EFFECTS OF AN INSTRUCTIONAL SUPPORT PACKAGE FOR COMMUNITY-BASED INSTRUCTION FOR YOUNG ADULTS WITH EXTENSIVE SUPPORT NEEDS

By

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ABSTRACT

ASHLEY NICHOLE ANDERSON. Effects of an Instructional Support Package for Community-Based Instruction for Young Adults with Extensive Support Needs. (Under the direction of DR. FRED SPOONER)

Federal legislation for students with disabilities mandates that all students receive appropriate and relevant instruction across environments to improve postsecondary outcomes across domains. Teachers and parents alike have found that one way to meet individual student needs and increase instructional opportunities for students with disabilities is through the use of purposeful and meaningful community-based instruction (CBI). For students with extensive support needs (ESN), however, the practical implementation of CBI within the classroom and community setting may pose several barriers and relies heavily on teacher and family knowledge of community engagement strategies. Previous research in the area of CBI indicates that through the use of evidence-based practices, CBI is effective in teaching skills across the four identified domains, which include leisure, vocational, community engagement, and daily living. In an attempt to bridge gaps in the available literature and research in the area of CBI, this study evaluated the effects of an intervention package comprised of three evidence-based practices (video modeling, visual supports, and system of least prompts), goal setting, collaboration, and peer-implemented instruction to teach leisure skills to young adults with ESN in relevant community settings. The experimental design was a multiple probe across skills replicated across two participants. Two young adults with ESN who were 21 and 22 years of age participated in the study, along with two of their same-aged peers and relevant team members/key stakeholders (i.e., program director at their university, parents). Three community-based leisure skills across three environments were chosen with a specific skill targeted at each location. Given the

presence of a functional relation, the intervention was effective for teaching these leisure skills to the participants across all three community locations. In addition, they were able to generalize and maintain these skills at the conclusion of the study. Social validity measures indicated that all participants felt that these were relevant skills for the participants and their role in this process was valuable. The findings from this study can be used to guide future research in the area of CBI with students of all ages to support them as they access community settings.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

BST	Behavioral Skills Training
CBI	Community Based Instruction
COVID-19	Coronavirus Disease 2019
DV	Dependent Variable
EBP	Evidence Based Practice
ESN	Extensive Support Needs
IDEA	Individuals with Disabilities Education Act
IEP	Individualized Education Program
IV	Independent Variable
SIS-A™	Supports Intensity Scale-Adult Version™
SLP	System of Least Prompts
TPSID	Transition and Postsecondary Programs for Students with Intellectual Disabilities
VM	Video Modeling
VS	Visual Supports

CHAPTER 1: INTRODUCTION

Best practice in special education includes relevant, practical, and functional instruction for each student that involves community participation. Purposeful planning for active community engagement involves the inclusion of key team members, input from students, and the involvement of their peers in community settings to ensure a successful transition across community settings and into adulthood. For students and young adults with extensive support needs (ESN) who often requiring additional support from family members, friends, and teachers, purposeful planning that leads to active engagement in community settings is especially important when considering their level of independence. In this chapter, I present a brief overview of community engagement for students with ESN, detail effective supports related to community engagement for this population of students and young adults and discuss how community-based instruction (CBI) plays a critical role as an instructional practice for building community engagement and participation.

Community Engagement for Students with Disabilities

Students spend a majority of their time outside of school engaged in community experiences designed to strengthen not only the instruction provided in the classroom but also enhance their overall quality of life (Carter. 2018). Although not all structured activities in school provide necessary opportunities for purposeful generalization to community activities and experiences, some do. Given proper instruction and learning opportunities, students are expected to generalize their knowledge to the community settings where they spend a majority of their day. This experience also extends into adulthood. Some of these activities in the community may include required activities, such as homework study groups or employment opportunities, but most are often left open to the individual to choose. Unlike their peers without disabilities, students with disabilities are often unable to independently choose or complete community

activities without explicit instruction and preparation (Hoover, 2016). In 2011 85% of students with disabilities reported being productively engaged in the community (e.g., employment, job training, postsecondary education) compared to 95% of peers without disabilities (National Center for Education Statistics, 2020). As transition services and postsecondary options become more readily available for students with disabilities, it is imperative that the field of special education ensure that all students, especially as they become young adults, feel productively engaged and included in their community. Current statistics, however, suggest that only 25% of individuals with disabilities reported belonging to a community group after high school (Hoover, 2016). Overall, for students with disabilities, percentages of community participation are lower when compared to peers without disabilities (National Center for Education Statistics, 2020).

Common community engagement experiences for students and young adults (school-related and non-school related) may include clubs, service projects, sports, and leisure activities. For students with disabilities, several barriers exist when choosing and accessing community opportunities. First, there is the issue of access. Students with disabilities may not be invited to participate in community experiences (Bedell et al., 2013; Hansen et al., 2014; Santiago & Crow, 2021). Second, students with disabilities may not have the necessary supports in place to access and experience community integration in the same way that their peers do (Hansen et al., 2014). Examples of necessary supports may include explicit instruction, providing additional staff, job coaches, the use of visual supports, and modeling (Hansen et al., 2014). Lastly, although educators may provide partial instruction for students with disabilities across community settings, there are still gaps in what skills are addressed and taught (Brock & Carter, 2015; Browder et al., 2020)). Although educational and employment opportunities are often addressed after high school for transition-aged youth and young adults, instruction related to skills in the

areas of recreation, leisure, finances, safety, and medical services are not as frequently addressed. These are essential skills for students with disabilities as these students often rely on others for assistance in these important domains as they transition into adulthood (Hansen et al., 2014; Rowe et al., 2015).

Several instructional strategies have emerged as part of an effort to strengthen community engagement for students and young adults with disabilities. Such strategies may include vocational training (e.g., access to the community for employment or job training), community mapping (e.g., matching students' needs with community resources), and service learning (e.g., volunteer opportunities across environments; Hoover, 2016). Educators also will incorporate these strategies into purposeful planning opportunities as a part of transition planning for youth ages 14 years and older; however, this may not always be the case for students with ESN or for students beyond high school. For example, in an evaluation of transition plans for students with ESN ages 16 years and above, Daviso and colleagues (2011) found that only 46% of student plans successfully addressed the component of community participation. Critical community-based skills that support students with ESN and their access to the community can include, but are not limited to, shopping (Kyhl et al., 1999; Westling et al., 1990), traveling and mobility (Gallup et al., 2015; R. H. Horner et al., 1985; Price et al., 2018), purchasing (Marholin et al., 1979; McDonnell & Ferguson, 1989), banking (Bourbeau et al., 1986; Rowe et al., 2011; Scott et al., 2013), and participation in recreational activities (Mechling et al., 2005). Community-based skills not only play a functional role in one's life, but they also provide meaning and fulfillment (Fernandez et al., 2018; Snell & Browder, 1986).

Involvement in the community is crucial for all students with disabilities, but especially students with ESN as they often face additional challenges related to community experiences and

independence (Alsaeed et al., 2023). The term *extensive support needs* describes an individual who requires increased and ongoing support across multiple domains of their life, including at home, in the community, in school, and across settings and people (Kurth et al., 2019; Taub et al., 2017; Thompson et al., 2016). Additionally, due to the impact of their pervasive disability, individuals with ESN are often categorized with the disability labels of autism, severe to profound intellectual disability, or multiple disabilities, and participate in the alternate assessment (Kurth et al., 2019; Taub et al., 2017; Thompson et al., 2016). Given the level of support that students with ESN require to achieve their goals, educators and researchers must look at how community instruction and participation plays a role achieving the best possible outcome(s). Benefits of community engagement for students with ESN are wide-ranging and may include improved access to goods and services, increased opportunities for inclusive experiences in community settings, and promoting a sense of belonging and self-determination (Alsaeed et al., 2023; Soresi et al., 2009). A critical component of this involves choice making, an area that has been emphasized as important for students with ESN over several decades (Soresi et al., 2009). This is especially important because many community opportunities are not regulated or required, but instead are left to individual choice.

Johnson (1996) found that many young adults with ESN are not involved in the process of choosing community experiences. Specifically, only 40% of young adults exercised choice making in their purchases and how they were spending their money and free time. Furthermore, few young adults reported that they felt that they had control over the choices they were making in their daily lives (Johnson, 1996). In addition, the National Transition Longitudinal Study-2 (NLTS-2, Wagner et al., 2006) reported that social outcomes for students with ESN are often more limited compared to those of their peers when engaged in community settings with less

than 40% being invited to a social outing or event with peers (Carter, 2018). This lack of active and meaningful participation for students with ESN can have devasting effects on their quality of life and post-school outcomes as they transition into adulthood (Carter, 2018).

Although educators may understand that community participation and experiences may be limited for students with ESN, it is also important that educators understand why community access for this population of students is essential to ensuring the best quality of life. First, community participation and experiences lead to generalization of skills to novel environments (Hopkins & Dymond, 2020). Historically, students with ESN have had difficulty generalizing skills across people and places (Stokes & Baer, 1977). Community participation creates opportunities for this generalization not otherwise addressed. Second, community participation provides opportunities for explicit instruction in community settings where the skill(s) are to be performed (Hunt et al., 2012; McDonnell et al., 1984; Stokes & Baer, 1977; Test et al., 2016). Given the difficulty with generalization that many students with ESN experience, learning a skill in a natural environment may help with retention of that skill across time. Third, community participation provides instruction beyond just academics into other settings (Fernandez et al., 2018; Rainforth & York, 1987). Although the focus of education for students with ESN has shifted over the years from daily living skills to academics and general curriculum access, many argue that the need remains to implement programs that involve community instruction and experiences (A. Walker, 2020). Lastly, community experiences may lead to increased positive post-school outcomes for students with ESN related to community engagement, including increased employment opportunities (Carter et al., 2012), increased self-determination (Mazzotti et al., 2013), and increased access to community goods and services (Carter et al., 2012).

Community Support for Students with ESN

Given the benefit of community participation for students with ESN, special education educators, parents, and support professionals question who provides the necessary support to make positive outcomes possible. Essential team members supporting students with ESN may include teachers, related services providers, family members, peers, and others who play a role in their lives. Students spend a majority of their time with a variety of support personnel, friends, family, and peers outside of school, as compared to time spent in school working one to one with a teacher. In addition, advocates and supporters must consider that parents' roles often shift to that of a caregiver for students with ESN as they transition into adulthood, increasing the time and support that they provide to their child across their lifespan (Mazzotti et al., 2013). This support also may include peers without disabilities, serving as natural supports both at home and in the community. The use of peers to support students with ESN across settings is validated through the work of Brock and Huber (2017), amongst other researchers.

There is an overlap of peer related factors and support related factors that make up successful community integration and positive outcomes (socially or otherwise) for students with ESN as they transition into adulthood (Carter, 2018). Carter (2018) examined the importance of peers as support models across settings leading to increased outcomes for students with ESN. One such setting is the community setting where students with ESN require additional support in the form of reminders, visual aids, physical assistance, transportation, communication assistance, and more, to achieve their goals. In addition to the need for support to acquire new skills in community settings, support for safety and medical needs is also often necessary across community settings. This support can be exhaustive and does require explicit instruction and monitoring to ensure that individuals with ESN are not only remaining safe, but also being

successful and achieving their goals. Community skills for students with ESN also may include engaging in self-advocacy, making choices, and following guidelines set forth to keep them safe and healthy. It is important to note that this support is ongoing and changes as the needs of the individual with ESN evolves. Young adults with ESN may receive this support as a part of effective transition programming, within the bounds of supported employment, day programs in their community, or by engaging in postsecondary educational opportunities.

With a continued focus on peers as a natural support in many settings for students with ESN, researchers and educators find that there are numerous benefits to peer-related instruction and support in community settings. First, peers are the same age and can serve as models in these settings. This integration allows for the building of friendships and relationships for increased social outcomes (Carter, 2018). Second, the effective use of nondisabled peers in the instruction of students with disabilities is an efficient use of time and resources during instructional blocks of time (Collins et al., 1997). It also leads to the generalization of skills across people (Collins et al., 1997). Third, research indicates that peers can learn to effectively teach skills to students with disabilities across skills and settings, so the use of peers for community instruction is well validated (Brock & Huber, 2017; Carter & Kennedy, 2006). Lastly, it is understood that several instructional strategies can be utilized to teach peers how to interact with and effectively work with students with disabilities, including students with ESN. In particular, behavior skills training (BST) has emerged as an effective tool for training peers to work with students with disabilities across settings (DiGennaro Reed et al., 2018; Miltenberger et al., 2017). Behavior skills training has been used with peers across skill domains, including play and leisure activities for students with disabilities (Covey et al., 2021), which are critical components of ensuring community participation and engagement. Creating independence in community activities across domains

(e.g., communication, functional skills, vocational skills) is important because life involves all of these domains. For students with ESN, embedding choice making and self-determination is an essential component of ensuring community participation (Browder et al., 2020).

Community-Based Instruction (CBI)

Community participation relies on the purposefully planned support and instruction delivered by the teacher, family, and peers of the student with ESN. Community-based instruction is instruction that takes place outside of the school campus, providing students with real life experiences that can help them become more independent and make contributions to society (Hernandez & Kulkarni, 2019). It is one variable in determining positive post-school outcomes for students with disabilities (Fabien et al., 1998) and can be implemented throughout the educational process for students with disabilities. Since its origination in the 1980s CBI has successfully aided in the preparation of students with ESN for the transition to adulthood (Browder et al., 1988; Snell & Browder, 1986; Test et al., 2016). The practice of CBI extends beyond transition-aged youth. Instruction may be utilized with learners of all ages, including elementary school-aged children with disabilities (Schwind et al., 2021). Opportunities for CBI are on-going and occur in a systematic manner (Hopkins & Dymond, 2020). Some skills can be explicitly taught, such as making a purchase, banking, grocery shopping, and more to students with intellectual and developmental disabilities (IDD; A. Walker et al., 2010). It is the role of special educators and all team members to ensure that necessary supports and instruction are a part of the curriculum for all students with disabilities (IDEA, 2004). This instruction may include elements of CBI as this supports students' overall learning and growth.

Teaching Community Skills with EBPs

Evidence-based practices (EBPs) pave the way for students with ESN by increasing opportunities for academic and community access. The importance of utilizing EBPs for teaching students with ESN has become evident over the past 20 years (Singer et al., 2017). Originating in the field of medicine, EBPs provide a basis for contentious, individualized, and explicit practice when supporting students or clients (Sackett et al., 1996; Thomas et al., 2011; Thomas & Law, 2013). The premise of EBPs relies on the notion that evidence exists through quantitative data collection across a plethora of multiple studies in any field that practices are applied, including medicine and the field of education (Sackett et al., 1996; Thomas et al., 2011; Thomas & Law, 2013). The identification and use of appropriate EBPs for students with ESN ensures that students not only have access to supports and instruction, but that these supports also are appropriate, as they are legally mandated and supported by research (Singer et al., 2017). The promise of EBPs considers that these practices meet the highest level of rigor for supporting students in special education (Cook & Odom, 2013; Singer et al., 2017).

A variety of EBPs have been utilized within CBI across students with ESN. In a 2010 literature review, A. Walker and colleagues found that over 50% of researchers in the included studies utilized video or picture-based supports for students with IDD, including students with ESN, when in community settings to teach a variety of skills. The interventions included were video modeling, video prompting, and visual supports, among others. A more comprehensive list of EBPs for community instruction includes time delay (Browder et al., 2009; Spooner et al., in press), video modeling (Park et al., 2017), response prompting (Brock & Carter, 2015; Cihak et al., 2004; Jimenez & Alamer, 2018), simulations (Morse & Schuster, 2000), and visual supports (Rutherford et al., 2020). The effectiveness of these supports varies based on student need and

implementer in each setting. Studies included both community and classroom settings, indicating that CBI may be implemented across settings. Community instruction may be delivered in the classroom setting (or home setting) prior to delivery in the community. Following instruction in the classroom or home setting, EBPs are then generalized to novel community settings. Some studies only utilized community settings in which the skills were taught, thus emphasizing the need to learn and practice skills in the naturally occurring environments in which the student will be expected to perform that skill. These studies demonstrated that practicing these skills in natural community settings resulted in positive outcomes.

Implementing CBI

A. Walker and colleagues (2010) also examined who implemented CBI interventions as part of the support system for students with ESN. They found that nearly all interventions (90%) were implemented by special education teachers and researchers. No interventions were implemented by peers or students without disabilities in the same settings. This was a surprising finding given that peers often serve as mentors, friends, and other natural supports for students with disabilities (Carter et al., 2014) across academic and leisure settings. Additionally, there was one study in which the intervention was implemented by parents. As a part of training, educators and parents were provided instruction in most studies for procedures to properly implement CBI; however, researchers found that this training was limited to short sessions with little follow-up provided across most studies. The skill will not be easily maintained in years to come if proper training is not provided to those implementing CBI.

There also are barriers persistently plaguing the effective implementation of CBI for students with disabilities, including those that are specific to students with ESN (Schwind et al., 2022). First, there is a lack of resources available for educators and families. Several states or

school districts have individually created resources, widely available on their websites, but there has yet to be a set curriculum for community participation and integration as a part of CBI for students with disabilities. Although it would need to be heavily individualized, a set curriculum could provide a starting point and guidelines related to what, when, and where to teach community-based skills. Second, there is a lack of parental and familial involvement. Similar to statistics of IEP involvement for students with disabilities in the transition planning process many families report low percentages of involvement in community participation activities, goal setting, and planning processes for CBI (Morningstar et al., 1995). Third, access to transportation, in combination with the cost of community activities, is a barrier for many students, especially students with ESN who rely on others for daily transport to and from places and activities. There also are associated costs with community involvement, such as the purchasing of passes to recreation centers, money for spending at shopping centers, and more. Young adults with ESN already experience difficulty with employment and finding funding for community experiences may be costly and unrealistic in some cases. Such barriers create a gap in the opportunities that many individuals with ESN face when accessing community experiences. In addition, educators face similar barriers when planning for CBI as a part of their instruction and, as a result, CBI is often an overlooked area (Schwind et al., 2022).

Despite these barriers, work conducted in the area of CBI reveals that there are several domains that have been established to best classify the type of instruction being delivered. The domains include vocational, leisure, community, and daily living (A. Walker et al., 2010). In a review of the literature on CBI, A. Walker and colleagues examined how CBI was being delivered and addressed across educational settings (K-12) for students with IDD, including students with ESN. Findings indicated that most instruction occurred with transition-aged youth

(ages 14 years and above) and, although instruction occurred across a variety of domains, most instruction was delivered in the vocational and daily living skills domains. Additionally, separate literature reviews (e.g., Gilson et al., 2017) have focused solely on employment outcomes of CBI for students with disabilities. Since 2010, only one comprehensive literature review has been conducted examining CBI for students with disabilities (Anderson et al.. in press). This has created a gap in the literature available for understanding CBI across leisure and recreational settings where students with ESN are often required to make the most independent choices of how to spend their time.

Teaching CBI: Leisure Skills

Community-based instruction outcomes created a need for additional research in the area of leisure skills for students with ESN across community settings. Leisure skills are an essential component of CBI and daily life for everyone, including students with ESN. Examples of such skills include engaging in sports activities, making choices for free time, engaging in recreational activities, and more. Leisure time activities occur during an individuals' unobligated time and frequently reflect social interaction (Dattilo & Schleien, 1994). Students with disabilities often have limited experiences with leisure activities (e.g., limited choices provided, limited community access, limited time, and limited engagement; Braun et al., 2006) due to barriers of community integration. In a select study of leisure skills for students with disabilities, Collins and colleagues (1997) taught leisure skills (e.g., playing cards, selecting a TV program) to students with moderate disabilities and found that these skills can be systematically taught to students across settings if the curriculum and support aligns. Despite the ability to teach leisure skills successfully, these skills are not always taught consistently, the main reason being associated with the need for more time spent on academic endeavors and instruction in the

classroom for students with ESN over the last 20 years (Ayres et al., 2011; Browder et al., 2020; Courtade et al., 2012; Taub et al., 2017). In addition, the increase in postsecondary vocational and/or educational domains and opportunities for postsecondary education for students with disabilities has become a growing area of research, rather than leisure skills (Rowe et al.. 2015).

Additionally, leisure skills can be easily forced onto students with ESN as compared to students with high incidence disabilities given that students with ESN may take a more passive role in making decisions about their daily life (Browder et al., 2020). Parents, guardians, teachers, and other support staff often make plans and implement decision-making authority for individuals with ESN due to the increased level of support that many students needs across settings (Morningstar et al., 1999), which limits students' ability to appropriately set goals for themselves across settings, including leisure settings. Ultimately, goal setting that embeds elements of self-determination is an important skill that must be incorporated within the teaching of leisure skills so that students with ESN.

Statement of Purpose and Research Questions

This study addresses several key components of CBI by bridging some of the recent gaps in literature through an intervention package that includes the following: (a) a focus on peer supports as intervention agents using visual supports and video modeling (both of which are EBPs for CBI); (b) goal-oriented CBI planning (student focused and driven) along with CBI instruction for educators and team members; (c) parent-teacher collaborative planning for positive outcomes of CBI; and (d) a focus on leisure settings, which is the least addressed CBI domain) with identified skill areas/goal areas unique to each student across three community settings. My research questions were as follows:

1. What is the effect of a peer-delivered CBI intervention package using video modeling, visual supports (e.g., pictures, pictures plus words), and system of least prompts on students with ESN's ability to perform three identified tasks with leisure skills in community settings?
2. What is the effect of BST on the implementation fidelity of peers teaching leisure skills to students with ESN across community settings?
3. What is the effect of a goal-oriented collaborative planning process for CBI related to acquiring leisure skills in the community on the perceptions of stakeholders (team members, parents/guardians, peers, young adults with ESN) for young adults with ESN?

Significance of Study

This study will contribute to the literature in a number of ways. First, very few studies have examined the use of peer supports to support students with ESN in community settings with leisure skills. Second, the study extends the current work in the area of CBI by addressing leisure skills with a specified population (i.e., students with ESN). Third, the study extends the current literature available with goal setting for students with ESN in community settings. Lastly, the study extends the current literature available related to parent/guardian and team collaboration in the CBI process, which has not been addressed in the previous literature. These elements of the study will contribute to the current field of literature that addresses CBI for students with disabilities by providing recommendations for future interventions and support packages for students with ESN across community settings.

Transition and Postsecondary Programs for Students with Intellectual Disability (TPSID) Programs

Established postsecondary educational programs that support students with intellectual disabilities often provide a natural context for young adults to increase their opportunities for independence in community settings. This study took place within the boundaries of such a program. This was a postsecondary Think College program for students with intellectual disabilities housed at a local university. This program is a nationally recognized program under the umbrella of the larger denotation of Transition and Postsecondary Programs for Students with Intellectual Disabilities (TPSID) Programs. Such programs serve students in postsecondary settings as young adults, typically ages 18 to 26 years, in which they have the opportunity to advance their academic and functional knowledge and skill-base in college and university community settings (Papay & Grigal, 2019). Specific to this study, the Think College program serves students with intellectual disability, including students with ESN, across the college setting with a focus on postschool success in the areas of employment, functional skills, and independence. TPSID programs rely on the use of natural supports, or peers without intellectual disabilities, to work with students with intellectual disability to ensure that they have access to academic, functional, and social skills instruction throughout their experience in college.

Delimitations

This study has several delimitations. First, this was a single-case design study. Given the design, the generality of this study is limited by the small number of participants. Second, the specific community locations and set skills are unique to these locations and, although some skills may have generality, not all skills will be generalizable (i.e., using a locker at the YMCA). Skills were also not yet determined at the beginning of the study, as this was a component of the

study (to identify necessary skills that are essential to the identified community locations). The identified skills may be specific to only these community locations. Second, this study examines the impact of the intervention package on young adults with ESN. Some findings may not be generalizable to younger students in K-12 settings as these are completely different settings with different levels of supports for students. In this study the *SIS-A®* (2023) was used to describe study participants rather than inform decisions about budgets or services. I was not formally trained to administer the assessment. Lastly, access to peer availability, college schedules, bus availability, and funding are also delimitations within the confines of this study.

Definition of Terms

The following terms are important to understand within the context of this study. Definitions of these terms are provided below.

Behavior Skills Training (BST): Behavior skills training is an EBP for training individuals to acquire, maintain, and generalize their learning across a variety of skills and populations. BST consists of four components: instruction, modeling, rehearsal, and feedback (Covey et al., 2021; DiGennaro Reed et al., 2018; Miltenberger et al., 2017).

Community-Based Instruction (CBI): Instruction that takes place outside of the school campus, providing students with real life experiences that can help them become more independent and make contributions to society (Hernandez & Kulkarni, 2019; Snell & Browder, 1986).

Collaboration: When two or more people work together to create a desired outcome for a student that no one could have created alone (Friend et al., 2008)

Extensive Support Needs (ESN): Students with ESN are typically eligible for alternate assessment based on alternate achievement standards (AA-AAS) and may have pervasive support needs across learning, communication, independent living, self-care, and employment domains (Kurth et al., 2019; Ruppar et al., 2017; Thompson et al., 2018). Students with ESN often receive services under the categories of autism, intellectual disability, or multiple disabilities.

Evidence Based Practices (EBPs): Educational practices that are identified in research by meeting a minimum standard of criteria set forth by professional organizations that have been proven to be successful in the field of special education (Odom et al., 2005).

Goal-Oriented/Goal Setting: The act of creating a target or plan for what one wants to accomplish or achieve (Sands & Doll, 2000).

Leisure Skills/Leisure Setting: Activities that consist of play, sports, culture, crafts, hobbies, and social activities (Bult et al., 2011; Schleien et al., 1981a; Schleien et al., 1981b).

Peers: Peers are students who serve as natural supports for students with intellectual disabilities across environments (Carter et al., 2014). Peers are other students who engage with, support, and interact with other students who do have intellectual disabilities in academic, social, employment, and leisure settings.

System of Least Prompts (SLP): A prompting procedure that utilizes different levels of prompts for teaching students with disabilities a variety of skills. Prompts may include verbal prompts, gestures, models, and physical prompts. The educator would begin with the least intrusive prompt and provide support with more intrusive prompts if necessary (Browder et al., 2020).

Transition and Postsecondary Programs for Students with Intellectual Disabilities (TPSID): TPSID programs serve young adults (typically ages 18 to 26 years) with intellectual disabilities in postsecondary settings that include colleges and universities. TPSID programs create opportunities for students with intellectual disabilities to experience college life, improve academic skills, and continue to enhance their abilities to achieve successful employment, independent living, and personal goals after graduation. The Think College program is an example of a TPSID program at the university level as it supports students with intellectual disabilities on a college campus.

Video Modeling: Video modeling interventions involve an individual watching a video of positive examples of adults, peers, or themself engaging in a behavior that is being taught (Delano, 2007; Mechling et al., 2009; Mechling & Collins, 2012).

Visual Supports: Visual supports are any tool presented visually that supports an individual as they complete their day. Visual supports might include, but are not limited to, pictures, written

words, objects within the environment, arrangement of the environment or visual boundaries, schedules, maps, labels, organization systems, timelines, and scripts (National Research Council, 2001).

CHAPTER 2: LITERATURE REVIEW

The ability to access goods and services within one's own community is important for everyone, not just individuals with disabilities. Ensuring that instruction incorporates components of community access and integration is necessary for students with ESN (Allen et al., 2010; Barczak, 2019; A. Walker et al., 2010). Historically this instruction has been delivered through the lens of community-based instruction (CBI), a specific instructional plan aimed at supporting students on an individual basis across community settings to ensure independence and success where skills may be practiced and generalized. A. Walker and colleagues (2010) classified CBI into four domains that include vocational, community, daily living, and recreational skills. This chapter explores the research base for the proposed intervention package examining CBI for students and young adults with ESN. First, I present a history and current perspective of community engagement for students with ESN. This includes CBI curriculum for the population, current barriers for implementation of CBI, teaching curricula, and an outline of the focus of CBI in special education today. Next, I review the available research related to peer supports and how these are utilized with students with ESN, also integrating the focus on behavioral skills training for peer supports with this population. Finally, I summarize the available literature surrounding students with ESN acquiring skills in and access to leisure settings, including a review of evidence-based practices that will be used in this study, illuminating the need and purpose for the current study. Figure 1 presents the logic model for this proposed intervention package.

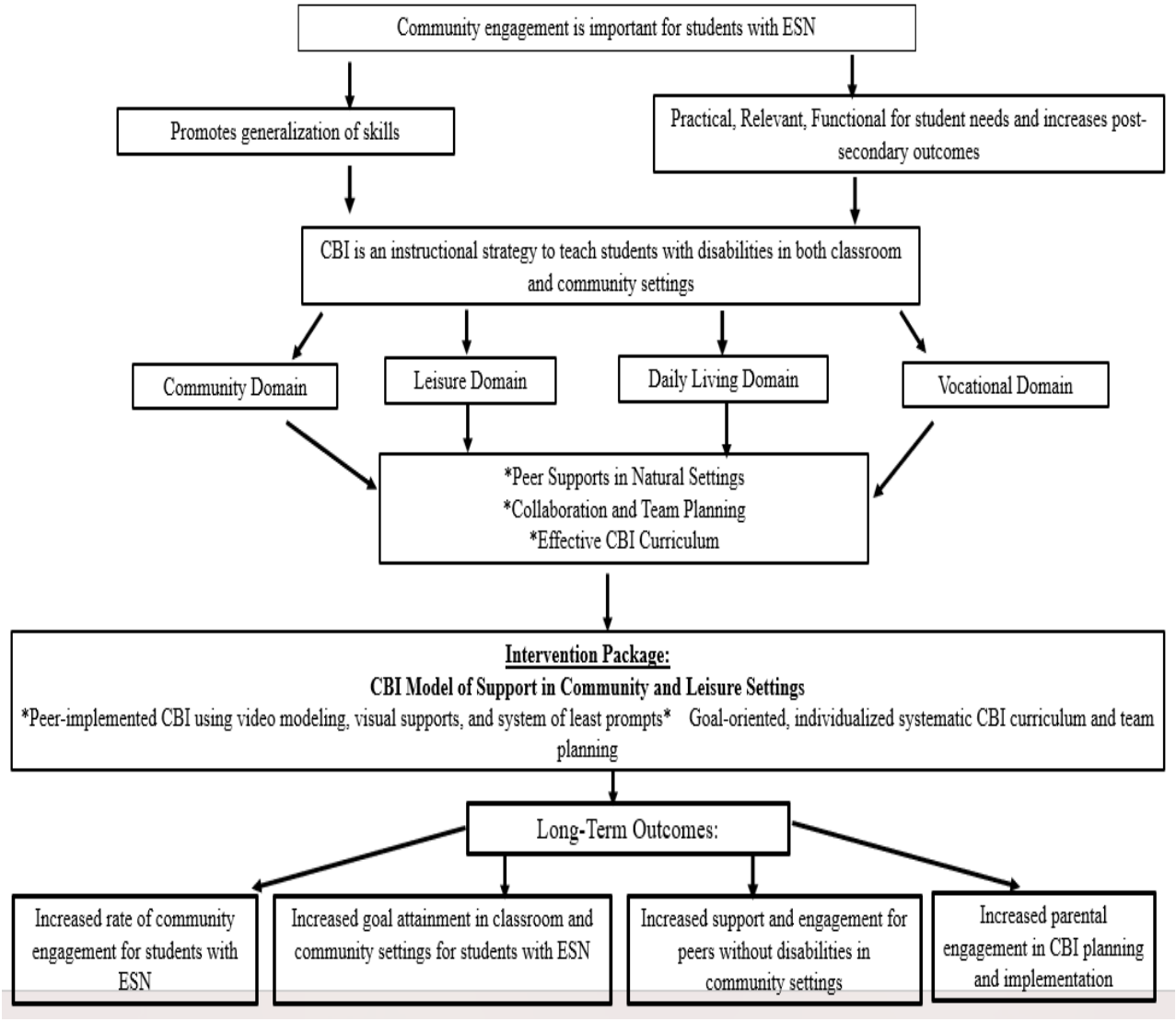


Figure 1

Logic Model

Community Engagement and Community-Based Instruction for Students with ESN

Effective community engagement involves both access to community settings and purposeful instructional opportunities for practice and generalization within these settings. For students with ESN community engagement continues to be a necessary component of educational planning for ensuring successful outcomes in adulthood. It is important to understand the historical perspective regarding community access and engagement for this population of students.

Historical Perspective of Community Instruction for Students with ESN

Appropriate and timely community access ensures that everyone can access and participate in the exchange of goods and services on a regular basis. For students with ESN instruction is necessary to teach the subset of skills required for community access (e.g., shopping, safety, transportation). While educators and researchers understand that community access and instruction lead to improved long-term outcomes (A. Walker et al., 2010) the focus on purposeful instruction as a part of CBI for students with ESN has not always been a priority within special education. Prior to the 1970s students with ESN often received instruction separate from their peers in isolated sectors that varied from setting to setting (Tomlinson, 2013). Early instruction for students with ESN often included isolated periods of time spent in institutions. This instruction shifted as educators and researchers learned more about the field and formed conclusions on what appropriate education for the identified population should look like with the passing of PL 94-142 in 1975.

While PL 94-142 (1975) was a starting place it did not ensure that all students had access to the most appropriate educational strategies and settings in all circumstances. Highly impacted were students with ESN, as educators continued to tweak instructional practices to best fit their

needs. While it is understood that academics are now an important component of educational plans for students with ESN, this was not the case in the 1980s. There was a shift in thinking that focused on embedding functional life skills as a part of the curricula and instruction to students related to their chronological age (Browder et al., 2020; L. Brown et al., 1979). Cronin (1996) defined these life skills as skills or tasks that lead to the successful, independent functioning of an individual as they transition to adulthood. The focus of this work was on teaching important life skills to students to truly enhance instructional time, placing a spotlight on time spent teaching skills that would lead to independence in daily life, rather than improved educational knowledge. During this time there also was a focus on *real life* experiences as opposed to academic instruction. This shift away from the developmental approach, which was conceptualized as teaching students at their developmental age rather than their chronological age (Browder et al., 2020), provided increased functional opportunities, such as trips into the community and time spent during the school day working on activities, such as tying shoes, washing hands, or engaging in self-care (Matson, 1990). At the same time there was an increased presence of individuals with ESN in community settings as the idea that exposure to community settings would ensure that students with ESN acquired these skills and lead to mastery. Unfortunately, this was not the case. The idea that exposure within community settings, or simply providing access, would lead to increased skill attainment, was quickly debunked as educators pushed more towards individualized planning and instruction heading into the 1990s.

Similar to the 1980s, the 1990s also brought change within educational reform movements for students with ESN. After examining the impact of increased daily life skills instruction on outcomes for students with ESN during the 1980s educators realized that academic instruction was imperative to ensuring that students with ESN had access to a fully free and

appropriate public education (FAPE). While daily life skills instruction was important for students with ESN (Hamburg, 1990; Snell & Browder, 1986) special education law began to focus on the rights of all students regarding access to academic instruction and inclusion (IDEA, 2004). District level administrators and curricula specialists began to scrutinize the curriculum delivered to students with ESN and question what was being taught and how these outcomes were being measured, especially for students with more severe intellectual disability. Due to the change in focus on community integration, instruction was minimized during this time. Instruction within the classroom setting was analyzed and revitalized for many individuals within the population at this time.

