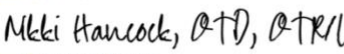


**Developing Multimodal Resources for Community Mobility Needs in Individuals with
Intellectual and Developmental Disorder**

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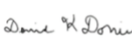
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List of Abbreviations

ADHD	Attention Deficit Hyperactivity Disorder
ADLs	Activities of Daily Living
AOTA	American Occupational Therapy Association
APA	American Psychiatric Association
CDC	U.S. Centers for Disease Control and Prevention
FHWA	Federal Highway Administration
IADLs	Instrumental Activities of Daily Living
IDD	Intellectual and Developmental Disorder
IDEA	Individuals with Disabilities Education Improvement Act
IEP	Individualized Education Program
IQ	Intelligence Quotient
LL	Learning Lesson
NCDOT	North Carolina Department of Transportation
OT	Occupational Therapy
OTR/L	Occupational therapist, licensed and registered

Introduction

A 2019 national report estimated that roughly 7.39 million people are living with intellectual and/or developmental disabilities in the United States (U.S.) (Larson et al., 2022). A 2024 report from the U.S. Centers for Disease Control and Prevention (CDC) found that roughly 17% of children in the U.S. (ages 3-17) have been diagnosed with an intellectual and/or developmental disability (CDC, 2024). Formally recognized in the *Diagnostic and Statistical Manual of Mental Disorders 5th Edition Text Revision* (DSM-5-TR) as Intellectual Developmental Disorder (IDD), this diagnosis typically occurs prior to 18 years of age and is often characterized by a low intelligence quotient (IQ) and deficits in both intellectual and adaptive functioning with a “failure to meet developmental and sociocultural standards for personal independence and social responsibility” (American Psychiatric Association [APA], 2022, p. 37). According to the DSM-5-TR, critical components of intellectual functioning include comprehension, problem solving, abstract thinking, reasoning, planning, judgement, working memory, practical understanding, and learning from instruction and experience (APA, 2022). Further, critical components of adaptive functioning include acquisition of practical knowledge, decision making, awareness of risk, awareness of others’ thoughts, feelings, and experiences, empathy, interpersonal communication skills, social judgment, and the ability to learn and manage oneself across various life settings including work and education, personal care, money management, home management, behavioral management (APA, 2022).

These adaptive behavior deficits significantly impact functional participation in meaningful activities and often persist throughout the whole lifespan (Shapiro & Batshaw, 2019; CDC, 2024). Individuals with IDD frequently display decreased independence, decreased social participation, and lower quality of life (Carey et al., 2024; Pfeiffer & Falo et al., 2020; Randall et

al., 2023). Common co-morbid diagnoses associated with IDD include Down syndrome, fetal alcohol syndrome, cerebral palsy, Fragile X syndrome, spina bifida, and attention deficit hyperactivity disorder (APA, 2022).

Given the diversity of diagnoses and individual needs within this population, it is essential to support their development of independence and learning abilities through a functional approach (Suman, 2019). Significant delays in adaptive functioning and difficulties in skill acquisition, retention, and generalization (i.e., application) create challenges throughout the learning process. These challenges often limit the development of functional skills required to successfully and independently engage in meaningful occupations including activities of daily living, home management, education, employment, and community participation (APA, 2022; Suman, 2019).

To address the population's unique needs, in 2004, the *Individuals with Disabilities Education Improvement Act* (commonly known as IDEA) mandated the requirement of transition planning for all students enrolled in public school education to have an Individualized Education Program (IEP) (Benson et al., 2021). Transition planning refers to the process of preparing for life after school, encompassing the development of supports and opportunities that help individuals achieve meaningful post-school goals (Mogensen et al., 2024). However, research indicates that transition planning is not always successful, resulting in poor post-school outcomes, including significant reliance on others for successful participation in daily living. (Benson et al., 2021; Mogensen et al., 2024; Young-Southward et al., 2017).

