectrum disorder. *Journal of Applied Behavior Analysis, 53*(4), 1856-1875 https://doi.org/10.1002/jaba.778

Flanagan, M. F., & Kutscher, E. L. (2021). Making the most of community-based instruction: Progress monitoring for strategic decision-making. *Teaching Exceptional Children, 53*(3), 376-385. https:// doi.org/10.1177/0040059920973048

Fox, A., Dishman, S., Vailcek, M., Ratcliff, K., & Hilton, C. (2020). Effectiveness of social skills interventions incorporating peer interactions for children with attention deficit hyperactivity disorder: A systematic review. *The American Journal of Occupational Therapy, 74*(2), 1-19. https://doi.org/10.5014/ajot.2020.040212

Francis, G. L., Stride, A., Reed, S. (2018). Transition strategies and recommendations: perspectives of parents of young adults with disabilities. *British Journal of Special Education, 45*(3), 277-301. https://doi.org/10.1111/1467-8578.12232

Frye, R. E. (2018). Social skills deficits in autism spectrum disorder: potential biological origins and progress in developing therapeutic agents. *CNS Drugs, (32),* 713-714. https://doi.org/10.1007/s40263-018-0556-y

Gallagher, T. L., & Bennett, S. (2015). A canadian perspective on the inclusion of students with intellectual disabilities in high schools. In R.G. Craven (Eds.), Inclusive education for students with intellectual disabilities (pp. 25-44). Information Age Publishing, INC

Gantman, A., Kapp, S. K., Orenski, K., Laugeson, E. A. (2012). Social skills training for young adults with high-functioning autism spectrum disorders: a randomized controlled pilot study. *Journal of Autism and Developmental Disorders, 42*(6), 1094-1103. https://doi.org/10.1007/s10803-011-1350-6

Gibson, C. B., Carter, E. W., Biggs, E. E. (2017). *Systematic review of instructional methods to teach employment skills to secondary students with intellectual and developmental disabilities. 42*(2), 89-107. https://doi.org/10.1177/1540796917698831

Godish, D., Miltenberger, R. & Sanchez, S. (2017). Evaluation of video modeling for teaching abduction prevention skills to children with autism spectrum disorder. A*dvances in Neurodevelopmental Disorders 1*, 168–175 (2017). https://doi.org/10.1007/s41252-017 0026

Goo, M., Therrien, W. J., & Hua, Y. (2016). Effects of computer-based video instruction on the acquisition and generalization of grocery purchasing skills for students with intellectual disability. *Education and Training in Autism and Developmental Disabilities, 51*(2), 150-161

Greene, G., & Kochhar-Bryant, C. A. (2003). *Pathways to successful transition for youth with disabilities*. Pearson Education

Greer, D., Dudek-Singer, J., & Gautreaux, G. (2007). Observational learning. *International Journal of Psychology, 41*, 486-499. https://doi.org/10.1080/00207590500492435

Greer, D., Rowland, A. L., & Smith, S. J. (2014). Critical considerations for teaching students with disabilities in online environments. *Teaching Exceptional Children, 46*(5), 79-91. https://doi.org/ 10.1177/0040059914528105

Hanley, G. P., Heal, N. A., Tiger, & Jeffrey, H. (2007). Evaluation of a class wide teaching program for developing preschool life skills. *Journal of Applied Behavior Analysis, 40*(2), 277-300. https://doi.org/10.1901/jaba.2007.57-06

Hansen, D. L., & Morgan, R. L. (2008). Teaching grocery store purchasing skills to students with intellectual disabilities using a computer-based instruction program. *Education and Training in Developmental Disabilities, 43*(4), 431-442. http://www.jstor.org/stable/23879674

Harrison, P., & Oakland, T. (2015). *Adaptive Behavior Assessment System- Third Edition (ABAS-3). Technical Manual*. Pearson

Haydon, T., Musti-Rao, S., McCune, A., Clouse, D. E., McCoy, D. M., Kalra, H. D., & Hawkins, R. O. (2017). Using video modeling and mobile technology to teach social skills. *Intervention and School Clinic, 52*(3), 154-162. https://doi.org/10.1177/1053451216644828

Hedley, D., Uljarevic, M., Cameron, L., Halder, S., Richdale, A., & Dissanayake, C. (2017). Employment programs and interventions targeting adults with autism spectrum disorder: A systematic review. *Autism, 8*, 929-941. https://doi.org/10.1177/1362361316661855

Herman, K. C., Cohen, D., Reinke, W. M., Ostrander, R., Burrell, L., McFarlane, E., & Duggan, A. K. (2018). Using latent profile and transition analyses to understand patterns of informant ratings of child depressive symptoms. *Journal of School Psychology, 69*, 84-99. https://doi.org/10.1016/j.jsp.2018.05.004

Hetzroni, O. E., & Banin, I. (2017). The effect of educational software, video modelling and group discussion on social-skill acquisition among students with mild intellectual disabilities. Journal of Applied Research in Intellectual Disabilities, 30(4), 757-773. https://doi.org/10.1111/jar.12271

Hiersteiner, D., Bershadsky, J., Bonardi, A., & Butterworth, J. (2016). *Working in the community. The status and outcomes of people with intellectual and developmental disabilities in integrated-employment-Update 2.* Human Services Research Institute

Hopkins, S. L., & Dymond, S. K. (2020). Factors influencing teachers' decisions about their use of community-based instruction. *Intellectual and Developmental Disabilities, 58*(5), 432-446. https://doi.org/ 10.1352/1934-9556-58.5.432

Hopkins, I. M., Gower, M. W., Perez, T. A., Smith, D.S., Amthor, F. R., Wimsatt, F. C., & Biasini, F. J. (2011). Avatar assistant: improving social skills in students with ASD through computer-based intervention. *Journal of Autism and Developmental Disorders, 41*, 1543-1555