On the other hand, some forms of instruction continued to occur in the 1990s that resembled the practices of CBI. As a result of increased instructional time in the classroom the importance of CBI was expanded during this time (Sailor, 1991). Educators began pre-teaching skills in the classroom setting prior to community access and teaching in natural settings (e.g., Branham et al., 1999). This also included an increased attention to the integration of technology as a support for CBI (i.e., simulations, video modeling). There was an increased focus on exposure to academic content that related to relevant community experiences during this time as well. For example, a focus on teaching vocabulary words that would naturally generalize to community settings (Beck et al., 1994; Cuvo & Klatt, 1992; Schloss et al., 1995). By teaching important context to students with ESN students were able to generalize these skills across a variety of contexts and settings, including community locations (i.e., Beck et al., 1994).

This movement towards increased instruction for community-based skills would not be complete without a discussion related to the establishment of EBPs for students with ESN. Singer and colleagues (2017) suggest that the use of EBPs for students with ESN ensures that

appropriate supports are in place as legally mandated and supported by research in the field. Originating in the field of medicine, EBPs provide a basis for explicit practice that defines how instruction should be delivered for students (Sackett et al., 1996; Thomas et al., 2011; Thomas & Law, 2013). With the expansion of EBPs in the educational field, there was a focus on using these practices to support students with disabilities. As the focus on EBPs for students with intellectual disabilities began to increase so did the focus on how those EBPs would be integrated into community instruction. As a result of this shift, educators began to purposefully plan for community integration and instruction for their students, including students with ESN.

As time progressed and instruction in all areas of special education became more individualized, the focus on meeting the needs of students with ESN did not waver during the 2000s. As elaborated upon by the work of A. Walker and colleagues (2010) CBI domains were created in the early 2000s that included vocational, daily living, community, and recreational skills. This establishment of focused instruction aligned with the educational reform of the early 2000s, including No Child Left Behind Act of 2001 (2002), a federal mandate ensuring that the educational needs of all students be met. Secondly, as society progressed into the 21st Century, educators began to increase their focus on employment with the establishment of community-based vocational instruction (CBVI) and postsecondary education with the establishment of TPSID programs (Papay & Grigal, 2019) programs around the country. With this increased focus on post-secondary success for students with disabilities educators also began to see increased support for transition planning that includes community access and community-based instruction. Purposeful planning, as evidenced by educators today, often involves aspects of community integration for students (A. Walker, 2010).

Instructional practices for students with ESN community-based instruction remains an essential component of programming as move forward in special education. Examples of skills taught using CBI for students with ESN include making a purchase (Marholin et al., 1979; McDonnell & Ferguson, 1989;) banking (Bourbeau et al., 1986; Rowe et al., 2011; Scott et al., 2013), grocery shopping (Kyhl et al., 1999; Westling et al., 1990), and traveling in the community (Gallup et al., 2015; R. H. Horner et al., 1985; Kelly et al., 2013; Price et al., 2018). Recent research also has focused on expanding the impact of CBI across grade levels, including elementary-aged students (Schwind et al., 2021) to demonstrate the effectiveness of CBI at any age.

Barriers to CBI for Students with ESN

Despite the best efforts of educators and researchers in this area, students with ESN continue to face barriers to community access and engagement that impacts the effectiveness of CBI (Schwind et al., 2022). Similar to the barriers discussed in chapter one, students with ESN are limited in two main ways with respect to CBI. First, there is the issue of access. This includes access to community settings, which may include lack of transportation, lack of access to appropriate supports and services in all community locations (e.g., limited access to necessary ramps, job coaches, etc.), lack of access to technology (e.g., communication devices, assistive eating devices), or lack of access to inclusive settings within the community. Over the past several decades community integration has become a staple of conversation for disability advocates (Alper et al., 1995; K. Brown & Broido, 2019). This involves ensuring that all individuals with disabilities enjoy community services and live their lives in their respective community to the fullest, including opportunities alongside with those without disabilities. For many individuals with ESN these opportunities may be limited as they often rely on necessary

supports and accommodations within community settings to be successful. These modifications to community settings (e.g., putting in a ramp) do not always happen. Additionally, many individuals with ESN require continued supervision, even into adulthood, to ensure safety within community settings.

In 2018 Almalky studied the perceptions of team members on the barriers of community access for students with disabilities and found that many educators reported a lack of administrative support and a lack of staff to be two of the most significant barriers to CBI. This additional need for support personnel is unique to students with ESN. Over time the need for additional support may limit one's ability to experience independence, hinder the opportunity for interactions with nondisabled peers, and even lead to learned helplessness across community settings for many individuals with ESN (Carter et al., 2016).

Second, barriers within the community for individuals with ESN incorporate the premise of community integration. Community integration involves choice. Choices may include where to go, when to go, and what to do when you are there (Agran et al., 2014; F. Brown & Lehr, 1993). For individuals with ESN this opportunity for choice may be limited depending on the support available, the opportunity for inclusion in everyday activities while in the community setting, and the feasibility of the trip into the community itself (Schwind et al., 2022). Beyond the opportunity for choice lies a required level of collaboration to ensure that community integration is successful and leads to generalizable outcomes for students with ESN. As students with ESN require continued direct, multiple exemplar instruction, community opportunities must be extended. Some students with higher incidence disabilities (i.e., learning disabilities) may be able to acquire a skill in fewer visits; however, students with ESN require additional time to learn

and master a skill set, including community-based skills (Cihak et al., 2004). It is essential that all team members work collaboratively to break down this barrier.

Lastly, despite physical placement in inclusive settings, students with ESN are not always required to participate in meaningful ways in these settings. Browder and colleagues (2020) emphasize the importance of fully examining the opportunities that educators are providing our students, both in the school, and community, to ensure that they are inclusive and not just about exposure to the setting while the student with ESN participates in a separate activity away from their peers. While exposure to the community setting may be evident, the students are not always actively engaged. Unfortunately, this is a problem that many educators face when planning for community integration for their students with ESN (Almalky, 2018).

Perspectives of Team Members Regarding CBI and Community Engagement

The enhancement of CBI for students with ESN in community settings also involves parent and team member support and collaboration. Spann and colleagues (2003) suggest that increased parental involvement leads to increased positive outcomes for students, increased generalization and maintenance over time, greater continuity of programming and intervention, and higher parent satisfaction. Almaky (2018) more specifically examined parent and team input on CBI. While the study addressed vocational planning (CBVI), the results are generalizable. Almalky (2018) found that parents reported increased outcomes when involved with the planning process and felt that appropriate planning procedures, such as the development of IEP goals related to CBVI, would lead to increased opportunities for post-secondary outcomes, such as finding employment and maintaining employment after high school. It can be concluded that the greater the involvement of parents and family members in the CBI process the better the outcome for students with ESN and their families.

Despite the benefits of parental involvement, CBI for students with ESN presents challenges for ensuring the degree to which this involvement occurs Parents often report a lack of incorporation in the planning phase of CBI, a lack of support when implementing instruction, and an overall sense of an unbalanced opportunity to access the community for their children with ESN (Allen et al., 2015; Harriage et al., 2016). For example, parents may not be aware of the goals that have been established as a part of CBI for their child(ren), how the skill is being taught, or the importance of the skill across settings. Even when parents serve as implementers of CBI (e.g.., Tekin-Iftar, 2008) these barriers still exist, even when supported by researchers and team members. As transition planning has become more prominent and CBI has become a part of this process for youth ages 16 (sometimes 14) and above, parents are encouraged to actively seek community opportunities for their children related to the instruction and IEP goals set forth by the team. This remains true for students as they graduate and become young adults in post-secondary settings. On the other hand, parents may be ill-equipped to do so if they are not well versed in the evidence-based practices being taught as a part of CBI, or they do not have the proper support to take their child(ren) into the community on a regular basis. The sense of fear or inadequacies that haunts many parents often limits students with ESN as community access may then be limited to what is offered during school or as a part of academic instruction, not occurring outside of school hours (Allen et al., 2015; Harriage et al., 2016). Additionally, it may be limiting to students with ESN specifically because this population of students often requires additional opportunities for generalization as compared to other students with higher incidence disabilities. Such opportunities may not be present if parents and family members are fearful or inappropriately implementing CBI.

In addition to parents, educators also play an important role in the CBI process for students with ESN. Agran and colleagues (1999) first examined the perceptions of secondary-level teachers as they used CBI with their students. In their work they compared inclusive settings for students with disabilities to community-based sites for students with disabilities. Over 82% of respondents (special education teachers) reported an increase in opportunities to build friendships, engage in conversations with, and increase social interactions with peers both with and without disabilities across in-school sites and community sites because of CBI. In addition to this 77% of respondents reported that they believe that CBI contributes to increased positive post-school outcomes for students with disabilities. Expanding upon this Kim and Dymond (2010) examined teachers' perceptions of CBI opportunities related to vocational settings. They found that special educators reported that CBI and CBVI have numerous benefits for all students with disabilities, including students with ESN. These include increased employment opportunities, social skills instruction, and opportunities related to creating a sense of belonging in their respective communities. While many educators still report a lack of resources and access to appropriate support as limitations of CBI (and CBVI) they overall support this practice as a part of the curriculum for students with disabilities, including students with ESN.

CBI Curriculum and Teaching Methodology

While researchers examine the role that CBI has in education it is critical that special education teachers and faculty understand the role that CBI has within curriculum and instruction for students with ESN. In typical K-12 setting students with ESN are provided instruction in the least restrictive environment (LRE) according to their needs. Less than 1% of all students are identified under this categorization of ESN (Kurth et al., 2019; Taub et al., 2017) across

educational settings. Curriculum options for students with ESN may be limited and are often not a priority of larger school districts and administration. Although the educational focus has shifted to now include students with ESN within inclusive opportunities and general education settings over the past few decades, educators and researchers still have a long way to go to ensure that students with ESN have appropriate access to curriculum that addresses their full range of needs. This includes the need for community access and engagement through CBI.

While some educators report using CBI as a part of their practice, this is not universal across the field of special education for students with ESN (Agran et al., 1999; Kim & Dymond, 2010). Many educators report that CBI is not a part of their designated curriculum, either provided by the district, or their own planning. Educators often report that they receive materials and instruction via online searches (e.g., Teachers Pay Teachers or Pinterest) when researching CBI for their students, rather than being provided resources from the district (Agran et al., 1999; Kim & Dymond, 2010). Educators also report that they did not receive instruction while in their teacher preparation programs related specifically to CBI (Kim & Dymond, 2010). While instruction revolved around transition planning and may have touched on employment opportunities in the community, it often did not involve specific steps for implementing CBI (Kim & Dymond, 2010). For educators who often implement CBI they report that this is largely due to fellow co-workers involving them in their planning, a history of experience with CBI, or other individual factors. Available resources for CBI are not widely shared amongst educators, are often out-of-date, and are often not accessible to parents, peers, or other team members of students with ESN.

The challenges with CBI are not unique to educators in K-12 settings, either. College-level instructors also report very little knowledge base regarding how to teach and address

students with ESN within their courses for instruction (Clausen et al., 2023). If professors in special post-secondary programs for students with intellectual disability do not have the basic knowledge of how to teach and make accommodations for students with disabilities, it can be expected that they also struggle to meet the specific needs of CBI planning and serving students with ESN in this specific need as well.

Given the need for continued instruction related to CBI, several evidence-based practices have emerged as effective interventions when implementing CBI. In 2010 A. Walker and colleagues reviewed current literature related to CBI for students with intellectual and developmental disabilities (IDD), including students with ESN. They found that the following evidence-based practices served as interventions and were utilized as a part of CBI: prompting (60%), constant time delay (17%), modeling (9%), progressive time delay (4%), direct instruction (4%), sequencing (4%), and contingent reinforcement (4%). Given the wealth of knowledge regarding instructional practices that are effective for students with ESN educators and researchers understand that these practices may be utilized across both classroom and community settings to support students with ESN in teaching community-based skills and accessing novel settings to promote generalization (Pennington et al., 2022).

Recent Literature

A recent literature review in CBI has expanded our wealth of knowledge related to how CBI has been implemented for students with IDD, including students with ESN, over the past 13 years. Anderson and colleagues (in press) extended the review conducted by A. Walker and colleagues in 2010 to examine how CBI is implemented across educational settings today, including post-secondary settings targeting young adults. They found that, unlike the findings of A. Walker and colleagues, most research in CBI has focused on daily living skills (36%) and

vocational skills (36%) within a mixture of community and classroom settings. Throughout the past decade there has been an increased focus on community instruction related to improved transition planning and this is the main reason that CBI has taken center stage within instructional planning. As the field turns more towards improving long-term outcomes for students with ESN the focus of instruction throughout the lifetime ultimately shifts from a "one size fits all" model to an individualized model, including our community-based instruction.

Summary

Students with ESN comprise less than 1% of the total population of all students (Kurth et al., 2019; Taub et al., 2017), and have historically faced the greatest number of challenges to community access and engagement. The promise of CBI, when implemented across parents, team members, and students in a systematic manner, allows for a greater improvement in generalization of skills acquired from the classroom to community settings. Access to community settings has fluctuated over the years from a focus on daily living skills to vocational skills, and more. In the early 2000s the focus evolved into the four domains of CBI, identified today as vocational, community, daily living, and recreational skills.

Despite an increased focus on community involvement for students with ESN curriculum and instruction in this area continues to be limited. Educators and parents alike continue to report numerous barriers (Kim & Dymond, 2010) to effective implementation of CBI. Most report a lack of support, a lack of resources, and a lack of collaboration. Additionally, teacher preparation programs, provided curriculum, and provided resources and support to educators do not include instruction for effective CBI. Parents and educators may have access to published curricula regarding transition, and the focus on community integration as a part of transition planning, but this leaves many areas of CBI unaddressed. These methods also are not systematic and universal

across educators and parents. Limitations and a lack of purposeful planning for CBI within educational settings impacts students with ESN as they become adults because they are not able to fully access their community as independently as possible.

Recent literature reveals that CBI continues to be a necessary component of instruction for students with IDD, including students with ESN. When provided with opportunities for community integration and instruction students with ESN have increased social outcomes (Barczak, 2019), vocational outcomes (Fernandez et al., 2018; Kim & Dymond, 2010; Rainforth & York, 1987) and more (e.g., increased independence, sense of belonging). For students with ESN to have meaningful access to community locations instruction must be provided as a part of an integrative team approach throughout their lifetime (Test et al., 2016). This includes instruction delivered by natural supports, such as peers.

Peer Supports for Students with ESN

Community-based instruction, an effective instructional practice for increasing community access and engagement for students with ESN, has traditionally been implemented by special educators, researchers, or parents in transition-aged settings, including post-secondary settings for students (Anderson et al., in press; Mechling et al., 2014; A. Walker et al., 2010; Z. Walker et al., 2016). Within community settings, intervention agents (i.e., special educators, researchers, and/or parents) design and implement an appropriate intervention to address the need(s) of the student(s) related to community access and engagement in one or more classroom and community-based settings within the four domains of CBI. This intervention relies solely on the availability and training of the intervention agent. Natural peer supports, an evidence-based practice in special education (Brock & Huber, 2017), offer a more organic solution to implementation and training of skills for students with ESN within community settings. Peer

supports are defined as a specific type of peer mediated strategy in which peers without disabilities are teaching skills to their peers with disabilities (Carter & Kennedy, 2006). This intervention provides students with and without disabilities continued support in an inclusive setting by providing training, modeling, and feedback as peers are delivering support to their peers with ESN (Carter et al., 2005).

Benefits of Peer Supports

Peer supports provide numerous benefits to both students with and without disabilities. Specifically, for students with ESN, this involves an increase in both academic and functional skill development. For peers without disabilities, peer support arrangements provide improved academic outcomes, increased social opportunities, and enhanced overall positive effects, including disability awareness (Brock et al., 2016).

Improved Academic Outcomes

Students with ESN have experienced increased academic gains with the implementation of peer supports across different grade levels. Early studies have demonstrated the effectiveness of using peer supports to increase academic engagement and attention to task (McCurdy & Cole, 2014; McDonnell et al., 1998; Shukla et al., 1998). In 2016 Brock and colleagues evaluated the effects of training paraprofessionals to facilitate peer support arrangements on progress towards the individualized academic goals of students with ESN in general education settings. Researchers first trained paraprofessionals on peer support implementation. Paraprofessionals then identified peers to work with students with ESN through peer supports in the general education classroom setting. Peers were provided training on engaging with their fellow students with ESN through appropriate academic support and social interactions. They indicated that three out of four students were able to demonstrate progress towards their individualized goals using

peer support strategies in these settings. Such goals included using communication, staying attentive to a task, manipulating keys on a keyboard, and complete work amongst the four students.

Next, Carter et al. (2008) examined the effectiveness of a peer support model in a middle and high school setting for students with ESN. Twenty-three middle and high school students with developmental disabilities were partnered with peers in respective classes. They were monitored for time (duration) on task academic behavior for which the standards aligned (i.e., identical, or appropriately modified from the class curriculum with respect to difficulty, modality, response format, length, or materials). In core academic classes, students with disabilities were engaged in consistent instruction an average of 60.2% of the time and engaged in inconsistent instruction an average of 2.5% of the time. Similar patterns were noted in elective classes. Researchers found that not only were students with ESN able to address academic goals through peer supports, but also that they were able to address academic engagement (i.e., time on task). The time on task with academic engagement was similar to the time comparison (on task *vs*. off task) for their peers without disabilities. With these findings, Carter et al. demonstrated that, given peer supports, students with ESN can maintain academic focus within the general curriculum at the same, or comparable rate, as their peers. This is important to note as some of the instruction delivered through CBI relies on instructional practices delivered in the classroom setting prior to community engagement for students with ESN.

Lastly, Schaefer et al. (2018) evaluated the efficacy of using peer supports in a middle school setting for students with ESN during both small and large group instruction. Three middle school students with ESN and three peers were included. The duration of on task behavior during class was documented, as researchers collected frequency counts of on- and off-task behavior.

All students demonstrated upward trends of increased academic engagement from baseline to the intervention phase. In addition, students demonstrated the highest levels of engagement during group activities, indicating that when working alongside their peers' students with ESN were more frequently engaged.

Increased Social Outcomes

Continuing research has demonstrated that students with ESN are able to increase their social skills with the use of peer supports within inclusive settings. Brock et al. (2016) speak to the importance of social outcomes for students with ESN in saying that peer supports allow opportunities for students to be engaged with one another based on interest and that they should continue to develop their relationships over time to form a true friendship, reflecting a positive social outcome for all involved. The shift away from educators and paraprofessionals serving as implementers to this more naturalistic intervention utilizing same-aged peers provides opportunities for bonding between students without disabilities and their peers with ESN, an opportunity that might have not otherwise been granted or provided if peer supports were not provided throughout purposeful planning.

Improved social outcomes have been supported through numerous studies over the years. One example is the work of Carter and colleagues (2016) in which they implemented a randomized controlled experimental design to evaluate the efficacy of using peer supports to improve academic and social outcomes for high school students with ESN. Participants included 99 high school students with ESN and 106 peer partners, and 51 school staff. Over the course of several years peer supports were put into place for students with ESN in the general curriculum setting. Peer support training was provided to the paraprofessionals and subsequently to the peers. Results indicated that students with ESN had an increase in social response and frequency

of initiation with peers with peer supports in place. They also had an increase in the total number of peers that they encountered within the class setting from the start to end of the semester. Findings indicated that students with ESN had a greater number of social interactions, including an increase in the frequency of social interaction when compared to students not receiving peer supports. Researchers measured social participation scores that showed that students in the peer support group gained significantly more friends without disabilities than students in the comparison group. In addition, 40% of peers who remained in the study until the end of the semester still had social contact with one another and reported to still be friends.

Next, Brock et al. (2016) examined the effects of implementing training for peer supports on social outcomes for students with ESN. This study involved four students, four special education teachers, four paraprofessionals, and 11 peers without disabilities in a middle school setting. Special education teachers trained paraprofessionals on how to implement peer supports within the general education setting. Paraprofessionals then worked directly with the identified peers (without ESN) and trained them on how to implement proper peer supports. During class, a partial interval recording system was used to monitor social interactions between peers. They indicated that with intervention two of the students were able to improve their social interactions almost immediately following implementation. The interactions included communicating and talking with a peer.

Lastly, in 2018 Huber and colleagues examined the effects of a peer support model on social interactions within the high school setting for three students with ESN and peers without disabilities. Given the implementation of peer supports, peers received training and then engaged in peer supports daily with their peers with ESN in the general education classroom setting. Data were collected regarding social initiations and responses of the students. Two students were able

to increase their social interactions during class from less than 10% to 30-40% of the time while in class. A third student was able to increase his social interaction engagement up to 60% of class time (from less than 10% during baseline). Students also increased their response rate (to peers/instructions) when given peer support plus phase of intervention. This study supports not only the increase in frequency of social interactions, given the use of peer supports, but also speaks to the quality of those interactions. The quality of the social interactions was rated on a Likert scale 1-5 from paraprofessionals and the general educator and averaged a four in most areas, indicating quality interactions.

Effects on Peers

The impact of peer supports on students without disabilities also should be noted. This data is usually collected via social validity scores during research. For example, Cushing and Kennedy (1997) measured the impact of peer supports for students with disabilities in general education settings. Data taken across a 2-month period indicated a positive effect on academic performance by peers, as well as students with disabilities. More recently, Huber and colleagues (2018) evaluated the effect of peer supports on peers through social validity measures while implementing peer supports and found that peers reported that they felt effective in their roles supporting students with ESN. They also indicated that they would serve as a peer support again and even considered the student with a disability to be their friend. Finally, many peers indicated that the established relationship was not disruptive to their class or studies of the content within the classroom setting. This feedback/perspective is important to consider because previous research literature questions if peers without disabilities are learning the curriculum at the appropriate pace if they are providing peer supports to students with ESN at the same time.

Given the benefits of peer support arrangements across academic and functional settings for both students with ESN and their peers it is imperative that educators understand not only why they are implementing peer supports as an instructional practice with students with ESN, but how to do so effectively. To do this educators and researchers must first understand peer support arrangements.

Peer Support Arrangements for Academic and Functional Skills across Settings

The term *peer support arrangements* defines the abundance of opportunities for training and practice when utilizing peers without disabilities to teach skills to students with disabilities. Peer support arrangements involve the training of these peers to provide social, academic, and behavioral support to their peers with disabilities across various skill sets (Carter et al., 2011). Although peer support arrangements may vary based on the individual need of students, most models share several key components and details that lead to the effective inclusion of students with ESN alongside their peers. As described by Brock and Huber (2017) peer support arrangements must involve (a) individualized planning for the student(s) with ESN, (b) training of one to three peer partners, and (c) ongoing support from staff during activities and intervention. It is important to note that, similar to peer support plans, these arrangements are highly individualized to each student with ESN and closely defined and measured from start to finish. Although educators and researchers rely on peers to deliver instruction and provide support, peer supports would not be effective without an appropriate support plan in place for both the peer and the student with ESN that involves identification of an appropriately match peer, training of this peer, and ongoing support for both the peer and the student with ESN.

Research pertaining to the use of peer support arrangements has spanned over 20 years (Brock & Huber, 2017) and involved research in both academic and functional skill development

for students with intellectual disability, including ESN. A review of the literature by Carter and colleagues in 2010 examined the use of peer supports to promote social interactions amongst students with autism and intellectual disability and their peers. This research included the implementation of peer interaction training, peer networks, and peer awareness training. Although supporting the benefits of such peer support arrangements, the review found that an insufficient number of included studies reported the use of peer arrangements as an evidence-based practice (Brock & Huber, 2017; Carter et al., 2010). This was closely followed by the work of Browder and colleagues in 2014 in which researchers identified peer support interventions as a recommended practice for students with ESN. Additional methods used within peer support arrangements may include collaborative learning, which allows a group of students to work together towards a common goal (Heward et al., 1982; Shippy, 2015), cross-age peer support, in which older students mentor younger students (Shippy, 2015), and peer modeling in which peers can clarify instructions to and alongside their peers with disabilities (Riester-Wood, 2015; Shippy, 2015).

Following these literature reviews, as noted by the work of Brock and Huber (2017), the question remained if peer support arrangements were an evidence-based practice. Given this inquiry Brock and Huber (2017) completed a further literature review summarizing the research available in this area. Researchers completed their work under the premise that, although peer supports have been a promising practice for many years, they are unsure of the evidence-base behind this practice. They sought to provide clarity to practitioners for identifying how peer support arrangements may be implemented to support students with disabilities. Within this review they found that eight out of 11 included studies met all the Council for Exceptional Children (CEC) quality indicators.. Most of the time peers were selected based on potential

benefit to the peers (i.e., improved social outcomes or disability awareness). Both paraprofessionals (under the supervision of special educators) and special educators administered the training to peers for each study. As a result of this work authors determined that peer supports are evidence-based. Additionally, they noted that structural analysis during planning for peer supports (i.e., determining one on one working arrangements or small group arrangements) can be applied to enhance the positive outcome of peer supports. Lastly, they noted that included studies, such as Biggs et al. (2017), demonstrated the effectiveness of collaborative planning amongst team members as a component of effective peer support arrangements.

Apart from addressing functional skill support needs, many peer supports have sought to close the gap between students with ESN and peers without disabilities in academic settings related to increased general curriculum access. Students with ESN may have complex communication, physical, behavioral, or other challenges as compared to their peers without disabilities (Huber et al., 2018). The unique challenges that students with ESN face make it difficult to learn in general curriculum environments that do not have a direct focus on opportunities for students to work collaboratively (Carter et al., 2016). Peer supports may provide an opportunity for increased learning outcomes for students with ESN. Carter and colleagues (2015) emphasize that peer supports, when used in academic settings, may provide a practical alternative to addressing the complexity of the needs of students with ESN while not placing too much demand on educators and paraprofessionals alike. When implemented systematically peer support arrangements lessen the burden of teaching on educators and paraprofessionals, who traditionally served in one-on -one roles supporting students with ESN in academic and functional settings alongside their peers (Carter et al., 2015). This burden is now placed on peers as natural supports within these environments in which educators can take on

more of a facilitative role through purposeful planning, training, and overseeing of students (Carter et al., 2015).

Peer Supports for Students with ESN in Community Settings

In addition to providing instruction in academic settings, peer supports also provide support for students with ESN in community settings. As instruction for CBI typically begins in the classroom (Tashie & Susah, 1993) and is then generalized to the community settings with instruction also occurring at these community sites, it is important that peer supports follow this progression as well. Peer supports should be provided across settings to enhance the opportunity for peer interaction, teaching, and benefits to both students with ESN and peers without disabilities (Carter et al., 2015).

The available research in this area is limited. Shields and colleagues (2019) examined the impact of peer supports on leisure skills for high school students with intellectual disability (ID), including some students with ESN, in community recreational settings. They found that 91% of participants, including peers as well as students with ID, attended 100% of the weekly exercise sessions. All participants reported benefits to their overall health and improved social outcomes in the community setting, as well as increased likelihood of accessing that same program, facility, or one similar, in the future within the community. In addition to this work, several articles support that need for peer support in community settings. First, Scheef et al. (2018) explains that peer support in community settings expands one's social network of support. As students with ESN transition into adulthood their support network may fluctuate and even diminish due to limited opportunities for peer interactions and the loss of built in and preplanned social opportunities with their peers that was an established part of their high school experience through clubs and activities within the curriculum or school setting. Scheef and colleagues also

emphasize that peers hold knowledge that can make community experiences more enjoyable. In addition, Carter et al. (2014) implies that peers understand how they want to spend time in the community. They make choices every day and can help their same aged peers do the same. The benefits of peer supports in community settings also fosters lifelong friendships and bonds that extend beyond the walls of the school. While this opportunity for friendship is especially relevant for students of transition-age, or even young adults, these friendships between peers with and without disabilities begin at an early age. Scheef and colleagues emphasize the importance of fostering peer relationships through peer supports in the community beginning in elementary or middle school.

Within community settings peers can serve as natural supports, thus lessening the burden on educators, job coaches, and family members of students with ESN. In these settings peers without disabilities engage in activities that include work, school, leisure, and daily living tasks every day. Students with ESN seek these same opportunities, but often require additional support in the community to access and engage in the same activities (Carter & Kennedy, 2006). By observing and understanding that peers without disabilities are already engaged in similar community activities as their peers, educators and support personnel can rely on this opportunity to lessen the burden of support that must be provided.

Following in the footsteps of researchers such as Kelly et al. (2013), Kearney and colleagues (2021) utilized peer supports within community settings to increase navigation skills of students with intellectual disability, including students with ESN. Within this study and previous research along the same lines (e.g., Kelley et al., 2013) they relied on the abundance of natural peer supports within these settings to teach navigation skills across college campuses. Peers included in the study served as friends, mentors, teachers, and guides with students with

disabilities across campus. This research not only extended the available literature to include research with young adults in community settings, but also spoke to how natural supports (i.e., other college students) can be leveraged as peer supports to provide instruction, modeling, and feedback to students with ESN in natural environments. It lessens the burden placed on educators to provide all of the instruction to students with ESN as educators take a backseat to peers in the community. Within this research students were asked to achieve community-based goals for navigation after being taught a specific set of skills while working with their same-aged peers. Participants also reported that they would continue to interact with their peer during times outside of the research study, as the new opportunity had created a relationship between them (the student with ID) and the peer (Kearney et al., 2021). This work highlights the importance of peer supports across community settings that involves not only goal setting and collaboration, but also emphasizes how this relationship between peers and students with ESN can be established and built upon across settings.

Perceptions of Stakeholders

Peer supports can be effective when supporting students with ESN both in academic and community-based settings (Carter et al., 2015). Given the important role that peers play in one's life (i.e., socialization, support, connections, instruction, etc.) understanding the perceptions of team members, including peers and students with ESN, is necessary to continue to improve upon these practices. When examining the perception of peers utilizing peer support networks for students with intellectual disability, Asmus et al. (2017) found that students with ESN and peers without disabilities have positive perceptions regarding the implementation of peer supports across settings when implementing instructional practices (i.e., teaching a skill or providing new information). Researchers collected data across two states in high schools regarding social

contacts and perceived friendships across four waves of time through a social connections and relationship assessment, completed by both parents and peers. The following were measured: number of new social contacts, the number of new school-reported friendships, the number of new parent-reported social contacts, and the number of new parent-reported friendships. Students with ESN and facilitators (of the peer support intervention) also were asked to complete a social validity questionnaire and provided feedback about their peer network, perceptions of friendships, and enjoyment of school. Overall, peers reported that they would gladly fill the role of a peer supporter again, felt fulfilled in their roles, would recommend this role to a friend, and felt personally benefited from having served in this role. Students with ESN further affirmed the positive outcomes of peer supports by stating that they enjoyed spending time with their peers, enjoyed hanging out with them, and wanted to continue to learn new things with their help. According to the self-reported social validity measure, it also was reported that both peers and students said that they were friends at the end of the semester.

In addition to the work by Asmus and colleagues in 2017, Brock and colleagues (2016) examined teacher perceptions of those using peer supports through social validity measures. Researchers found that most teachers reported positive outcomes when utilizing peer supports within both academic and community-based settings. Given open ended questions, two teachers indicated that the intervention was quite effective or very effective. Three teachers reported that they would be extremely likely to use this support system again, while others reported that they would be quite likely to use it again. Teachers reported that they are happy to see students engaging in more conversation (i.e., not shy now) and that peer supports are not hard at all to implement. Findings could suggest that teachers may implement the strategy in the future and influence others to do the same. Additionally, this work suggests that all implementers of peer

supports, not only teachers (i.e., paraprofessionals, instructors, IEP team members or family members), would likely find ease with and benefit from the practicality of implementing peer supports across settings.

Behavioral Skills Training and Peer Supports

Effective implementation of peer supports begins with proper training. Most notably training for peer supports involves direct teaching between a special educator, or paraprofessional (supervised by a special educator), prior to implementation and interaction with the student with a disability. The intensity and duration of training may vary from person to person, with many sessions lasting between one to five sessions at the beginning of the intervention (Carter et al., 2005). A component of peer support arrangements ensures that peers will continue to receive ongoing support throughout the intervention. This support may come in the form of follow up training, coaching, or additional informal feedback provided to the peer during regularly scheduled check-ins (Carter et al., 2005). To best offset any variability in the support provided to peers while supporting students with ESN, the practice of behavior skills training may be capitalized upon. Behavior skills training is an evidence-based practice for training individuals to acquire, maintain, and generalize their learning across a variety of skills and populations. BST consists of four components: instruction, modeling, rehearsal, and feedback (Covey et al., 2021; Leaf et al., 2015). It remains a feasible and practical solution for training a skill with colleagues, peers, and more (Kirkpatrick et al., 2019).

Within BST the practices can be tailored to fit the individual needs of the student and peer. This provides a structural outline for peers to be trained in a systematic manner that allows the educator and/or researcher to build upon the strengths of the peer receiving the training. During instruction the peer receives explicit directions on how to engage with their peer with

ESN in the identified setting. Following this the peer has an opportunity to model the skill with the trainer in a controlled environment (for training purposes), as well as an opportunity to rehearse the step-by-step directions of the intervention. Lastly, the trainer provides feedback to the peer regarding their performance. The feedback provided is critical to ensuring that all the steps are performed accordingly and that the peer understands the procedures going forward to ensure success for that individual with ESN that he or she is interacting with. The work of BST is supported by Brock and Huber (2017) who included BST as an instructional strategy in their analysis of effective peer support models, concluding that BST is associated with consistent improvement of procedures that led to higher implementation fidelity across studies. As educators explore opportunities for training of peers BST stands out as a practice to ensure that educators and peers alike are delivering and receiving training that is high-quality.

Summary

Over the past 20 years peer supports have emerged as an effective practice for ensuring that students with ESN have access not only to appropriate curriculum, but also community settings. The multitude of benefits of peer supports include improved academic and social benefits for both students with and without disabilities (Brock et al., 2016; Carter et al., 2008, 2016; Huber et al., 2018; Schaefer et al., 2018). Peer support arrangements, as a newly established EBP, support the individualization of peer support models that fit the needs of students on the individual level. For example, peer support arrangements might include peer networking, peer awareness, or peer modeling (Carter et al., 2010; Brock et al., 2014; Shippy, 2015).

The use of peer supports in community settings is more limited when compared to the available literature supporting the inclusion of students with ESN in the general curriculum

accessing peer supports. While heavily supported by research regarding improved academic outcomes for students with ESN (Brock & Huber., 2017; Carter et al., 2015), the literature supporting peer support models in community settings has become less frequent. Within the available literature, it is evident that peer supports have become a natural system of reinforcement for many individuals with ESN as they transition to adulthood. Peer supports may provide an opportunity to capitalize upon peers already completing the skills. Peers may provide necessary information about community tasks, settings, and behavior to their peer(s) with disabilities (Brock & Huber, 2017).