Transportation is a key proponent of community integration, independent living, and access to meaningful occupations (American Occupational Therapy Association [AOTA], 2024). According to findings from the 2022 *National Household Travel Survey*, an estimated 10 million

people, ages 18 to 64, self-reported travel-limiting disabilities (Firestine, 2022). These individuals reported a lower frequency of routine transportation trips and frequently compensated for their limitations by asking others for transportation or traveling only in the daytime. The 2022 *National Household Travel Survey* also reported that these limitations further affected independence in areas such as employment and home management. Of these 10 million individuals, only 33% participated in vocational employment compared to 78% of those without disabilities (Firestine, 2022). In relation to home management, only 11% of people with IDD lived independently in an owned or leased home (Firestine, 2022).

When self-driving is not feasible due to travel-limiting disabilities, use of alternative methods of transportation such as public transportation, paratransit services, or ride-hailing services may offer individuals with IDD accessible and feasible options for enhanced independence and community access (Carey et al., 2024; Verran et al., 2018; Womack & Silverstein, 2012). To determine the most effective ways to equip the IDD population with the travel skills required to safely and successfully navigate these alternative options, a thorough review of existing literature and targeted interventions is therefore essential.

Literature Review

Intellectual Disabilities and Challenges Experienced During the Transition to Adulthood

The transition into adulthood marks a pivotal, developmental milestone for young adults across the globe. This season of life opens doors to independence, exploration of self, and pursuit of interests. However, leaving the comfort of structured certainty for a more self-directed world of open possibility can be challenging and even daunting for these individuals. More specifically, young adults with IDD face unique barriers in their transition out of school (Ashburner et al. 2018; Dyke et al. 2013; Mogensen et al., 2024; Young-Southward et al., 2017). These challenges

span across individual, familial, systemic, and societal levels (Carey et al., 2024; Mogensen et al., 2024; Pfeiffer & Falo et al., 2020; Young-Southward et al., 2017). Research clearly indicates that early planning alongside collaboration between teachers, parents, and students helps combat these barriers, leading to successful post-high-school outcomes for young adults with IDD (Foley et al., 2012; Romano et al., 2023). Further, Benson et al. (2021) found positive parent experiences when transition services were provided from a holistic and person-centered approach.

However, multiple studies have found that this ideal transition process has not been the reality for many individuals with IDD (Benson et al., 2021; Leonard et al., 2016; Mogensen et al., 2024; Redgrove et al., 2016; Young-Southward et al., 2017). Rather, it appears that transition planning for students with IDD is minimal and often not occurring until much later in high school, sometimes as late as their final year (Benson et al., 2021; Leonard et al., 2016; Mogensen et al., 2024; Redgrove et al., 2016). Further, according to Mogensen et al. (2024), several participants (i.e., young adults 18-25 years old, with IDD) report experiencing little to no autonomy, role, or choice in the decision process of post-school goals and services. Benson et al. (2021) reported similar findings, particularly noting that students with IDD feel disempowered during the goal identification and selection process. According to Mogensen et al. (2024), school-staff may restrict transition support to one to two specific areas, limiting the students' preparation for broader independent living skills. In their interviews, both Benson et al. (2021) and Mogensen et al. (2024) highlighted a profound sense of disappointment and insufficient preparation experienced by young adults with IDD.

Young-Southward et al. (2017) examined familial perspectives, noting that parents of young adults with IDD also expressed frustration with the transition planning process, many

describing it as inadequate and transient. Due to insufficient communication and support from school-staff, upon completion of school, parents are often left to manage the transition process without the proper resources. (Benson et al., 2021; Young-Southward et al., 2017). The absence of clear guidance may contribute to further logistical barriers, such as delaying the provision of new secondary services (Young-Southward et al., 2017). This extended period of time, often lasting several months, can hinder their young adult's progress toward the development of greater independence and preparation for the demands of adult life (Benson et al., 2021; Mogensen et al., 2024; Young-Southward et al. 2017).

Research indicates that poor transition planning is often associated with poor secondary outcomes (Benson et al., 2021; Mogensen et al., 2024; Young-Southward et al. 2017). Young adults with IDD often navigate adulthood with undefined or unfulfilled life goals, a challenge many attribute to insufficient support and preparation during high school years (Mogensen et al., 2024). They also describe feeling constrained by the disability service system, experiencing a recurring cycle that hinders sustained progress toward individual goals such as employment and independent living (Mogensen et al., 2024; Young-Southward et al., 2017). Therefore, to prevent these outcomes, client-centered, collaborative, and early transition planning is essential for successful identification of and progress toward secondary goals (Benson et al., 2021; Foley et al., 2012; Mogensen et al., 2024; Romano et al., 2023). For many young adults, secondary goals may include increased skills and independence in driving and community mobility.