Horn, A., Gable, R., Bobzien, J. L., Tonelson, S. W., Rock, M. L. (2020). Teaching young adults job skills using a constant time delay and eCoaching intervention package. *Career Development and Transition for Exceptional Individuals, 43*(1), 29-39

Horner, R. D. & Baer, D .M. (1978). Multiple-probe technique: A variation of the multiple baseline. *Journal of Applied Behavior Analysis, 11,* 189-196. https://doi.org/10.1901/jaba.1978.11-189

Hu, X., Lee, G. T., Tsai, Y., Yang, Y., & Cai, S. (2020). Comparing computer-assisted and teacher-implemented visual matching instruction for children with ASD and/or other DD. *Journal of Autism and Developmental Disorders, 50,* 2540-2555. https://doi.org/10.1007/s10803-019-03978-2

Individuals with Disabilities Education Improvement Act (IDEA) of 2004, 20 US C. §1400, HR 1350

Kaffenberger, M. (2021). Modelling the long-run learning impact of the COVID-19 learning

shock: Actions (more than) mitigate loss. *International Journal of Educational Development, (81)*1-7. https://doi.org/10.1016/j.ijedudev.2020.102326

Kalyva, E., & Agaliotis, I. (2009). Can social stories enhance the interpersonal conflict resolution skills with LD? *Research in Developmental Disabilities, 30,* 192-202. https://doi.org/10.1016/j.ridd.2008.02.005

Karimi, N. B., & Nazari, M. (2021). Growth in language teachers' understanding of differentiated instruction: A sociocultural theory perspective. *Journal of Education for Teaching, 47*(3), 322-356. https://doi.org/10.1080/02607476.2021.1884973

Kaufman, A. S., & Kaufman, N. L. (2018). *Kaufman Assessment Battery for Children-Second Edition Normative Update (KABC-2NU). Technical Manual*. Pearson

Kadzin, A. (1976) Methodological and interpretive problems of single-case experimental designs. *Journal of Consulting and Clinical Psychology, 46,* 629-642. https://doi.org/ 10.1037//0022-006x.46.4.629

Kelley, K. R., Test, D. W., & Cooke, N. L. (2013). Effects of picture prompts delivered by a video iPod on pedestrian navigation. *Exceptional Children, 79,* 459–474

Kennedy, C. H. (2005). *Single case designs for educational research*. Pearson Education

Kim, R. H., & Dymond, S. K. (2010). Special education teachers' perceptions of benefits, barriers, and components of, community-based vocational instruction. *Intellectual and Developmental Disabilities, 48*(5), 313-329. https://doi.org/10.1352/1934-9556-48.5.313

Kluth, P. (2000). Community-referenced learning and the inclusive classroom. *Remedial and SpecialEducation, 26,* 19-26. https://doi.org/10.1177/074193250002100103

Kohler, P. D., Gothberg, J. E., Fowler, C., and Coyle, J. (2016). *Taxonomy for transition programming 2.0: A model for planning, organizing, and evaluating transition*

education, services, and programs. Western Michigan University. Available at www.transitionta.org

Kratochwill, T. R., Hitchcock, J., Horner, R. H., Levin, J. R., Odom, S. L., Rindskopf, D. M. & Shadish, W. R. (2010). Single-case designs technical documentation. Retrieved from What Works Clearinghouse website: http://ies.ed.gov/ncee/wwc/pdf/wwc_scd.pdf.

Kucukalkan, K., Beyazzsacli, M., & Oz, A. S. (2019). Examination of the effects of computer-based mathematics instruction methods in children with mathematical learning difficulties- a meta-analysis. *Behavior and Information Technology, 38*(9), 913-923. https://doi.org/10.1080/0144929X.2019.159716

Kuhfeld, M., Soland, J., Tarasawa, B., Johnson, A., Ruzek, E., & Liu, J. (2021). Projecting the potential impacts of COVID-19 school closures on academic achievement. (EdWorkingPaper 20-266). Retrieved from Annenberg Institute at Brown University: https://doi.org/10.26300/cdrv-yw05

Landmark, L., Ju, S., & Zhang, D. (2010). Substantiated best practices in transition: Fifteen plus years later. *Career Development for Exceptional Individuals, 33*(3), 165–176. https://doi.org/10.1177/0885728810376410

Lang, R., & Sturmey, P. (2021). *Adaptive behavior strategies for individuals with intellectual and developmental disabilities: Evidence-based practices across the lifespan.* Springer. https://doi.org/10.1007/978-3-030-66441-1

Leaf, J. B., Tsuji, K. H., Griggs, B., Edwards, A., Taubman, M., McEachin, J., Leaf, R., & Oppenheim-Leaf, M. (2012). Teaching social skills to children with autism using the cool versus not cool procedure. *Education and Training in Autism and Developmental Disabilities, 47*(2), 165-175. http://www.jstor.org/stable/23880097

Ledford, J.R., & Gast, D.L. (Eds.). (2018). Single Case Research Methodology: Applications in Special Education and Behavioral Sciences (1st ed.). Routledge. https://doi.org/10.4324/9781315150666

Ledford, J. R., & Wolery, M. (2015). Observational learning of academic and social behaviors during small-group direct instruction. *Exceptional Children, 81*(3), 272-291. https://doi.org/10.1177/0014402914563698

Macpherson, K., Chalop, M., & Miltenberger, C.A. (2014). Using portable video modeling technology to increase the compliment behaviors of children with autism during athletic group play. *Journal of Autism and Developmental Disorders, 45*(12), 3836-3845. https://doi.org/10.1007/s10803-014-2072-3

Madaus, J. W., Grigal, M., & Hughes, C. (2014). Promoting access to post-secondary education f or low-income students with disabilities. *Career Development and Transition for Exceptional Individuals, 37,* 50-59. https://doi.org/10.1177/2165143414525037