Lastly, as peer supports become a more frequently utilized component of instruction for students with ESN, it is important to analyze how peers are trained and the quality of the training. Behavior skills training provides an outline that consists of four essential steps (instruction, model, rehearsal, & feedback) for effectively training peers. It also has been utilized in numerous academic settings, but also has implications for community-based instruction for students with ESN.

Implementing CBI for Students with ESN

Given the appropriate tools for successful CBI with students with ESN, educators, family members, and students with ESN report positive outcomes into adulthood, including feelings of belonging within their community, improved access to inclusive community opportunities, and overall higher quality of life (Alsaeed et al., 2023; Soresi et al., 2009). Despite the benefits of CBI, this strategy is not implemented with consistency among students with ESN even as young adults. Consistent instruction includes appropriate planning, collaboration, and access to a variety of community settings that address the wide range of necessary skills that students with ESN may need to be taught. One such setting involves the recreational/leisure domain of CBI. As

described next there is a need for continued research across this subset of skills in leisure settings for students with ESN. Luckily, educators and team members supporting students with ESN have a myriad of tools and strategies that can be used to teach community-based skills across leisure settings.

Leisure Skills for Students with ESN

Among the four identified domains of CBI, recreational leisure skills remain an area that is less frequently researched and supported for students with ESN. Leisure skills are an essential component of CBI and daily life for everyone, including students with ESN. Leisure skills are defined as activities that consist of play, sports, culture, crafts, hobbies, and social activities (Bult et al., 2011). Examples of such skills include engaging in sports activities, making choices for free time, and choosing recreational activities. Leisure time activities occur during an individuals' unobligated time and frequently reflect social interaction (Dattilo & Schleien, 1994). These interactions may include greeting others, completing tasks alongside a peer or friend, playing games, or following through with organizational tasks during free time.

Despite the importance of leisure skills, students with disabilities often have limited experiences with leisure activities (Braun et al., 2006). This is especially relevant for students with ESN as they are often limited even more when engaged in community activities. Such limitations may include fewer choices of activities, limited community access, or limited amounts of time in community settings (Braun et al., 2006). Leisure skills are often not taught because of the focus on academics for students with ESN and the focus on postsecondary vocational and/or educational domains . Braun and colleagues (2006) explain that, for students with more severe disabilities, the struggle for access and engagement in community settings is not limited to vocational and educational opportunities. Barriers exist even in recreational and

leisure settings where students and young adults with ESN should be able to make independent choices and engage in free time choices for pleasure and fun. On the other hand, researchers know that students with ESN often require additional supports for everyday tasks (Browder et al., 2020). When requiring additional support the need for additional staff, technology, and planning arises. For example, a student with ESN may require additional communication response boards when accessing a recreational facility to play basketball, as opposed to a student who is able to communicate independently. The need for additional support across community settings creates barriers for students with ESN in the community as they are often left to be supported by staff or family members rather than their peers or friends, as compared to same-aged peers, even in inclusive settings.

Given the need for teaching leisure skills to students with ESN in community settings some research has been conducted, although it is limited. Much of the available literature extends beyond 10 years and focuses on students with mild to moderate intellectual disability rather than students or young adults with ESN. First, Collins and colleagues (1997) taught leisure skills to students with moderate disabilities with four targeted skill areas: playing cards, selecting a TV program, playing a videotape, and playing a computer game. Researchers utilized a system of least prompts to teach these skills in a collaborative effort alongside peers without disabilities. Results indicated that both students with disabilities, as well as their peers, benefited from instruction. Peers without disabilities also reported an increase in their positive attitudes towards their peers with disabilities.

Second, Dollar and colleagues (2012) utilized simultaneous prompting to teach behavior chains in leisure settings to adults with ESN in home and community settings. One skill addressed was listening to music independently. Given a one-to-one format of direct instruction

during intervention with the researcher, participants were able to the targeted leisure skills within one to four weeks after intervention began. Participants reported an increased ability to perform these skills independently and satisfactorily. Next, Cannella-Malone et al. (2018) utilized video prompting to teach leisure skills to nine students with ESN. Results indicated that eight students had improved outcomes in their ability to make choices for preferences of activities in the community setting. Being able to appropriately choose a leisure activity ensures that you will be happy with how you are spending your time in the chosen setting, a skill that many students with ESN must be explicitly taught. Lastly, Shields et al. (2019) examined how peer supports could be used to help students with intellectual disability, including ESN, achieve their exercise goals in leisure settings. They found that students participated in 90% or more of assigned classes and activities in these settings when supported by their peers. Individual goal setting for participation also was a part of this study and indicated that students were able to achieve their goals with the support of their peers across community settings for exercise.

Although we, as a field, understand the importance of leisure skill acquisition for students with ESN and the barriers that they face in community settings when making choices for leisure activities, the available research is limited for this population as recreational opportunities are often a low priority for many educators, given the academic demands placed on educators. This includes both K-12 educators, as well as those supporting students in postsecondary settings. First, most of the current research focuses on a population of students with mild to moderate disabilities (Collins et al., 1997; Shields et al., 2019) rather than students with ESN. Second, due to the lack of research in this area, appropriately defining leisure skills may be different for different students. For example, Cannella-Malone and colleagues (2018) explored the role that preference takes in making choices in recreational settings, while other researchers have

conducted semi-structured ecological inventories to assess what skills are needed in community settings and subsequently taught these skills (e.g., Collins et al., 1997). Lastly, the procedures for teaching leisure skills may differ based on the individual needs of students and the population. For example, Cannella-Malone et al. (2018) utilized video prompting, while Dollar and colleagues (2012) utilized simultaneous prompting. While both are evidence-based practices, unlike in many areas of academics, there is not an established best practice of strategies to teach the subset of leisure skills which can make it difficult for educators to plan for and execute instruction.

Evidence-Based Practices used in CBI

Given the wealth of knowledge on instruction that works for students with ESN (Browder et al., 2020) educators and researchers can appropriately plan for instruction within recreational/leisure settings utilizing EBPs. Based on the work of A. Walker and colleagues (2010) and Anderson and colleagues (in press) with two comprehensive literature reviews researchers have established that there are a variety of EBPs that have been used when implementing CBI. These include video modeling, response prompting, computer-based instruction, simulations, and visual supports. As time has progressed alongside the advancement of technology, the reliance on video-based and computer-based interventions also have become more evident (e.g., Burckley et al., 2015; Kelly et al., 2013) to include simulations and natural supports, such as cell phones with the creation of applications specifically designed to target community-based skills (i.e., navigation, communication and response skills, reminders).

Visual Supports

One such EBP that has proven to be effective for students with ESN is visual supports. Visual supports are any tool presented visually that aid an individual as he or she moves through

the day. Visual supports might include, but are not limited to, pictures, written words, objects within the environment, arrangement of the environment or visual boundaries, schedules, maps, labels, organization systems, timelines, and scripts (National Research Council, 2001; Rao & Gagie, 2006). Cohen and Demchak (2018) address the benefits of visual supports for students with ESN, stating that visual supports can be used to improve social interactions, address behavior, and learn new academic content. As an example of its effectiveness Johnson and colleagues (2004) utilized visual supports in both picture and written formats with students with ESN. All participants demonstrated an increase in their ability to remain on task and complete skills within the classroom setting. Visual supports also have been utilized to teach skills as a part of schoolwide positive behavior support programs (Loman et al., 2018), including students with ESN in this process.

The use of visual supports as an intervention also has focused on the population of students with ESN through previous research in community settings. In 2013 Kelley et al. evaluated the effects of video prompting with visual supports through static picture prompts to enhance the navigation skills of young adults with intellectual disability on a college campus setting. Results indicated that participants were able to successfully navigate to novel locations across their college campus using the combined intervention package. Visual supports, in the form of static pictures, helped establish the effectiveness of using visual supports in community settings. Next, in 2015 Burckley and colleagues utilized a combination of visual supports and video prompting to support a student with autism on his ability to complete tasks while independently grocery shopping. The participant was able to successfully shop for groceries by following a shopping list across three community settings (grocery stores) given an individualized goal with visual supports in place in the form of pictures and written text. Finally,

in 2020 Rutherford et al. suggested that visual supports, when implemented among individuals with intellectual disability, including ESN, can reduce anxiety, increase predictability of schedules, and support and improve communication and participation across settings. Within their review of 34 included studies analyzing the use of visual supports for students with autism, researchers found that in the majority of studies educators are most often implementing this intervention, but across a variety of community settings that are relevant to the individual student. They emphasize that visual supports should continue to be individualized, and modified if needed, for each student to ensure success (Rutherford et al., 2020).

Video Modeling

A second EBP that has been proven to be effective when serving students with ESN in community settings is video modeling. Video modeling interventions involve watching videotapes of positive examples of adults, peers, or ones' self-engaging in a behavior that is being taught (Delano, 2007). With the advancement of technology over the past 20 years, video modeling has become a consistent and practical method for teaching the acquisition of new skills across settings, including recreational skills and academic skills (Cannella-Malone et al., 2011; Hammond et al., 2010; Mizrachi et al., 2013). Practitioners and parents who implement video modeling report that this intervention is a high quality, easily accessible, and individualized solution to teaching new skills across settings (Acar et al., 2017).

One of the main benefits of video modeling is that it may be implemented by a variety of interventionists. Although most often established by educators, video modeling also has been implemented by peers. In 2015 Kourassanis et al. examined peer-video modeling as an intervention to teach childhood games to participants (their peers) with autism. Utilizing a task analysis to measure the number of steps performed correctly (given an outline of correct gross

motor steps) participants followed a peer video model provided for each step of the game(s). Results support the notion that peer video modeling is an effective tool for increasing skill acquisition for individuals with autism. Then, in 2019, Cardon et al. required peers to serve as models in an inclusive preschool setting to teach a variety of skills. Results indicated that when participants were taught and led by their peers they had increased attention to the video models that were provided. Additionally, participants demonstrated an increased ability to generalize the acquired social skills to other settings or opportunities with their peers outside of the study after having peers implement video modeling. Finally, Duenas et al. (2019) aimed to teach three students with autism how to engage in pretend play alongside their peers using video modeling. Results support the evidence-base behind the effectiveness of video modeling for students with autism, as all three participants were able to increase their ability to engage in play, and even presented with generalization of unscripted responses across other activities alongside their peers.

A second benefit of video modeling is that it can be used to teach a variety of skills. This includes academic skills. In 2020 Wright and colleagues conducted a systematic literature review to examine the use of video modeling to teach STEM skills to students with autism in classroom settings. Although video modeling did not prove to be effective in all areas of academic content related to STEM (i.e., technology and science) it was effective in teaching new mathematical skills to students with autism across the included studies. In addition to academic skills video modeling also may be used to teach vocational skills. In 2012 Van Laarhoven utilized video modeling to teach vocational skills to six high school students with autism and intellectual disability across multiple community and school settings. Results showed that students' performance increased on all tasks. Since an intervention group was compared to a control group

in this given study, the results suggest that the effects of video modeling might be generalizable to other contexts and settings indirectly. Once students learn the skill or are given an effective intervention they are likely to improve in more than one area. Lastly, video modeling has been used to teach leisure skills. Hammond and colleagues (2010) utilized video modeling to teach the navigation of an iPod among middle school students with intellectual disability. After being taught the necessary steps to find the preferred music or videos on the Ipod participants gained independence with this skill. Spriggs et al. (2016) implemented video modeling as a part of an intervention package exploring how students with autism can learn age-appropriate recreation and leisure skills. Researchers provided choices of games to participants in the study. Results indicated a functional relation between video modeling and increased independence in gaming, given selected tasks within each skill set.

The versatility of using videos as models or prompts for students with disabilities also allows educators to interact with students in a variety of ways across different skill sets. For example, educators may choose to utilize video modeling, video prompting, or even self-videoing techniques to teach communication skills, academic skills, or even social-emotional skills. In a recent review of the literature Park and colleagues (2019) found that both video modeling and video prompting provide appropriate avenues for ensuring positive outcomes for students with intellectual disability when acquiring new skills across people and settings. A majority of the reviewed studies indicated that video prompting and video modeling continue to be effective for supporting students with more significant support needs. These also are versatile interventions, as educators can easily distinguish between the two, yet switch from a model to a prompting system using videos pretty effortlessly if a student were to need additional levels of support to acquire the targeted skill.

System of Least Prompts

A third EBP that has proven to be effective with students with ESN across community settings is the system of least prompts (SLP). This system provides an opportunity for educators to provide error correction to students in a systematic manner (Browder et al., 2020; Shepley et al., 2019; Wolery et al., 1986). If a student misses a step during a task analysis or identified skill the educator will begin with providing the least intrusive option for intervention. Though this may vary based on student need, this is often in the form of a verbal prompt. After being given a specified amount of wait time (i.e., 10 sec) if the student is still unable to perform that step, the educator may provide the next level of support. Typically this is a gesture, followed by a model, and finally a physical prompt if necessary. This system provides necessary support for students with ESN because students with more significant disabilities often require increased levels of support; however, educators cannot assume that this is always the case. By providing the opportunity for lesser prompts to occur the student is able to learn that skill with less support. This leads to increased opportunities for goal achievement by presuming competence of all students and working towards using less intrusive prompting methods (Browder et al., 2020).

The effectiveness of SLP with students with ESN across community settings has also been supported in the literature across multiple studies to teach a variety of skills. Collins and colleagues (1997) taught leisure skills to students with moderate intellectual disability with four targeted skill areas related to leisure. Researchers utilized a system of least prompts to teach these skills to students with intellectual disability alongside their peers without disabilities. All students benefited from instruction that proved to be effective. Alternatively, Bouck and colleagues (2023) utilized SLP with assistive technology to teach academic and transition skills to students with intellectual disability. Results indicated that students with intellectual disability

were able to utilize this system of prompting successfully, given the support of the research team and educators, to demonstrate skills with increased independence.

Gaps in the Literature for Teaching Leisure Skills

Given the depth of literature available to support the effectiveness of video modeling, visual supports, and system of least prompts for teaching a variety of skills to students with ESN, there is a gap in the literature that still exists when addressing leisure skills for this population of students. Although the work of researchers such as Hammond et al. (2010), Kelley et al. (2013), and Spriggs et al. (2016) suggest that these interventions are effective in community settings, very little research addresses leisure skill opportunities, especially within the past 5 years since the pandemic. Given this time in which the world was closed off to community access, the focus of instruction shifted from community opportunities and engagement to pure survival for many students with ESN who struggled to remain on schedule, access the proper supports, and remain healthy and safe during COVID-19. As the world becomes more open to the idea of community access again following the pandemic educators must turn to established and effective EBPs to promote appropriate instruction in leisure settings for students with ESN. In addition to this researchers and educators also must acknowledge that video modeling and visual supports, although effective on their own, also can become a part of an effective intervention package for many students with ESN. Browder et al. (2020) suggest that students with ESN often require multiple modalities of instruction, along with opportunities for repetition, and explicit instruction, to be successful. From this we, as researchers, can conclude that students with ESN require individualized plans that address their needs. Visual supports and video modeling should be individualized to each students' needs. These practices also may be implemented together, or in combination with other EBPs, to ensure success for students with ESN. For many students

with ESN intervention packages may include the opportunity and support to set and achieve individualized goals.

Goal Setting

Goal setting is an important skill for students with disabilities because it allows students to actively participate in their lives (Agran et al., 2006; Mazzotti et al., 2013). Goal setting includes creating a target or plan for what one wants to accomplish or achieve (Sands & Doll, 2000). The process of goal setting is followed up by action steps that allow the individual to achieve that goal in a realistic manner. Goal setting is important for students with ESN because it can be incorporated at any age and through a variety of activities and services. Examples include helping students to make choices, incorporating student opinions and choices into daily schedules and routines, and helping students make roadmaps that outline what their goals will be and how/when they will achieve their goals (Lee et al., 2009). For students with ESN goal setting may be a challenge (Westling et al., 2000). Although often not purposeful, the complexity of needs that students with ESN often present with (i.e., medical, communication, behavior, academic, social) take priority over the opportunity to set individual goals. Time and instruction are spent on ensuring that students with ESN are safe and well cared for rather than on active goal setting. It also is assumed that those around the student know what would be best for them rather than asking the students' opinion to form a practical and relevant goal.

In community settings goal setting is essential to ensure that students are able to access relevant places and perform skills that they see as beneficial (Cannella-Malone et al., 2017). For many students with ESN instruction in goal setting must be purposeful. Cannella-Malone and colleagues (2017) reviewed the available literature surrounding teaching vocational skills to students with ESN and found that goal setting, when used in combination with other EBPs, can

be used with students with ESN to teach skills in community settings. Despite knowing the importance of instruction, this is not often the content that is delivered as educators and support professionals find themselves bombarded with additional priorities when accessing community settings and goal setting falls to the side. A lack of time for planning, collaboration, and a general lack of knowledge about goal setting procedures and follow through plagues students with ESN as they attempt to access community-based instructional opportunities.

Team Collaboration in CBI

Finally, researchers agree that team collaboration is key to ensuring that students with ESN access community-based instruction across a variety of settings (Rousey et al., 2022). Collaboration is defined as two or more people working together to create a desired outcome for a student that no one could have created alone (Friend et al., 2008). For students with ESN this collaboration often requires that educators, parents/family members, support providers, and the student with ESN are invited to discuss, explore, and find effective strategies for that student that lead to success. Given the importance of community-based instruction for students with ESN transitioning to adulthood after high school and the increased focus on independence for this population of students over the past 20 years through purposeful and detailed transition planning it is critical that everyone supporting that student be involved in team planning and execution (Rousey et al., 2022).

Despite the importance of community instruction for students with ESN, community access and engagement remains an uphill battle for educators alone as many family members and support professionals are often not involved in the collaboration process for community instruction. To best coordinate the seamless delivery of services to students with ESN as they transition into adulthood (the goal for all students) researchers must examine the role that all

community partners play in community-based instruction and how this can be improved so that everyone provides necessary input and ideas to improve CBI for students with ESN. Lastly, it is important to examine the role that students with ESN play in collaborative efforts. Are students with ESN being asked to be a part of the conversation about CBI? How often are CBI goals being addressed and revised based on student input? While educators may understand the significance of student input within the IEP process, specifically the transition-planning process, the inclusion of student voice, especially for students with ESN, is still lacking (Mazzotti et al., 2023; Morningstar et al., 1999; Rowe et al., 2015).

Summary

Providing effective and appropriate instruction to students with ESN in community settings is critical to ensuring their success as they transition to adulthood and generalize skills across settings. Despite the available literature in the area of CBI not all domains have been addressed equally in research and practice. The available literature surrounding leisure skill acquisition for this population of students is limited, especially post-pandemic (Anderson et al., in press). Several barriers contribute to the lack of research, such as a lack of access and a lack of time commitment given to teaching recreational skills (Braun et al., 2006). Additional support for teaching leisure skills is needed to improve both the outcomes for students with ESN and their peers (Collins et al., 1997). Based on the work of A. Walker and colleagues (2010), and Anderson and colleagues (in press) researchers understand that these skills may be taught through a variety of EBPs known to be effective for students with ESN.

In particular, two EBPs for this study include that of visual supports and video modeling in community settings. Both established EBPs have been proven to aid in the teaching of students with ESN across academic and recreational settings (Cannella-Malone et al., 2011;

Cohen & Demchak, 2018; Hammond et al., 2010; Johnson et al., 2004; Cannella-Malone et al., 2013). Despite the plethora of research available for established EBPs supporting this population of students, gaps in the literature remain when addressing leisure skill acquisition in community settings. As a part of these practices, both goal setting and team collaboration also may provide added benefits to intervention packages supporting the work of CBI by educators across settings for students with ESN (Agran et al., 2006; Mazzotti et al., 2013; Rousey et al., 2022).

Summary of the Review of Literature

In this chapter I presented a brief history of CBI for students with ESN. Next, I reviewed the available research related to peer supports and behavior skills training to teach skills within the community setting to students with ESN. Finally, I discussed how leisure skills are taught and acquired for students with ESN in community settings, with an emphasis on the history of the proposed interventions for this study (visual supports, video modeling, system of least prompts, goal setting, team collaboration).

In summary, community-based learning provides opportunities for students to learn and generalize skills across settings in their everyday lives. Instruction in community settings has often been derived from our knowledge of community-based instructional practices for educators. Research on CBI practices suggest that students can learn and apply knowledge of community-based skills at a faster pace as compared to classroom instruction alone (Bates et al., 2001; Branham et al., 1999; Cihak et al., 2004). Acquisition of community-based skills does not come incidentally (Romano, 2020). Current research in CBI focuses on direct instruction with students using a variety of methods, including video modeling, simulations, and prompting strategies (Kelley et al., 2013; Mechling & O'Brien, 2010; Tam et al., 2005) that have proven to be successful in supporting students with ESN across settings.

Though the focus of CBI has shifted over the past 40 years with a change in the attention from functional to academic skills and *vice versa*, Alwell and Cobb (2009) suggested that a combination of both academic and functional skills taught in the classroom setting, as well as community settings would lead to increased opportunities for social inclusion. Community settings include recreational settings, in which students choose leisure activities and interact with peers, a domain of CBI less frequently addressed through direct instruction. Providing proper support within settings will help to break down present barriers that many students with ESN face when accessing opportunities for community engagement. Peer supports have been proven (Brock et al., 2016) to contribute to improved outcomes for students with ESN both academically and socially. Although primarily implemented in academic settings, peer supports offer promise to improve outcomes in community settings as well (Carter & Kennedy, 2006). By providing the necessary support in community settings, students with ESN will be able to increase their independence in community environments (Carter et al., 2016). This is especially important for young adults with ESN as they face the obstacle of community integration following high school. Additionally, collaboration among team members supporting students with ESN and purposeful planning of CBI practices and opportunities as a part of instruction for students must be addressed to ensure success across community settings. The combination of these skills incorporating peer supports, goal setting, and collaboration to implement CBI for young adults with ESN provides a necessary, realistic, and pragmatic approach to intervention for educators and families currently.

CHAPTER 3: METHOD

The purpose of this investigation was to analyze the effects of a peer-implemented intervention package comprised of evidence-based practices (i.e., video modeling, visual supports, and system of least prompts), goal setting, and team collaboration for teaching leisure skills to young adults with ESN in three community settings. This study utilized a multiple probe across skills replicated across participants design (R. D. Horner & Baer, 1978; Gast & Ledford, 2018) to assess the effectiveness of this intervention package on skill acquisition across settings for young adults with ESN in a postsecondary education program.

The research questions were

1. What is the effect of a peer-delivered CBI intervention package using video modeling, visual supports (e.g., pictures, pictures plus words) and system of least prompts on students with ESN's ability to perform three identified tasks with leisure skills in community settings?
2. What is the effect of BST on the implementation fidelity of peers teaching leisure skills to students with ESN across community settings?
3. What is the effect of a goal-oriented collaborative planning process for CBI related to acquiring leisure skills in the community on the perceptions of stakeholders (team members, parents/guardians, peers, young adults with ESN) for young adults with ESN?

Participants

Students with ESN

I recruited three young adults with ESN to participate in this study using convenience sampling from a local postsecondary education program supporting students with intellectual disability. Due to attrition only two of the three consenting students with ESN participated in the

study. Participants were included based on the following criteria: (a) received special education services under the IDEA eligibility categories of autism, ID, or multiple disabilities previously in a K-12 setting; (b) participated in the alternate assessment-alternate achievement standards previously in a K-12 setting; (c) currently enrolled in the postsecondary education program for students with ID and have one of the following identified disabilities recognized by the Office of Accessibility: autism, multiple disabilities, or ID; (d) reported an inability to fully independently access and perform necessary skills in community-based settings as self-reported or reported by parents/guardians; (f) were between the ages of 18 to 26; and (g) were willing to work alongside a peer, attend regular meetings, and utilize public transportation to access the community.

Peers

I recruited three peers (students of the same age without intellectual disability) to work alongside students with ESN. Due to attrition before baseline data were collected one peer dropped out of the study. Two peers participated in the study. Inclusion criteria for peers included (a) were between the ages of 18 to 26; (b) currently volunteered with or worked with the postsecondary program for students with intellectual disabilities at the chosen university setting; (c) had a willingness to work as a part of a collaborative team by attending regular meetings during intervention, utilizing public transportation, and serve as a model for their peer with disabilities. Prior knowledge of or training in video modeling, visual supports, or goal setting was not required as an inclusion or exclusion criterion for this study. Additionally, previous work with students with disabilities was not required as an inclusion criterion for peers in the study. One peer was paired with each student with ESN for the duration in a dyad model. While I tried to recruit additional peers to serve as trained peers for back up (in the event of absences or other

unforeseen circumstances) there were no additional peers who provide consent to participate in the study.

Instructors and Key Team Members

Following participant recruitment I recruited key team members and instructors from the participants' educational and community support team to be a part of the collaborative process that was part of the intervention package. This required consenting participants to meet a minimum of three times throughout the intervention to discuss progress towards the developed community-based instructional goal(s) for the student with ESN. Meetings were held via Zoom for everyone's convenience. Instructors and key team members were selected based on the following criteria: (a) served as a current (or within the last year if the student attended the postsecondary program last year) instructor, educator, or mentor to the participating student with ESN through the university; (b) communicate with the student with ESN on a regular basis; and (c) displayed a willingness to meet a minimum of three times throughout the intervention for collaborative planning purposes with the support team of the student with ESN. Examples of instructors and key team members could have included current higher education faculty at the university that teach that student, faculty mentors from the postsecondary program, or counselors in the Office of Accessibility that work directly with that student. For both participants in the study the only key team member that consented to participate was the program director of their postsecondary program of their educational program. No additional faculty, instructors, or support personnel responded or consented to participate in the collaborative planning process. Due to the nature of the postsecondary program some same-aged peers also served as instructors for courses for potential participants with ESN. These peers were not asked to serve as

instructors or key team members as they would be regarded as peers for the purpose of this study rather than someone in more of an educational or supervisory role.

Family Members and Parents

I recruited family members and parents/guardians of participants with ESN from the current list of students who met the inclusion criteria and consented to participate in the study. As this was a study focused on an intervention package that incorporates family and parent collaboration with a minimum of three meetings throughout the intervention, consenting parents and family members were also asked to meet the following requirements: (a) be a parent/guardian or an immediate family member of a participating student with ESN; (b) express a desire for their child and/or family member to improve their skills across community settings; and (c) willingness to meet a minimum of three times throughout the intervention for collaborative planning alongside other team members for the participating student with ESN. Only immediate family members and/or parents and guardians were asked to be included in this study as they have the closest relationship and amount of influence for decision-making for and with the young adult with ESN, as compared to distant family members. The mothers of both participants with ESN consented to participate in the collaborative process as a part of this study. No additional family members responded or consented to participate.

I provided consent forms to legal guardians of the participants prior to the beginning of the study (Appendix A). Following receipt of the signed consent form, participating instructors asked the student(s) to provide assent (Appendix B). Due to the collaborative nature of this intervention several other key team members were also asked to provide consent. This included the program director of the Think College program and the parent/guardian, serving as a key team member for the collaboration process. Prior to beginning the study, I informally asked the

parent/guardian of each participant, as well as the participant with ESN, who the key team members should be and sought informed consent from these individuals (Appendix C). Lastly, I collected informed consent from peers included in the study (Appendix D). I asked faculty within the postsecondary program to provide names and contact information for potential peers to be included in the study and then communicated with them via email and a virtual meeting to seek informed consent prior to beginning the study.

Screening Procedures

Following obtained consent and assent for included participants I conducted a pre-assessment with support personnel of participating students to evaluate their support needs in community settings. Consent was provided for this process from the parent/guardian of each participant. I used the *Supports Intensity Scale-Adult Version (SIS-A®,* 2023*)*, created by Jim Thompson, first utilized in 2004, to establish an understanding of the needs and supports for participants with ESN in this study. The *Supports Intensity Scale-Adult Version* (2023) is a standardized assessment tool designed to measure the pattern and intensity of supports that anyone age 16 or older with IDD requires to be successful in community settings and is normed against other adults with intellectual disability to capture a complete picture of the supports needed for this individual student throughout their life. The scale was administered in a semi-structured interview format with an individual who knows the participant with ESN well. For both participants this was conducted with their mother(s) individually. It does not measure whether the individual can perform the skill, but rather how much support is needed for them to be successful with that skill in the community setting. Results from this assessment were not used to determine financial, placement, or other decisions on the participants' behalf. Results were only shared with members of the research team and used for demographic purposes. This is

the only normed-referenced assessment that encapsulates the skills and supports needed for young adults with ESN in the community.

In addition to completion of the *SIS-A*® (2023) I collected demographic information on all participants in the study, including gender, age, disability category, and race. I asked parents/guardians to provide the final IEP for the participant with ESN from their K-12 setting. I used the IEP to review previous goals with the collaborative team related to community settings and CBI during the first collaboration meeting prior to beginning the study. The IEP was kept confidential. Lastly, I asked the Office of Accessibility (OA), the parent/guardian, or the program director for a copy of each participants' letter of accommodations for the current year and their program goals (from their person centered planning worksheet). Each was used to ensure that the collaborative team could plan accordingly to continue to support each participant in community settings.

Dyad 1: John and Sarah

Dyad 1 included one participant with ESN (John) and one peer without a disability (Sarah). John is a 22-year old African American male with Down Syndrome and has an intellectual disability. Recent IQ scores were not available for John. He had been enrolled in the postsecondary program for approximately 2 years and was s focusing on exercise and vocational skills as a part of his person-centered planning process. John often engaged in community activities with friends when prompted or if he showed interest. John works part time at the college cafeteria and at a deli when at home away from the college program. John can communicate verbally with his peers. Throughout his day he receives support with navigation to and from places, support with reading and math tasks, and reminders to use his natural supports for assistance, such as his cell phone, visual aids, and his schedule. John has the support of many

friends and family members who ensure that he is successful and independent. Sarah, the peer without disabilities, is a 20 year old White female. Sarah is a sophomore studying Special Education at the same university and involved in the postsecondary program as a mentor and instructor for a class on self-determination through the program. Sarah has previous experience working with individuals with intellectual disability through her Project Unify Club in high school as a volunteer and club member.

Dyad 2: Mark and Ellie

Dyad 2 included one participant with ESN (Mark) and one peer without a disability (Ellie). Mark is a 21-year old African American male with autism. Although recent IQ scores were not available for Mark, his mom reported that his last evaluation indicated an IQ score around 50. Mark has been enrolled in the postsecondary program for approximately one year and is focusing on vocational and academic instruction as a part of his person-centered planning process. Mark likes to choose his own community engagement opportunities and stay on schedule. Mark works part time on campus in the library. Mark can communicate verbally with peers. Throughout his day he receives support from his peer mentors, the program director, and his instructors, to stay on schedule and get his work completed. Mark is an independent reader, but needs support in other areas, such as social/emotional regulation, community navigation and more. Ellie is a 20 year old White female who served as Mark's peer for this study. She is a current sophomore studying Special Education at the same university. Ellie has previous experience working with individuals with intellectual disability through Therapeutic Recreational programs, working in Special Education classrooms, and working as a mentor through the postsecondary program for two semesters.

Other participants in the study included a parent/guardian of each participant with ESN, as well as the program director for their current postsecondary program at their university as a member of their collaborative team(s). These key stakeholders were chosen because of their relationship to the participants.

SIS-A® (2023) Scores

The scores of the *SIS-A®* (2023) are shown below for both participants. Mark's *SIS-A®* scores indicate that he has high support needs in the areas of work, social, community living, and advocacy as shown in Table 1. John's *SIS-A®* scores indicate that he has high support needs in advocacy, community living, and home living as shown in Table 2.

Table 1

SIS-A® (2023) *Support Needs Profile: Mark*

Support Needs Area	Level of Support Needed
Home Living	Mild support needed
Community Living	High support needed
Health and Safety	Mild support needed
Lifelong Learning	Mild support needed
Work	High support needed
Social	High support needed
Advocacy	High support needed

Table 2

SIS-A® (2023) *Support Needs Profile: John*

Support Needs Area	Level of Support Needed
Home Living	High support needed
Community Living	High support needed
Health and Safety	Mild support needed
Lifelong Learning	Mild support needed
Work	Mild support needed
Social	Mild support needed
Advocacy	High support needed

Other key team members that were included in the study included the program director for the postsecondary program, Mr. M., as well as John's mother and Mark's mother. All three participated in the collaborative Zoom meetings throughout the study. Mr. M. is a White male who has been the director of the program for approximately 1 year. Mark's mother is an African American female living close to the college campus. John's mother is a White female living approximately 30 min from the college campus as well. No other demographic information was collected from these participants related to the study.

Setting

This study took place in several locations. First, classroom instruction prior to baseline and intervention procedures occurred in the classroom setting at a local public, Masters-level comprehensive university in southeastern United States. This university serves over 6,000 students in both undergraduate and graduate studies, offering Special Education as a major for undergraduate students. The university also is home to a TPSID program supporting an average

of 12 to 15 students with intellectual and/or developmental disabilities in a cohort model each year. This program has a focus on creating and achieving meaningful academic and functional goals over the course of a 2-to-3-year experience for students with IDD by accessing inclusive post-secondary education. The program is housed within the College of Education at the university and has a designated space for student learning and recreation during their free time in a break room. Most often students with IDD meet up with one another, peer mentors, or program faculty and staff in this common room throughout the week on an intermittent schedule. Due to the availability and familiarity of the space to many students in the program this space was chosen to serve as the classroom setting for the study for pre-baseline training. The room was on the second floor of the College of Education building and consisted of two computers, several desks, chairs, two bean bags, and several whiteboards. Instruction in the classroom took place at various times throughout the day Monday-Friday while peers received pre-baseline training for the study. Behavior skills training also was conducted in this classroom setting prior to intervention through a face-to-face meeting with peers.

The study took place across three community settings close to campus. Community settings were chosen as opposed to on-campus sites because once students graduate from the university and the postsecondary program is complete, they will no longer have access to these facilities on campus. It is imperative that they learn the identified leisure skills in local community settings that will be available to them long term. These facilities were chosen due to their close proximity to campus, the availability of the transportation, and input from the students, team members, and Think College team at the university. The locations were chosen based on informal conversations with peers and students with ESN, indicating motivation to improve skills in these recreational settings. Additional conversations with the Think College

program director contributed to the choosing of the three community settings for this study, as he felt that these pertinent places for young adults to visit in the community setting. The identified leisure settings included a recreational facility (YMCA) close to campus (approximately 1 mile away), a local park (approximately 3 miles away), and a local bowling alley (approximately 3 miles away). The recreational facility included workout equipment, a pool, and several courts to play basketball or other games. The local park included areas for playing games on the grass (i.e., soccer), picnic tables and shelters, walking paths, and a playground. The bowling alley consisted of 32 lanes for bowling, a space to rent shoes, arcade games, and a snack bar. Instruction in these community settings occurred at a time convenient to both the student with ESN and the peer as they were working together. The times varied throughout the day and were scheduled in conjunction with availability for transportation, both peer and participant availability, and with the students' schedules in mind. Although participants received some training on using the public bus system for transportation to and from these community locations they mostly relied on personal vehicles (the peer's personal vehicles) to access these community locations due to time restrictions and bus availability during study sessions.