Driving and Community Mobility as an Instrumental Activity of Daily Living

Purpose and Importance

Activities of daily living (ADLs) and instrumental activities of daily living (IADLs) are key areas of occupation that encompass essential tasks necessary for fulfilment of meaningful

roles and functional independent living (AOTA, 2020). IADLs include a wide array of activities that promote daily living for persons both within their home and out in their communities.

Examples of IADLs include care of pets; child rearing; communication management (i.e., use of smartphone or other assistive devices); driving and community mobility; financial management; home management; meal preparation; safety and emergency maintenance; and shopping (AOTA, 2020). Community mobility is defined as “planning and moving around in the community and using public or private transportation, such as driving, walking, bicycling, or accessing and riding in buses, taxi cabs, or other transportation systems” (AOTA, 2020, p. 31). From a global perspective, access to one’s community, or community mobility, is often recognized as an inherent right due to the significant impacts of community integration on independence, identity, autonomy, and quality of life (Carey et al., 2024; Pfeiffer & Falo et al., 2020; Pfeiffer & Sell et al., 2020; Randall et al., 2023; Verran et al., 2018). Koketsu (2018) describes mobility in the community as contributing “to positive health outcomes physically, psychologically, socially, and overall life satisfaction” (p. 191). In particular, community mobility is essential for access to and engagement in other occupational areas such as vocational employment, community development, social connectedness, education, and healthcare services (Koketsu, 2018; Pfeiffer & Sell et al., 2020). Without the ability or means of traveling from one place to another, individuals cannot properly complete many important IADLs.

Current Travel Patterns and the Prevalence of Self-Driving

According to a report provided by the Federal Highway Administration, Americans traveled an estimated 1.75 trillion vehicle miles, across both rural and urban regions (Federal Highway Administration, 2023). On a state level, a report comparing urban and rural travel patterns found that urban North Carolinians completed roughly 4.4 vehicle trips per day while

rural households averaged 23% more, completing 5.4 trips per day (North Carolina Department of Transportation [NCDOT], 2024). Further, according to the NCDOT, North Carolina is one of the most rural states in the country, meaning greater distances between destinations, greater car dependency, and overall increased vehicle miles traveled compared to urban regions (NCDOT, 2024, p. 16).

Most people in the U.S. primarily rely on personal vehicles for daily travel. In 2022, an estimated 140 million individuals in the U.S. commuted daily to and from work (Burrows & Burd, 2024). 77.3% of those individuals reported use of personal, private vehicles as their primary method of transportation (Burrows & Burd, 2024). These statistics highlight the prevalence of daily travel and further illustrate the role of car culture in shaping transportation patterns on both state and national levels.

However, it is important to note that despite its prevalence, this method of transportation is not necessarily viable for every individual due to both environmental and personal factors. In the same report from 2022, roughly 4.3 million individuals utilized public transportation as their primary method for daily travel, with 4 million walking or biking and 2.1 million using ride-hailing services (Burrows & Burd, 2024). Independently operating a vehicle is a dynamic activity that requires complex, high-level perceptual-motor skills and constant awareness of oneself and others (Koketsu, 2018; Monahan, 2012; Womack & Silverstein, 2012). Therefore, it is imperative to explore the characteristics and functional demands of additional travel options so every individual can identify and access appropriate means for independent transportation and ultimately experience enhanced community integration.