Mailey, C., Day-Watkins, J., Pallathra, A., Eckerman, D., Brodkin, E., & Connell, J. (2021). Using adaptive computer-based instruction to teach staff to implement a social skills intervention. *Journal of Organizational Behavior Management, 41*(1), 2-15. https://doi.org/10.1080/01608061.2020.1776807

Mayer, R. E. (2003). The promise of multimedia learning: using the same instructional design methods across different media. *Learning and Instruction, 13,* 125-139. https://doi.org/10.1016/S0959-4752(02)00016-6

McCoy, A., Holloway, J., Healey, O., Rispoli, M., & Neeley, L. (2016). A systematic review and evaluation of video modeling, role-play, and computer-based instruction as social skills interventions for children and adolescents with high functioning autism. *Review Journal*

of Autism and Developmental Disorders, 3, 48-67. https://doi.org/10.1007/s40489-015-0065-6

McDonald, J., & Ahearn, W. (2015). Teaching observational learning to children with autism. *Journal of Applied Behavior Analysis, 48*(4), 800-816

McDonnell, J., & Hardman, M. L. (2013). *Successful transition programs: Pathways for students with intellectual and developmental disabilities- second edition.* Sage Publications, Inc.

McLaughlin, B. (2021). One year on: The ongoing impact of the COVID-19 pandemic on instruction in community-based adult education programs. *Instructional Design Capstones Collection, 71*

McLeod, S. (2016). Albert Bandura's social learning theory. https://www.simplypsychology.com/bandura

Mechling, L. C. (2008). Thirty year review of safety skill instruction for persons with intellectual disabilities, *Education and Training in Developmental Disabilities, 43,* 311–323. http://www.jstor.org/stable/23879793m

Mechling, L. C., Ayres, K. M., Bryant, K. J., & Foster, A. L. (2014). Comparison of the effects of continuous video modeling, video prompting, and video modeling on task completion by young adults with moderate intellectual disability. Education and Training in Autism and Developmental Disabilities, 49(4), 491–504. http://www.jstor.org/stable/24582346

Mechling, L. C., & Cronin, B. (2006). Computer-based video instruction to teach the use of augmentative and alternative communication devices for ordering at fast-food restaurants. *The Journal of Special Education, 39*(4), 234-245. https://doi.org/10.1177/00224669060390040401

Mechling, L.C., Gast, D. L., & Barthold, S. (2003). Multimedia computer-based instruction to teach students with moderate intellectual disabilities to use a debit card and make purchases. *Exceptionality: A Special Education Journal, 11,* 239-254

Mechling, L. C., Gast, D. L., & Gustafson, M. R. (2009). Use of video modeling to teach extinguishing of cooking related fires to individuals with moderate intellectual disabilities. *Education and Training in Developmental Disabilities, 44*(1), 67–79. http://www.jstor.org/stable/24233464

Mechling, L .C., & Hunnicutt, J.R. (2011). Computer-based video self-modeling to teach receptive understanding of prepositions by students with intellectual disabilities. *Education and Training in Autism and Developmental Disabilities, 46*(3), 369–385. http://www.jstor.org/stable/23880592

Mechling, L. C., & O'Brien, E. (2010). Computer-based video instruction to teach students with intellectual disabilities to use public bus transportation. *Education and Training in Autism and Developmental Disabilities, 45*(2), 230-241. http://www.jstor.org/stable/23879809

Mechling, L. C., & Ortega-Hurndon, F. (2007). Computer-based video instruction to teach young adults with moderate intellectual disabilities to perform multiple step, job tasks in a generalized setting. *Education and Training in Developmental Disabilities, 42*(1), 24–37. http://www.jstor.org/stable/23880136

Merritt, E.G. (2016). Time for teacher learning, planning critical for school reform. *Phi Delta Kappan, 98*(4), 31-35.

Morse, T. E., & Schuster, J. W. (2000). Teaching elementary students with moderate intellectual disabilities how to shop for groceries. *Exceptional Children, 66,* 273-288. https://doi.org/10.1177/001440290006600210

Mousa AL-Salahat, M. (2016). Using of video modeling in teaching a simple meal preparation skill for pupils of downs syndrome. *Journal of Education and Practice, 7*(9), 82-90

Newman, L., Wagner, M., Knokey, A.-M., Marder, C., Nagle, K., Shaver, D., Wei, X., with Cameto, R., Contreras, E., Ferguson, K., Greene, S., & Schwarting, M. (2011). *The Post-High School Outcomes of Young Adults with Disabilities up to 8 Years after High School. A Report from the National Longitudinal Transition Study-2 (NLTS2)* (NCSER 2011-3005). Menlo Park, CA: SRI International. www.nlts2.org/reports/

Neubert, D. A., & Moon, M. S. (2006). Post-secondary settings and transition services for students with intellectual disabilities: Models and research. *Focus on Exceptional Children, 39*(4), 1-8

Nurenberger, J. E., Ringdhal, J. E., Vargo, K. K., Crumpecker, A. C., & Gunnarsson, K. F. (2013). Using a behavioral skills training package to teach conversation skills to young adults with autism spectrum disorders. *Research in Autism Spectrum Disorders, 7*(2), 411-417. https://doi.org/10.1016/j.rasd.2012.09.004

Office for Victims of Crime. (2021). W*orking with victims of crime with disabilities.* (Report No. 97-BF-GX-K022. US Department of Justice. https://www.ncjrs.gov/ovc_archives/factsheets/disable.html

Olcay-Gul, S. (2016). The combined use of video modeling and social stories in teaching social skills for individuals with intellectual disability. *Education Sciences: Theory and Practice, 16*(1). https://doi.org/10.12738/estp.2016.1.0046

Olivares-Olivares, P. J., Ortiz-Gonzalez, P. F., & Olivares, J. (2019). Role of social skills training in adolescents with social anxiety disorder. *International Journal of Clinical and Health Psychology, 19*(1), 41-48. https://doi.org/10.1016/j.ijchp.2018.11.002