Generalization measures also were taken at the end of the study across different settings in the community. There were two measures of generalization. The first measure was the same setting (as above per the baseline and intervention data) but with a new peer. The second measure included a new setting with someone other than the peer (another team member). The chosen setting for these measures were a separate recreational facility (YMCA) within the local community (approximately 5 miles away), another park nearby to campus with a walking trail (approximately 1 mile away), and another bowling alley in the same city (approximately 6 miles

away from campus). These locations were only accessed once during the study as a measure of generalization with a new team member.

Investigator

I, Ashley Anderson, served as the primary investigator for this study. At the time of the study I was a doctoral candidate certified in Special Education for students K-12. I have previously taught students with ESN for 12 years and am National Board Certified in this area. Additionally, I have taught at the college level at a local community college with students with ID in a postsecondary program and serve as the local coordinator for a Special Olympics program. I earned my master's degree in Special Education as well. As the primary investigator I recruited participants, conducted BST, meet with participants prior to the start of the intervention, conducted assessments prior to baseline data collection (SIS-A and peer observations in community settings), trained research team members identified and eliminated any barriers for transportation or other related costs to the study, coordinated data collection across all phases, set up and facilitated collaboration meetings as a part of the intervention, and served as the primary observer when collecting procedural fidelity data. The data that was collected by additional research team members was to determine interobserver agreement (IOA) and procedural fidelity. Additionally, I developed all necessary materials for the study, including facilitating the development of the video models of peers in the community settings, the development of the visual supports, and goal-planning documents necessary for collaborative team meetings. A second doctoral student in Special Education and a graduate student in Special Education served as the secondary experimenters as a part of the research team, assisting with calculating interobserver agreement (IOA) across dependent variables, and collecting procedural fidelity.

Materials and Equipment

Task Analyses

Following an observation of peers and students with ESN in the three community settings (park, recreational facility, bowling alley) each collaborative team identified the three necessary skills to be targeted across participants. A copy of the observation form used to identify necessary community-based skills is included in Appendix E. Identified skills included purchasing items, engaging with peers in the setting, renting materials, identifying, or choosing free time activities, and situational safety awareness. A task analysis was created for each of the three identified skills, outlining the necessary steps for completion in all three settings. The percentage of correct steps was measured for each skill. The task analyses utilized in each setting were the same for both participants. A data sheet displaying all the steps for the task analysis was created for researchers to measure the number of correct steps performed in each setting and used for data collection by the researcher. A version of each task analysis with pictures (serving as the visual supports) was provided to participants with ESN in these community settings. Each task analyses utilized visual supports in picture and written format to support the participants' needs.

Video Modeling

I worked with the peers without disabilities to provide a video model for each identified skill across the three community settings. Videos were recorded on the researchers' tablet or phone and available during instructional time in the community setting prior to the peer providing the instructional cue "Go Ahead" to the participant with ESN to perform that skill. Peers served as models in the videos for each identified skill. Three videos were created for each community setting with one peer featured in each video. There were a total of nine videos for

participants with ESN to choose from. Both peers included in the study, Ellie and Sarah, as well as the third peer who dropped out of the study before baseline procedures occurred, all created videos in each setting. While watching the videos participants could pause the video at any time, ask questions to their peers, and role play (as a part of BST) if necessary before performing the skill independently in that community setting. Videos created as a part of this study were confidentially stored in the researchers' cloud-based server at her university, where only the research team has access to them.

Goal Setting Sheet

I provided a goal setting sheet for collaborative team planning (see Appendix F). Teams, led by the young adult with ESN, met a minimum of three times throughout the duration of the intervention. All team members were asked to provide input towards a singular community-based goal as a part of CBI planning. Team members also were assigned responsibility to tasks, learning, and progress monitoring towards the goal as a team. The collaborative team for each dyad met three times at the beginning, mid, and end of the study to go over the goal(s) for each setting and make necessary changes. All team members had access to the goal sheet after each meeting, as this was sent via email to each team member confidentially. A copy of the goal setting sheet used for meetings two and three is included in Appendix G.

Visual Supports

I provided visual supports (e.g., pictures, pictures plus words task analysis) during intervention across the three community settings. These supports included written words and pictures presented in the form of a list of steps, each with 10 steps Copies of the visual supports used by participants in each of the three community settings are provided in Appendix H. The visual supports created and used were similar to a visual task analysis for each of the three

identified skills in the community settings. Participants could also choose to check off completed steps on the side of the visual support once the step was complete, though no boxes were included on the visual specifically for this. Per informal discussions with the participants with ESN, their peers, and their program director, they had both been successful in the past utilizing visual supports in similar manners for completing both academic and functional tasks (e.g., class assignments, to do lists, chore lists).

Video Camera (Phone)

In order to monitor procedural fidelity and collect IOA across sessions, I recorded a minimum of 33% of sessions throughout the study across conditions. During some sessions a secondary doctoral student was able to attend in person to collect data. This was not true for all sessions, however, and the need for recording was evident to ensure accuracy across sessions and data collection. I used daily data collection as a means to assess intervention on a day-to-day basis as the intervention was occurring. The video camera used was the researcher's personal cell phone. All videos recorded were immediately uploaded to the confidential cloud-based storage for the university, shared with the secondary researcher(s) and deleted from the primary researcher's phone to ensure confidentiality of participants. The amount of time (duration) of recorded sessions varied from across settings and participants. For sessions during baseline and maintenance the duration of recorded sessions was shorter than those with intervention. Additionally, the duration of sessions became shorter as participants learned and mastered the skill(s) more quickly. The camera was angled during each session so that the participating young adult with ESN and peer were both visible, along with any materials. Other students with ESN outside of the study, as well as community members in these settings, were not captured on the videos. All participants provided permission to be videotaped during the initial consent and

assent process. The researcher uploaded videos to a shared drive (e.g., Dropbox) daily, so timely coaching or modifications to instruction occurred with peers if fidelity dropped below 80%, which occurred one time for each participant during the study.

Dependent Variable and Measurement

There were three dependent variables for this study. First, the percentage of correct steps for each identified skill in the leisure setting for each participant (three skills across three community settings). Next, the procedural fidelity of peers' implementation of intervention (video modeling, visual supports, system of least prompts). Lastly, the final dependent variable was parent/guardian, instructor and/or key team members, peers, and students with ESN's perception of the intervention on a social validity questionnaire for team planning for CBI curriculum and instruction. This served as a social validity measure.

Percentage of Steps Correct on Leisure Skills

The primary dependent variable for this study was the percentage of steps correct given a task analysis for each of the three identified leisure skills across the three settings (bowling alley, park, recreational facility). A copy of each task analysis is included in Appendix I. The researcher used each task analysis to record the number of steps performed correctly for each skill in the community setting following intervention and convert this into a percentage. These task analyses were also used during baseline probes without intervention (video modeling, visual supports, system of least prompts). The percentage of steps correctly completed on each task analysis for each session during daily probe sessions in the community settings was calculated and graphed, rather than the number of steps correctly completed themselves. This ensured that, even when steps were not applicable (N/A) there was an accurate reporting of progress between students that represents growth or a lack thereof with each skill.

Procedural Fidelity by Peers

The second dependent variable was the procedural fidelity of peers' implementation of the intervention (video modeling, visual supports, system of least prompts). This was measured separately for each dyad (Appendices J and K). Procedural fidelity measured peers' implementation of the intervention(s).

Social Validity Measures

The third and final dependent variable was a measure of social validity by those involved in the collaborative, goal setting process throughout the intervention. Peers, students with ESN, parents/guardians, and key team members, were asked to provide feedback on their perception of CBI, goal-setting as a part of CBI, and the collaboration process as a part of the intervention package. Specifically, they provided feedback specific to the goals, procedures, and outcomes of the study. They were asked to provide their thoughts separately at the beginning and end of the study. Informal social validity was also measured throughout the study during collaborative team meetings by capturing feedback and input from each team member about the progress and impact of the study during conversations held during the collaborative Zoom meetings. Any anecdotal notes from conversations amongst peers and participants were also reported. This included notes about participation in the collaboration process or notes about progress or concerns reported during the team meetings (see Appendix L).

Experimental Design

I used a multiple probe across skills replicated across participants design (R. D. Horner & Baer, 1978; Gast & Ledford, 2018) to evaluate the effectiveness of this intervention package on students' acquisition of community-based skills across three community settings. I set criterion for moving tiers at 90% across three consecutive sessions during intervention. Once participants

reach 90% mastery across three consecutive sessions during intervention in one community setting they were able to enter into the subsequent condition. For some skills 100% accuracy would have been necessary (i.e., paying for bowling shoes and collecting your change); however, for other skills it is natural to miss a step or rely on someone else in the community for assistance (i.e., asking for help from someone to use your card at the recreational facility to get in) from time to time. Given the nature of the study to increase and build natural relationships in community settings using peer supports I decided to adjust the criterion to 90% to reflect the social aspect of community interactions and CBI. This was also reflective of the three skills that were targeted and what successful mastery of these skills would look like for peers without disabilities in these settings.

I also collected informal data regarding social validity during collaboration meetings throughout the study. This included taking notes about participant perceptions and using notes about participant participation as discussion points following the study. I graphed measures of maintenance at the two and three week marks following intervention, as well as measures of generalization for each participant across two phases of generalization. See the procedures below for more details about each of these stages.

Independent Variable

The independent variable of this study was CBI. Community-based instruction is a strategy that educators may utilize for instruction in community settings for students with disabilities (Hernandez & Kulkarni, 2019; Snell & Browder, 1986). By providing an outline for instruction occurring in the community setting, CBI relies on several evidence-based interventions to ensure that students are successful across settings. During intervention three evidence-based interventions were used as a package for effective CBI practice: video modeling,

visual supports, and system of least prompts. Video modeling required that participants with ESN watch a video of their peer completing the identified skill in the community setting prior to engaging in that skill in the community setting. In each community setting there was a bench or table to sit at or stand nearby in order to watch the video prior to engaging in that skill. Visual analysis was used to determine the effects of the evidence-based practices on the acquisition of skills across each community setting, as reported by a percentage of steps performed correctly. Visual analysis included indicating the level, trend, and variability of data. This also included reporting any overlapping data across conditions, as well as an immediacy of effect reflective of changes in the data from baseline to intervention phases.

Participants with ESN watched the video model alongside their peer, who provided feedback and answered any questions during the video. During BST (prior to intervention) peers were trained on how to answer questions and provide feedback. Following this instruction, participants were shown a visual support for that community setting by their peer (i.e., picture task analysis). Peers reviewed the visual support and again provided any feedback necessary or answered any questions from the participant with ESN. Following this the peer provided the instructional cue "Go ahead" to the participant with ESN who used the visual support in that setting to complete the skill. During intervention peers also utilized the system of least prompts in which they provided prompts in a systematic hierarchical order for any missed or incorrectly performed steps observed by their peers with ESN.

Procedures

Pre-Baseline. Prior to baseline I utilized BST (DiGennaro Reed et al., 2018; Miltenberger, 2017; Parsons & Reid, 1995) to train peers on implementation of the intervention package (video modeling, visual supports, and SLP). The BST protocol for both baseline and

intervention is included in Appendix M. BST is comprised of four stages, including instruction, modeling, rehearsal, and feedback (DiGennaro Reed et al., 2018). This instruction took place face to face with each of the assigned peers for each participant with ESN and took approximately 30 min to 1 hr. I used BST to prepare peers at this stage to implement baseline and intervention procedures. I briefly described how to use the video model, visual support, and system of least prompts within the settings with their participant with ESN. I then modeled these procedures for the peers and asked them to rehearse these with me by serving as the student with ESN and the peer, respectively. Lastly, using the procedural fidelity worksheets (Appendices J and K), I guided their rehearsal using verbal prompting and feedback. The rehearsal stage continued until the peer had reached 100% fidelity. Each peer was trained separately. Throughout the intervention I provided any necessary feedback to peers if procedural fidelity dropped below 80% during sessions, using BST.

In addition to this training, informal observations in the three identified community settings occurred prior to baseline. After obtaining consent and assent from peers and participants with ESN, respectively, I observed peers in the three community settings to identify necessary skills for success in those settings. This helped to create a bank of skills needed to be successful in those settings. Additionally, I observed students with ESN in the community settings to help identify any skill discrepancies between those of their peers and how the participants with ESN performed. Each participant and peer was only observed once in each community setting due to the limitations of time and resources available for the study. Based on observations in the three community locations a list of potential skills were identified (see Table 3). The identified skills were discussed during the collaborative team planning meetings that occurred prior to baseline so that the skills for the study could be identified for each community setting. I ensured that the

same skill was chosen across both participants with ESN for consistency purposes of the research design.

Table 3

List of Potential Skill Sets Across Community Locations

Bowling Alley	Park	YMCA/Recreational Center
Finding information upon entering (using environmental print to locate where to go)	Using the trails appropriately	Choosing an appropriate activity that is available
Paing for a game or paying for shoes	How to find a trail or walking path	Following signs inside the building to find the activity
Asking for or finding materials (bumpers, balls, shoes, etc.)	How to return to your car or transportation after an activity	Choosing a workout specific to your ability and interest
Going to the appropriate lane	Engaging in a group game or activities	Using the locker rooms
Knowing how to ask for help in a socially appropriate way	Bringing materials/wearing appropriate clothing for the activity or walk	Using the open gym for free play
Understanding what “end of turn” looks like and what to do	Reading environmental print/signs to find and locate information	Turning in your ID to get a basketball

Table 3 List of Potential Skill Sets Across Community Locations Continued

Cleaning up/returning materials at end of game	Staying safe by having your phone with you and accessible	Swiping your card for access
Identifying where to place materials	Knowing how long to exercise for or how to exercise at the park (walk, equipment, hike, swings, etc.)	

Given the list of potential skills to target the first of the three collaborative Zoom meetings for each participant provided the opportunity for discussion in which the team identified the most appropriate skill to target for the participant with ESN in each community location. For both participants, Mark and John, one skill was chosen in each community location based on their individual needs, the difficulty of the tasks (similar level of complexity), and the relevancy of the skill sets to success in the community locations. These skills included using a trail independently and safely for 20 min of exercise at the park, using gym equipment appropriately, independently, and safely at the YMCA for 15 min, and independently setting up for a game of bowling at the bowling alley.

Next, task analyses, visual supports, and video models were created prior to implementation of the intervention. Peers served as the video models for each task. Each video model was approximately 3 minutes long. The research team watched each video model to ensure that the steps align with the task analyses created for each skill prior to intervention being provided.

Lastly, team collaboration is a key component of the intervention. Prior to baseline I conducted the first of three planning meetings with the student with ESN, their assigned peer(s), key team members, including instructors, and a parent/guardian. This team meeting lasted approximately 20-30 min and took place via Zoom for ease of scheduling and to meet the demands of participants. During this meeting I discussed the importance of CBI, asked for input from all included members of the team, and reviewed the identified skill areas that were set to be targeted during intervention. Team members were encouraged to provide feedback about the targeted skills so that the research team may identify the most needed skill areas for that participant with ESN and appropriately identify what the visual supports will look like for each skill (i.e., using pictures, text, or a combination of both). From this I modified the task analyses to fit the needs of the participants. Both participants needed a combination of words and pictures and utilized the same visual support after this was agreed to by each collaborative team. The team met twice during the study to continue to discuss progress towards goals review materials. A goal setting sheet was also provided and reviewed at each meeting with the team and the student with ESN as a part of the intervention package. Each participant with ESN was asked to set a goal as a part of the collaborative team process for their community participation in these leisure settings (see Appendix F). The team also made any necessary adjustments for potential non-responders to the intervention after discussing progress as a cohesive team.

Baseline. Following pre-baseline procedures the three targeted skills across the three settings were identified. These included utilizing physical fitness equipment at the recreational facility, walking the trails at the park, and preparing to bowl independently. During baseline, participants with ESN were asked to perform these identified skills across three community settings (i.e., bowling alley, park, and recreational facility). They were not provided with any

intervention during baseline, including no modeling, visual supports provided by their peers, or prompts; however, peers were present in the community settings. Some sessions for participants with ESN occurred on the same day, but occurred in separate areas (i.e., one participant at a time) to ensure that participants are not watching their peer with ESN perform that same skill and reduced the risk of incidental learning that could affect baseline performance. Participants were given multiple opportunities to perform each step in the task analysis for each skill. During baseline if a step was missed the researcher would complete that step for the participant in order to allow them to move to the next step. This provided an opportunity for each participant to demonstrate their ability to perform an accurate number of steps within the skill set, rather than stopping the session and recording a lower percentage of steps performed correctly. If multiple opportunities were not provided to participants the data may not have reflected their ability to perform certain steps in the task analysis, while still missing others.

I collected data during baseline probes in all three settings for each participant at the beginning of the study to determine which participant should enter intervention first. In adherence to the research design using a multiple probe, a minimum of three to five data points was collected across settings for each participant to ensure accurate representation of skills and abilities (Horner & Baer, 1978; Ledford & Gast, 2018). The data sheet for baseline (and intervention) is provided in Appendix I. Procedural fidelity was also measured during baseline and this form is provided in Appendix J.

During baseline I also provided a refresher training using BST to peers immediately before their first intervention session in each setting to prepare them for implementation of the intervention using video modeling, visual supports, and system of least prompts. This included steps for error correction if a participant with ESN misses or does not complete a step correctly.

BST training still included instruction, modeling, rehearsal, and feedback. Peers had multiple opportunities for performance. A copy of the BST protocols and procedural fidelity sheets for each stage are included in Appendices J, K, and M.

Intervention. The intervention for this study in CBI. CBI included the use of video modeling, visual supports, and system of least prompts to teach new skills to the participants with ESN. Participants entered intervention in a staggered format according to the experimental design (multiple probe). Participants moved tiers based on met criterion of each skill, set at 90% mastery across three consecutive sessions. Participants only accessed intervention in one community location at a time, and, as they reached mastery across three or more sessions. They were then moved to the next tier to access intervention in the next community location for the subsequent targeted skill.

Peers provided instruction using the video model of themselves or a friend (one of the peers in the study) performing the skill. The instruction occurred immediately prior to peers reviewing the visual support and giving the instructional cue "Go ahead" for the participant with ESN to perform the skill in the community setting. Peers asked participants with ESN to watch the video model and ask any necessary questions about the skill. Each video model lasted between 2 to 5 min. Peers had the option to utilize a simple checklist during the intervention to help them remember what to say. Both peers had access to this but did not utilize it regularly during intervention. Procedural fidelity to this list was measured and recorded by the researcher to serve as a visual reminder of steps for peers as the interventionist. These forms are included in Appendices K (procedural fidelity) and Appendix N (peer checklist during intervention).

In combination with the video model peers provided instruction in the community setting using a visual support. This visual support was the same for both participants with the exception

of a written number that was included on each for shoe and ball size for the bowling alley. Both participants needed the support of both words and pictures on their visual supports. Participants had the option to access the visual support via phone or on paper (clipboard). Due to the necessity for participants with ESN to utilize their phones for timers in two of the three community settings all participants agreed that they found it easier to utilize the visual supports in the form of a paper copy across all three settings.

Peers provided feedback to participants in the form of error correction for missed steps or steps performed incorrectly during intervention. If a participant with ESN missed a step in the task analysis peers used the system of least prompts (SLP; Browder et al., 2020; Shepley et al., 2019; Wolery et al., 1986) to provide error correction. There are many types of prompting systems available to support students with ESN, including SLP, most to least prompting, simultaneous prompting, and time delay procedures (Browder et al., 2020). The research team chose to utilize SLP as it appears most often in the current research and is an effective EBP for teaching chained responses related to community skills, self-care, and transition-based learning for students of transition-age or for young adults with moderate to severe intellectual disability (Shepley et al., 2019). In addition, SLP was chosen because both participants reported an active history with acquiring skills utilizing this practice across both academic and functional settings. The first prompt provided was a verbal prompt to reference the visual support. If, after 10 s, the participant was still unable to perform that step after their peer provided a verbal prompt, the peer provided the next level of support in the form of a gesture, followed by a model, and finally a physical prompt if needed. This level of support was documented by the researcher during sessions if steps were missed or performed incorrectly. Specifically, if a step is performed incorrectly the peer noted the missed step and provided specific feedback to the participant with

ESN, referencing him or her to go back to that step and try again. Peers utilized the system of least prompts for this correction as well, beginning with the verbal prompt to try again. If, after 10 sec, the student was unable to perform that step independently, the peer performed that skill for the participant with ESN, allowing him or her to move onto the next step in the task analysis. The data collection page reflects the prompting hierarchy.

Key team members met throughout the study to discuss how to best support each participant with ESN. As previously indicated, this occurred three times during the study, the first being prior to baseline. There was an option to meet more regularly if needed, but neither collaborative team felt the need to do so throughout the study. The second meeting occurred at the halfway mark of the study, between intervention being delivered in settings one and two. Goal setting was discussed during each collaborative Zoom meeting. Progress towards each participants' goal was also discussed and evaluated. Each team member had an opportunity to provide input and suggest changes or modifications that may need to be made to make CBI more effective for the remainder of the intervention. See Appendices F and G for the goal setting worksheet(s) and a copy of the collaboration checklist in Appendix L that were used during the meetings to ensure that everyone was providing input.

Generalization. I collected generalization data for each participant with ESN in two ways. First, students with ESN generalized their skills across all three settings to a new peer. The setting remained the same, but the peer changed. The peer from Dyads 1 and 2 switched participants with ESN for this measure. Peers continued to provide intervention during generalization probes. Two generalization probes were conducted in each setting with a new peer. Second, participants with ESN were asked to generalize each skill to a new team member in a new setting, similar to those already included in the intervention. This new setting was another

local recreational facility (i.e.., YMCA) in the area, another local park with a walking trail, and another bowling alley located in the same city. A family member or key team member was chosen for each participant with ESN to ensure that the student with ESN would be able to continue to perform that skill in that community location, even in the absence of a peer. Due to scheduling availability, the program director for the Think College program served as the key team member for both (separately) participants with ESN across their generalization probes in these new settings. The purpose of this measure of generalization was to ensure that the participant with ESN may be able to still perform that skill in the presence of someone that they are familiar with and who will most likely continue to be a constant source of support for them as they continue into adulthood. The second purpose of this measure of generalization was to ensure that the student with ESN can generalize their skill to a new setting in the community that also addresses necessary leisure skill development. Due to scheduling availability and transportation access only one data point was collected in each setting for each participant, with the exception of John at the second YMCA location, in which two generalization probes were taken at this new location. Generalization probes were all taken prior to maintenance probes in each community setting.

Maintenance. I collected maintenance data for each participant with ESN across all three community settings. These data were collected at the two and three week mark for each participant following intervention in each setting. During the maintenance phase no intervention was provided by peers. Maintenance data collection occurred in the same settings (local park, recreational facility, bowling alley) as the intervention did. Similar to baseline data collection, peers were present and provided the instructional cue “Go ahead” but did not provide intervention in the form of video modeling, visual supports, or system of least prompts.

In addition to maintenance data being collected I conducted the third and final collaborative meeting for goal setting and discussion during this phase for each participant with ESN. The same team members were invited as were included in the first two meetings throughout the study and the meeting again occurred over Zoom due to team member availability and preference. During the meeting team members discussed progress, reviewed the goal set forth by the student with ESN for the community settings, and determined the next steps for going forward with CBI for each participant with ESN. For both participants the collaborative Zoom meetings (held separately) included the participant, a parent/guardian (mom of each participant), their peer form the study, and the program director for the Think College program.

Reliability and Procedural Fidelity

Interobserver Agreement

A doctoral student in Special Education as well as a graduate student in Special Education supported this research by assisting with calculations for IOA across a minimum of 33% of sessions. This included baseline, intervention, generalization, and maintenance probes. I used the trial-by-trail method to measure IOA (Number of trials agreement divided by the total number of trials × 100; Cooper et al., 2020). I trained both research team members using the recommendations presented in Ledford et al. (2018) following the experimental design for a multiple probe study. Given the recorded (videotaped) sessions during the study, and or any sessions attended in person, the doctoral student and graduate students were able to watch and record data related to IOA for sessions presented to them. These videos were stored in a confidential cloud-based server (i.e., Dropbox) that is limited to only researcher access. Prior to watching the videos or collected data I provided a 20 min training with each research team member via Zoom on the procedures of the study and how to collect IOA data appropriately. We

coded a minimum of two videos together as an example and I provided feedback to both team members regarding coding before asking them to code on their own. I asked that both members code videos on a regular basis so that progress could be accurately tracked and any changes that needed to be made to instruction occurred in a timely manner.

Procedural Fidelity

Procedural fidelity was calculated across a minimum of 33% or more of sessions across each dyad partnership. Procedural fidelity data were collected by watching recorded videotapes (or attending live sessions in person) for a minimum of 33% of sessions during each phase to check for adherence to the outlined procedures for intervention by peers. Both a doctoral student as well as a graduate level student, both in Special Education, served as secondary coders for procedural fidelity. Procedural fidelity was calculated by dividing the total number of steps implemented correctly by the total number of steps delivered and multiplied by 100. If procedural fidelity fell below 80% I provided coaching and feedback to the peer on missed steps. The mean procedural fidelity for each grouping (peer[(s)] and student with ESN) was calculated and is reported in the results.

Social Validity

An important measure of this study included the assessment of social validity (goals, procedures, outcomes; Wolf, 1978) of all participants. I used a social validity survey at the beginning and end of the intervention to assess the perceptions of included participants. Providing the survey at the beginning and end of the intervention allowed me to report on any changes in perceptions of the participants, peers, and key team members throughout the study. A separate social validity survey was created to assess perceptions of students with ESN, parents/guardians, instructors or key team members, and peers (see Appendix O). This

questionnaire asked participants to provide feedback on the feasibility, relevancy, and overall procedures of implementing CBI throughout the intervention package. As a part of the post-study social validity questionnaire all participants were asked to provide specific feedback about what they liked most about the study and what they liked least about the study. These results, along with visual analysis of the results, will help guide future research and direction for CBI.

Data Analysis

Data were analyzed separately for each respective research question within the investigation. A functional relation was determined based on visual analysis of the results presented for each participant. This was based on trend, level, overlap, and immediacy of effect observed for each participant throughout the study. Social validity data were analyzed based on the results of researcher-created social validity surveys completed at the beginning and end of the study. Lastly, data was analyzed that included evaluating the peers implementation of procedures by calculating procedural fidelity for more than 33% of the total number of sessions across both participants for the study.

CHAPTER 4: RESULTS

Results for Question 1: What is the effect of a peer-delivered CBI intervention package using video modeling, visual supports (e.g., pictures, pictures plus words) and system of least prompts on students with ESN's ability to perform three identified tasks with leisure skills in community settings?

Mark

In the first set of probes (i.e., baseline) Mark responded at a low level across one community location, the YMCA, with a range of 10-13% accuracy across steps completed. At the subsequent community locations he responded with a low-to-medium level of accuracy, with 30-56% at the bowling alley, and 40-50% at the park (see Figure 2). There was limited variability across data during baseline sessions. Mark's overall performance is reported below according to the checklist provided by Moeyart and colleagues (2018).

Given the results of his baseline probes it was decided to enter Mark into intervention at the YMCA first, based on the lower percentage of accuracy in that community location. After being presented with the intervention package Mark's performance increased to between 60-100% of steps completed accurately during intervention. There was an immediate change in level from Mark's baseline performance to his performance during intervention. During intervention Mark had an accelerating trend of performance with limited variability The mastery criteria for this intervention was set at 3 consecutive sessions at 90% accuracy or higher across each community location. Mark was able to reach this after 12 sessions. Throughout these sessions he had some variability in performance that was inherent in the natural setting of the community location. One example of a difference was the presence of the safety clip on the machine that was chosen (i.e., some machines had this available while others did not). Additionally, on some days

Mark did not bring any materials with him (i.e., his personal items such as wallet and keys) to place in the cupholder area of the equipment. These steps were marked as "N/A" on the data sheet if they were not applicable. This provided some variability in his percentage of accuracy. For example, if there were 10 steps but one was N/A and he missed 1 he would have received a 89% accuracy score for that session (he correctly performed 8 out of 9 steps correctly which calculates to 89% accuracy; however, if there were 10 steps and all 10 were applicable and he missed one step then he would have scored a 90% accuracy. Steps that were marked as "N/A" were not calculated into the percentage of steps eligible for completion for that session, as he did not have an opportunity to perform that skill. This created an opportunity for Mark to continue to perform the skill across sessions until 90% accuracy or higher was achieved across three consecutive sessions.

During intervention sessions at the bowling alley Mark was able to reach mastery in this setting within seven sessions, again at 90% accuracy or higher across three consecutive sessions. He quickly completed his task analysis and performed skills independently, with an average of 70-100% of steps completed in a short amount of time (only seven sessions total). During intervention Mark became frustrated during some sessions with his low score or not being able to perform the given skill/task on his own. During one session he even remarked that he was "done" and sat down as if to not continue on with the session. I discussed his frustration and offered a solution in allowing Mark to self-monitor his progress at the end of the session to track his own progress. This seemed to motivate Mark. This time is indicated below in Figure 2 with a star. At this time Mark would tell the research team and his peer that he was "liking the use of the visuals" and that he "wanted to get a 100" as he monitored his own progress. For remaining sessions he continued to monitor his own progress by asking "how many steps did I complete?"

and marking these off on the task analysis with the researcher, always “working towards his 100.” He stated that he was proud of himself for “doing all the steps.”

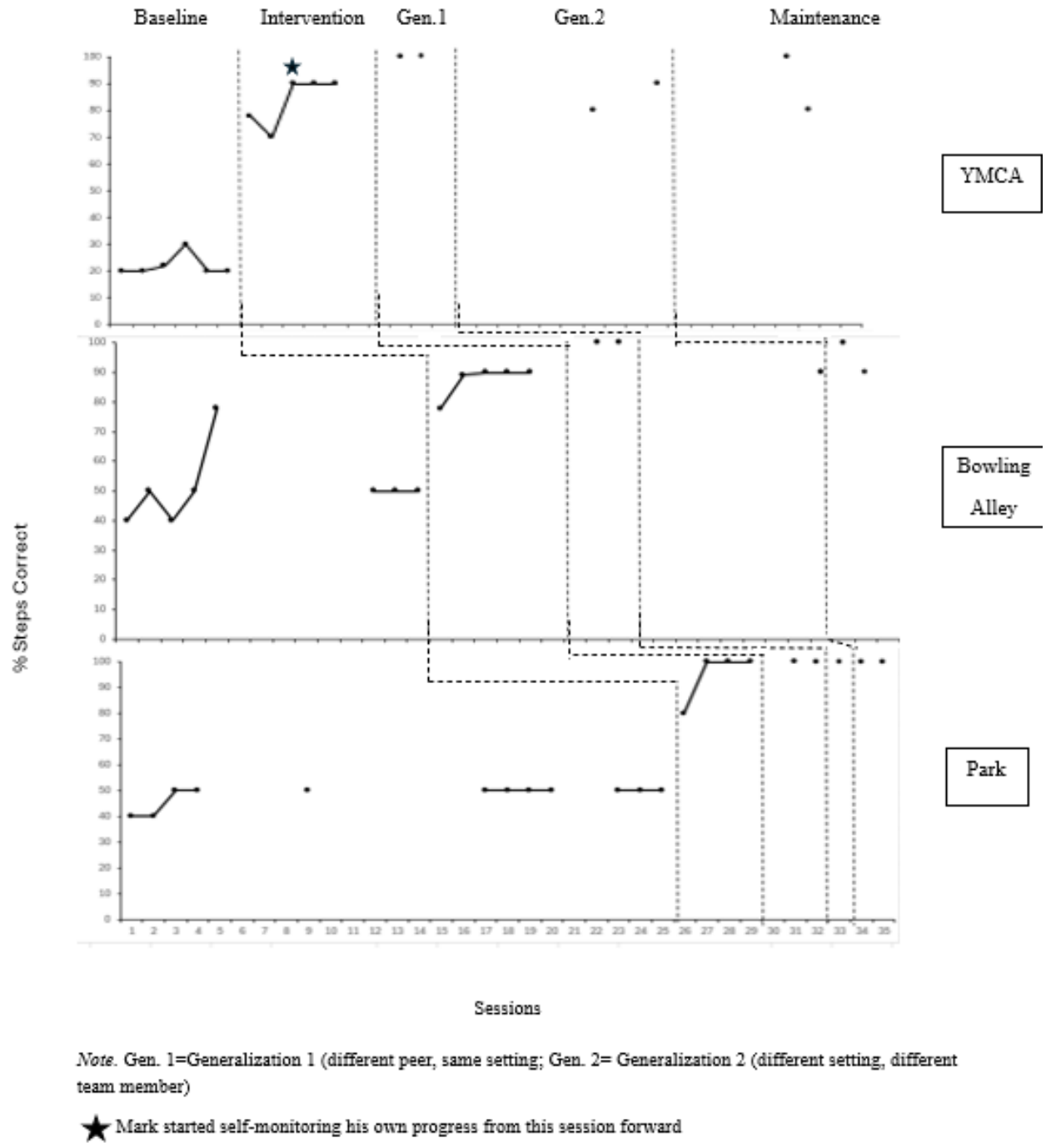
At the park Mark was able to consistently respond at an average of 50% accuracy (% of steps completed) during baseline. When moved into intervention he rapidly achieved success and was able to achieve mastery across only six sessions total, the last three being at 90-100% of steps completed. Again, Mark was insistent that he “do well and get his steps completed” during these sessions. He was familiar with the use of the visual aid and the procedures, even in a different setting. He reported that he felt proud of himself at each session for doing so well, especially in the park setting as it was his final setting for the study.

Following intervention Mark was given an opportunity to generalize his skills in multiple ways. During the first generalization phase (i.e., Gen. 1; see Figure 2) Mark was able to generalize his skills in the same setting with a different peer. At the YMCA he was able to do this twice at 90% accuracy. At the bowling alley he was able to complete the steps for the leisure skill with 100% accuracy of steps completed with his new peer. Finally, at the park he was also able to complete the same task, but with a new peer, twice at 90% accuracy of steps completed. Mark reported to his peer that “this was easy.”

Following the first phase of generalization within each community setting Mark was asked to also generalize his skills to a new community setting with a new peer. This was someone who was familiar with Mark and it was suggested that it be a friend, colleague, family member, or someone with which he is comfortable. Due to the timing of the study (in the middle of the semester) and the availability of those closest to Mark to arrange his transportation and their schedules to take him to these community locations Mark stated that he felt most comfortable with the director from his postsecondary program taking him into these settings.