Evaluating Additional Forms of Community Mobility

Public transportation, which includes both fixed-route and demand-response systems, is widely used across the U.S. (Verran et al., 2018; Vigderman, 2024). Fixed-route systems, such as intracity and intercity buses, trains, and subways, operate on scheduled, pre-established routes and stops. These systems are typically affordable and offer passengers increased autonomy, flexibility, and community access (Verran et al., 2018). Between 2020 and 2023, national public transportation trips grew by 51% following the COVID-19 pandemic (Vigderman, 2024). However, limited and sporadic operating schedules pose significant challenges for individuals with disabilities desiring to travel at certain hours of the day, especially into the evening hours (Bross & Frederick, 2023; Womack & Silverstein, 2012). Fixed-route public transportation is also not feasible for individuals living in rural communities or small towns due to the limited geographic accessibility and intracity nature of these services (Bross & Frederick, 2023; Womack & Silverstein, 2012). Additionally, increased cognitive demands associated with public transportation can further hinder independent use among individuals with IDD (Xu et al., 2024). Factors such as complex transportation schedules, insufficient visual or auditory supports, and intricate routes present significant accessibility barriers, decreasing successful utilization of these services (Bezyak et al., 2023; Lubin & Deka, 2012; Riser et al., 2015; Xu et al., 2024). Essential skills including time management, literacy, problem-solving, and sustained attention are crucial for overcoming these barriers; however, individuals with IDD often face unique challenges in mastering these areas (Xu et al., 2024).

The Americans with Disabilities Act (ADA) provides a demand-response transportation alternative for those with disabilities, called complementary paratransit services. Paratransit services are accessible, private transport buses that offer a more personalized option, picking up

and dropping off passengers at requested locations (Carey et al., 2024; Gleason & Silverstein, 2023; Womack & Silverstein, 2012). However, despite the individualistic nature of the service, many report experiencing significant challenges, ultimately limiting successful utilization (Gleason & Silverstein, 2023; Womack & Silverstein, 2012). The eligibility requirements surrounding these services are often confusing and restrictive (Gleason & Silverstein, 2023). According to a Direct Support Professional at the Autism Society of North Carolina – Greenville, several members were denied qualification despite seemingly meeting the eligibility requirements posted online (R. Henderson, personal communication, February 24, 2025). Further, those who utilize this service often report poor reliability and flexibility as many require scheduling in advance, not allowing room for last minute plans or cancellations (Womack & Silverstein, 2023).

Limited geographic coverage, especially outside urban areas, also reduces overall accessibility and usability for individuals living in small cities and rural communities (Maisel et al., 2021). Additionally, trips along paratransit buses are often lengthy due to the high demand for transportation, creating the potential for tardiness and late penalties among those who work (Gleason & Silverstein, 2023; Womack & Silverstein, 2012). Individuals may spend up to two hours on paratransit, even though the same trip would take only 20-30 minutes by car, due to multiple stops made along the route (Carey et al., 2024). A Shift Supervisor at a local coffee shop that employs young adults with disabilities reported similar frustrations, noting the service's inconsistencies as a primary cause of operational problems within the company (A. Arnold, personal communication, February 6, 2025). Specifically, despite scheduling rides well in advance, employees frequently arrived late. However, in lieu of these barriers, many parents and individuals with disabilities continue to utilize these services due to its increased

accessibility, safety, familiarity, and individualistic nature (Maisel et al., 2021; R. Henderson, personal communication, February 24, 2025).

Recently, over the past several years as technology has evolved, private ride-hailing services such as *Uber* and *Lyft* have also risen in popularity, feasibility, and efficiency (Carey et al., 2024; Price et al., 2018). Between 2020 and 2023, *Uber*'s global trips increased by 88%, highlighting a substantial shift toward app-based ride services (Vigderman, 2024). These services utilize Global Positioning System (GPS) technology, allowing users to request a ride that picks them up from their current location and drops them off at any chosen destination, significantly decreasing travel time. These applications are intuitive and can be quickly mastered through clear guidance and consistent practice (Bross & Wood et al., 2023; Carey et al., 2024). Ride-hailing services provide on-demand access, 24-hour availability, and allow flexibility for travel plan modifications, typically at no charge (Verran et al., 2018). According to *Uber*'s Safety Report, over 99.9% of all U.S. *Uber* trips in 2021-2022 were completed without any safety incidents (Uber, 2024). Out of the available transportation alternatives, ride-hailing services offer the greatest geographic accessibility, especially by reaching non-drivers living in rural areas, who cannot access public transportation (Verran et al., 2018). However, expenses can be high, particularly in larger cities, for long-distance trips, or frequent travel.