O'Neill, J., & Rehfeldt, R. A. (2017). Computerized behavioral skills training with selection-based instruction and lag reinforcement schedules for response to interview questions. *Behavior Analysis Research and Practice, 17*(1), 42-54. https://dx.doi.org/10.1037.bar0000043

Ozkan, S. Y., Oncul, N., & Kaya, O. (2013). Effects of computer-based instruction on teaching emergency telephone numbers to students with intellectual disability. *Education & Training in Autism & Developmental Disabilities, 48*(2), 200–217. https://www.js;.tor.org/stable/23880640

Papay, C., Unger, D. D., Williams-Diehm, K., & Mitchell, V. (2015). Begin with the end in mind. Infusing transition planning and instruction into elementary classrooms. *Teaching Exceptional Children, 47*(6), 310-318. https://doi.org/10.1177/0040059915587901

Pennington, P. C., Collins, B. A., Stenhoff, D. M., Turner, K., & Gunselman, K. (2014). Using simultaneous prompting and computer-assisted instruction to teach narrative writing skills to students with autism. *Education and Training in Autism and Developmental Disabilities, 49,* 396-400. http://www.jstor.org/stable/23881260

Pickens, J. L., & Dymond, S. K. (2015). Special education directors' views of community-based vocational instruction. *Research and Practice for Persons with Severe Disabilities, 39*(4), 290-304. https://doi.org/10.1177/1540796914566713

Purrazzella, K., & Mechling, L. C. (2013). Evaluation of manual spelling, observation and incidental learning using computer-based instruction with a tablet PC, large screen projection, and a forward chaining procedure. *Education and Training in Autism and Developmental Disabilities, 48,* 218-235. http://www.jstor.org/stable/23880641

Quenemoen, R. F., & Thurlow, M. L. (2017). The handbook of special education (2nd ed.). Routledge

Ramdoss, S., Mulloy, A., Lang, R., O'Reilly, M., Sigafoos, J., Lancioni D., … & El Zein, F., et al. (2011). Use of computer interventions to improve literacy skills in students with spectrum disorders. A systematic review. *Research in Autism Spectrum Disorders, 5,* 1306-1318. https://doi.org/10.1016/j.rasd.2011.03.004

Ratto, A. B., Turner-Brown, L., Rupp, B. M., Mesibov, & Penn, D. L. (2015). Development of the conceptual assessment of social skills (CASS): A role play measure of social skill for individuals with high-functioning autism. *Journal of Autism and Developmental Disorders, 41,* 1277-1286. https://doi.org/10.1007/s10803-010-1147-z

Reichow, B., Volkmar, F. R., & Cicchetti, D. V. (2008). Development of the evaluative method for evaluating and determining evidence-based practices in autism. *Journal of Autism and Developmental Disorder, 39,* 1740-1749. https://doi.org/10.1007/s10803-007-0517-7

Rice, L. M., Wall, C. A., Fogel, A., & Shic, F. (2015). Computer-assisted face processing instruction improves emotion regulation, mentalizing, and social skills in students with ASD. *Journal of Autism and Developmental Disorders, 45,* 2176-2186. https://doi.org/10.1007/s10803-015-2380-2

Robinson, S., & Graham, A. (2019). Promoting the safety of children and young people with intellectual disability: Perspectives and actions of families and professionals. *Children and Youth Services Review, 104,* 1-9. https://doi.org/10.1016/j.childyouth.2019.104404

Robinson-Ervin, P., Cartledge, G., Mutsi-Rao, S., Gibson, L., & Keyes, S.E. (2016). Social skills instruction for urban learners with emotional and behavioral disorders: A culturally responsive and computer-based intervention. *Behavioral Disorders, 41*(4), 209-225. https://doi.org/10.17988/bedi-41-04-209-225.1

Roda, A. (2006). More time is better or less is more? Neoliberal influences on teaching and learning time. *Journal of Education Policy, 32*(3), 303-321. https://doi.org/10.1080/

02680939.2016.1255917

Rooney-Kron, M., & Dymond, S. (2021). Teacher perceptions of barriers providing work-based learning experiences. *Career Development and Transition for Exceptional Individuals, 44*(4), 229-240. https://doi.org/10.1177/2165143420988492

Root, W. B., & Rehfeldt, R. A. (2021). Towards a modern-day teaching machine: The synthesis of programmed instruction and online education. *The Psychological Record, 71*(1), 85-94. https://doi.org/ 10.1007/s40732-020-00415-0

Root, J. R., Stevenson, B. S., Davis, L. L., Geddes-Hall, J., & Test, D. W. (2017). Establishing computer-assisted instruction to teach academics to students with autism as an evidence-based practice. *Journal of Autism and Developmental Disorders, 47,* 275-284 https://doi.org/10.1007/2108/03-016-2947-6

Rowe, D. A., Alverson, C. Y., Unruh, D., Fowler, C., Kellems, R., & Test, D. W. (2015). A Delphi study to Operationalize Evidence-based Predictors in Secondary Transition. *Career Development and Transition for Exceptional Individuals, 38*(2). 113-126. http://dx.doi.org/10.1177/2165143414526429

Rowe, D. A., Carter, E., Gajjar, S., Maves, E. A., & Wall, J. C. (2020). Supporting strong transitions remotely: Considerations and complexities for rural communities during COVID-19. *Rural Special Education Quarterly, 39*(4), 220-232. https://doi.org/10.1177/8756870520958199

Rowe, D. A., Cease-Cook, J., & Test, D. W. (2011). Effects of simulation training in making purchases with a debit card and tracking expenses. *Career Development for Exceptional Individuals, 34,* 107-114. https://doi.org/10.1177/0885728810395744

Rowe, D. A., & Test, D. W. (2012). Effects of simulation to teach students with disabilities basic finance skills. *Remedial and Special Education, 34*, 237–248. https://doi.org/10.1177/0741932512448218

Rynders, J. E., Schleien, S. J., & Mustonen, T. (1990). Integrating children with severe disabilities for intensified outdoor education: Focus on feasibility. *Mental Retardation, 28*, 7-14