These settings were again a different location than the one that he was trained at originally. For example, these were the YMCA across town (not the original location of the study), a park near campus (not the original chosen park), and a bowling alley at the mall (not the original bowling alley for the study). During this generalization period Mark was asked to perform the same skill in these new environments as the director of his program. At the YMCA he was able to respond at 90% accuracy with steps completed, at the bowling alley at 90% accuracy of steps completed, and again at the park with the same result, at 90% accuracy of steps completed.

Upon completion prior stages I asked Mark to show mastery of his skills across the three community settings at 2 and 3 weeks after mastery. These measures took place at the original locations of each community setting in which the baseline and intervention probes also occurred. Mark was able to respond at 89% (2 weeks after mastery) and 90% (3 weeks after mastery) accuracy of steps completed at the YMCA. At the bowling alley he responded at 100% (2 weeks after mastery) and 90% (3 weeks after mastery). Finally, at the park he responded at 100% at both 2 and 3 weeks after mastery, indicative that he had mastered these skills.



Note. Gen. 1=Generalization 1 (different peer, same setting; Gen. 2= Generalization 2 (different setting, different team member)

★ Mark started self-monitoring his own progress from this session forward

Figure 2

Mark's % of Steps Completed Across Community Settings

John

In the first set of probes (i.e., baseline) John responded at a low level across one community location, the YMCA, with a range of 20-22% accuracy across steps completed. At the subsequent community locations he responded with a low-to-medium level of accuracy, with 40-78% at the bowling alley, and 40-50% at the park (see Figure 3). John's overall performance is reported below according to the checklist provided by Moeyart and colleagues (2018).

Although John responded consistently across all three community locations, he did experience an increase in the level of his performance at the bowling alley during session five (78% accuracy of steps completed correctly). Given the nature of the community setting with his peers surrounding him at the bowling alley it was evident that John liked to watch others bowling while he was engaging in his own behavior. In observing John during this session it appeared that he was watching and copying the patterns of behavior of his peers. He still was unable to ask/answer questions related to his personal information (i.e., reporting his shoe size, finding his appropriate lane) but he was able to perform steps on this day that were similar to his peers that he was watching, such as grabbing his bowling ball and putting his shoes away correctly, when he had missed these steps during previous baseline trials. I decided to continue to take additional probes to ensure that John had not been learning the skill incidentally before starting intervention. In subsequent trials in baseline John responded at 50% accuracy of steps completed correctly, which was consistent with his previous performance before session five.

Given the results of his baseline probes it was decided to enter John into intervention at the YMCA first, based on the lower percentage of accuracy in that community location. After being presented with the intervention package John was able to increase his performance with his percentage of steps completed accurately within a range of 70-90% across a total of only five

sessions. Across all three community locations there was a very quick immediacy of effect for the given intervention, ensuring success for John. During intervention sessions there was an accelerated trend of performance as well, as he mastered criteria for intervention quickly within just a few sessions. The mastery criteria for this intervention was set at three consecutive sessions at 90% accuracy or higher across each community location. John was able to reach this, again, after only five sessions. Throughout these sessions he had some variability in performance that was due to the natural setting of the community location. At the YMCA some machines were not equipped with all the materials as others were, such as a safety clip. Additionally, on some days John did not bring any materials with him to place in the cupholder area of the equipment. These steps were marked as "N/A" on the data sheet if they were not applicable. This provided some variability in his percentage of accuracy. For example, if there were 10 steps but one was N/A and he missed one he would have received a 89% accuracy score for that session (he correctly performed eight out of nine steps correctly which calculates to 90% accuracy; however, if there were 10 steps and all 10 were applicable and he missed one step then he would have scored a 90% accuracy. This created an opportunity for John to continue to perform the skill across sessions until 90% accuracy or higher was achieved across three consecutive sessions.

During intervention sessions at the bowling alley John was able to reach mastery in this setting within again only five sessions, again at 90% accuracy or higher across three consecutive sessions for mastery. He quickly completed his task analysis and performed skills independently, with an average of 78-90% of steps completed in a short amount of time (only five sessions total). Across all intervention sessions John responded very well to the use of his visual aid, video model, and peer providing necessary prompting if required.

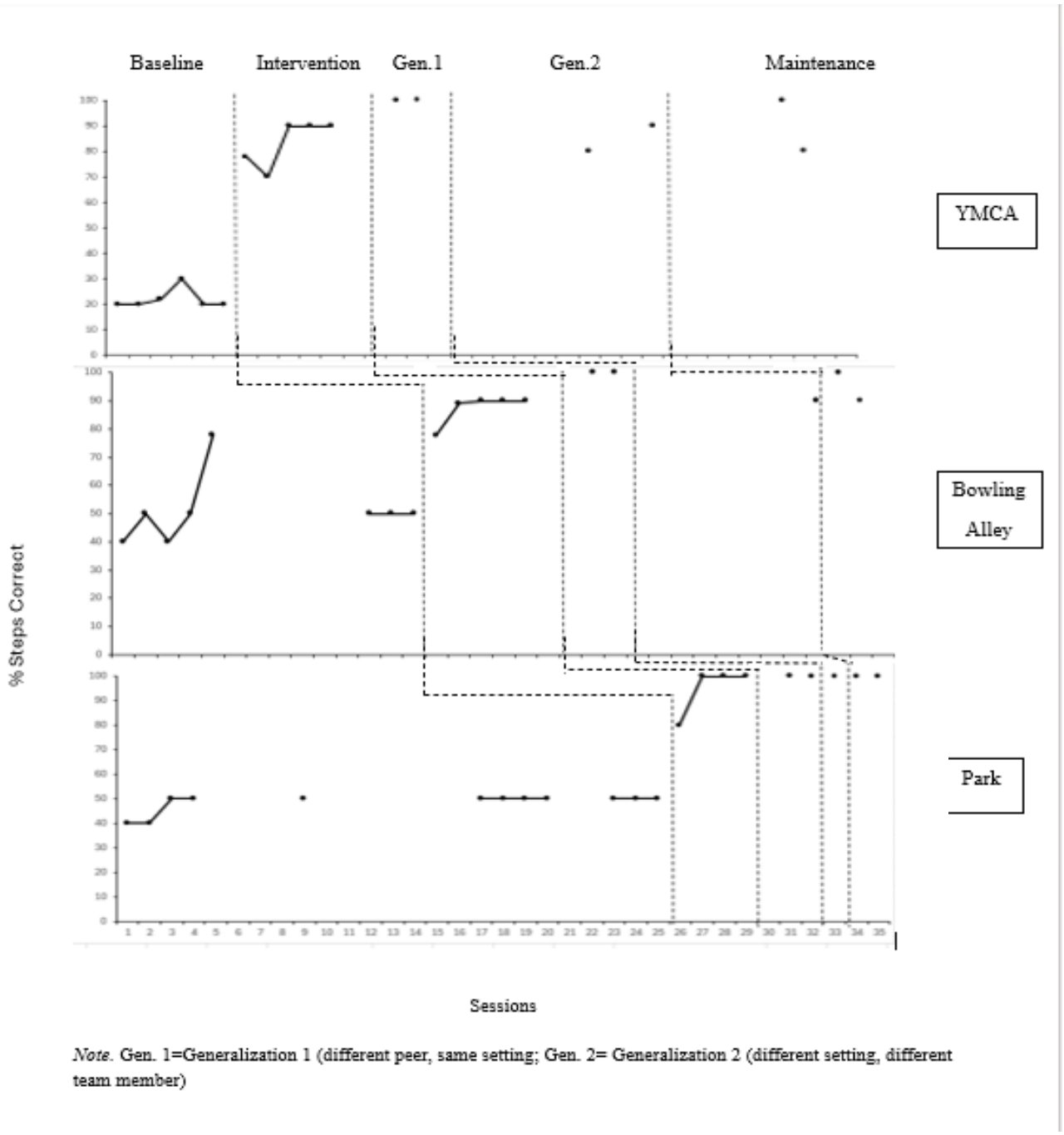
Additionally, during intervention sessions at the park John was able to consistently respond at an average of 50% accuracy (% of steps completed) during baseline (his responding ranged from 40-50% overall). When moved into intervention he very quickly achieved success and was able to achieve mastery across only four sessions total, the last three being at 100% of steps completed correctly. John, like Mark, was familiar with the use of the intervention in this third setting and comfortable with what he was being asked to do. He was confident and conducted the procedures of the intervention according to his task analysis on his own.

John was given an opportunity to generalize his skills in multiple ways following intervention. During the first generalization phase (i.e., Gen. 1; see Figure 3) John was able to generalize his skills in the same setting with a different peer. At the YMCA he was able to do this twice at 100% accuracy. At the bowling alley he was able to complete the steps for the leisure skill also with 100% accuracy with his new peer across two sessions. Finally, at the park, he also was able to complete the same task, but with a new peer, twice at 100% accuracy of steps completed. John stated that he was excited to collaborate with his new peer.

Following the first phase of generalization within each community setting John was asked to also generalize his skills to a new community setting with a new peer. This was someone who was familiar with John and it was suggested that it be a friend, colleague, family member, or someone with which he is comfortable. Due to the timing of the study (in the middle of the semester) and the availability of those closest to John to arrange his transportation and their schedules to take him to these community locations John also went into each community setting with the director from his postsecondary program. These settings were a different location than the one that he was trained at originally. These settings included the YMCA across town, a park near campus, and a bowling alley at the mall. All generalization settings were still in the

same city as the participants' university. During this generalization period John was asked to perform the same skill in these new environments with the director of his program. At the YMCA he was able to respond twice at 80 and 90%% accuracy with steps completed, at the bowling alley at 90% accuracy of steps completed, and again at the park with 100% accuracy with steps completed.

Finally, I asked John to demonstrate mastery of his skills across the three community settings at 2 and 3 weeks beyond mastery. These measures took place at the original locations of each community setting in which the baseline and intervention probes also occurred. John was able to respond at 100% accuracy of steps completed at both 2 and 3 weeks beyond mastery at the YMCA. At the bowling alley he responded at 100% (2 weeks after mastery) and 90% (3 weeks after mastery). Finally, at the park he responded at 100% at both 2 and 3 weeks beyond mastery, indicative that he had mastered these skills.



Note. Gen. 1=Generalization 1 (different peer, same setting; Gen. 2= Generalization 2 (different setting, different team member)

Figure 3

John's % of Steps Completed Across Community Settings

Analysis of Steps Performed Correctly in Community Settings

In addition to reporting on the main dependent variable (% of steps accurately completed) I also collected data on the steps that were correctly performed given each task analysis, reported for each participant (see Tables 4 and 5). Each task analysis was comprised of 10 steps, in which most steps were necessary for every session. A detailed description of each step can be seen on the full task analyses for each skill attached in Appendix I. As mentioned earlier, some steps were marked as "N/A" or "not applicable" during some sessions if the step was not appropriate for that session. This occurred at the YMCA when a machine was chosen for exercise that did not include a safety clip, or participants did not have anything in their pockets to store away. At the bowling alley this was applicable when the cashier provided the information rather than waiting on the participant to ask a question at the counter (i.e., "What shoe size do you need?" instead of having the participant ask for his shoe size as his next step). I recorded the number of steps performed correctly, as reported by a percentage for each step across each phase of the study in Tables 4 and 5. As John and Mark received the intervention and worked through the generalization and maintenance phases they were able to perform nearly all steps with 100% accuracy.

Table 4

Analysis of Steps Performed Correctly in Community Settings (Mark)

Setting	Step # (1-10 on Task Analysis)	% of Times Step Performed Correctly During Baseline	% of Time Step Performed Correctly During Intervention	% of Time Step Performed Correctly During Generalization	% of Time Step Performed Correctly During Maintenance
YMCA	1	100%	100%	66%	100%
	2	0%	66%	100%	100%
	3	0%	66%	100%	100%
	4	0%	83%	100%	100%
	5	0%	83%	100%	100%
	6	0%	83%	66%	100%
	7	0%	100%	100%	100%
	8	0%	92%	66%	50%
	9	0%	58%	100%	50%
	10	0%	83%	100%	100%

Table 4 Analysis of Steps Performed Correctly in Community Settings (Mark) Continued

Bowling	1	90%	100%	100%	100%
Alley	2	10%	100%	100%	100%
	3	70%	100%	100%	100%
	4	40%	100%	100%	100%
	5	75%	83%	100%	100%
	6	100%	100%	100%	100%
	7	0%	75%	66%	100%
	8	0%	75%	100%	100%
	9	70%	100%	100%	100%
	10	0%	86%	100%	100%
Park	1	100%	100%	100%	100%
	2	86%	100%	100%	100%
	3	0%	60%	100%	100%
	4	0%	80%	66%	100%
	5	0%	80%	100%	100%
	6	0%	100%	100%	100%
	7	100%	80%	66%	100%
	8	0%	100%	100%	100%
	9	100%	100%	100%	100%
	10	93%	100%	100%	100%

Table 5

Analysis of Steps Performed Correctly in Community Settings (John)

Setting	Step # (1-10 on Task Analysis)	% of Times Step Performed Correctly During Baseline	% of Time Step Performed Correctly During Intervention	% of Time Step Performed Correctly During Generalization	% of Time Step Performed Correctly During Maintenance
YMCA	1	100%	80%	100%	100%
	2	0%	100%	100%	50%
	3	100%	100%	100%	100%
	4	0%	33%	100%	!00%
	5	0%	60%	100%	100%
	6	17%	100%	75%	100%
	7	0%	100%	100%	100%
	8	0%	80%	100%	50%
	9	0%	80%	100%	100%
	10	0%	100%	100%	100%

Table 5 Analysis of Steps Performed Correctly in Community (John) Continued

Bowling	1	100%	100%	100%	100%
Alley	2	88%	100%	100%	100%
	3	88%	100%	100%	100%
	4	0%	100%	100%	100%
	5	0%	40%	66%	100%
	6	100%	100%	100%	100%
	7	12%	40%	100%	100%
	8	0%	100%	100%	50%
	9	100%	100%	100%	100%
	10	0%	100%	100%	100%
Park	1	100%	100%	100%	100%
	2	83%	100%	100%	100%
	3	0%	100%	100%	100%
	4	0%	75%	75%	75%
	5	05	75%	75%	75%
	6	0%	100%	100%	100%
	7	100%	100%	100%	100%
	8	0%	100%	100%	100%
	9	100%	100%	100%	100%
	10	92%	100%	100%	100%

System of Least Prompts

In addition to collecting data on the % of steps correctly completed for each identified skill in each community location and the accuracy of each step within the task analyses, I also collected data on the number and type of prompt for each participant when they missed a step throughout the study during their intervention and generalization phases. The mean number of prompts required for John during the study was 2 prompts per sessions until he reached mastery in each setting. In 75% of his sessions these were verbal prompts. For the remaining 25% of sessions these were in the form of a gesture or a model. He did not require any physical prompting. The mean number of prompts required for Mark during the study was three prompts per sessions until he reached mastery across each setting. In 65% of his sessions these were verbal prompts, while in 35% of his sessions he required a gesture or a model. In two sessions Mark required a physical prompt to stop his behavior and get back on task. In this instance he was being silly pulling down paper towels at the YMCA to clean his machine and giggling about the behavior.

Summary

The effects of the intervention can be demonstrated using the principles of visual analysis for single-case research (Moeyart et al., 2018). For Mark and John the results were indicative that they were both successful given this intervention. There was a functional relation for both Mark and John. The average score (level) within each phase was consistent for both participants, yet also demonstrated an upward trending slope as the intervention was introduced to each participant in each setting. The range observed for both Mark and John within each phase had very little fluctuation within each phase, with no overlap of data for either participant across phases from baseline to intervention. Lastly, there was an immediacy of effect noted for both

participants as they moved from baseline procedures to intervention in each setting, again indicative that the intervention package was successful for both participants.

Results for Question 2: What are the effects of BST on the implementation fidelity of peers teaching leisure skills to students with ESN across community settings?

Two peers were trained using BST to implement the procedures of the intervention with fidelity. During their training I delivered instruction to each peer, provided a model of the study procedures, and then asked them to rehearse these back with me. I provided feedback after each rehearsal. A second research team member conducted procedural fidelity of this training and documented this at 100% across all three training sessions (each peer was trained separately). The only other implementer included in the study was the postsecondary program director, who received a brief (15 min) training using BST procedures prior to his session with each participant across the new settings during the generalization two phase. A secondary research team member also recorded procedural fidelity of these procedures during training across 33% of these settings at 100% accuracy.

Procedural Fidelity

The effect of BST on the peers was demonstrated as they were the implementers for this study with their peers with ESN. The peers were tasked with delivering an instructional cue ("Go Ahead") during each baseline session and delivering instruction with the video model, visual support, and system of least prompts, during the intervention with each participant. During generalization phases peers delivered the same instruction, and during maintenance they again delivered the prompt only without any intervention. Procedural fidelity data were taken, as well as interobserver agreement data across a minimum of 33% of sessions throughout the study to determine the impact of this training on peers' implementation fidelity.

For John's sessions, while he collaborated with peer Sarah, procedural fidelity was captured across 52% of the total number of sessions, including all phases of the study. Due to scheduling conflicts and difficulty with transportation not all procedural fidelity was collected in person by members of the research team. Some sessions were recorded (without showing any bystanders' faces of people in that community setting directly) and sent to the research team members to watch and report on later after that session took place. Two research team members assisted with coding and capturing procedural fidelity across sessions. Both team members were trained prior to the beginning of baseline data collection by the researcher, as well as retrained along with the peer if any sessions fell below 80% agreement. Procedural fidelity results fell below 80% during one intervention session during the study while at the bowling alley. Immediately following this session I retrained John's peer, Sarah, on how to conduct the procedures of that phase (intervention) using BST. The subsequent sessions in which procedural fidelity was collected (and the researcher observed as well during all subsequent sessions) were above 80%.

For Mark's sessions, with peer Ellie, procedural fidelity was captured across 39% of the total number of sessions, including all phases of the study. Procedural fidelity results for Mark's peer fell between 86-100%. During the one session at the park (intervention) in which procedural fidelity fell below 80% I retrained Mark's peer, Ellie, on how to conduct the proper procedures and again walked through the steps of BST while retraining. In subsequent sessions procedural fidelity then increased at 80% or higher.

For both Mark and John's sessions in which procedural fidelity data were collected I analyzed the data to ensure that data remained in agreement above 80% for each session. I also analyzed the data for steps that were not in agreement across sessions. If any steps were

continuously missed across sessions by the peers this would have also warranted retraining using BST procedures; however, this did not happen. Steps missed by during implementation by peers varied from session to session and were not consistent to warrant retraining with the exception of the two sessions (one for each participant) in which fidelity fell below 80% agreement.

Interobserver Agreement

Interobserver agreement (IOA) was documented by dividing the number of trials agreement by the total number of trials × 100 (Cooper et al., 2020). Two secondary research team members also were asked to collect data on the steps completed by each participant during all phases of the study. Both team members received training prior to baseline conditions and retraining if necessary if agreement fell below 95%. For John IOA was collected across 52% of sessions. During one intervention session at the bowling alley IOA fell below the recommended mark at only 90% agreement. I met with the secondary research team member to discuss the session and come to an agreement for the results of the session with 100% agreement at the end of our conversation. For Mark IOA was collected across 39% of sessions. It did not fall below 95% across any sessions during the study.

Results for Question 3: What is the effect of a goal-oriented collaborative planning process for CBI related to acquiring leisure skills in the community on the perceptions of stakeholders (team members, parents/guardians, peers, young adults with ESN) for young adults with ESN?

Collaborative Planning

Collaborative planning occurred three times during the study in which all stakeholders and team members were asked to join a Zoom call. The effectiveness of each session was measured by a completed checklist (Table 6) in which every team member was asked to participate in discussion, provide input for CBI, state their understanding of the purpose of CBI

or community engagement for their participant, assigned a role in CBI, and receive a copy of the notes from the planning meeting. Each Zoom meeting lasted approximately 20-30 min and was held at the convenience of all team members, usually on a weekday evening. One Zoom meeting was held prior to baseline data collection, a second held halfway through the study (titled "mid-study"), and a final Zoom meeting held at the conclusion of the study. During all collaborative Zoom meetings each stakeholder provided input, reported goals/feedback on goals towards CBI, participated in discussions, and received a copy of the notes. Participants John and Mark led each meeting using a visual slideshow presentation to effectively go over their own goals and ask for this input from their team members.

Table 6

Team Collaboration Checklist

Team Collaboration for CBI Planning Checklist

Date: _____ Student Name:_____

Meeting # (circle one): 1 2 3

Team Members Present and Role(s):

_____

	Everyone had a speaking part in the conversation
	Everyone provided input for goal setting for CBI
	Everyone understands the purpose of CBI for the specified student
	Each person is assigned a role in community-based instructional planning for the specified student (when to teach, where to teach, etc.)
	Each person received a copy of the meeting notes for planning CBI for specified student

Procedural Fidelity

Procedural fidelity also was captured as a part of research question number three related to the effects of a collaborative planning process for CBI on the perceptions of stakeholders. Throughout the study family members, the participant, their peer, and stakeholders involved with

the participant were asked to collaborate by taking part in three Zoom meetings, as mentioned above, to discuss the progress of the study and help the participant set and stick to their leisure skill goals for each setting. Procedural fidelity was captured by a second research team member across 50% of the sessions (three out of six Zoom meetings) to ensure that the appropriate procedures were followed. The reported fidelity was 100% and no additional training or discussion was needed amongst research team members.

Goal Setting

Throughout the study both participants were asked to set goals that related to their experiences within each leisure setting. These goals were reviewed at each collaborative Zoom meeting with the stakeholders supporting them in their learning and community access. For Mark, his goals were to walk on his own in a safe way, get the correct materials for bowling on his own, and to be able to use the treadmill safely. Table 7 showcases Mark's original goal setting sheet from the first collaborative Zoom meeting. At his mid-study check in collaborative meeting Mark reviewed his progress and his goals with his team members. He changed his goal at the bowling alley to specifically being able to find the correct lane and bowling ball to bowl on his own. He also changed his goal at the YMCA to be able to walk or run on the treadmill, as he had an interest in this. He reviewed the supports that he needed (see Table 8 for an example) and added in any additional supports that he needed from team members to be successful. For example, he asked for bigger numbers on the task analysis (bolder) and the addition of a "step 11" that stated "bowl one game" on the bowling alley visual so that he could remember that he needed to bowl after he finished the steps of the task analysis. During his final Zoom meeting at the conclusion of the study Mark reported on his progress to his team by following a visual slide deck (PowerPoint) that reviewed his goal progress and related goals. He discussed these goals

with the team and how the team could continue to support him in the future through CBI at community locations.

John followed the same procedures as Mark with goal setting and collaborative Zoom meetings throughout the study. John's goals for each community setting were to stay safe at the park while walking on his own, use a treadmill to run on his own, and to pay for his own game of bowling (see Table 9). At his mid-study check in meeting John was also able to review his progress with his team members and make any changes needed to his goals or supports. At this meeting he stated that he would like to walk, instead of run, on the treadmill. He also wanted support to remember to meet his peer on time for each session, reminders to bring his phone, and bigger numbers on the visual aid so that he could better remember his bowling ball and shoe sizes. He identified ways in which his team members could support him in these efforts (see Table 10). At his final collaborative Zoom meeting John discussed his final progress in each community location and identified ways in which his team could continue to support him in his access to community leisure settings and activities.

Table 7

Mark's Goal Setting Sheet

Student Goal Sheet- Meeting #1

Park

Student: Mark **Peer:** Ellie **Date:** 11/29/23

At the park my goal is to walk on my own for 10 min to clear my head alone in a safe way.

Supports I will need: I will need to make sure that I bring my phone to stay safe while walking.

Bowling Alley

At the bowling alley my goal is getting the right materials to bowl (bowling ball, shoes) and keeping up with them.

Supports I will need: I will need to know what size shoes I wear and what questions I need to ask at the desk at the bowling alley. I will need to know where to get a bowling ball, like from a bowling ball machine.

Recreation Center/YMCA

At the recreation center my goal is to use the treadmill on my own by turning it off and on safely by following the rules when using equipment.

Supports I will need: I will need to make sure that I have the right shoes on and clothing for exercising.

Table 8

Mark's Mid-Study Meeting Notes with Supports Noted

Meeting Notes:

Date: 1/24/24

Today we talked about these goals for: Mark

	Achievements	**Supports Still Needed**	**Who will support this goal?**	**How will this goal be supported?**
Park	Baseline: 45%	-reminder to bring phone to trail and charged	Ashley and Emily will send reminders to Mark to bring phone	Reminders to Mark
Bowling Alley	Baseline: 40%	-More appropriate shoes and bowling ball -put numbers on task analysis visuals (bigger); add in a "step 11"which is to "bowl"	Ashley will add these numbers	Use of pictures with numbers
Recreation Center/YMCA	Baseline: 13% w/ intervention 74%	Modification to hand grip on treadmill		Use of a model

Table 9

John's Goal Setting Sheet

Student Goal Sheet- Meeting #1

Park

Student: John **Peer:** Sarah **Date:** 11/29/23

At the park my goal is I will stay safe while walking on the trail at the park.

Supports I will need: make sure my cell phone is with me and turned on

Bowling Alley

At the bowling alley my goal is to pay for my bowling game on my own

Supports I will need: make sure I have my wallet and the money ready

Recreation Center/YMCA

At the recreation center my goal is to use the treadmill to run on my own

Supports I will need: help from someone to get the treadmill at the right speed so I can run

Table 10

John's Mid-Study Meeting Notes with Supports Noted

Meeting Notes:

Date: 1/24/24

Today we talked about these goals for: John

	Achievements	**Supports Still Needed**	**Who will support this goal?**	**How will this goal be supported?**
Park	Baseline: 45%	Make sure he is reminded to use his phone for the reasons of the study (safety and keeping time) instead of only for music.	Whole team	Mom-encourage use of phone while at park during time while not in school Sarah-encourage use of phone/remind him to bring phone to park sessions/opportunities/times
Bowling Alley	Baseline: 51%	Add in a visual reminder for correct shoe size and bowling ball size on those steps (bigger numbers)	Whole team	Mom-support in community opportunities to go bowling by using similar visuals to remind him of his shoe size and bowling ball size or practice remembering this information Sarah-use of visual with these changes during intervention
YMCA	Baseline: 22% Intervention: 74%	Change goal to walking on the treadmill instead of running Encourage John to be independent. He wants to "do it by himself"	Whole team	Mr. M.-encourage use of YMCA independence on his schedule Sarah-encourage independence at YMCA, monitor him on treadmill during intervention Mom-encourage use of YMCA facilities and treadmill

Social Validity

Participants and team members included in the study were asked to provide input for social validity (i.e., goals, procedures, and outcomes; Snodgrass et al., 2018; Wolf, 1978). throughout the study individually as the main indicator of their perceptions of CBI and the collaborative planning process. Results are seen below in Table 11 for team members. All team members remained consistent in their expectations for CBI and community engagement through CBI from the beginning of the study to the end of the study. As a part of the post-study social validity questionnaire team members were asked to write in a response about what they liked most about the study and what they liked least about the study. The responses provided included comments such as

"I enjoyed watching my student grow and master these skills, and I also learned more about how to teach these skills" (Sarah), "I was able to observe and implement evidence-based practices" (Ellie), and

"The locations were off campus" (Mr. M.). Participating parents expressed that they mostly enjoyed the opportunity for their son to get out in the community with peers and the community based opportunities provided through this study.

When asked what they enjoyed least about the study both peers indicated that the study was time consuming in regards to having to visit community locations multiple times, it required a big commitment, and that it was demanding of the peers attention overall. Both John and Mark's mothers did not reply to this question.

John and Mark also were given separate, modified social validity questionnaires to complete that asked questions about their participation in CBI, goal setting, and the skills that they learned through CBI and community participation in leisure settings. The results for both

participants can be seen in Table 12. Both Mark and John reported that they strongly agree at the conclusion of the study that they can set goals for community-based instruction, learn new skills in these settings, and achieve their goals in these settings. In addition to the questionnaire they were asked to report what they liked most and least at the conclusion of the study as well. Mark reported that he liked the park the best, and the bowling alley the least. John reported that he liked the bowling alley the best and park ("walking") the least.

During the study all team members and participants were asked to provide input by engaging in collaborative Zoom meetings. Informal, anecdotal social validity was also collected at each Zoom meeting and by way of conversations with peers, participants, and team members throughout the study. During these informal conversations peers and participants expressed that they were happy with the study's progress, yet unhappy about the amount of time that the study required of them. Traveling to and from community locations and engaging in these community activities for leisure was demanding and, as one peer stated "It is a lot." This is important to note as a part of the outcomes of social validity and the demand placed upon both peers and participants to engage in community activities outside of their normal routines when learning new skills. Other anecdotal evidence overheard from peers through conversations included comments such as "I am glad that he is learning this skill, but I wish we could go to the (community location) on a different day." Comments such as these are important because they speak to the amount of effort and time required to support individuals with ESN in community settings when using same-aged peers. I took every opportunity to listen to peers and participants throughout the study and amend the schedule when necessary so that both the peers and participants felt more comfortable and successful.

Table 11

Pre-and Post-Study Social Validity Survey (Team Members)

Question	Sarah (Peer)		Ellie (Peer)		Mark's Mother		John's Mother		Mr. M. (Program Director)	
I provide valuable input in planning CBI	Pre 4	Post 5	Pre 4	Post 5	Pre 5	Post 5	Pre 5	Post 5	Pre 4	Post 4
The community settings and skills and important and relevant	4	5	3	5	5	5	5	5	4	4
I can implement CBI in community locations	3	4	4	5	5	5	5	5	5	5
I am comfortable communicating about CBI with other team members	4	5	4	5	4	5	5	5	5	5
Participants with ESN can participate in CBI	5	4	5	5	4	5	5	5	4	4
I can contribute to CBI in novel community settings	5	5	5	5	3	5	4	5	4	4
Participants with ESN can set goals for CBI	5	5	5	5	4	5	3	4	4	4

Note. 1= Strongly Disagree; 2= Disagree, 3= Neutral, 4= Agree, 5= Strongly Agree

Table 12

Pre-and Post-Study Social Validity Survey (Participants with ESN)

Question	Mark		John	
I can learn new skills in community settings	Pre	Post	Pre	Post
	3	5	4	5
I can work with my peer to learn new skills before going into the community setting.	3	5	3	5
I can set a goal for community engagement.	4	5	4	5
I can work with my peer to learn new skills in the community setting.	3	5	3	5
I can watch a video model to learn new community skills.	1	5	2	5
Visual supports are helpful to learn new skills.	2	5	2	5
I can use my skills in new community leisure settings and activities with my peers.	2	5	3	5
I have a leadership role in team planning for community instruction.	3	5	3	5
The skills taught in community settings are important for me.	3	5	4	5

Note. 1= Strongly Disagree; 2= Disagree, 3= Neutral. 4= Agree, 5= Strongly Agree

Summary

In response to the proposed research questions the provided intervention package was successful for both young adults with ESN in acquiring new leisure skills in community settings. Both Mark and John were able to increase their percentage of correct steps with each skill across all three community settings. Data from both participants indicated that a functional relation was present, as indicated by visual analysis of the documented data. Procedural fidelity data indicated that the use of BST to train peers to implement the EBPs of this intervention package was effective. Both peers were only retrained once during the study when agreement fell below the standard for single-case research (80%). Lastly, I was interested in the effects of the elements of the collaboration process on perceptions of stakeholders of CBI and the planning process from the start of the study to the end of the study. Social validity data indicated that participants with ESN improved their understanding of CBI, and indicated that they would continue to use EBPs and tools, such as those used in this study, to continue to make progress in community settings. Other key stakeholders indicated that, while the study was demanding and time consuming, they better understood the purpose of CBI and how this fits into the needs of their individual's (with ESN) life.

CHAPTER 5: DISCUSSION

The purpose of this study was to investigate the effects of an instructional support package for peer-delivered community-based instruction for young adults with ESN using a multiple probe across skills replicated across participants design (Gast et al., 2018). Specifically, this study sought to analyze the effects of this instructional package on students' ability to perform three identified tasks in leisure community settings by using community-based instructional supports from their peers. Community-based instruction is one variable used in determining positive post school outcomes for students with disabilities (Fabien et al., 1998) and can be implemented throughout the educational process for students with disabilities. .After receiving training same-aged peers without intellectual disability were able to deliver instruction to students with ESN via three evidence-based practices, video modeling, visual supports, and system of least prompts, known to be effective in delivering CBI (Bassette et al., 2016; Bross et al., 2018; Scott et al., 2013; Van Laarrhoven, 2012). This instructional package also included goal setting as part of goal-oriented CBI for students with ESN. Participants with ESN were asked to be a part of a collaborative planning process with their parent/guardian, program director, and peer to develop goals for their community integration across leisure settings. Social validity data were captured to authenticate the perceptions of stakeholders. In this chapter outcomes of the study and emerging themes relative to each research question will be discussed. Limitations, areas for future research, and implications for practice will be discussed to continue to guide the field of special education.

Targeted Community-based Leisure Skills

The importance of community engagement has been well established for students with disabilities in order to improve one's quality of life (Carter, 2018). Despite the known

importance of community engagement for individuals in this population only 25% of students with disabilities report belonging to a group after high school (Hooever, 2016). Educators understand that the lack of developing the necessary skills to be successful in community settings may be one reason as to why students with disabilities do not feel as if they are active and authentic members of their communities (Mechling, 2005). Strategies for teaching community-based skills may include vocational training (e.g., access to the community for employment or job training), community mapping (e.g., matching students' needs with community resources), and service learning (e.g., volunteer opportunities across environments; Hoover, 2016). This instruction should occur across all four identified domains of CBI as to ensure improved quality of life and access to opportunities for individuals with disabilities (A. Walker et al., 2010; Carter, 2018).

While all domains of CBI are important to ensuring successful post-secondary outcomes for students with disabilities (Test et al., 2016), not all domains have been addressed equally through research (Anderson et al., in press; A. Walker et al., 2010). A. Walker and colleagues (2010) found that the majority of CBI interventions and practice address vocational or daily living domains of CBI. Individuals with intellectual disability are not as frequently exposed to recreational, leisure, and overall community domains that may include shopping, purchasing, socializing, and choosing daily activities for fun or sport. A more recent literature review conducted by Anderson and colleagues (in press) also supported these same findings. There are a variety of reasons for this lack of exposure and instruction in these domains that includes a lack of available resources, lack of training and support, and lack of time for this instruction as the focus of instruction often involves academic outcomes as compared to leisure or social outcomes for many individuals with ESN. Similar to individuals without disabilities, those with ESN also

value the opportunity to make decisions, set and achieve goals, and enjoy time in leisure settings as well. Leisure activities should provide opportunities for social interactions, encourage choice making, and revolve around the individuals' needs in their community setting.