Implications of Reduced Community Mobility

Individuals with IDD experience frequent barriers to accessible transportation, leaving many with unmet needs (Carey et al., 2024; Pfeiffer & Falo et al., 2020; Smith-Hill et al., 2024). These barriers may include geographical location, limitations in financial resources, lower cognitive abilities, limitations in functional skills, heightened parental control, and poor educational training. Lack of reliable and accessible transportation has been considered one of

the largest barriers in the transition to adulthood for individuals with IDD (Carey et al., 2024; Price et al., 2018; Smith-Hill, 2024). Lack of accessible transportation further decreases participation in educational, vocational, recreational, and social opportunities within the community which are all pivotal for overall enhanced independence, autonomy, identity, and quality of life (Bross & Frederick et al., 2023). This limited transportation and subsequent decreased access to community-based opportunities confine individuals within their home and can lead to isolation and loneliness (Pfeiffer & Falo et al., 2020). Social exclusion is highly common among those in the intellectually disabled community and can lead to a negative decline in physical and mental health (Smith-Hill, 2024).

Additionally, parents often serve as the primary method of transportation for many young adults with IDD which limits opportunities for employment, community engagement, and social participation. In a small qualitative study looking at the barriers to transportation accessibility for young adults with intellectual and developmental disabilities, eight out of nine participants reported full reliance on their parents for transportation (Bross & Frederick et al., 2023). Parents within this study described this barrier as inconvenient, challenging, and difficult to navigate, especially around their own work schedules.

Even one's own fear and motivations can hinder their pursuit of and engagement in community mobility independence. Several studies found that both fear and lack of intrinsic motivation often prevent young adults with disabilities from seeking out alternative transportation options (Kersten et al., 2020; Meyers et al. 2024).

The Role of Occupational Therapy

Driving and community mobility fall well within the scope of occupational therapy practice, as outlined in the *Occupational Therapy Practice Framework, 4th Edition* (AOTA,

2020; AOTA, 2024; Monahan, 2012; Womack & Silverstein, 2012). Occupational therapists' knowledge of diagnoses and understanding of clinical progression supports clinical reasoning and informed decision-making toward appropriate community mobility options (Monahan, 2012). As a key facilitator of engagement in other occupations, community mobility is increasingly recognized as an occupation enabler (Womack & Silverstein, 2012). Community mobility reflects a person's connection to others, access to goods and services, and participation in daily life occupations (AOTA, 2020; AOTA, 2024; Womack & Silverstein, 2012). Given this, addressing community mobility and clients' related abilities is not only an important opportunity but also a professional responsibility for occupational therapists (AOTA, 2024). However, despite the significant impact of this area on the daily lives of clients, community mobility continues to receive minimal attention by OT practitioners. Therefore, advocacy within the profession is essential to reinforce the understanding that occupational therapy is uniquely positioned and qualified to address community mobility across the lifespan and across a wide range of conditions.

Improving Community Mobility for Individuals with Intellectual Disabilities

Effective Educational Strategies

Video modeling. In the past several years, research has been conducted to determine appropriate and effective intervention strategies for teaching daily living skills to young adults with IDD. Video modeling has been found to be an effective, evidence-based strategy for teaching living skills such as shopping, meal preparation, cleaning, and transportation with results indicating positive skill acquisition, retention, and generalization (Bridges et al., 2020; Domire & Wolfe, 2014; Haring et al., 1987; Mechling et al., 2014; Mousa AL-Salahat, 2016). Video modeling, a form of video-based instruction, involves watching video recordings that

demonstrate the complete execution of a targeted task or behavior (Alberto et al., 2005). This technique allows learners to observe the task or behavior in its entirety and then practice replicating it themselves (Alberto et al., 2005; Bridges et al., 2020; Stierle et al., 2023). Studies such as these indicate that video modeling may be a useful approach to teaching occupation-based skills including community mobility. This approach would be particularly useful to the IDD population by presenting content in more understandable manner that meets their unique cognitive needs.