Satsangri, R., Billman, R. H., Raines, A. R., Macedonia, A. M. (2021). Studying the impact of video modeling for algebra instruction for students with learning disabilities. *The Journal of Special Education, 55*(2), 67-78. https://doi.org/10.1177/0022466920937467

Scruggs, T. E., Mastropieri, M. A., & Casto, G. (1987). The quantitative synthesis of single-subject research: Methodology and validation. *Remedial and Special Education, 8*(2), 24-33. https://doi.org/10.1177/074193258700800206

Scattone, D. (2008). Enhancing the conversation skills of a boy with Asperger's disorder through social stories and video modeling. *Journal of Autism and Developmental Disorders, 38*(2), 395-400. https://doi.org/10.1007/s10803-007-0392-2

Schechter, J. S. (2018). Supporting the needs of students with undiagnosed disabilities. *Phi Delta Kappan, 100*(3), 45-50. https://doi.org/10.1177/0031721718808264

Shogren, K. A., Wehmeyer, M. L., Palmer, S. B., Rifenbark, G. G., & Little, T. D. (2013). Relationships between self-determination and postschool outcomes for youth with disabilities. *Journal of Special Education, 48*(4), 256-267. https://doi.org/10.1177/0022466913489733

Shulta-Mehta, S., Miller, T., & Callahan, R. J. (2010). Evaluating the effectiveness of video instruction on the social and communication skill training for children with autism

spectrum disorders: a review of the literature. *Focus on Autism and other Developmental Disabilities, 25,* 23-36

Simpson, A., Langone, J., & Ayres, K. M. (2004). Embedded video and computer based instruction to improve social skills for students with autism. *Education and Training in Developmental Disabilities, 39*(3), 240-252. http://www.jstor.org/stable/23880166

Skinner, B. E. (1958). Teaching machines. *Science, 128*, 969–977

Smith, B. R., Spooner, F., & Wood, C. L. (2013). Using embedded computer-assisted explicit instruction to teach science to students with autism spectrum disorder. *Research in Autism Spectrum Disorders, 7,* 433-443. https://doi.org/10.1016/j.rasd.2012.10.010

Smith, K. A., Ayres, K. A., Alexander, J., Ledford, J. R., Shepley, C., & Shepley, S. (2016). Initiation and generalization of self-instructional skills in adolescents with autism and intellectual disability. *Journal of Autism and Developmental Disorders, 46*, 1196-1209. https://doi.org/10.1007/s10803-015-2654-8

Souza, G., & Kennedy, C. H. (2003). Facilitating social interactions in the community for a transition-age student with severe disabilities. *Journal of Positive Behavior Interventions, 5,* 179-182. https://doi.org/10.1177/10983007030050030701

Sparrow, S., Cicchetti, D., & Saulnier, C. (2016). *Vineland Adaptive Behavior Scales- Third Edition (VABS-3). Technical Manual*. Pearson

Spitler, C., Repetto, J., & Cavanaugh, C. (2013). Investigation of a special education program in a public cyber charter school. *American Journal of Distance Education, 27*(1), 4-15. https://doi.org/10.1080/08923647.2013.754182

Spooner, F., Kemp-Inman, A., Ahlgrim-Delzell, L., Wood, L.A., & Ley Davis, L. (2015). Generalization of literacy skills through portable technology for students with severe disabilities. *Research and Practices for Persons with Severe Disabilities, 40,* 52-70.

https://doi.org/10.1177/1540796915586190

Suk, A. L., Martin, J. E., McConnell, A. E., & Biles, T. (2020). States decrease their required secondary transition planning age: Federal policy must change. *Journal of Disability Policy Studies, 31*(2), 112-118. https://doi.org/10.1177/1044207320915157

Sung, C., Sanchez, J., Kuo, H. J., Wang, C. C., & Leahy, M. J. (2015). Gender differences in vocational rehabilitation service predictors of successful competitive employment for transition-aged individuals with autism. *Journal of Autism and Developmental Disorders, 45*(10), 3204-3218. https://doi.org/10.1007/s10803-015-2480-z

Taber, T. A., Alberto, P. A., Hughes, M., & Seltzer, A. (2002). A strategy for students with moderate disabilities when lost in the community. *Research and Practice for Persons with Severe Disabilities, 27,* 141-152. https://doi.org/10.2511/rpsd.27.2.141

Taber, T. A., Alberto, P. A., Seltzer, A., & Hughes, M. (2003). Obtaining assistance when lost in the community using cell phones. *Research and Practice for Persons with Severe Disabilities, 28,* 105-116. https://doi.org/10.2511/rpsd.28.3.105

Taber-Doughty, T., Miller, B., Shurr, J., & Wiles, B. (2013). Portable and accessible video modeling: Teaching a series of novel skills within school and community settings. *Education and Training in Autism and Developmental Disabilities, 48*(2), 147-163. http://www.jstor.org/stable/23880636

Tawney, J. W., & Gast, D. L. (1984). *Single subject research in special education.* Merrill

Tekin-Iftar, E., & Kircaali-Iftar, G. (2006). *Errorless teaching methods in special education* (3 ed.). Nobel

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

https://doi.org/10.1177/0885728809346960

Test, D. W., Spooner, F., Holzberg, D., Robertson, C., & Ley Davis, L. (2017). Planning for other educational needs and community-based instruction. In M. L. Wehmeyer and K. A. Shogren (Eds.), *Handbook of research-based practices for educating students with intellectual disability* (pp. 130-150). Routledge

Tetreault, A. S., & Lerman, D. C. (2010). Teaching social skills to children with autism using point-of-view video modeling. *Education and Treatment of Children, 33*(3), 395-419. https://doi.org/10.1353/etc.0.0105