This study required young adults with ESN to interact alongside peers in natural community leisure-based settings to identify important skills for these locations. After informal conversations with peers, participants, and team members, the three chosen locations were the local bowling alley, the recreation center, and the park, given their close location to the postsecondary program on campus, interest in the provided activities, and relevancy to necessary skill sets to be taught. All participants were familiar with these locations, but often demonstrated social and functional deficits when performing skills in these environments, as reported by their guardians, peers, program director, and themselves. The personalization of CBI to individual student needs provided support in these environments as peers helped identify the targeted skills that were needed in these settings (i.e., getting bowling shoes at the bowling alley) and served as models of the targeted skills for the students with ESN (through video modeling). The three identified skills in these community settings were preparing for a bowling game at the bowling alley, using a trail safely for walking at the park, and using fitness equipment at the YMCA/recreational center. This was based on input from the collaborative planning processes with team members for each young adult with ESN. All participants identified these skills as necessary and relevant skills for the community locations that they were in, although these are not comprehensive of every skill that could have been targeted in each setting.

The first skill addressed was using physical fitness equipment at the YMCA/Recreational Center off campus. This is an important skill because all team members indicated that staying physically fit and healthy was important. Both participants with ESN reported that they enjoyed

using the gym and equipment on campus, but that they did not know how to do so independently in multiple settings. When they entered the YMCA off campus they were surprised by the number of options available. Baseline data indicated that neither participant was able to use the equipment successfully for 15 min on their own (less than 20% accuracy across steps). This amount of time was chosen after collaborative team planning meetings were conducted prior to baseline sessions, in which everyone on both collaborative teams agreed that 15 min was an appropriate amount of time to work out on a given exercise machine. After intervention both participants were able to reach mastery at 90% accuracy with steps completed, as measured by a task analysis, across three or more sessions. They also maintained this skill 2 and 3 weeks after mastery at 80% or higher. When asked to generalize this skill to a new peer (generalization phase 1) and to a new setting with a new team member (generalization phase 2) both participants were able to do so with 80% accuracy or higher.

The second skill addressed was preparing for a game of bowling at the bowling alley. This skill consisted of several action steps via the task analysis that allowed each young adult to enter the bowling alley independently and prepare to bowl a game with a peer without any necessary instruction. This is an important set of skills because it lessened the participants dependence on their peers to set up this activity for them. Important steps in the task analysis within this skill set included paying for a game of bowling, asking questions about the lane that they were bowling on, getting, and putting on shoes, putting away items in an appropriate place (shoes under the seat), and getting an appropriate bowling ball on their own. Both participants reported that being able to complete bowling tasks on their own provided them with a sense of freedom and the opportunity to be able to complete activities independently. Results in this setting indicated that both participants were successful in reaching mastery at 90% accuracy of

steps completed given intervention. They also were both able to generalize this skill set to a new bowling alley and with a new peer. This skill was maintained at 80% accuracy or greater at 2 and 3 weeks after mastery following intervention.

The third skill identified was safely and independently using trails at the local park off campus. This was an important skill because both participants, John and Mark, indicated that they enjoyed taking walks as a part of their daily exercise to stay healthy and fit. Mark especially mentioned that he enjoyed taking walks to "clear his head." John enjoys taking walks so that he can listen to music and be social with his friends. During baseline sessions both participants were able to safely stay on a given pathway/trail at the park, however they did not complete all the given steps on the task analysis to remain safe and ensure that they were walking for a specified amount of time. During collaborative meetings as a part of this study participants and team members identified 20 min as an appropriate amount of time to walk at the park for exercise. During the intervention participants were taught to set their phones for 10 min to walk before turning around. By doing so they also kept their phone volume turned up for safety reasons in case they needed something or to contact someone. Results indicated that both participants were successful in this community setting in reaching their goals and completing the necessary steps for this skill. Both participants averaged 90-100% accuracy of steps completed across intervention, generalization, and maintenance phases.

Across skills results indicated that both participants with ESN were able to quickly learn the skill sets identified for success in these three leisure-driven community settings of their interest. A benefit of CBI includes one's ability to generalize skills across settings and people easily (Hopkins & Dymond, 2020). Both participants were able to generalize and maintain these skills as well across all three settings.

Instruction

CBI is instruction that takes place outside of the school campus, providing students with real life experiences that can help them become more independent and make contributions to society (Hernandez, 2019). A benefit of CBI is that it may also involve pre-instruction prior to engagement in a community setting. This pre-instruction ca be delivered in a classroom or community setting before a participant is asked to perform a skill. . In this study peers were asked to deliver instruction to young adults with ESN prior to having them perform the necessary leisure-based skill in the community setting by presenting them with a video model and a visual support to ensure that they could be successful in learning and carrying out the identified skill in that community setting.

Video Modeling

Video modeling interventions involve watching a video of positive examples of an adults, peers, or him- or herself engaging in a behavior that is being taught (Delano, 2007; Mechling et al., 2009; Mechling & Collins, 2012). In this study participants with ESN watched a pre-recorded video example of their peer performing each step in the task analysis for each skill across the three community locations. Participants with ESN were given a choice of three video models to watch from their peers (each peer made a video model, including the peer who dropped out of the study before baseline data were collected) during each intervention session. Peers were able to effectively deliver this instruction to their peers with ESN via video model before they asked them to perform the skill in the community setting. This was completed near a bench or table in the community setting before asking the participant to perform that skill. This ensured that it was a natural process and transition immediately to performing that skill in that environment. Procedural fidelity checklists were used to ensure that instruction was delivered appropriately. As

the study progressed participants with ESN became less reliant upon the video model, sometimes turning away from the video or stating “I got it” while watching the video. This is evident of the participants’ ability to perform the skill more independently using the intervention. Participants would also ask “do we have to watch the whole thing?,” also indicative of the fact that they felt comfortable with the given skill. Peers reported that they enjoyed the process of video modeling with their peers with ESN across community settings and overall saw the value in this instruction. Peers reported that it was time consuming at first to create the videos, but the ability to reuse the videos across multiple sessions was beneficial.

Visual Supports

This study also tasked peers with delivering instruction via visual supports to their peers with ESN in the community settings. Visual supports might include, but are not limited to, pictures, written words, objects within the environment, the arrangement of the environment or visual boundaries, schedules, maps, labels, organization systems, timelines, and scripts (National Research Council, 2001; Rao & Gagie, 2006). Visual supports have proven to be a successfully implemented evidence-based practice for teaching skills across a variety of domains for individuals with extensive support needs for many years (Cohen & Demchak, 2018; Johnson et al., 2004; Rutherford et al., 2020). Following the delivery of the video model peers utilized visual supports with each participant within community locations to best support them through difficult steps in the task analysis. At first these visual supports were created with picture icons for each step in the specified skills across participants; however, as peers began to collaborate with each participant with ESN individually they saw that both participants were less reliant on the visual supports for every step of the skill set. Peers also were able to point to certain images or steps on the visual support when going over this with their peer with ESN if they wanted them

to pay attention. For example they would point to the step in which participants were asked to pick out the correct bowling ball at the bowling alley. Mark often missed this step during initial intervention trials. His peer, Ellie, would point this out before giving him the instructional cue "Go ahead" to perform the skill at the bowling alley. As the intervention continued Mark told Ellie "I got this" when looking at the visual support before she gave him the prompt to perform the skill. The visual supports remain a functional and practical tool for both participants with ESN to continue to use to complete these tasks in community settings. Maintenance data without the use of the video model or visual support suggests that these tools can fade out over time and participants can remain successful in these leisure settings. Overall, both participants reported that they found the visual supports to be beneficial as an intervention to teaching these skills in community settings.

System of Least Prompts

The instructional package designed as a part of this study also included system of least prompts, a hierarchy system of prompting and support delivered to participants with ESN while engaged in their community settings. This system provides an opportunity for educators to provide error correction to students in a systematic manner, which is an important consideration for the community settings in which they are engaged (Browder et al., 2020; Shepley et al., 2019; Wolery et al., 1986). Peers were trained using BST (instruction, modeling, rehearsal, feedback) to deliver prompts to their peers with ESN during intervention as per the system of least prompts hierarchy across all three community settings. Results indicated that peers delivered a variety of prompts during intervention, including verbal prompts, gestural prompts, modeling, and one physical prompt. Many prompts delivered were verbal prompts, followed by gestures, models, and then only one physical prompt needed. This is important to note because community settings

require individuals to engage in appropriate social behaviors with their peers. These behaviors also must be natural and not overly embarrassing for someone receiving instruction or assistance. The goal for John and Mark in these settings was to be able to complete the steps (and ultimately the skill) as independently as possible. Peers, who served as natural supports and interventionists in this study, only had to step in when a step was missed or performed incorrectly. They did so in the most natural way possible, through verbal prompting first. Often no additional prompting was needed, which is important to note in solidifying the dignity of each participant with ESN. Only on one occasion was a physical prompt necessary and in this case the participant with ESN, Mark, was engaging in silly behavior for attention by pulling down all the paper towels while attempting to clean the fitness equipment at the YMCA. A physical prompt was necessary to stop this behavior and re-engage Mark with the task at hand. Peers also reported in their social validity questionnaires that they enjoyed learning and using these evidence-based practices so that they can utilize these with other individuals with intellectual disability and/or ESN with whom they currently work with or will teach in the future. Peers stated that they felt that the prompts that they delivered were not intrusive and the best way in which to support their individuals with ESN across settings and tasks.

Behavior Skills Training for Peers

Peers without disabilities were trained using BST to implement the interventions (video modeling, visual supports, and system of least prompts) with participants with ESN. Outside of BST training strategies for peers to support students with disabilities have also included providing performance feedback as well as engaging in peer-mediate instructional strategies (Covey et al.. 2021). In this study BST was chosen because peers chosen for this study did not

have an extensive background in implementing EBPs with students with disabilities, despite currently serving as academic mentors in their postsecondary program at the current time. Additionally, Covey and colleagues (2021) support the use of BST across a variety of skills and domains, including the acquisition of leisure skills. BST was conducted in four phases for this study instruction, modeling, rehearsal, and feedback. Procedural fidelity measures were collected to ensure that training was appropriate and followed the guidelines of BST. Results indicated that BST was effective in ensuring that all sessions were conducted with fidelity. During the instructional period peers received information about video modeling, visual supports, and system of least prompts and how they would be used during the study.

As stated previously, the leading reason why BST was chosen was because both peers had never used these practices independently as teachers or natural supports for individuals with which they were working. They stated that they were familiar with the terminology, but just beginning to learn about evidence-based practices in special education in their current classwork at the university. Following instruction peers were given an opportunity to watch a model of a targeted skill by the researcher. Following this peers were provided an opportunity to rehearse with this specified skill and provided feedback on their performance. A checklist was used for procedural fidelity to ensure that peers mastered the necessary skills for delivering this intervention prior to collecting any baseline data on students. Overall, this training was successful with peers. Most often peers struggled in the rehearsal phase while delivering instruction for video modeling. With appropriate feedback, all peers were able to successfully reach mastery criteria (set at 100% across three or more consecutive trials) before implementing this with their peers with ESN. If implementation fidelity fell below 80% during any instructional sessions during the study I returned to BST procedures to re-teach the procedures to

the peers without disabilities (Sarah and Ellie). This occurred one time for each peer throughout the study; however, subsequent sessions resulted in higher reports of implementation fidelity with over 80% agreement.

Peer Supports and Peer-delivered Intervention

Peers as Natural Supports

In this study peers without disabilities served as supports to deliver instruction to their peers (other young adults) with ESN. Due to the complexity of needs often exhibited by individuals with ESN peer interactions may be limited, even when provided the opportunity to engage in regular activities, mentoring, or leisurely opportunities together (Brock et al., 2017). Despite limited opportunities for interactions, it is understood that peer supports are an evidence-based practice for supporting students with disabilities in acquiring both academic and functional skills (Brock et al., 2017; Ley Davis et al., 2022). In this study peers not only delivered instruction to their peers, other young adults with ESN, but also served as natural supports in these leisure settings. For many of the identified skills across leisure settings there is an element of social interaction required. For example, at the recreation center students who want to engage in a sports activity will most likely need to ask someone to play with them or they will need to talk to someone to rent equipment or figure out when/if a machine is available for use. In these instances, peers can serve as natural supports for these interactions if and when students with ESN require support to accomplish these goals. As shown in this study during pre-baseline procedures (when students with ESN were asked to identify a goal in each setting and required support to do this) often students with ESN have a challenging time identifying what needs to be done in these leisure settings to not only identify their goals, but then accomplish these goals. For example, the ability to read a schedule at the recreation center to know what options there are for

leisure, play, and sports is a skill that students with ESN struggle with. Without guidance or support from peers individuals with ESN would not be able to engage in many leisure activities due to these deficits. As a continuation after this study peers can continue to serve as these natural supports in these community settings either by delivering instruction (e.g., video modeling, visual supports, system of least prompts) or through more naturalistic manners of support, such as prompting that could occur on a daily basis as they engage with their peers with ESN in these settings, to complete one step behaviors, such as reading a sign or asking a question to someone to gain information.

Peers as Teachers

Individuals with ESN often seek guidance and reassurance from those in authoritative positions, such as teachers or program directors, as this is what they have become accustomed to throughout their schooling career. This can become a burden on the single educator, parent/guardian, or even program director that provides instruction and support to a handful of students and/or young adults with ESN. Alternatively, although the program director and parents/guardians were still involved in the collaborative planning process, peers assumed the key role of the instructor for this study in a natural manner that allowed them to deliver instruction that was meaningful and relevant for both participants with ESN of their same age. This allowed for the program director and parent/guardian to focus on other aspects of CBI through purposeful planning and collaboration from a reflective lens. Aside from serving as natural, same-aged, support systems in these community settings, peers also provided this instruction in a systematic manner. The young adults with ESN began to see their peers as a person of support in teaching them novel skills. This was partnered with the use of video modeling of the peers completing the identified skills in the community settings. The young

adults with ESN were able to relate to these performed skills by their same-aged peers and then perform these skills on their own with their peers as teachers. The use of peers as teachers is an effective way in which to truly utilize the strengths of all team members when implementing CBI.

Peers as Friends

Lastly, as peers delivered instruction they formed friendships with their peers with ESN. The importance of friendships in promoting the wellbeing of individuals both with and without disabilities is well supported in the research (Carter et al., 2013; Carter et al., 2014; Eisenman et al., 2017; Rosetti & Keenan, 2018). Both dyads (young adults with ESN and their peer partners) reported that they had limited interaction with one another before the start of the study. Although they had previously worked with their peer through the mentorship program at their university, they had limited experience in teaching their peer with ESN and accessing leisurely settings with them. Using video modeling and community engagement together students began to increase their social interactions and build lasting friendships with their peers with ESN. Social validity results indicate that peers felt this interaction was the best part of the study. Peers enjoyed collaborating with their peers with ESN in the community settings, learning how to provide appropriate evidence- based instruction, and the time that they spent engaging in community activities. The participants with ESN reported that they also enjoyed the community activities with their peers without disabilities, getting to know them, and working/learning from them in various places. The social validity results from outside team members also indicated that parents/guardians and the program director were appreciative of the opportunity for the young adults with ESN to be able to develop these friendships in community settings.

Goal Setting for CBI

Goal setting is a positive predictor of post-school success for students with disabilities (Bross et al., 2022; Mazzotti et al., 2016). In this study young adults with ESN were tasked with setting individual goals related to each identified skill area across community settings. This goal setting was a part of the design of the collaborative planning process for CBI with team members. Across leisure settings it is important to establish a goal so that you can fully enjoy the experiences that you are choosing to do in your own free time. In this study young adults with ESN were able to set goals with support from their team members. At the beginning of the study participants with ESN were unable to do this independently. By allowing for choice making and reinforcement in the collaborative planning process the participants with ESN were able to effectively set goals for each community setting by the end of the first collaboration meeting. During each session participants were able to adjust their goals for the session. These changes were reflective of personal choice with each session, indicative of naturally-occurring leisure setting outcomes for those both with and without disabilities. At the mid-study check in (Zoom collaboration meeting #2) they were able to adjust these goals based on their own thoughts and feedback from their team members as well. Both participants adjusted their goals to reflect their practices and interests. They also adjusted their "supports needed" after conversations with their team members. At the final collaboration meeting of the study each participant was able to successfully monitor if he had met his goal for each community setting and tell the team if he would continue with this goal, or a similar goal, in community settings going forward. Both participants stated that they were happy with their goals, they felt that they had accomplished those goals, and they that they looked forward to continuing to use their skills for similar goals in

the future in these settings. All team members agreed and reinforced the young adults with ESN as a part of this collaborative process.

Collaborative Planning

A necessary component to ensuring that skills will be generalized across settings, people, and time is to build in a process for collaborative planning (Friend et al., 2008; Friend & Barron, 2022). In this study collaborative planning was the core of the instructional package for CBI for students with ESN. The team for each student consisted of the program director (for their postsecondary education program), the peer, a parent/guardian, and the young adult with ESN. Related service providers and other instructional support staff from the college setting (i.e., other Special Education faculty or college instructors for audited classes) were invited, but not required to attend or be involved. No additional team members beyond the parent/guardian, program director, peer, and young adult with ESN participated. Planning involved providing an overview of the plan for CBI across these leisure settings, asking for input from all team members, goal setting, and active discussion around progress/changes that needed to be made. As a result of this planning process, changes were made for both participants during the study. Both participants with ESN changed their goals during the mid-study check in Zoom meeting and made a change to the "supports needed" section of at least one community setting. For example, John needed help remembering to bring his phone and wear appropriate clothing for working out. He listed that his peer could help remind him of this before leaving campus. Going forward, this is what happened before each session at that community location. This was an important because it allowed the young adults with ESN to not only advocate for themselves but take control of their own plans with the proper support. The collaborative approach allowed team members to have a voice in the process of CBI. For example, Mark indicated that he needed

additional support to reach his goal at the YMCA during his mid-study check in. The team collaborated and brainstormed innovative ideas on how to help Mark feel safe on the treadmill, as he was nervous about using this at times when he might fall. The team suggested that he use the handrails and that he approaches the machine from the side instead of the back to make sure that he felt more comfortable and secure getting on and off the machine. Mark stated that he not only felt heard while discussing this, but that this change helped him to reach his goal in using the treadmill more successfully in subsequent sessions.

Parent/Guardian Involvement

Active parent/guardian involvement contributes to increased positive postschool outcomes for students with disabilities (Bouck et al., 2020; Rossetti et al., 2016). In this study parents were asked to be a part of a collaborative planning team for CBI that involved the program director, the young adult with ESN, the parent/guardian, and the peer. The team met three times throughout the study to discuss the purpose of the ongoing CBI for the student with ESN, set goals, and discuss progress or changes to the plan.

Parents as Team Members

Given the nature of the postsecondary program setting in which the study occurred, the parent/guardians of both participants with ESN reported that they did not have an active role in planning for and supporting their student daily while they are enrolled in the residential college experience. Being distanced from their child with ESN was not only difficult, but they had to learn to trust that they could still be active team members for planning for/with their child for successful outcomes after completion of this program. For both young adults with ESN their mothers took part in the collaboration process for this study. Both were shy and quiet at first during planning meetings, hesitant to engage in the discussion around CBI, as they stated that

they knew what this was, but did not have a great deal of experience in implementing it. Both parents expressed hesitancy during the discussion around CBI due to the novelty of independent community experiences for their young adults with ESN. While they believed that their young adult could be successful in the community, they had limited experiences in the past teaching these skills across community settings themselves. Both parents stated that most of the community engagement had come in the form of school-based, or community group opportunities throughout their young adult's life thus far, rather than from purposefully planned opportunities delivered by the parent/guardian/family. As the study progressed and the team continued to meet, however, both parents took a more active role as team members in this process, encouraging their young adult to collaborate with their peer and re-emphasizing the importance of these skills in community settings. Per the social validity results parents also indicated that they understood the value in the skill sets needed for leisure settings for their young adult with ESN.

Limitations

There were several limitations of this study. First, funding and the financial burden of CBI on implementers will forever be a limitation. While CBI may be implemented both in the classroom and the community, the primary goal of CBI is to implement this instruction in the community setting to allow for greater generalization (Hernandez, 2019). This implementation requires the securement of funding for community activities, gas, and people's time. For this study I was fortunate to secure funding sources that supported the mission and purpose of this research; however, this is not always the case. Funding for this study was secured through the department of the primary researcher (at the beginning of the study), as well as a grant that was presented to the primary researcher from the Division on Career Development and Transition

through the Council for Exceptional Children (about mid-way through the study). These funds allowed for the study to be fully funded for each community activity, gas for peers using their own vehicles, YMCA memberships, stipends for participants, and even provide additional money (approximately $200) to the postsecondary program for future leisure outings for students with ESN. Despite the success of securing funding for this study the limitation of funding such CBI practices remains for many teachers and individuals planning for and implementing CBI. For this study the funding costs for stipends for participants, gas for personal vehicles, membership costs, and activity costs (bowling) was approximately $1,300. The timing of the available funding was also a limitation because it was difficult to plan for such outings in the community without the security of the funding, as all the funding was not available at the start of the study.

Second, transportation was a limitation of this study. While conceiving and planning for this study I researched the city bus system in the local area to ensure that participants with ESN and their peers could access community settings for free. During some pre-baseline sessions in which we assessed skills to determine our targeted community skills peers and participants with ESN rode the city bus; however, this quickly presented itself as a limitation. The timing of the study, in alignment with the college schedule, allowed for a prolonged winter break for students. Upon returning from break students (both peers and students with ESN) had new spring schedules. These new schedules did not align with the availability of the city bus system's routes and times. The city bus system also had elongated periods of time in which someone would not be able to access the bus for upwards of an hour if they missed a ride. Given these variables and concerns I did not want anyone to feel pressured for time or stranded once we were in a community location, and therefore we decided not to use the public bus system for transportation. We also had planned on using peers' personal cars as a method of transportation if

necessary. Once consents were signed this is the mode of transportation that we used for both peers and participants to access their community locations; however, when using any type of personal transportation there are concerns and limitations. First, the availability of the peer to transport the young adult with ESN was a limitation. If they were not available then the session could not occur. Second, the vehicle had to be working. During one session a peers' car battery died, which created a roadblock for the peer and the young adult with ESN to get back to campus. Lastly, this reliance on personal transportation may not always be an option for everyone accessing the community. Having multiple options for transportation when engaging in CBI activities should be considered. These options could include the public bus system, ride share options, or choosing locations that are only within walking distance to and from the university campus in the future.

Third, several limitations occurred related to the research design chosen for this study. This design utilized was a single-case design with a small, limited number of participants relative to the general geographic location of this specified community. The results from this study may not generalize to larger populations of individuals with ESN. Additionally, the resources and procedures available at these specified community locations may be different than other community locations that are targeted for individuals with ESN. The individualization of goal setting and planning was also unique to these specified individuals with ESN and may not be generalizable to all individuals with ESN. Overall, the research design utilized for this study (multiple probe) did not provide an opportunity to isolate the effective interventions given that they were delivered in a multi-intervention package to support individuals with ESN. By presenting information in the form of a package it was not possible to identify if any EBPs were more or less effective (on their own) for increasing CBI outcomes for this population.

Fourth, attrition and study design were limitations of this study. At the beginning of the study three peers consented to be involved in the study. This aligned nicely with the three young adults with ESN who were recruited for the study as well. Despite this, after informal observations were made in the community locations and peer training had begun, one peer dropped out of the study due to personal circumstances. Due to a lack of available peers, scheduling conflicts, and the study design, no additional peers were able to be recruited and the third young adult with ESN also was dropped from the study. This was unfortunate for the young adult with ESN in that he could not fully participate in the study. He did, however, access some of the same community locations throughout the study. The lack of peer availability to meet the needs of the study and help him to access these community locations was a limitation from the start of the study. In addition to this, throughout the study both remaining peers stated that they felt overwhelmed at times due to the schedule of the intervention in visiting community sites. For future research investing in additional opportunities for peers to work together (to decrease the burden on just one peer to perform in a dyad) as well as additional opportunities to capture feedback from peers is necessary in an ongoing manner throughout the study so that these concerns can be met/addressed as they come up.

Fifth, a further limitation of this study includes recognizing previous peer experience working with individuals with disabilities. Both peers served as academic mentors for the postsecondary program and had some experience (thought it was limited) working with individuals with disabilities outside of this study. They were both also eager special education majors with access to continuing education about implementing EBPs in their practice. This is a limitation of the study because if the participants with ESN were paired with outside peers or peers without this experience or knowledge-base the training and support for peers would have

looked different. There might also have been different implications in place as it could be assumed that additional training and support for peers would have been necessary throughout the study. In this study the peers that were chosen needed minimal support past BST and only one session of retraining for ensuring procedural fidelity.

Lastly, the availability of peers and the adherence to college regulations, schedules, and practices, is a limitation of this study. This study was conducted according to the availability of peers to serve as interventionists, in conjunction with the college and program calendar at their university. At the conclusion of the study both peers stated that the requirements of the study were time consuming, which was heard and addressed at the mid-point check-in of the study as well. Schedules were adjusted for session times according to peer (and participant) needs to fit the study/community locations into their already busy schedules. As individuals with ESN consider their options beyond their K-12 experiences, these barriers or opportunities may not be in place or look the same. For example, individuals with ESN may be employed only 2 days a week at a job site and have access to these community leisure settings on the other days of the week, unlike the schedule that they followed previously when in school or on a college campus. They may not have opportunities to interact with peers on a regular basis as adults in the same manner that they did when they were in high school or a structured program through a purposefully scheduled, director or teacher-initiated block of time for peer interaction. Also, access to community sites for leisure activities and choices may differ amongst individuals with ESN as they get older, the same as it does for individuals without disabilities; therefore, the results of this study cannot be generalized across all leisure settings and skills that a participant may encounter for years to come.

Suggestions for Future Research

Suggestions for future research include continuing to work on a collaborative planning model and process for CBI. This study only began to investigate the effectiveness of planning and collaboration for CBI amongst team members. Additional stakeholders may be brought in, such as case managers, college instructors, paraprofessionals, siblings and family members, and transition support staff (e.g., vocational rehabilitation) as a part of this necessary collaboration process. Additionally, the impact of this process on stakeholders perspective of CBI planning should continue to be evaluated through social validity measures. The involvement of stakeholders throughout the planning and implementation process may also vary so that each team member may have a more active role for supporting the student with ESN.

More research also is needed to create a plan of practice for team members that addresses skills outside of only leisure skills. This plan should include specifically isolating the EBPs that lead to the increased positive outcomes and the attainment of these new skills. In this study an intervention package consisting of 3 EBPs plus components of goal setting and collaboration were utilized. Due to the design of the study it is difficult to determine if any of these practices produced the outcomes of the study independently. Future research may follow a different research design, such as alternating treatments or changing criterion design, in order to isolate specific EBPs that may result in identified outcomes.

Next, a plethora of leisure settings may be identified for individuals to which they can interact with and engage in. Future research should consider alternative leisure settings in which individuals with ESN can develop necessary skills for adulthood. Additionally, more research is needed with younger populations of students with ESN. While CBI has been researched in elementary school settings (Schwind, 2018) this research is limited. Understanding the

effectiveness of CBI planning and implementation at all ages is important to ensuring its' success across students and young adults with ESN. If students can begin to engage in community experiences at an earlier age that will also enhance their opportunities to be successful as adults in these community settings.

Additionally, this research should be conducted with different populations of students, such as those with more mild intellectual disability and with a variety of EBPs in place that support CBI. Such EBPs may include time delay (Browder et al., 2009; Spooner et al., in press), video modeling (Park et al., 2017), response prompting (Brock & Carter, 2015; Cihak et al., 2004; Jimenez & Alamer, 2018), and simulations (Morse & Schuster, 2000).Lastly, more research is needed in the area of peer supports as implementers of instruction for CBI. The use of peers in academic and social settings have been well researched. As an alternative to teacher-delivered instruction, peer-delivered instruction provides a means of a natural support system for students and young adults with ESN in the leisure settings in which they choose to engage.

Implications for Practice

Results from this study could provide several implications for practice. First, the use of peer-delivered instruction is an alternative to teacher-delivered instruction. In the postsecondary setting this creates a reliance on peers as implementers as opposed to college instructors or program directors, which may be burdensome to some peers as it requires a larger time commitment. Despite this many peers often have opportunities to support and engage with their peers with ESN on a weekly basis through scheduled mentoring and support blocks outside of attending classes. This time can be used to explore the development of future leisure skills to offset the demand for time from both peers and young adults with disabilities in these community settings. The switch to more peer-focused implementation of community-based

instruction also shifts the focus on other aspects of CBI, such as planning and goal setting with students, to the teacher, director, or parent/guardian so that everyone has a more well-rounded role in CBI planning.

Second, the continued use of instruction in community settings provides insight into what is effective when teaching CBI. Teachers, peers, and parents/guardians can use instruction across settings to develop community-based skills for individuals with ESN. Several evidence-based practices used within this study (video modeling, visual supports, and system of least prompts) support the effectiveness of such practices for CBI for young adults with ESN. Future research could help isolate and identify these practices more specifically if implemented independently rather than as a package. Training should be provided for those supporting individuals with ESN (of any age) in these evidence-based practices so that they can become familiar with and practice these skills on a regular basis. This study also supports the practical use of BST for training of peers in a quick and efficient manner, which can be used with other teachers, parents/guardians, and others as well going forward. BST was effective in this study in training peers initially, as well as supporting them throughout the study with implementation.

Third, the collaborative planning process may be used as a series of meetings along with IEP meetings to discuss CBI for younger learners. At the postsecondary level this can be used in combination with Person Centered Planning (PCP) meetings, held annually for students with ESN. As community engagement should be a part of the IEP/transition plan for students with disabilities, CBI should be discussed at IEP meetings. In postsecondary settings this should be a discussion point when addressing the PCP for an individual with ESN from start to finish. Including these goals separately may or may not be practical for all educators and program directors but should be an option that is explored as it related to CBI opportunities.

Lastly, administrators, district-level staff, and program directors supporting students with ESN at all levels should consider the results of this study in planning their opportunities for funding and securing CBI trips for students with ESN. Many district-level and school-level administration make the decision about community access (who, how often, when, why, etc.). Ongoing CBI , not just young adults with ESN, should be a top priority when planning curriculum and community involvement for all students with ESN.

Summary

In summary the effectiveness of an intervention package consisting of evidence-based practices (video modeling, visual supports, and system of least prompts) and collaborative goal-oriented planning was supported by the findings in this study for young adults with ESN. Using peers as implementers, two young adults with ESN effectively learned three new community-based skills across leisure settings at places of their interests, the bowling alley, the park, and the YMCA/recreational facility. Both participants were successful in generalizing and maintaining these skills as well. Overall, while some limitations continue to exist for effective implementation of CBI for individuals with ESN, there are many ways in which these practices can be supported so that all individuals can feel more supported in community activities. By addressing the gaps in the literature, such as the need to teach skills in the leisure domain of CBI, and using peers as natural implementers and teachers, educators, parents/guardians, and other key team members can deliver more appropriate and natural instruction related to success across environments that interest and engage our students with ESN. Continued work should be conducted in CBI to determine how the results of this study can continue to support the efforts of those implementing CBI practices for students and young adults with disabilities for years to come.

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APPENDIX A: PARENTAL/GUARDIAN CONSENT

CHARLOTTE
CATO COLLEGE OF EDUCATION
SPECIAL EDUCATION AND CHILD DEVELOPMENT

9201 University City Blvd, Charlotte, NC 28223
P: 704-687-8831 spcd.charlotte.edu

Consent to be Part of a Research Study

Parent/Guardian

Title of the Project: The effectiveness of an instructional support package for community-based instruction for young adults with ESN (extensive support needs)

Investigators:

Ashley Anderson, Doctoral Candidate, Special Education and Child Development, UNC Charlotte

Dr. Fred Spooner, Professor of Special Education, UNC Charlotte

Emily Wall, Doctoral Student, Special Education and Child Development, UNC Charlotte

What is this study and why are we doing this study?

Your son/daughter is invited to participate in a research study. The purpose of this study is to examine the effects of an intervention package utilizing community-based instruction (CBI), peer supports, and collaborative planning on outcomes for young adults with intellectual disability (also known as "extensive support needs") in leisure settings. This study will contribute to the current field of literature using a variety of interventions to teach skills in community settings for students with disabilities. More specifically, this study will examine how peers may be implementers of this instruction in these natural community settings, how team planning can and should be a part of effective community-based instruction planning, and how young adults with more significant intellectual disability may benefit from this intervention. This study will require your son/daughter to receive instruction at the university with their peer, access community settings with a peer mentor, and participate in goal setting with their support team. Students will not miss academic activities or other activities on campus by choosing to participate in this

study. There is no cost for participants in this study. Participants will receive an incentive (gift card) for participating.

Participation in this research study is voluntary. Choosing not to participate in this research study will not affect your son/daughter's involvement in the Think College program or their involvement at the university in any way. The information provided is to help you decide whether or not to participate. If you have any questions, please ask the principal investigator.

Why is your son/daughter is being asked to be in this research study.

Your son/daughter is being asked to participate in this study in order to enhance their skills in community settings. As a part of this study participants will work with a nondisabled peer (their peer mentor) to learn three new skills across three community settings that they may frequent during and/or after college. These skills are vital to ensuring effective and successful integration into the community in leisure settings, an area of research not too commonly addressed. Leisure skills, or knowing what to do in your free time, is essential to ensuring a higher quality of life.

Eligibility Criteria for Participants:

(a) received special education services under the IDEA exceptionality categories of autism, intellectual disability, or multiple disabilities previously in a K-12 setting

(b) participated in the alternate assessment-alternate achievement standards previously in a K-12 setting

(c) currently enrolled in the postsecondary education program for students with intellectual disability

(d) report a willingness to improve community-based skills, work with a peer, and use public transportation to access community settings

(e) report an inability to access and perform necessary skills in community-based settings fully independently

(f) between the ages of 18-26

(g) consent to regular meetings throughout the study to collaboratively plan key team members supporting them

What will happen if your son/daughter takes part in this study?

Participants in this study will work alongside a peer mentor in three community settings (the bowling alley, recreation center, local park) to learn three new skills. These skills will be established at the beginning of the study by observing both the peer mentors and participants with disabilities in these settings to choose the three most needed skills. Examples may include

how to make a purchase, how to identify an activity, engage in a social conversation safely, or find and utilize a resource. Participants will receive transportation to these community settings each week as part of this study with their peer mentor. Prior to performing the skill in the community they will watch a video as a part of the intervention (video modeling) with their peer available to answer any questions. In the community setting, they will use a visual support (e.g., step by step picture list or other visual reminder) with the guidance of their peer (using a prompting system) to perform the skill on their own. The entire study will last approximately 10 weeks, including a 2-and 3-week follow up period to assess maintenance of the skill and generalization of the skill across new people. Each community location is approximately 5-10 min from campus and they will be with their peer the entire time. The primary investigator will also be present during the intervention(s) on campus and in the community.

In addition to the intervention(s) that participants will take part in they will be asked to engage in some goal setting as a part of a team collaboration process alongside key team members (parent/guardian, the Think College instructor/director, and their peer). They will be asked to be involved in 3 meetings throughout the study, each held on Zoom, to express their thoughts on their goals for community-based instruction in these settings.