Task analysis and video prompting. Video prompting is also recognized as an effective, evidence-based strategy for teaching functional independent living, vocational, leisure, and academic skills to individuals with IDD (Canella-Malone et al., 2016; Kellems et al., 2016; Randall et al., 2020; Stierle et al., 2023). This method involves viewing a series of short video clips, each demonstrating individual, sequential steps of a larger targeted task or behavior. After watching each step, the learner then performs the action and receives feedback as needed (Kellems et al., 2016; Randall et al., 2020; Stierle et al., 2023). In a study using multiple baseline design, Randall et al. (2020) utilized an iPhone task analysis application with video and audio prompting to teach employment-related office skills to young adults with moderate IDD (IQ of 36-51). All four participants showed significant improvement in independent completion of tasks, indicating that this is another beneficial tool for teaching independent living skills to this population. In a similar study of three participants, Stierle et al. (2023) also utilized smart phone technology, specifically video prompting, to teach the independent living skill of meal preparation to young adults with mild to moderate IDD. At baseline, all participants were unable to fully complete the given recipes and demonstrated multiple safety concerns. Through the use of video prompting, participants learned the necessary steps and completed each recipe safely,

improving their overall independence and autonomy. It is important, however, to acknowledge the limitations related to sample sizes in both of these studies (Randall et al., 2020; Stierle et al., 2023) as smaller sample sizes limit the ability to generalize results. Therefore, additional research with larger sample sizes is necessary to effectively assess the generalizability of video-based instruction on the development of daily living skills for the IDD population as a whole.

In recent years, several larger studies have emerged, specifically addressing effective educational strategies for teaching community mobility skills to individuals with IDD (Cullen et al., 2017; McDonnell et al., 2021; Price et al., 2018; Randall et al., 2023). Some of these strategies included utilization of multimodal resources and integration of smartphone technology.

Multimedia approaches. To effectively convey essential concepts and facts on community mobility safety skills, Randall et al. (2023) utilized a range of media, including still images, text, and audio narration. This specific study included twenty-one young adults with mild to moderate IDD with most having additional co-morbid diagnoses of either Down syndrome or Fragile X syndrome (Randall et al., 2023). Outcomes revealed that young adults with mild to moderate IDD benefit from repeated instruction and increased video prompting to adequately acquire skills, meaning that the dosage of content is important to consider when teaching new travel-skills to those within this population (Randall et al., 2023). Additionally, multimedia resources are efficient, portable, and engaging. This suggests that utilization of multimedia content and video-based instruction provides users with accessible resources and may be beneficial for increasing community mobility and navigation skills (Randall et al., 2023).

GPS smartphone applications. Applications such as *Google Maps* may also help decrease the cognitive demand of navigating transportation, serving as a potential useful tool for this population (Price et al., 2018). Benefits of these types of apps include the integrated

provision of visual and auditory prompts (Price et al., 2018). For example, Price et al. (2018), found three out of four individuals with mild IDD learned to independently navigate public transportation through the use of *Google Maps*. In another study, all ten individuals with IDD increased independence in public transportation skills through the use of either high assistive technology (GPS smartphone maps) or low assistive technology (printed *Google Maps* directions) (McDonnell et al., 2021).

Utilization of a GPS smartphone navigation system promotes self-prompting, increases social validity, and provides a non-stigmatizing transportation resource for accessing services, increasing overall autonomy, confidence, and responsibility (Cullen et al., 2017; McDonnell et al., 2021; Price et al., 2018). However, cognitive limitations commonly experienced by those with IDD (e.g., problem solving, attention to detail, cognitive flexibility) can be significant barriers to successful smartphone usability and navigation (McDonnell et al., 2021). Additionally, inconsistent access to a smartphone, along with data use limitations decreases successful utilization of these services as a primary means for community mobility navigation (McDonnell et al., 2021).

Summary of the Literature

Individuals with IDD often face significant barriers to participation in meaningful life activities including employment, community integration, and home management (APA, 2013; Firestine, 2022; Suman, 2019). Research has clearly shown these challenges hinder their progress toward independence and limit the development of essential daily living skills, especially community mobility (Carey et al., 2024; CDC, 2024; Pfeiffer & Falo et al., 2020; Randall et al. 2023). Since community mobility plays a critical role in supporting community integration, independence, personal identity, autonomy, and overall quality of life (Carey et al.,

2024; Pfeiffer & Sell et al., 2020; Randall et al., 2023), it is essential to support development of community mobility skills using evidence-based teaching strategies. Occupational therapists are well qualified and equipped to address this area due to their extensive knowledge of diagnoses and holistic understanding of occupational engagement, including community mobility.

Parents and caregivers often serve as the primary means of transportation for individuals with IDD, limiting opportunities for community participation as well as the development of independent community mobility skills (Bross & Frederick, 2023). Though the cognitive demands of navigating schedules, combined with safety concerns, often deter individuals with IDD from utilizing alternative transportation services (Maisel et al., 2021), it is important to consider private transit options even more than paratransit services which can often be expensive and frequently unreliable.