Trainor, A. A., Morningstar, M.E, & Murray, A. (2016). Characteristics of transition planning and services for students with high incidence disabilities. *Learning Disability Quarterly, 39*(2), 113-124. https://doi.org/10.1177/0731948715607348

Trevor, M., Park, E. Y., & Blair, K. C. (2021). A meta-analysis of safety skills interventions for individuals with intellectual disabilities. *Education and Treatment of Children 44,* 309–331. https://doi.org/10.1007/s43494-021-0005

United States Department of Education. (2021). Offices of Grants and Programs. Retrieved November 28, 2021 from https://www2.ed.gov/about/offices/list/ovae/pi/grntprgm.html

Vandercook, T. (1991). Leisure instruction outcomes: Criterion performance, positive interactions, and acceptance by typical high school peers. *The Journal of Special Education, 25,* 320-339. https://doi.org/10.1177/002246699102500305

Wagner, M., Newman, L., Cameto, R., Garza, N., and Levine, P. (2005). After High School: A First Look at the Postschool Experiences of Youth with Disabilities: A Report from the National Longitudinal Transition Study-2 (NLTS2). Menlo Park, CA: SRI International

Walker, A. R., Uphold, N. M., Richer, S., & Test, D.W. (2010). Review of the literature on community-based instruction across grade levels. *Education and Training in Autism and*

Developmental Disabilities, 45(2), 242-267. http://www.jstor.org/stable/23879810

Walker, Z., Vasquez, E., & Wienke, W. (2016). The impact of simulated interviews for individuals with intellectual disability. *Educational Technology & Society, 19*(1), 76-88

Walton, K. M., & Ingersoll, B. R. (2013). Improving social skills in adolescents and adults with autism and severe to profound intellectual disability: A review of the literature. *Journal of Autism and Developmental Disorders, 43*, 594-619. https://doi.org/10.1007/s10803 012-1601-1

Wang, S. Y., Cui, Y., Parrila, R. (2011). Examining the effectiveness of peer-mediated and video- modeling social skills interventions for children with autism spectrum disorders: A meta-analysis in single-case research design using HLM. *Research in Autism Spectrum Disorders, 5*(1), 562-569. https://doi.org/10.1016/j.rasd.2010.06.023

Wechsler, D. (2006). *Wechsler Nonverbal Test of Ability (WNV). Technical Manual*. Pearson

Wechsler, D. (2014). *Wechsler Intelligence Scale for Children- Fifth Edition (WISC-V). Technical Manual*. Pearson

Wehman, P. (2020). *Essentials of transition planning.* Paul H. Brooks Publishing Co.

Westman, L. (2021). What differentiated instruction really means. *Educational Leadership, 79*(1), 71-74

Wells, J., Clark, K. D., & Sarno, K. (2012). A computer-based interactive multimedia program to reduce HIV transmission for women with intellectual disability. *Journal of Intellectual Disability Research, 56*(4), 371-381. https://doi.org/10.1111/j.1365-2788.2011.01482.x

Welsh, F., Najdowski, A. C., Strauss, D., Gallegos, L., & Fullen, J. A. (2018). Teaching a perspective-taking component skill to children with autism in the natural environment. *Journal of Applied Behavior Analysis, 52*(2), 439-450. https://doi.org/10.1002/jaba.523

Wolery, M., Bailey, D. B., & Sugai, G. M. (1998). *Effective teaching: Principals and procedures of applied behavior analysis with exceptional students*. Allyn and Bacon

Xin, P. X., Grasso, E., DiPippi-Hoy, C. M., & Jitendra, A. (2005). The effects of a purchasing skill instruction for individuals with developmental disabilities: A meta-analysis. *Exceptional Children, 71,* 379-400. https://doi.org/10.1177/001440290507100401

Zais, M. (2011). *Standards for Evaluation and Eligibility Determination (SEED)*. South Carolina Office of Exceptional Children

APPENDIX A: PARENTAL CONSENT

MINOR PARTICIPANT IN HUMAN SUBJECT RESEARCH AUTHORIZATION

Introduction

My name is Chelsey Simmons and I am a doctoral candidate at Coastal Carolina University. As the parent or legal guardian of a minor child, I would like to ask for your authorization to invite your child to take part in my research study entitled, *"Teaching Students with a Mild Intellectual Disability how to respond to Strangers using Computer-Based Video Instruction."* You are free to talk with someone you trust about your participation in this research and may take time to reflect on whether you wish for your child to participate or not. If you have any questions, I will answer them now or at any time during the study.

Purpose

The purpose of this research study is to teach students with a mild intellectual disability a strategy to appropriately interact with strangers in a social setting, through computer-based video instruction. This intervention will consist of your child watching videos of their peers interacting safely and appropriately with strangers using a strategy. Your child and the principal investigator (PI- Chelsey Simmons) will then engage in role-playing scenarios where they act out the strategies with support and guidance. Before and after your child masters the strategy, he or she will have the opportunity to demonstrate their skills with people unfamiliar to them. The unfamiliar people are known to the principal investigator, have passed a background check, and have been approved by the school. We will evaluate if your child learned the strategy by role-playing and observations. Your child is being considered for this study because they have been identified by their teacher as having the prerequisite skills to begin learning about appropriate interactions with strangers.

Procedures

During this research study, your child will be asked to participate in an intervention where they learn a strategy to appropriately respond to strangers in a variety of settings. Each day, your child will watch one video and engage in role-playing with the principal investigator. The video will consist of an adult actor and a child actor engaging in role-play demonstrating how to safely respond to a stranger, to include saying "No" and taking 4-5 steps back. The video will be filmed at four different locations and last approximately 20 seconds each. Each day, your child will watch a different video (for a total of four videos). At the end of the study, your child will demonstrate knowledge by generalizing this strategy to the school-playground.

Duration

For this research study, your child's participation will be required every day, for a total of 10 minutes per session, until they reach the mastery criterion (approximately four to five weeks). The intervention will occur daily in the classroom next to your child's special education classroom. At this time, you child would typically be reviewing the class calendar, reviewing the class schedule, or working on the computer. You child will not be missing instructional academic time.