There is no cost to this study for participants. All transportation passes, entrance passes to community locations, activity costs, and other costs will be covered by funding secured by the principal investigator.

Transportation for the study will include access to the city bus system from the university campus to the three community locations that include the bowling alley (XXX Sports Center; 3.6 miles round trip from the university), the local park (XXX Park; 3.0 miles round trip), and the recreation center (YMCA; 1.2 miles round trip-XXX Avenue). If transportation is not available via the city bus for participants the peer may be able to provide transportation off campus to the community site if necessary (please see below for consent for this). This would only be needed if the bus system was not available. We may also utilize a rideshare service if necessary, but only as a last resort.

Lastly, the primary investigator might need to access documentation from the Think College program and/or the Office of Accessibility (or from you as the parent/guardian) to use for demographic purposes for verifying eligibility for the study (that they are a student with extensive support needs) and writing up the results of the study. This information will be obtained from the program director, the Office of Accessibility, or from you, if appropriate. This may include asking for a copy of their last IEP, previous testing/evaluations, Office of Accessibility Letter of Accommodations, and goal setting worksheet(s) completed as part of the instruction in the Think College program this year. This information will only be used for demographic and/or inclusion criteria purposes. It will be stored in a confidential cloud-based system with identifying participant information crossed out in a separate folder. Pseudonyms will

be used amongst team members on these documents to protect the identity of participants on these documents. These documents will not be shared with anyone outside of the research team.

Additionally, you (as the parent/guardian) may be asked to assist with generalization measures in the community at the conclusion of the study. This is to help the research team determine if your son/daughter can use these community skills with different people in different settings. For this you will be asked to take your son/daughter into a new community leisure setting to demonstrate one of the identified community leisure skills that he/she was taught during the study (just one time). If you choose not to participate in this generalization measure we may ask another family member or friend to assess this with your son or daughter.

The total time commitment for your son/daughter for this study is estimated to be between 7-12 hours and includes time spent in intervention in community settings, generalization and maintenance data collection, time spent completing a social validity survey, and time spent participating in Zoom meetings for goal setting and collaboration.

What benefits might your son/daughter experience?

Benefits may include learning new skills across community leisure settings, increased social opportunities to interact with their peer mentor and/or others in the community setting(s), and increased confidence in these settings related to goal setting and goal achievement.

What risks might your son/daughter experience?

Potential risks from this study include any natural risks associated with engagement in community settings and transportation risks. Involvement in community-based instruction includes accessing transportation to community locations. Transportation risks may include transportation breaking down, accidents, or other unforeseen circumstances. To minimize these risks the principal investigator will ensure that the peer mentor and the participant are riding together and are familiar with the route on the city bus. Each route to community locations will last no longer than 5-10 min as community locations are near campus. The principal investigator will ride behind the city bus to each community location with each session to help minimize risks as well. Each participant and peer mentor will also have access to emergency phone numbers and information to help minimize any risks during rides into the community. Community risks also include engaging with others across settings. **If, at any point while in the community, the principal investigator feels that the setting is unsafe for participants and peers, the session will be stopped and everyone will leave that community setting. A different community**

setting might be chosen if that setting is no longer accessible for participants and, if so, this decision will be communicated to all participants and guardians prior to accessing this setting.

Can my son/daughter be removed from study once consenting to participate?

Yes. Participants engaging in unsafe behaviors may be removed from the study. Due to the fact that this study will take place in community settings, unsafe behaviors may endanger not only the participants, but also their peers and/or community members around them. Such behaviors may include running into traffic, purposefully engaging in destruction of public property, use of extensive foul language, or more. The principal investigator, along with the study team, may remove participants if this occurs to ensure the safety of everyone in the community setting.

How will my son/daughter's information be protected?

The research team will use pseudonyms for every participant, thus ensuring the confidentiality of participants.

We plan to publish the results of this study. To protect your son/daughter's privacy, we will not include any information that could identify them. We will protect the confidentiality of the research data by not using your son/daughter's name on any paper data collection forms. All forms will be stored within a secure cloud -based service that only members of the research team will be allowed to access throughout the study and publication process.

Other people may need to see the information we collect about your son/daughter. These people may include members of the research team. Only members of the research team will have access to these videos/audio recordings and any data collection from this study. Paper copies of data collection will be uploaded into the cloud-based service once complete and the originals kept in a locked drawer in the primary investigators office.

How will my son/daughter's information be used after the study is over?

After this study is complete, data collected regarding this study will be kept in a confidential cloud-based service folder for only members of the research team to access. These records may be stored for up to 5 years as the team works on publication and dissemination of the results.

Will my son/daughter receive an incentive for taking part in this study?

Yes. All participants will receive a $25 Amazon gift card (or more if additional funding is secured for the study) at the end of the study for their participation. Participants completing at

least 75% of the study (during intervention) will receive this incentive at the conclusion of the study.

What are my rights if I take part in this study?

It is up to you to decide if your son/daughter will be in this research study. Participating in this study is voluntary. Even if you decide to be part of the study now, you may change your mind and stop at any time. You do not have to answer any questions you do not want to answer.

Who can answer my questions about this study and my rights?

For questions about this research, you may contact the principal investigator, Ashley Anderson, UNC Charlotte Doctoral Candidate, at 919-323-2564 or aande106@charltote.edu. You may also reach out to Dr. Fred Spooner, a member of the research team, and advisor, at fhespoone@charlotte.edu.

If you have questions about your son/daughter's rights as a research participant, or wish to obtain information, ask questions, or discuss any concerns about this study with someone other than the researcher(s), please contact the Office of Research Protections and Integrity at 704-687-1871 or uncc-irb@uncc.edu.

Please return this consent form to Ashley Anderson, principal investigator, by emailing it back via email (aande106@charlotte.edu).

Please provide consent to the following items by initialing beside each one:

_____I acknowledge that this study involves participation across multiple community sites, including the Think College office, the bowling alley, the local park, and the recreation center.

____I acknowledge that this study requires my son/daughter to use city transportation to access these community locations (free of charge) with their peer mentor.

____If city transportation is unavailable I consent for their peer mentor to provide transportation to the community location if available. DO NOT MARK IF YOU ARE NOT OKAY WITH THIS. THIS WILL NOT IMPACT YOUR PARTICIPATION IN THE STUDY.

____I acknowledge that the research team may need to access previous documentation from the Think College office, myself, or the Office of Accessibility at the university to ensure that my son/daughter meets eligibility criteria for the study and for demographic purposes for writing up the results of the study. This may include asking for a copy of their last IEP or evaluations. This information will be kept confidential in a separate folder in the cloud-based system and only shared amongst members of the research team. By initialing here I agree that the research team may access these documents.

____I acknowledge that I may be asked to take part in a survey, the Support Intensity Scale-A (SIS-A®) at the beginning of the study to help determine my son/daughter's needs for community instruction and support. Choosing not to complete this will not affect my son/daughter's participation in the study overall.

___I acknowledge that I may be asked to take a measure of generalization at the end of the study with my son/daughter in a new leisure setting in the community for 1 session.

Parent or Legally Authorized Representative Consent

By signing this document, you are agreeing to [your child's **OR** the person's named below] participation in this study. Make sure you understand what the study is about before you sign. You will receive a copy of this document for your records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

I understand what the study is about and my questions so far have been answered. I agree for [my child OR the person named below] to take part in this study.

_____

Son/Daughter (Participant Name) (PRINT)

_____

Parent/Legally Authorized Representative Name and Relationship to Participant (PRINT)

_____

Signature of Parent/Guardian Date

Optional Consent to be Audio Recorded, and/or Video Recorded

With your permission, the primary investigator or other research team members may take audio recordings or video recordings of your son/daughter while participating in the study. Any of the above will only be used for research documentation to ensure fidelity of implementation. There is a separate space to sign for permission to disseminate recordings for research purposes at conferences with other professionals. Video/audio recording will not be shared with anyone other than members of the research team listed above unless you sign to give permission in the next section. These will all be stored in the confidential cloud-based service (Dropbox), same as the data collection materials.

Participants have the right to refuse to allow audio recordings or video recordings without penalty. *Please note your son/daughter can still participate in the study if you decline to allow audio recordings or video recordings.* Please select one of the following options:

_____ I consent to the use of audio recording for research purposes.

_____ I consent to the use of video recording for research purposes.

_____ I do not give the researchers permission to photograph, audio record, or video record my son/daughter.

_____

Signature Date

Dissemination of Audio Recordings and/or Video Recordings

With your permission, the primary investigator or other research team members will share the audio recordings, and/or video recordings at academic conferences for purposes of dissemination and sharing results of this study.

Participants have the right to refuse dissemination of audio recordings and video recordings without penalty. *Please note your son/daughter can still participate in the study if you decline dissemination of audio recordings or video recordings.* Please select one of the following options:

_____ I consent to the use of audio recording for dissemination purposes.

_____ I consent to the use of video recording for dissemination purposes.

_____ I do not give the researchers permission to disseminate any audio recordings or video recordings of my son/daughter. I understand any audio recordings or video recordings I have consented to in the above section will only be shared among research team members.

_____

Signature Date

APPENDIX B: PARTICIPANT CONSENT AND ASSESNT

ASSENT FOR STUDENTS WITH ESN (NOT OWN GUARDIAN)

9201 University City Blvd, Charlotte, NC 28223
P: 704-687-8831 spcd.charlotte.edu

Assent to be Part of a Research Study

Participants with ESN (extensive support needs)

Please use your select to speak available on your computer to read this information out loud or have someone read this with you.

Title of the Project: The effectiveness of an instructional support package for community-based instruction for young adults with ESN (extensive support needs)

Investigators:

Ashley Anderson, Doctoral Candidate, Special Education and Child Development, UNC Charlotte

Dr. Fred Spooner, Professor of Special Education, UNC Charlotte

Emily Wall, Doctoral Student, Special Education and Child Development, UNC Charlotte

What is this study and why are we doing this study?

You are being invited to be a part of a research study. The purpose of this study is to examine the effects of community-based instruction across 3 community leisure settings near campus. You will work with your peer mentor to learn new skills on campus and in these settings. There is no cost for this study. Participating in this study will not interfere with your other activities in college. You will receive a gift card for participating in this study.

Participation in this research study is voluntary. Choosing not to participate in this research study will not affect your involvement in the Think College program or in college in any way.

Why are we doing this study?

This study will help researchers to understand how we can best support you in these settings in the community to be successful.

Why am I being asked to be in this study?

You are being asked to be in this study because we know that leisure skills are important. These are skills that you need during your free time in places like the park, the bowling alley, and the recreation center. When you graduate from the Think College program you will be able to access these places on your own and we want to make sure that you have the skills to do so as independently as possible.

What will happen if I take part in this study?

You will work alongside your peer mentor on a regular basis to learn 3 new skills in the community. You will be asked to commit 7-12 hours for this study, which includes going into the community to build leisure skills, working with your peer, completing a survey, and taking part in Zoom meetings.

What benefits will I experience?

Benefits may include social opportunities with your peer mentors, learning new skills, and increasing your ability to set and achieve goals in the community.

What risks are there?

Potential risks from this study include natural risks associated with transportation, and any risks in the community settings. **If, at any point while in the community, the researcher feels that the setting is unsafe for participants and peers, the session will be stopped and everyone will leave that community setting.**

Can I be removed from study once consenting to participate?

Yes, you may be removed from the study if you are engaging in unsafe behaviors.

How will my information be protected?

We will not use your real name for this study on documentation.

Will I receive an incentive for taking part in this study?

Yes. All participants will receive a $25 Amazon gift card (or more) at the end of the study for their participation. Participants completing at least 75% of the study during intervention will receive this incentive at the conclusion of the study.

What are my rights if I take part in this study?

It is up to you to decide if you want to be in this research study. Participating in this study is voluntary. Even if you decide to be part of the study now, you may change your mind and stop at any time. You do not have to answer any questions you do not want to answer.

Who can answer my questions about this study and my rights?

Contact the principal investigator at aande106@charlotte.edu or 919-323-2564.

Please provide consent to the following items by initialing beside each one:

_____I acknowledge that this study involves participation across multiple community sites, including the Think College office, the bowling alley, the local park, and the recreation center off campus.

____I acknowledge that this study requires me to use city transportation to access these community locations (free of charge) with my peer mentor.

____If city transportation is unavailable I am comfortable with riding with my peer mentor to the community location if necessary. DO NOT MARK IF YOU ARE NOT OKAY WITH THIS. THIS WILL NOT IMPACT YOUR PARTICIPATION IN THE STUDY.

____I acknowledge that the research team may need to access previous documentation from the Think College office (or myself) to ensure that I can be in the study. This may include asking for a copy of my last IEP, previous testing/evaluations, Office of Accessibility Letter of Accommodations, and goal setting worksheet(s) completed as part of the instruction in the Think College program this year. This information will be kept confidential and only shared amongst members of the research team.

____I acknowledge that I will be asked to take part in a survey about the study

Assent to be a part of this study.

Would like to be a part of this study? 

It is okay to record me (audio and visual) 

It is okay to share about this study with others 

If you would like to be in this study please sign below:

_____Name _____Date

APPENDIX B: PARTICIPANT CONSENT AND ASSENT

CONSENT FOR STUDNETS WITH ESN (OWN GUARDIAN)

9201 University City Blvd, Charlotte, NC 28223
P: 704-687-8831 spcd.charlotte.edu

Consent to be Part of a Research Study

Participants with ESN (extensive support needs)

Please use your select to speak available on your computer to read this information out loud or have someone read this with you.

Title of the Project: The effectiveness of an instructional support package for community-based instruction for young adults with ESN (extensive support needs)

Investigators:

Ashley Anderson, Doctoral Candidate, Special Education and Child Development, UNC Charlotte

Dr. Fred Spooner, Professor of Special Education, UNC Charlotte

Emily Wall, Doctoral Student, Special Education and Child Development, UNC Charlotte

What is this study and why are we doing this study?

You are being invited to be a part of a research study. The purpose of this study is to examine the effects of community-based instruction across 3 community leisure settings near campus. You will work with your peer mentor to learn new skills on campus and in these settings. There is no cost for this study. Participating in this study will not interfere with your other activities in college. You will receive a gift card for participating in this study. Participation in this research study is voluntary. Choosing not to participate in this research study will not affect your involvement in the Think College program or in college in any way.

Why are we doing this study?

This study will help researchers to understand how we can best support you in these settings in the community to be successful.

Why am I being asked to be in this study?

You are being asked to be in this study because we know that leisure skills are important. These are skills that you need during your free time in places like the park, the bowling alley, and the recreation center. When you graduate from the Think College program you will be able to access these places on your own and we want to make sure that you have the skills to do so as independently as possible.

What will happen if I take part in this study?

You will work alongside your peer mentor on a regular basis to learn 3 new skills in the community. You will be asked to commit 7-12 hours for this study, which includes going into the community to build leisure skills, working with your peer, completing a survey, and taking part in Zoom meetings.

What benefits will I experience?

Benefits may include social opportunities with your peer mentors, learning new skills, and increasing your ability to set and achieve goals in the community.

What risks are there?

Potential risks from this study include natural risks associated with transportation, and any risks in the community settings. **If, at any point while in the community, the researcher feels that the setting is unsafe for participants and peers, the session will be stopped and everyone will leave that community setting.**

Can I be removed from study once consenting to participate?

Yes, you may be removed from the study if you are engaging in unsafe behaviors.

How will my information be protected?

We will not use your real name for this study on documentation.

Will I receive an incentive for taking part in this study?

Yes. All participants will receive a $25 Amazon gift card (or more) at the end of the study for their participation. Participants completing at least 75% of the study during intervention will receive this incentive at the conclusion of the study.

What are my rights if I take part in this study?

It is up to you to decide if you want to be in this research study. Participating in this study is voluntary. Even if you decide to be part of the study now, you may change your mind and stop at any time. You do not have to answer any questions you do not want to answer.

Who can answer my questions about this study and my rights?

Contact the principal investigator at aande106@charlotte.edu or 919-323-2564.

Please provide consent to the following items by initialing beside each one:

_____I acknowledge that this study involves participation across multiple community sites, including the Think College office, the bowling alley, the local park, and the recreation center off campus.

____I acknowledge that this study requires me to use city transportation to access these community locations (free of charge) with my peer mentor.

____If city transportation is unavailable I am comfortable with riding with my peer mentor to the community location if necessary. DO NOT MARK IF YOU ARE NOT OKAY WITH THIS. THIS WILL NOT IMPACT YOUR PARTICIPATION IN THE STUDY.

____I acknowledge that the research team may need to access previous documentation from the Think College office (or myself) to ensure that I can be in the study. This may include asking for a copy of my last IEP, previous testing/evaluations, Office of Accessibility Letter of Accommodations, and goal setting worksheet(s) completed as part of the instruction in the Think College program this year. This information will be kept confidential and only shared amongst members of the research team.

____I acknowledge that I will be asked to take part in a survey about the study

Consent to be a part of this study.

Would like to be a part of this study?	YES	NO
It is okay to record me (audio and visual)	YES	NO
It is okay to share about this study with others	YES	NO

If you would like to be in this study please sign below:

_____Name _____Date

APPENDIX C: TEAM MEMBER CONSENT FORM

9201 University City Blvd, Charlotte, NC 28223
P: 704-687-8831 spcd.charlotte.edu

Consent to be Part of a Research Study

Team Member

Title of the Project: The effectiveness of an instructional support package for community-based instruction for young adults with ESN (extensive support needs)

Investigators:

Ashley Anderson, Doctoral Candidate, Special Education and Child Development, UNC Charlotte

Dr. Fred Spooner, Professor of Special Education, UNC Charlotte

Emily Wall, Doctoral Student, Special Education and Child Development, UNC Charlotte

What is this study and why are we doing this study?

You are invited to participate in a research study. The purpose of this study is to examine the effects of an intervention package utilizing community-based instruction (CBI), peer supports, and collaborative planning on outcomes for young adults with intellectual disability (also known as "extensive support needs") in leisure settings. This study will contribute to the current field of literature using a variety of interventions to teach skills in community settings for students with disabilities. More specifically, this study will examine how peers may be implementers of this instruction in these natural community settings, how team planning can and should be a part of effective community-based instruction planning, and how young adults with more significant intellectual disability may benefit from this intervention. Participation in this research study is voluntary. The information provided is to help you decide whether or not to participate. If you have any questions, please ask the principal investigator.

Why are we doing this study?

The purpose of this study is to examine the effects of an intervention package utilizing community-based instruction (CBI), peer supports, and collaborative planning on outcomes for

young adults with intellectual disability (also known as “extensive support needs”) in leisure settings. This study will contribute to the current field of literature using a variety of interventions to teach skills in community settings for students with disabilities. More specifically, however, this study will examine how peers may be implementers of this instruction in these natural community settings, how team planning can and should be a part of effective community-based instruction planning, and how young adults with more significant intellectual disability may benefit from this intervention.

Why am I being asked to be in this research study?

You are being asked to be in this study as a part of the intervention package for community-based instruction. This package includes community-based instruction interventions (video modeling, visual supports, and system of least prompts), the use of peer supports, and collaborative team planning meetings. As a part of this study participants with disabilities from the Think College program will work with a nondisabled peer (their peer mentor) to learn three new skills across three community settings that they may frequent during and/or after college. These skills are vital to ensuring effective and successful integration into the community in leisure settings, an area of research not too commonly addressed. Leisure skills, or knowing what to do in your free time, is essential to ensuring a higher quality of life. You are being asked to a part of this study to serve as a key team collaborator as a part of this intervention package.

Eligibility Criteria for Team Members:

(a) serve as a current (or within the last year if the student attended the postsecondary program last year) instructor, educator, program director, or mentor to the participating student with disabilities through the university

(b) communicate with the student with disabilities regularly

(c) willingness to meet a minimum of three times throughout the intervention for collaborative planning purposes with all key team members via Zoom

What will happen if I take place in this study?

Your participation in this study is crucial to the success of the intervention.

As a key team member you will be asked to participate in 3 Zoom meetings throughout the study. These will occur at the beginning of the study (before intervention begins), the middle of the study, and the end of the study. These will last approximately 15-30 min and will require you to collaborate with other team members to help the student with disabilities with goal setting for community-based instruction. There is no cost for participating in this. You will be asked to

participate in these meetings via the online format using Zoom, so an internet connection is required; however, if necessary these meetings can be adjusted (e.g., moved to face-to-face) if an internet connection is not accessible for all team members. You will also be asked to complete a brief social validity survey at the end of the study to provide feedback and your reflect on your perception of the intervention(s).

The total time commitment for team members is estimated between 2-3 hours and includes attending the Zoom meetings, assisting with generalization data (parents/family members), completing a social validity survey, and completing the *SIS-A®* (see below) (parents/guardians only).

Parents/Guardians as Team Members:

Parents/guardians (of students in the Think College program serving as team members) will be also be asked to complete the Support Intensity Scale (*SIS-A®)* prior to intervention to provide the research team with necessary information related to the level of support needed for your child with disabilities related to community integration.

What benefits might you experience?

Benefits include increased opportunities to provide input for community-based instruction and inclusion.

What risks might you experience?

No potential risks.

Can I be removed from the study?

No. Your engagement is requested at three Zoom meetings throughout the study. We do not anticipate needing to be removed from these meetings for any reason.

How will my information be protected?

The research team will use pseudonyms for every participant, peer, and team member, thus ensuring the confidentiality of everyone involved in the study.

We plan to publish the results of this study. To protect your privacy we will not include any information that could identify any participants. We will protect the confidentiality of the research data by not using any real names on any paper data collection forms. All forms will be stored within a secure cloud -based service that only members of the research team will be allowed to access throughout the study and publication process.

Other people may need to see the information we collect. These people may include members of the research team. Only members of the research team will have access to these videos/audio recordings and any data collection from this study. Paper copies of data collection will be uploaded into the cloud-based service once complete and the originals will be kept in a locked drawer in the primary investigator's office for up to 5 years as the team works on publication and dissemination of the results.

How will my information be used after the study is over?

After this study is complete, data collected regarding this study will be kept in a confidential cloud-based service folder for only members of the research team to access. These records may be stored for up to 5 years as the team works on publication and dissemination of the results.

Will I receive an incentive for taking part in this study?

No incentive is provided. Thank you for your participation.

What are my rights if I take part in this study?

It is up to you to decide if you will be in this research study. Participating in this study is voluntary. Even if you decide to be part of the study now, you may change your mind and stop at any time. You do not have to answer any questions you do not want to answer.

Who can answer my questions about this study and my rights as a participant?

For questions about this research, you may contact the principal investigator, Ashley Anderson, UNC Charlotte Doctoral Candidate, at 919-323-2564 or aande106@charltote.edu. You may also reach out to Dr. Fred Spooner, a member of the research team, and advisor, at fhespoone@charlotte.edu.

If you have questions about your rights as a research participant, or wish to obtain information, ask questions, or discuss any concerns about this study with someone other than the researcher(s), please contact the Office of Research Protections and Integrity at 704-687-1871 or uncc-irb@uncc.edu.

Please return this consent form to Ashley Anderson, principal investigator, by emailing it back via email (aande106@charlotte.edu).

Please provide consent to the following items by initialing beside each one:

____I acknowledge that I am being asked to take part in 3 Zoom meetings throughout the study for planning purposes related to community-based instruction.

Consent

By signing this document, you are agreeing to participate in this study. Make sure you understand what the study is about before you sign. You will receive a copy of this document for your records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

I understand what the study is about and my questions so far have been answered. I agree to take part in this study.

_____

Participant Name (PRINT)

_____

Signature Date

APPENDIX D: CONSENT FOR PEERS

CHARLOTTE
CATO COLLEGE OF EDUCATION
SPECIAL EDUCATION AND CHILD DEVELOPMENT

9201 University City Blvd, Charlotte, NC 28223
P: 704-687-8831 spcd.charlotte.edu

Consent to be Part of a Research Study

Peer Support

Title of the Project: The effectiveness of an instructional support package for community-based instruction for young adults with ESN (extensive support needs)

Investigators:

Ashley Anderson, Doctoral Candidate, Special Education and Child Development, UNC Charlotte

Dr. Fred Spooner, Professor of Special Education, UNC Charlotte

Emily Wall, Doctoral Student, Special Education and Child Development, UNC Charlotte

What is this study and why are we doing this study?

You are invited to participate in a research study. The purpose of this study is to examine the effects of an intervention package utilizing community-based instruction (CBI), peer supports, and collaborative planning on outcomes for young adults with intellectual disability (also known as "extensive support needs") in leisure settings. This study will contribute to the current field of literature using a variety of interventions to teach skills in community settings for students with disabilities. More specifically, this study will examine how peers may be implementers of this instruction in these natural community settings, how team planning can and should be a part of effective community-based instruction planning, and how young adults with more significant intellectual disability may benefit from this intervention. This study will require you to provide instruction to your Think College peer and participate in team collaboration efforts through short meetings to evaluate progress towards community participation goals. Participation in this study

will not impact your participation at the university or the Think College program, nor detract from time spent on other college-related activities. There is no cost for participants in this study. You will receive an incentive (gift card) for participating. Participation in this research study is voluntary. The information provided is to help you decide whether or not to participate. If you have any questions, please ask the principal investigator.

Why are we doing this study?

The purpose of this study is to examine the effects of an intervention package utilizing community-based instruction (CBI), peer supports, and collaborative planning on outcomes for young adults with intellectual disability (also known as "extensive support needs") in leisure settings. This study will contribute to the current field of literature using a variety of interventions to teach skills in community settings for students with disabilities. More specifically, however, this study will examine how peers may be implementers of this instruction in these natural community settings, how team planning can and should be a part of effective community-based instruction planning, and how young adults with more significant intellectual disability may benefit from this intervention.

Why am I being asked to be in this research study?

You are being asked to be in this study as a part of the intervention package for community-based instruction. This package includes community-based instruction interventions (video modeling, visual supports, system of least prompts), the use of peer supports, and collaborative team planning meetings. As a part of this study participants with disabilities from the Think College program will work with a nondisabled peer (their peer mentor) to learn three new skills across three community settings that they may frequent during and/or after college. These skills are vital to ensuring effective and successful integration into the community in leisure settings, an area of research not too commonly addressed. Leisure skills, or knowing what to do in your free time, is essential to ensuring a higher quality of life. You are being asked to a part of this study to serve as a peer mentor.

Eligibility Criteria for Peers:

(a) between the ages of 18-26

(b) volunteer or work with the postsecondary program for students with intellectual disability at the chosen university setting

(c) willingness to work as a part of a collaborative team, serve as a model for peers with disabilities, and utilize public transportation as a means for accessing the community

Prior knowledge of or training in video modeling, visual supports, or goal setting will not be required as an inclusion or exclusion criterion for this study. You do not have to have previous experience working with individuals with intellectual disability. One peer will be paired with each student with disabilities from the Think College program throughout the study.

What will happen if I take place in this study?

Your participation in this study is crucial to the success of the intervention.

Peers participating in the study will be trained on the interventions as a part of community-based instruction. These include video modeling and visual supports. This is a 30-min to 1 hr training that will occur before the intervention starts. Peers will also travel into the community with the principal investigator to access the three community locations (bowling alley, local park, local YMCA) and document the necessary skills for these three locations prior to the start of the intervention. By doing this the primary investigator can help determine what skills are lacking between the skills/abilities of peers without disabilities and the students with disabilities.

As a peer participating in this study you will teach your partner, a student from the Think College program, how to perform these three identified skills in the three community settings by using a video model first (a video of you performing the skill) and then performing that same skill in the community setting, using a visual support (i.e., pictures or words on paper or their phone). This study will last approximately 10 weeks with generalization and maintenance measures as well.

You will also be asked to participate in 3 meetings held via Zoom throughout the study along with your partner from the Think College program and other key team members (i.e., the Think College program director, student with disabilities' parent/guardian). These meetings will last approximately 15-30 min and ask for all team members to provide input related to the community-based goal(s) and progress thus far.

At the beginning and end of this study you will be asked to take part in a brief social validity survey as well to assess your perception of community-based instruction and the intervention(s).

There is no cost to this study for participants. All transportation passes (use of the city bus system), entrance passes to community locations, activity costs, and other costs will be covered by funding secured by the principal investigator. If you are asked to drive your own personal vehicle you will be reimbursed for gas at the conclusion of the study.

Transportation for the study will include access to the city bus system from the University campus to the three community locations that include the bowling alley (XXX Sports Center; 3.6 miles round trip from the University), the local park (XXX Park; 3.0 miles round trip), and the recreation center (YMCA; 1.2 miles round trip-XXX Avenue). If transportation is not available via the city bus for participants you may be asked to provide transportation off campus to the community site if necessary (please see below for consent for this). This would only be needed if

the bus system was not available. YOU DO NOT HAVE TO DO THIS. THIS WOULD ONLY BE A LAST RESORT IF YOU CONSENTED. If you are choosing to do this you will be compensated for mileage at the conclusion of the study by funding secured by the principal investigator.

The total time commitment for this study is between 8-13 hours and involves training, intervention, collecting social validity data, attending 3 Zoom calls, and assisting with generalization for your peer.

What benefits might you experience?

Benefits may include increased opportunities to work alongside your partner from the Think College program, increased access and opportunities to be in the community, and more opportunities to teach and implement strategies for teaching and learning with your Think College partner through the intervention.

What risks might you experience?

Potential risks from this study include any natural risks associated with engagement in community settings and transportation risks. Involvement in community-based instruction includes accessing transportation to community locations. Transportation risks may include transportation breaking down, accidents, or other unforeseen circumstances. To minimize these risks the principal investigator will ensure that the peer mentor and the participant with disabilities are riding together and are familiar with the route on the city bus. Each route to community locations will last no longer than 5-10 min as community locations are near campus. The principal investigator will ride behind the city bus to each community location with each session to help minimize risks as well. Each participant and peer mentor will also have access to emergency phone numbers and information to help minimize any risks during rides into the community. Community risks also include engaging with others across settings. These may also include personal transportation safety risks if you are using your own vehicle to access the community. **If, at any point while in the community, the principal investigator feels that the setting is unsafe for participants and peers, the session will be stopped and everyone will leave that community setting. A different community setting might be chosen if that setting is no longer accessible for participants and, if so, this decision will be communicated to all participants and guardians prior to accessing this setting.**

Can I be removed from the study?

Yes. Any peer engaging in unsafe behaviors may be removed from the study. Due to the fact that this study will take place in community settings, unsafe behaviors may endanger not only the peers and participants with disabilities, but also other community members around them. Such

behaviors may include running into traffic, purposefully engaging in destruction of public property, use of extensive foul language, or more. The principal investigator, along with the study team, may remove participants or peers if this occurs to ensure the safety of everyone in the community setting.

How will my information be protected?

The research team will use pseudonyms for every participant, peer, and team member, thus ensuring the confidentiality of everyone involved in the study.

We plan to publish the results of this study. To protect your privacy we will not include any information that could identify any participants. We will protect the confidentiality of the research data by not using any real names on any paper data collection forms. All forms will be stored within a secure cloud -based service that only members of the research team will be allowed to access throughout the study and publication process.

Other people may need to see the information we collect. These people may include members of the research team. Only members of the research team will have access to these videos/audio recordings and any data collection from this study. Paper copies of data collection will be uploaded into the cloud-based service once complete and the originals will be stored in a locked drawer in the office of the principal investigator.

How will my information be used after the study is over?

After this study is complete, data collected regarding this study will be kept in a confidential cloud-based service folder for only members of the research team to access. These records may be stored for up to 5 years as the team works on publication and dissemination of the results.

Will I receive an incentive for taking part in this study?

Yes. All participants with disabilities and peers will receive a $25 Amazon gift card (or more) at the end of the study for their participation. Participants completing at least 75% of the study (through intervention) will receive this incentive at the conclusion of the study.

What are my rights if I take part in this study?

It is up to you to decide if you will be in this research study. Participating in this study is voluntary. Even if you decide to be part of the study now, you may change your mind and stop at any time. You do not have to answer any questions you do not want to answer.

Who can answer my questions about this study and my rights as a participant?

For questions about this research, you may contact the principal investigator, Ashley Anderson, UNC Charlotte Doctoral Candidate, at 919-323-2564 or aande106@charltote.edu. You may also

reach out to Dr. Fred Spooner, a member of the research team, and advisor, at fhespoone@charlotte.edu.

If you have questions about your rights as a research participant, or wish to obtain information, ask questions, or discuss any concerns about this study with someone other than the researcher(s), please contact the Office of Research Protections and Integrity at 704-687-1871 or uncc-irb@uncc.edu.

Please return this consent form to Ashley Anderson, principal investigator, by emailing it back via email (aande106@charlotte.edu).

Please provide consent to the following items by initialing beside each one:

_____I acknowledge that this study involves participation across multiple community sites, including the Think College office, the bowling alley, the local park, and the recreation center.

____I acknowledge that this study requires me to use city transportation to access these community locations (free of charge) with my partner with disabilities from the Think College program.

____If city transportation is unavailable I consent to provide transportation if I am able to the community location if available. DO NOT MARK IF YOU ARE NOT OKAY WITH THIS. THIS WILL NOT IMPACT YOUR PARTICIPATION IN THE STUDY. THIS IS ONLY A LAST RESORT.

____I acknowledge that I may be asked to take part in a social validity survey at the beginning and end of this study.

____I acknowledge that I am being asked to take part in 3 Zoom meetings throughout the study for planning purposes related to community-based instruction.

Consent

By signing this document, you are agreeing to participate in this study. Make sure you understand what the study is about before you sign. You will receive a copy of this document for your records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

I understand what the study is about and my questions so far have been answered. I agree to take part in this study.

_____

Participant Name (PRINT)

_____

Signature Date

Optional Consent to be Audio Recorded, and/or Video Recorded

With your permission, the primary investigator or other research team members may take audio recordings or video recordings of you while participating in the study. This will only occur during intervention sessions, not during team planning meetings via Zoom. Any of the above will only be used for research documentation to ensure fidelity of implementation. There is a separate space to sign for permission to disseminate recordings for research purposes at conferences with other professionals. Video/audio recording will not be shared with anyone other than members of the research team listed above unless you sign to give permission in the next section. These will all be stored in the confidential cloud based service, same as the data collection materials.

Participants have the right to refuse to allow audio recordings or video recordings without penalty. *Please note you can still participate in the study if you decline to allow audio recordings or video recordings.* Please select one of the following options:

_____ I consent to the use of audio recording for research purposes.

_____ I consent to the use of video recording for research purposes.

_____ I do not give the researchers permission to photograph, audio record, or video record me

_____

Signature Date

Dissemination of Audio Recordings and/or Video Recordings

With your permission, the primary investigator or other research team members will share the audio recordings, and/or video recordings at academic conferences for purposes of dissemination and sharing results of this study.