The overall goal of this capstone is to develop educational materials for individuals with IDD on safe and successful use of alternative transportation services, including private ride-hailing services such as *Uber* and *Lyft*, to improve access to community-based opportunities and reduce social isolation (Pfeiffer & Falo et al., 2020; Smith-Hill, 2024; Verran et al., 2018). Increased independence in community mobility requires necessary acquisition of certain skills for increased safety and success (Randall et al., 2023). Studies have shown that training for use of public bus services is achievable (Maisel et al., 2021; Price, 2018). However, as noted, public transportation is not always available or adequate, especially in rural or suburban areas. Despite ride-hailing services increasing in popularity, there have been limited studies or information connecting ride-hailing specifically with IDD (Bross & Wood et al., 2023; Randall et al., 2023; Smith-Hill, 2024). Therefore, this capstone will focus on and address enhancing ride-hailing skills.

Using tailored education to meet the unique learning needs of this population (Benson et al., 2021; Monahan, 2012; Suman, 2019; Womack & Silverstein, 2012), this capstone will be designed using multimodal content and video modeling techniques to educate on safe and effective travel behaviors, ultimately enhancing quality of life and access to community-based opportunities for young adults with IDD.

Capstone Plan and Process

Needs Assessment Process and Findings

To inform selection of an appropriate capstone site and enhance understanding of community mobility's impact on a more localized, population-specific level, the capstone student, Ellee Hopkins, conducted a formal needs assessment. Semi-structured in-person interviews were conducted with Anna Arnold, Shift Manager at Awaken Coffee, and Raymond Henderson, Direct Support Professional at the Autism Society of North Carolina – Greenville. In addition, a semi-structured, in-person focus group was held at the Autism Society of North Carolina – Greenville with five young adults (ages 18-29) with autism spectrum disorder. These individuals also displayed deficits similar to those with IDD. Finally, data was collected through participant observation of a *Transitions* group session located at the Autism Society of North Carolina – Greenville. Refer to Appendix A for a table of the data collection strategies utilized during the needs assessment process.

In-Person Interview – Anna Arnold

To better understand how community mobility impacts daily living and community participation, particularly employment, the student conducted a sixty-minute in-person interview with Anna Arnold, a Shift Manager at Awaken Coffee in Greenville, North Carolina. According to their website, Awaken Coffee's mission is to create "a path for people with intellectual and

developmental disabilities to become more valued, accepted, and included in [the] community” (Awaken Coffee, n.d.). This company fulfills its mission by employing individuals with disabilities and teaching them essential vocational skills. In this interview, topics of discussion included 1) current educational methods used for promoting daily living skills, 2) preferred learning styles of employees, 3) needs and barriers to work performance and success, 4) attitudes, feelings, and experiences surrounding impacts of community mobility and transportation on operations, and 5) employee experiences with and understanding of technology. See Appendix B for additional details regarding these interview questions.

During this interview, community mobility and transportation were identified as a key barriers for employees. “Transportation is our number one area of need. It influences so much” (A. Arnold, personal communication, February 6, 2025). Specific areas of impact included tardiness, employee callouts, employee independence, and decreased work performance. Arnold further highlighted the lack of available educational resources on alternative community mobility options, noting that neither employees nor parents understood the availability or feasibility of other services such as public transport or ride-hailing.

In-Person Interview – Raymond Henderson

To enhance data collection, the student conducted a sixty-minute interview with Raymond Henderson, a Direct Support Professional at the Autism Society of North Carolina – Greenville. Henderson also leads the site’s *Transitions* group. This group meets weekly to discuss topics such as safety, social skills, and independence in daily living skills. Through his role, Henderson plans and coordinates individual goals for each member. In the interview with Henderson, topics of discussion included 1) current skill areas covered during meetings, 2) current educational strategies utilized by staff, 3) preferred learning styles of group members, 4)

daily challenges and barriers in regard to community mobility and transportation, and 5) impacts of community mobility and transportation on lives of group members. See Appendix C for additional details regarding these interview questions.