Rights

You do not have to agree to authorize your child's participation in this research study. If you do choose for them to participate, you may choose to withdraw them from the study at any time once the study begins. There is no penalty for not participating or withdrawing from the study.

Risks

During this research study, no risks or discomforts are anticipated. Minimal risks of nervousness or frustration about role-playing with the principal researcher or learning a new skill might occur. This risk will be minimized by using praise and encouragement during the instruction and by discontinuing if they child begins to act out or expresses a desire to quit.

Benefits

By agreeing to allow your child to participate in this research study, they will learn social skills to assist them in interacting with strangers in a safe way. You child will enhance his or her communication and social skills by participating in this study, which will assist them as they transition throughout school.

Confidentiality

Unless you provide consent to the contrary, the confidentiality of your child's participation in this research study, your child's responses or any individual results will be maintained by the PI and all members of the research team. All paper records for this study will be stored in a locked filing cabinet and destroyed after one year following the completion of this research. All electronic records will be password-protected and also destroyed after one year following the completion of this research.

Note that confidentiality will only be violated when required by law or the ethical guidelines of the American Psychological Association. This usually includes, but may not be limited to, situations when responses indicate that a participant, or another clearly identified individual, is at risk of imminent harm or situations in which faculty are mandated reporters, such as instances of child abuse or issues covered under Title IX regulations. For more information about Title IX, please see the University's webpage at: https://www.coastal.edu/titleix/.

Sharing the Results

As the principal investigator on this research study, I plan to share the results of this study by using the information for my Doctoral dissertation. All identifying student information will be kept confidential and pseudonyms will be used when writing the results. These results might also be submitted for a publication and/or conference presentation.

Compensation

There is no financial compensation to the participant for participation. Additionally, it will cost you nothing for your child to participate in this study.

Contacts

If you have any questions about this research study, please feel free to contact Chelsey Simmons by phone 843-655-5926 or csimmo1@coastal.edu.

My Dissertation chair on this study is Dr. Suzanne Horn and she can also be contacted by phone 843-349-4044 or email shorn@coastal.edu

The Institutional Review Board (IRB) under the Office of Sponsored Programs and Research Services is responsible for the oversight of all human subject research conducted at Coastal Carolina University. If you have any questions about your rights as a research participant before, during or after the research study, you may contact this office by calling (843) 349-2978 or emailing OSPRS@coastal.edu.

This research study has been approved by the IRB on 2/14/2022. This approval will expire on 2/13/2023 unless the IRB renews the approval prior to this date.

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Consent

I have read this form and have been able to ask questions of the PI and/or discuss my child's participation with someone I trust. I understand that I or my child can ask additional questions at any time during this research study and am free to withdraw my child from participation in the study at any time.

☐ **I agree for my child to take part in this research study.**

☐ **I agree to allow my child's name or other identifying information to be included in reports, publications and/or presentations resulting from this research study.**

☐ **I DO NOT agree to allow my child's name or other identifying information to be included in reports, publications and/or presentations resulting from this research study.**

Parent's Signature: _____ Date: _____

Printed Name of Parent: _____

Signature of Principal Investigator: _____

Printed Name Principal Investigator: _____Date: _____

APPENDIX B: STUDENT ASSENT

Assent Form for Minors

Teaching Students with a Mild Intellectual Disability how to respond to Strangers using Computer-Based Video Instruction

My name is Chelsey Simmons and I am a student at Coastal Carolina University. I am doing a study to see if children can learn how to safely interact with strangers.

If you want to be in my study, you will watch a video everyday of children role-playing with adults. You will then role-play with me what you learned in the video. We will do this role-play every day. I will watch you and sit with you while you watch the videos. You will learn how to interact with strangers in a safe way.

You can ask me questions any time. You do not have to be in the study if you do not want to. Once you start the study, you can stop any time you want. Nobody (parents or teachers) will be mad at you if you want to stop.

I hope that this way of learning how to interact with strangers will help you and others stay safe and feel safe. I am not sure if it will. This study will not hurt or scare you in any way. It is created to help you now, and when you get older.

When the study is done, I will use the results to help other people learn how to be safe with strangers. I will write the results in a report. I will not use your name and nobody will know you were involved. I will share the information I find out with you and answer any questions you have.

If you want to be in the study, please sign your name below and write the date.

_____ _____

Signature of Minor Participant Date

_____

Printed Name of Minor Participant

_____ _____

Signature of Principal Researcher Date

APPENDIX C: OBSERVATIONAL PROTOCOL

Participant:_____ **Date:**_____

Observer: _____ **Start Time**:_____

End Time:_____

Phase: Baseline Intervention Maintenance Post-Generalization

Setting: _____

Probe 1 **Lure #:** _____

When the stranger delivers the statement, student provides verbal response of "no", within 4 seconds (verbal response) Yes/No

When stranger delivers the statement, student provides a motor response of taking 4-5 steps back, within 4 seconds (motor response) Yes/No

Did the participant demonstrate both behaviors: Yes/No

Probe 2 **Lure #:** _____

When the stranger delivers the statement, student provides verbal response of "no", within 4 seconds (verbal response) Yes/No

When stranger delivers the statement, student provides a motor response of taking 4-5 steps back, within 4 seconds (motor response) Yes/No

Did the participant demonstrate both behaviors: Yes/No

Probe 3 **Lure #:** _____

When the stranger delivers the statement, student provides verbal response of "no", within 4 seconds (verbal response) Yes/No

When stranger delivers the statement, student provides a motor response of taking 4-5 steps back, within 4 seconds (motor response) Yes/No

Did the participant demonstrate both behaviors: Yes/No

Probe 4 **Lure #:** _____

When the stranger delivers the statement, student provides verbal response of "no", within 4 seconds (verbal response) Yes/No

When stranger delivers the statement, student provides a motor response of taking 4-5 steps back, within 4 seconds (motor response) Yes/No

Did the participant demonstrate both behaviors: Yes/No

Total probes with both a verbal and motor response (circle number): 0, 1, 2, 3, 4,

Additional Observer Comments:

APPENDIX D: PARENT SOCIAL VALIDITY QUESTIONAIRRE

Parent Social Validity Questionnaire

Parent: _____ Interviewer:_____ Date:_____

Please state your responses to the following questions. If you would like to add additional comments, please feel free to say them at the end.