Participants have the right to refuse dissemination of audio recordings, and video recordings without penalty. *Please note you can still participate in the study if you decline dissemination of audio recordings or video recordings.* Please select one of the following options:

_____ I consent to the use of audio recording for dissemination purposes.

_____ I consent to the use of video recording for dissemination purposes.

_____ I do not give the researchers permission to disseminate any audio recordings or video recordings of me. I understand any audio recordings or video recordings I have consented to in the above section will only be shared among research team members.

_____

Signature Date

APPENDIX E: PEER AND PARTICIPANT OBSERVATION FORM IN COMMUNITY SETTINGS

Peer Task Completion Observation Form EXAMPLE

Community Location: Bowling Alley

Peer's Name: __Laura_____Date: ___1/1/24

Please write down any necessary skills that you will need to be successful in this community location. Examples may include pay for materials, greeting others, choice making, waiting turns, asking or answering questions, returning equipment, using a locker, or other.

Necessary Skill for this Location	Notes (what did you notice about this skill?)
Paying for bowling game	They take cards and cash; you pay before you bowl
Using bowling shoes	Pay for them, put them on, put other shoes away, take them off, return bowling shoes, put on your original shoes
Knowing when it is your turn to bowl	
Greeting others around you	

Peer Task Completion Observation Form EXAMPLE

Community Location: Recreation Center

Peer's Name: __Laura_____Date: 1/1/24

Please write down any necessary skills that you will need to be successful in this community location. Examples may include pay for materials, greeting others, choice making, waiting turns, asking or answering questions, returning equipment, using a locker, or other.

Necessary Skill for this Location	Notes (what did you notice about this skill?)
Choosing an activity that is available at that time	Some activities are closed at certain times; reserved rooms
Sports activities with other peers	
Read the facility schedule	
Sign up for open play	
Wait for an open spot to play	

Ask others to play a game	
Swipe badge or card to get in	Or look up by phone number
Appropriately use gym equipment available and return it	

Peer Task Completion Observation Form EXAMPLE

Community Location: Park

Peer's Name: __Laura_____Date: 1/1/24

Please write down any necessary skills that you will need to be successful in this community location. Examples may include pay for materials, greeting others, choice making, waiting turns, asking or answering questions, returning equipment, using a locker, or other.

Necessary Skill for this Location	Notes (what did you notice about this skill?)
Identify activity choices	Could be based on weather, equipment available, free space available, etc.
Bring appropriate equipment for activity	If playing a game with others, or even just music to listen to
Engage with others in games or activities	
Use equipment for an appropriate amount of time	Sharing
Being able to locate everything at the park	Bathrooms, equipment, walking trails, etc.
Staying with your group of friends or on the trail as to not get lost	
Communicating with others at the park	Conversations, greetings, questions if necessary

Peer Task Completion Observation Form BLANK

Community Location:_____

Peer's Name: __ _____Date: _____

Please write down any necessary skills that you will need to be successful in this community location. Examples may include pay for materials, greeting others, choice making, waiting turns, asking or answering questions, returning equipment, using a locker, or other.

Necessary Skill for this Location	Notes (what did you notice about this skill?)

APPENDIX F: GOAL SETTING SHEET (COLLABORATIVE MEETING #1)

Student Goal Sheet- Meeting #1

Park

Student: _____ Peer: _____ Date: _____

At the park my goal is _____

Supports I will need: _____

Bowling Alley

Student: _____ Peer: _____ Date: _____

At the bowling alley my goal is _____

Supports I will need: _____

Recreation Center/YMCA

Student: _____ Peer: _____ Date: _____

At the recreation center my goal is _____

Supports I will need: _____

APPENDIX G: GOAL SETTING SHEET (COLLABORATIVE MEETINGS #2 AND #3)

Student Goal Sheet- Meetings #2 and #3

Student Name: _____Date:_____

Meeting #2 or #3 (circle one)

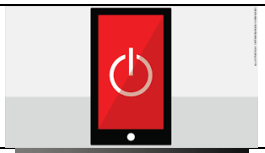
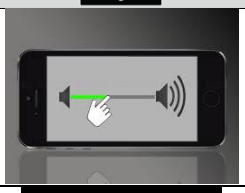
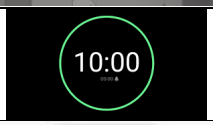
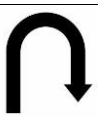
	My goal	Accomplishments towards that goal	Supports Still Needed to Accomplish this goal
Park			
Bowling Alley			
Recreation Center/YMCA			

APPENDIX H: VISUAL SUPPORTS FOR PARTICIPANTS WITH ESN

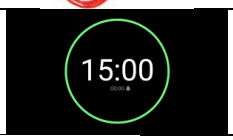
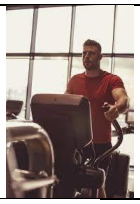
Going Bowling

1	Wait in line at counter	
2	When greeted by cashier ask for 1 game of bowling	
3	When hearing the total pay for the game with a $5 bill	
4	When asked tell the cashier your correct shoe size	
5	Ask cashier what lane you will be bowling on	
6	Take bowling shoes from cashier	
7	Find lane by identifying the correct number on the lane	
8	Find appropriate size bowling ball from the rack and place at your lane	
9	Put on bowling shoes	
10	Place regular shoes away under your seat	

Using Trails at the Park

1	Walk to your selected path at the park from your car or other mode of transportation	
2	Look at chosen pathway to walk to identify any potential dangers or barriers (i.e., large sticks in the walkway or large muddy patches). If necessary, choose another pathway to walk on.	
3	Make sure phone is turned on	
4	Make sure volume is turned up on phone	
5	Set timer on phone for 10 min	
6	Start timer when beginning walking on path	
7	Stay on pathway while walking while walking in initial direction (no more than 2 missteps off of the path)	
8	When timer buzzes turn around to walk back to the start of the path (after 10 min)	
9	Stay on pathway while walking back to the start of the path (no more than 2 missteps off of the path).	
10	Return to car or other mode of transportation	 

Fitness Equipment at the YMCA

1	Identify an open (available) fitness machine that you know how to use (is appropriate)	
2	Put materials (water bottle, headphones, etc.) in the compartment or next to the machine	
3	Get onto the machine appropriately (feet in holders, hands on bars, etc.)	
4	Clip on the safety belt if provided	
5	Set the timer for 15 min on your cell phone	
6	Press start on the equipment/machine	 START
7	Use equipment appropriately for 15 min	
8	When the timer goes off, press “stop” on the fitness equipment/machine	 STOP
9	Get off machine and clean equipment/machine using supplies provided in the gym area	
10	Grab personal belongings (water bottle, headphones, etc.) before leaving fitness area	

APPENDIX I: TASK ANALYSIS DATA COLLECTION

Skill: Setting up for bowling

Date: _____Student: _____ Peer: _____

Community Location: _bowling alley_____

Phase: Baseline Intervention Generalization 1 Generalization 2 Maintenance

Mastery: 90% or higher across 3 consecutive trials (for intervention)

Step	Step Description	Complete? (check if completed independently by the student)
1	Wait in line at counter	
2	When greeted by cashier ask for 1 game of bowling	
3	When hearing the total pay for the game with a $5 bill	
4	When asked tell the cashier your correct shoe size	
5	Ask cashier what lane you will be bowling on	
6	Take bowling shoes from cashier	
7	Find lane by identifying the correct number on the lane	
8	Find appropriate size bowling ball from the rack and place at your lane	
9	Put on bowling shoes	
10	Place regular shoes away under your seat	

Task Analysis Data Collection

Skill: Park (Using Trails)

Date: _____Student: _____ Peer: _____

Community Location: _Park _____

Phase: Baseline Intervention Generalization 1 Generalization 2 Maintenance

Mastery: 90% or higher across 3 consecutive trials (for intervention)

Step	Step Description	Complete? (check if completed independently by the student)
1	Walk to your selected path at the park from your car or other mode of transportation	
2	Look at chosen pathway to walk to identify any potential dangers or barriers (i.e., large sticks in the walkway or large muddy patches). If necessary, choose another pathway to walk on.	
3	Make sure phone is turned on	
4	Make sure volume is turned up on phone	
5	Set timer on phone for 10 min	
6	Start timer when beginning walking on path	
7	Stay on pathway while walking while walking in initial direction (no more than 2 missteps off of the path)	
8	When timer buzzes turn around to walk back to the start of the path (after 10 min)	
9	Stay on pathway while walking back to the start of the path (no more than 2 missteps off of the path).	
10	Return to car or other mode of transportation	

Task Analysis Data Collection

Skill: Using Equipment at the YMCA

Date: _____Student: _____ Peer: _____

Community Location: _YMCA _____

Phase: Baseline Intervention Generalization 1 Generalization 2 Maintenance

Mastery: 90% or higher across 3 consecutive trials (for intervention)

Step	Step Description	Complete? (check if completed independently by the student)
1	Identify an open (available) fitness machine that you know how to use (is appropriate)	
2	Put materials (water bottle, headphones, etc.) in the compartment or next to the machine	
3	Get onto the machine appropriately (feet in holders, hands on bars, etc.)	
4	Clip on the safety belt if provided	
5	Set the timer for 15 min on your cell phone	
6	Press start on the equipment/machine	
7	Use equipment appropriately for 15 min	
8	When the timer goes off, press “stop” on the fitness equipment/machine	
9	Get off machine and clean equipment/machine using supplies provided in the gym area	
10	Grab personal belongings (water bottle, headphones, etc.) before leaving fitness area	

APPENDIX J: PROCEDURAL FIDELITY CHECKLIST FOR BASELINE PROCEDURES

Video Modeling, Goal Setting, and Visual Supports Checklist

Baseline

Peer: _____ Student: _____ Date: _____

Community Setting: _____ Targeted Skill: _____

(Procedural Fidelity)

	Check if Completed
In Community: Peer provides cue to student to perform the identified skill “Go ahead”	

Peer does not provide video modeling, goal setting, visual supports, or other prompting during baseline.

Notes:

APPENDIX K: PROCEDURAL FIDELITY CHECKLIST FOR INTERVENTION

Video Modeling, Goal Setting, and Visual Supports Checklist

Intervention

Peer: _____ Student: _____ Date: _____

Community Setting: _____ Targeted Skill: _____

(Procedural Fidelity)

	Check if Completed
Prior to Skill Performance: Peer asks student to set a goal for themselves for the identified skill and community location	
Peer affirms appropriate goal with student for that community location. If not appropriate, redirects student to an appropriate goal for that location.	
Peer shows video model (in its entirety) of that skill to student	
Peer redirects student to the video model if he/she is off task or not attentive	
Peer answers any questions that the student has regarding the video model or skill	
In Community: Peer provides visual support to student for specified skill	
Peer provides prompt to student start the skill (remind themof the skill)	
Peer monitors student as he/she performs the specified skill. If student performs a step incorrectly or misses a step the peer provides error correction immediately. SLP (10 sec) for incorrect steps. If completely doing a step wrong the peer performs the skill for them (errorless).	
Peer provides reinforcement to student after completion of skill.	

APPENDIX L: COLLABORATION CHECKLIST

Team Collaboration for CBI Planning Checklist

Date: _____ Student Name:_____

Meeting # (circle one): 1 2 3

Team Members Present and Role(s):

_____

_____

	Everyone had a speaking part in the conversation
	Everyone provided input for goal setting for CBI
	Everyone understands the purpose of CBI for the specified student
	Each person is assigned a role in community-based instructional planning for the specified student (when to teach, where to teach, etc.)
	Each person received a copy of the meeting notes for planning CBI for specified student

Meeting Notes:

Date: _____

Today we talked about these goals for _____

	Achievements	Supports Still Needed	Who will support this goal?	How will this goal be supported?
Park				
Bowling Alley				
Recreation Center/YMCA				

APPENDIX M: BST CHECKLIST

Behavior Skills Training (BST) Checklist

Peer Training

Peer Being Trained:_____

Check if each part of BST was utilized.

Date:	Completed independently?	Needed verbal or gestural prompts?
Instruction		
Modeling		
Rehearsal		
Feedback		

Behavior Skills Training (BST) Checklist

Peer Training

Peer Being Trained:_____

Check if each part of BST was utilized.

Date:	Completed independently?	Needed verbal or gestural prompts?
Instruction		
Modeling		
Rehearsal		
Feedback		

Behavior Skills Training (BST) Checklist

Peer Training

Peer Being Trained:_____

Check if each part of BST was utilized.

Date:	Completed independently?	Needed verbal or gestural prompts?
Instruction		
Modeling		
Rehearsal		
Feedback		

APPENDIX N: PEER CHECKLIST

Peer

Checklist (to keep with you)

Did I remember to?

- Provide instruction
- Provide a model
- Provide an opportunity for rehearsal?
- Provide feedback/answer questions/correct errors?

APPENDIX O: SOCIAL VALIDITY QUESTIONNAIRES

Social Validity Questionnaire Pre/Post Intervention

Parent/Guardian

Using a scale of 1-5 (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree)

Name: _____Date: _____

I feel that I have an opportunity to provide valuable input in planning CBI for my child.

1 2 3 4 5

I feel that accessing and community settings and learning skills are important and relevant for my child.

1 2 3 4 5

I feel that I can appropriately implement CBI with my child in community locations.

1 2 3 4 5

I feel comfortable communicating about CBI with team members supporting my child.

1 2 3 4 5

I feel that my child can participate in CBI effectively.

1 2 3 4 5

I feel that I can take my child into a novel community setting to utilize these skills.

1 2 3 4 5

I feel that my child can appropriately set goals for CBI.

1 2 3 4 5

What did you like best about the study? _____

What did you like least about the study? _____

Social Validity Questionnaire Pre/Post Intervention

Student with ESN

Name: _____Date: _____

Using a scale of 1-5 (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree)

I feel that I can learn new skills in community settings.

I feel that I am able to work with my peer to learn new skills in the classroom setting before going into the community.

I feel that I am able to set a goal for community engagement.

I feel that I am able to work with my peer to learn new skills in the community.

I feel that I can watch a video model to learn new community skills.

I feel that visual supports are helpful for learning new skills.

I feel that I can use my skills in new community leisure settings and activities with my peers.

I feel that I have a leadership role in team planning for community instruction.

I feel that the skills taught in community settings and these settings are important for me.

What did you like most about the study? _____

What did you like least about the study? _____

Social Validity Questionnaire Pre/Post Intervention

Peer

Name: _____ Date: _____

Using a scale of 1-5 (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree)

I feel that I am able to successfully work with my peer with ESN in the community settings.

1 2 3 4 5

I feel that I can appropriately implement CBI with my peer with ESN.

1 2 3 4 5

I feel that I can teach the identified skills to my peer with ESN using video modeling.

1 2 3 4 5

I feel that I can teach the identified skills to my peer with ESN using visual supports.

1 2 3 4 5

I feel that I am a valuable team member when planning for CBI.

1 2 3 4 5

I felt that the identified community locations and skills are important for my peer with ESN.

1 2 3 4 5

I feel that I benefit from working with my peer with ESN in community settings.

1 2 3 4 5

What did you like best about the study?

_____

What did you like least about the study?_____

Social Validity Questionnaire Pre/Post Intervention

Key Team Member

Name: _____ Date: _____

Using a scale of 1-5 (1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree)

I feel that I have an opportunity to provide valuable input in planning CBI.

1 2 3 4 5

I feel that the identified community settings and skills are important and relevant.

1 2 3 4 5

I feel that I can appropriately implement or have a part in implementing CBI in the community locations utilized in this study.

1 2 3 4 5

I feel comfortable communicating about CBI with other team members.

1 2 3 4 5

I feel that participants with ESN can participate in effectively participate in CBI.

1 2 3 4 5

I feel that I can contribute to CBI with my participant with ESN in novel community settings to utilize community-based skills.

1 2 3 4 5

I feel that participants with ESN can appropriately set goals for CBI.

1 2 3 4 5

What did you like most about the study? _____

What did you like least about the study? _____

APPENDIX P: LOCATION CHANGE CONSENT FORM

December 2023

I understand that the location of the “leisure skills study” will change from XXX Park to XXX Park. This will not affect the other two locations, which will remain at XXX Bowling Alley and the local YMCA in XXX city close to campus. Please sign below that you have received this notification and that you are okay with this change. Thank you.

Sincerely,

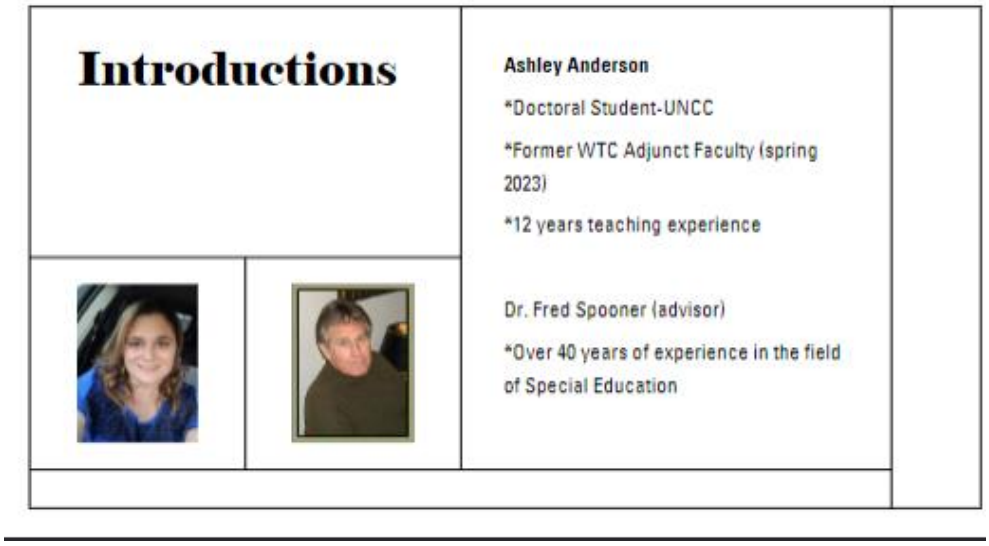
Ashley Anderson

_____Name

_____Signature

_____Date

APPENDIX Q: RECRUITMENT POWERPOINT PRESENTATION



Why are we here?

Dissertation Study

*"The effectiveness of an instructional support package for community-based instruction for young adults with ESN"

Focus on community-based instruction (CBI) in leisure settings

*CBI is important because community experiences allow us to generalize and expand what we are learning from the classroom to everyday practical situations.

*Purposeful CBI is often not seen as a part of the curriculum for young adults with disabilities

*Skills for leisure settings are often overlooked

Make a difference

*I am hopeful that this study will produce positive outcomes that provide insight as to what CBI planning and implementation can look like for young adults and their support teams.

What will this study do?

This study will examine the effect of CBI for young adults with disabilities.

Using several interventions, this will be a package in which:

*Think College students receive instruction on community skills across 3 community settings

*Peers have an opportunity to deliver instruction to Think College students (peer supports)

*Team members collaborate throughout the study to support the Think College student in goal setting and planning for their community participation

Who is invited to participate?

- Think College students with extensive support needs
- Their peer mentors (1 mentor will be working with each Think College students)
- Support teams (parents/guardians, program director and instructors, other family members)

Community Settings and Skills

The 3 community settings are:

XXX Park

XXX Bowling Alley

Local YMCA (right off campus)

Skills to be taught:

These will be determined once the study begins. Part of this study involves watching the same-aged peer mentors perform skills in these 3 community settings to help identify the necessary skills that may be lacking or needing support across participants from the Think College program.

There will be 1 targeted skill for each setting across all participants. For example, using money in the bowling alley or renting shoes with all of the necessary steps. An example of a skill at the park may be using the walking path safely. At the YMCA it may be using the resources to locate a preferred class or activity, or simply using a badge or key to gain access to materials.

What is required of each participant?

Think College Students

*Receive instruction with your peer mentor (watching a video of a skill in a community setting)

*Travel into the community with your peer mentor to 3 locations (park, bowling alley, YMCA)

*Perform those skills in the community setting

*Participate in team meetings (3 over the course of the study)

What is required of each participant?

Peers

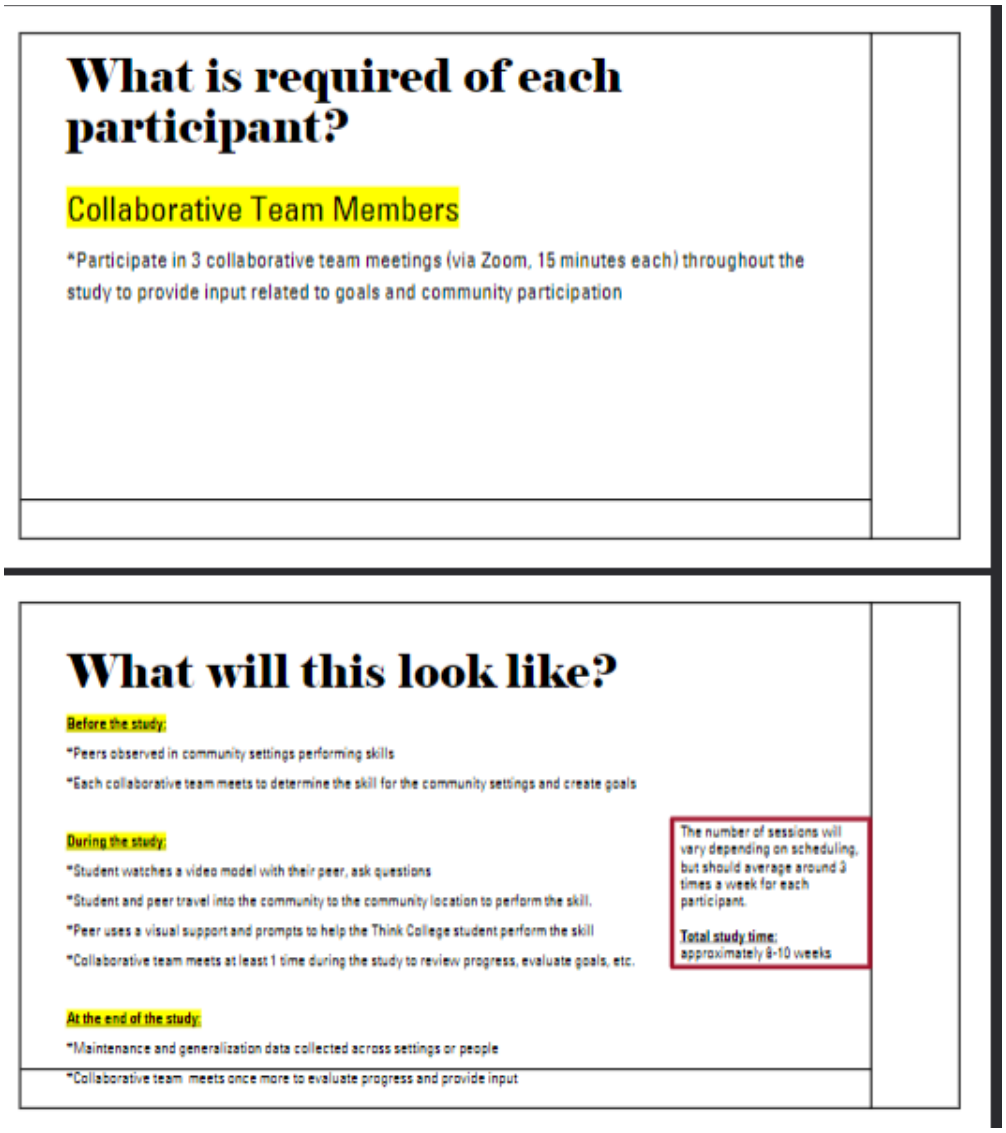
*Help identify skills prior to the start of the study in the 3 community locations

*Provide instruction to Think College student using a video model

*Travel into the community setting with the Think College student

*Provide instruction to the student in the 3 community settings using a visual support and prompting

*Participate in the collaborative team meetings (3 throughout the study)



What is required of each participant?

Collaborative Team Members

*Participate in 3 collaborative team meetings (via Zoom, 15 minutes each) throughout the study to provide input related to goals and community participation

What will this look like?

Before the study:

*Peers observed in community settings performing skills

*Each collaborative team meets to determine the skill for the community settings and create goals

During the study:

*Student watches a video model with their peer, ask questions

*Student and peer travel into the community to the community location to perform the skill.

*Peer uses a visual support and prompts to help the Think College student perform the skill

*Collaborative team meets at least 1 time during the study to review progress, evaluate goals, etc.

The number of sessions will vary depending on scheduling, but should average around 3 times a week for each participant.

Total study time:
approximately 8-10 weeks

At the end of the study:

*Maintenance and generalization data collected across settings or people

*Collaborative team meets once more to evaluate progress and provide input

Travel into the community

Rock Hill City Bus System

*Free

*All students have access

*Think college students ride with their peer

*I follow behind for every session in case of emergency

OR Peer Provides Ride In Personal Vehicle (given permission)

Safety First

Throughout the study the research team will monitor for any safety concerns in the community settings and address these if necessary.

Community locations may be changed for safety reasons, but participants will be notified if this happens and it will be part of the collaborative team discussion/process.

Funding and Support

We have secured a $500 grant through UNCC to cover the costs of this study. These costs include:

*stipend for participants ($25 each to Amazon)---Think College students and their peer mentor

*travel costs if necessary (if the bus is not available)—see the consent form for this information

*costs at the community location (i.e., cost to bowl a game during a session if appropriate)

Support will come from the research team, which includes myself, Dr. Fred Spooner (UNCC), and another doctoral student from UNCC

Additional funding may be available to provide increased stipend amounts to participants at the end of the study.

Next Steps and Contact Information

- Consent and Assent for the Study
- Liability Waiver

Please return to Ashley tonight or within 1 week

Contact Information:

Ashley Anderson

aande106@charlotte.edu

APPENDIX R: PARENT/GUARDIAN AND PARTICIPANT WITH ESN TRANSPROTATION WAIVER AND RELEASE FORM

Transportation Waiver and Release

I hereby acknowledge that I have separately consented myself or my son/daughter participating in the following research study:

Title of the Project: *The effectiveness of an instructional support package for community-based instruction for young adults with ESN (extensive support needs)*

As part of that consent, I acknowledged that:

1. this study requires me, or my son/daughter to use city transportation to access certain community locations with their peer mentor, and

2. if city transportation is unavailable, my/their peer mentor may provide transportation to the community location.

I understand that there are risks involved with such transportation. In exchange for the benefits to myself/my son/daughter that may include learning new skills across community leisure settings, increased social opportunities to interact with their peer mentor and/or others in the community setting(s), and increased confidence in these settings related to goal setting and goal achievement, I agree to release, hold harmless, and forever discharge The University of North Carolina t Charlotte and all its agents, officers, employees, and volunteers from any and all liability, claims, demands, judgments, and causes of action of any kind arising from such activity, including any accident or injury to my child that occurs during, or as a result of, such transportation, whether caused by negligence of the University and its agents or employees or otherwise. I further agree to indemnify and hold harmless the University and all its agents, officers, employees, and volunteers, from any loss, liability, damage, or cost, including court costs and attorney's fees, which may incur due to my son/daughter being transported during the study. I have had an adequate opportunity to read and understand this document, have had an opportunity to ask questions about it, and any questions I had have been answered to my satisfaction.

_____

Printed Name of study participant

_____

Printed Name of Child's Parent/Legal Guardian (if appropriate to sign)

_____ _____

Signature of Child's Parent/Legal Guardian (if appropriate to sign) Date

APPENDIX S: PEER TRANSPORTATION WAIVER AND RELEASE FORM

Transportation Waiver and Release

I hereby acknowledge that I have separately consented to participate as a peer or team member in the following research study:

Title of the Project: *The effectiveness of an instructional support package for community-based instruction for young adults with ESN (extensive support needs)*

As part of that consent, I acknowledged that:

1. this study requires me to use city transportation to access certain community locations with my partner with disabilities from the Think College program, and

2. if city transportation is unavailable, and if I am able to provide transportation of my partner with disabilities to the community location.

I understand that there are risks involved with such transportation and that if I drive my own car, my own insurance is considered primary coverage. In exchange for the benefits of increased opportunities to work alongside my partner from the Think College program, increased access and opportunities to be in the community, and more opportunities to teach and implement strategies for teaching and learning with my Think College partner through the intervention, I agree to release, hold harmless, and forever discharge The University of North Carolina at Charlotte and all its agents, officers, employees, and volunteers from any and all liability, claims, demands, judgments, and causes of action of any kind arising from such activity, including any accident or injury to me that occurs during, or as a result of, such transportation, whether caused by negligence of the University and its agents or employees or otherwise. I further agree to indemnify and hold harmless the University and all its agents, officers, employees, and volunteers, from any loss, liability, damage, or cost, including court costs and attorney's fees, which may incur due to my being transported or providing transportation during the study. I have had an adequate opportunity to read and understand this document, have had an opportunity to ask questions about it, and any questions I had have been answered to my satisfaction.

_____
Printed Name of Peer/Team Member

_____ _____
Signature of Peer/Team Member Date

APPENDIX T: SLP DATA SHEET

System of Least Prompts

Data Collection Sheet

Student Name: **Peer Name:**

Date								
Phase & Setting								
Step # and Prompt Needed (circle) 1	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP
2	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP
3	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP
4	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP
5	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP
6	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP

7	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP
8	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP
9	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP
10	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP	+ - NR VP G M PP
Total # Correct (out of 10 steps)								
Total % Correct								

Key:

Phase- B = Baseline, I = Intervention, P = Probe

Baseline: (+) = correct response, (-) = incorrect response, NR = no response

V= verbal G= gesture M= model PP= physical prompt

APPENDIX U: EXAMPLE POWERPOINT VISUALS FOR COLLABORATION MEETINGS

Mid-Study Meeting for Mark

Mid-Study Check In Meeting

[redacted]

January 24, 2024

Checking In

How is it going?

Do you still want to work towards these goals?

- At the park my goal is to walk on my own for 10 minutes to clear my head alone in a safe way.

Supports I will need: I will need to make sure that I bring my phone to stay safe while walking.

- At the bowling alley my goal is getting the right materials to bowl (bowling ball, shoes) and keeping up with them.

Supports I will need: I will need to know what size shoes I wear and what questions I need to ask at the desk at the bowling alley. I will need to know where to get a bowling ball, like from a bowling ball machine.

- At the recreation center my goal is to use the treadmill on my own by turning it off and on safely by following the rules when using equipment.

Supports I will need: I will need to make sure that I have the right shoes on and clothing for exercising.

Goal: 90% in each community place

Date: 1/24/24

Today we talked about these goals for Mark

	Achievements	Supports Still Needed	Who will support this goal?	How will this goal be supported?
Park	Baseline: 45%	Reminder to bring my phone charged and ready.	Ashley and Ellie will send reminders to Mark before leaving campus to bring his phone.	Reminders to Mason.
Bowling Alley	Baseline: 40%	Bumpers for bowling to help me feel more confident and successful. Help with getting the correct shoes and the correct ball size. We can put bigger numbers on the visuals for shoe sizes and ball size.	Ashley will add bigger numbers on the visual	use of pictures with numbers
YMCA	Baseline: 13% With intervention: 74% The equipment is good.	Modification to the treadmill for how to hold onto it.	Ellie can model where to hold onto at the treadmill before the session starts.	use of a model

Continue with study

Meet one more time at the end of the study

End of Study Meeting-Mark

Final Study Collaboration Meeting

[redacted]

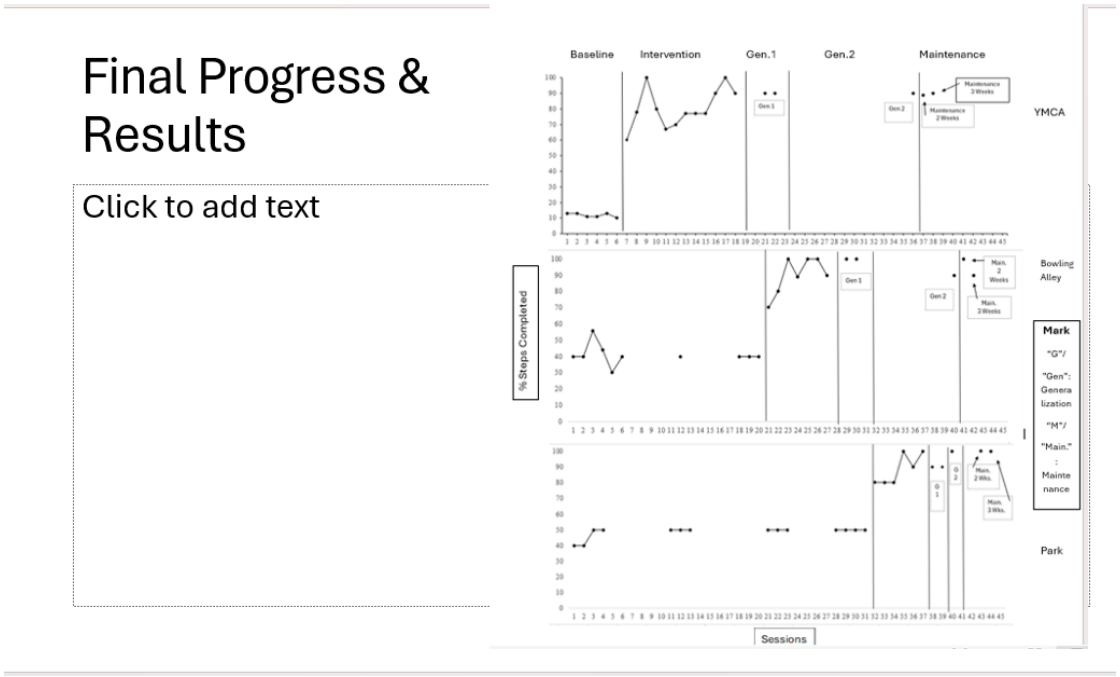
February 28, 2024

Celebration Song

Moment of Silence & Tribute

Mark-

Thoughts on each community location?



Goal: 90% in each community place

Mom would like for Mark to go bowling with her.

Continue to use the treadmill.

	Achievements	Supports Still Needed	Who will support this goal?	How will this goal be supported?
Park	Baseline: 45% Final: 100%	Make sure I wear appropriate shoes and clothing.	everybody	
Bowling Alley	Baseline: 40% Final: 95%	Make sure I wear appropriate shoes and clothing.	everybody	
YMCA	Baseline: 13% Final: 95%	Make sure I wear appropriate shoes and clothing.	everybody	

Checking In

How did you do working towards your goals?
Will you keep the same goal going forward?

- At the park my goal is to walk on my own for 10 minutes to clear my head alone in a safe way.

Supports I will need: I will need to make sure that I bring my phone to stay safe while walking.

- At the bowling alley my goal is getting the right materials to bowl (bowling ball, shoes) and keeping up with them.

Supports I will need: I will need to know what size shoes I wear and what questions I need to ask at the desk at the bowling alley. I will need to know where to get a bowling ball, like from a bowling ball machine.

- At the recreation center my goal is to use the treadmill on my own by turning it off and on safely by following the rules when using equipment.

Supports I will need: I will need to make sure that I have the right shoes on and clothing for exercising.

THANK YOU!

Gift Cards/Stipends

Social Validity Survey—
PLEASE COMPLETE