1.	My child enjoyed participating in this role-play activity.	Yes	No
2.	Did this intervention help improve your child's interactions with strangers?	Yes	No
3.	Do you think your child benefitted being a participant in this study?	Yes	No
4.	Do you think your child would benefit from continued social skills instruction on this topic?	Yes	No
5.	Do you think knowing how to respond to a stranger is an important skill to have?	Yes	No

Additional Comments:

APPENDIX E: TEACHER SOCIAL VALIDITY QUESTIONAIRRE

Teacher Social Validity Questionnaire

Teacher: _____ Interviewer:_____ Date:_____

Please state your responses to the following questions. If you would like to add additional comments, please feel free to say them at the end.

1. My student enjoyed playing in this role-play activity.	Yes	No
2. Did this intervention help the student interact appropriately with strangers?	Yes	No
3. Do you think the student benefitted from being part of this study?	Yes	No
4. Do you think the study was easy to implement?	Yes	No
5. Is this something you could do in your classroom?	Yes	No
6. Do you think knowing how to respond to a stranger is an important skill to have?	Yes	No

Additional Comments:

APPENDIX F: PROCEDURAL RELIABILITY CHECKLIST

Key: Circle "+" for the steps completed. Circle "-" for the steps not completed. "N/A" will already be circled for the step if it is not applicable during that trial.

Phase Key: Baseline (B), Intervention (I), Maintenance (M)

Date:_____ Observer:_____ Phase:_____

1. Researcher ensures participant is 3 feet away. (+ - N/A)
2. Researcher gives signal phrase "Let's role play. I'll be the stranger and you be the child. Make sure you role-play each behavior you saw yesterday during the video" to start trial. (+ - N/A)
3. Researcher delivers an opening phrase/lure. (+ - N/A)
4. If the participant engages in a correct behavior the researcher states, "That's correct." An incorrect behavior is ignored. (+ - N/A)
5. Researcher records data on observation protocol . (+ - N/A)
6. Researcher says "Let's role play again" and ensures student is still 3 feet away. (+ - N/A)
7. Researcher delivers a different opening phrase/lure. (+ - N/A)
8. If the participant engages in a correct behavior, the researcher states, "That's correct." An incorrect behavior is ignored. (+ - N/A)
9. Researcher records data on observation protocol . (+ - N/A)
10. Researcher says "Let's role play again" and ensures student is still 3 feet away. (+ - N/A)
11. Researcher delivers a different opening phrase/lure. (+ - N/A)
12. If the participant engages in a correct behavior, the researcher states, "That's correct." An incorrect behavior is ignored. (+ - N/A)
13. Researcher records data on observation protocol. (+ - N/A)
14. Researcher says "Let's role play again" and ensures student is still 3 feet away. (+ - N/A)
15. Researcher delivers a different opening phrase/lure. (+ - N/A)
16. If the participant engages in a correct behavior, the researcher stats, "That's correct." An incorrect behavior is ignored. (+ - N/A)
17. Researcher records data on the observation protocol. (+ - N/A)
18. Researcher then says, "You are going to watch a short video. You are going to begin now." (+ - N/A)
19. Researcher has CBVI video vignette open for student to view. (+ - N/A)
20. Researcher ensures participant is watching the video and researcher is seated to the back of the student, within two feet. (+ - N/A)

Additional Comments:

APPENDIX G: LIST OF LURES

1. Hey, don't I know you. Come here.
2. Hi, I think I know your mom. Come here.
3. Hi, will you help me get something out of my car?
4. Can you help me with my car?
5. Hi, come here. I have a toy for you.
6. Do you like candy? Come here.
7. Hi, will you help me put my groceries in my car?
8. Your mom asked me to pick you up, come on.
9. Hi, will you come with me?
10. Hi, I'll buy you a drink if you come with me.
11. Hello, I'll buy you candy if you come here.
12. Hi, do you like toys? I have one. Come here.
13. Can you help me carry this to my car?
14. Can you help me find my phone in my car?
15. Hi, your grandma sent me to pick you up. Come here.
16. Hey, your dad asked me to come get you. Come here.
17. Hi, I'm lost. Can you help me?
18. Hi, I can't find my car. Will you help me?
19. Hi, I lost my daughter. Can you come here and help me.
20. Hi, I lost my son. Can you help me find him?
21. Hi, come here, will you help me find my friend?
22. Hi, what's your name? Come here.
23. Hi, do you like snacks? I have one in my car.
24. Hey, let's go.
25. Hi, I hurt my arm, will you help me?
26. Hi, I'm hurt. Can you come with me?
27. Hi, will you come here and play with my cell phone.
28. Hi, will you come here and see my iPad.
29. I broke my leg, will you carry my groceries to my car?
30. I lost my dog, will you come and help me find him,
31. I lost my car, will you come and help me find her.
32. Your mom sent me to pick you up. Come here.
33. Your dad sent me to pick you up. Come here.
34. Hi, I'm a friend of your grandma's. Come here.
35. Come here and see my new car.
36. Hi, I can't find my phone. Will come and help me?
37. I spilled my groceries, will you help me?
38. Can you walk here and help me, I'm hurt.
39. Hi, I'm scared. Will you help me?
40. I can't find my wife, will you help me?
41. I can't find my husband, will you help me?
42. I think I'm sick. Will you help me?
43. I just wrecked my car, will you help me?
44. Do you like snacks? Do you want to come here and get one?