During this interview, a central theme emerged: inadequate transportation significantly hindered community participation and overall independence among the site's group members. Specific areas of impact included socialization with peers; participation in community-based activities; self-esteem and confidence; reliance on caregivers; and employment opportunities. Henderson also identified several areas of need related to community mobility such as navigation; smartphone skills; safety awareness; time management; effective use of transportation services; available resources and how to access them; benefits of transportation for enhancing independence; and problem-solving in challenging situations. Through this interview, it was also determined that young adults with IDD benefited from educational tools that incorporated elements of verbal instruction with hands-on reinforcement, scenario-based practice, role-playing, and visual cueing.

Face to Face Focus Group with IDD Adults

Additionally, the student conducted a small focus group to gather firsthand insight into the community mobility-related barriers and challenges experienced by young adults with disabilities. The interview aimed to determine whether these individuals perceived transportation as a significant issue affecting their daily lives. The capstone student also desired to better understand modes of community mobility currently utilized by this population and identify the key factors that influenced community mobility choices, such as cost, accessibility, location, and reliability. See Appendix D for additional details regarding these interview questions.

All five individuals from the focus group identified parents, caregivers, or staff aides as their primary means of transportation. In instances when their caregivers were unavailable, group members reported reaching out to Henderson for last-minute rides. Feelings of disappointment and frustration in relation to decreased independence in community mobility were common among group members. However, one individual did share their experience using Lyft to access the local gym and expressed positive attitudes and satisfaction with these ride-hailing services. Additionally, group members identified several specific barriers to accessing transportation resources, including geographic location. When asked about their willingness to explore alternative modes of transportation, four out of five members indicated that local paratransit services were “Not Applicable” to them, as they resided outside city limits. Despite some hesitation, likely due to unfamiliarity and uncertainty with the service, four out of five members expressed being “Somewhat Willing” to explore ride-hailing services such as *Uber* or *Lyft*.

In-Person Participant Observation – Transitions Group Session

To gain deeper insight into how deficits in adaptive behavior, cognition, and social skills manifest in everyday situations, participant observation of a *Transitions* group session was conducted at the Autism Society of North Carolina – Greenville. The student observed a three-hour long group session, revolving around the theme of “safety”. The session began with a brief, 15-minute PowerPoint presentation on safety awareness that incorporated various interactive questions. Group members then engaged in several rounds of Kahoot quizzes designed to reinforce and assess their understanding of the material previously shown in the PowerPoint presentation. Simple, understandable wording and language was noted throughout the educational content. Finally, group members participated in role-playing exercises involving

problem-based safety scenarios, during which they verbally processed through each situation and identified appropriate actions as the scenarios unfolded.

Through observation of the *Transitions* group, a clear gap emerged between knowledge acquisition and the ability to generalize those skills in practical situations. While group members performed well on the Kahoot quizzes, demonstrating strong recall, they exhibited notable safety concerns during the role-playing exercises, indicating challenges with judgement, reasoning, and problem-solving in real-world scenarios. Despite these challenges, group members displayed a strong sense of camaraderie, consistently encouraging and supporting one another throughout the session, a notable strength seen throughout this observation.

Results from the needs assessment closely aligned with the gaps identified in the existing literature, providing valuable insight into the community mobility challenges often faced by individuals with IDD. This process revealed four key themes: 1) primary barriers to community mobility, 2) the impact of those barriers on daily life, 3) the need for travel skills training, and 4) preferred learning styles for acquiring new skills. Primary barriers to community mobility included financial constraints, reliability and safety concerns with certain modes of transportation, limited understanding of how various services function, reduced awareness of available and accessible resources, and an increased dependence on caregivers for transportation. Findings further indicated that poor community mobility options led to decreased independence among individuals with IDD and negatively impacted their access, performance, engagement in other areas such as work and social participation.

Through the needs assessment, it was found that young adults with IDD and their families were not receiving adequate education or training on safe and successful utilization of alternative community mobility services. Further, all relevant stakeholders identified that ride-

hailing was the best mode of community mobility for targeted education. Finally, results from the needs assessment found that young adults with IDD learned best through a multimodal approach that incorporated visual demonstration and prompting, interactive elements, real-life scenarios with role playing, and simple wording. Refer to Appendix E for a summative infographic of the data collected through the needs assessment process.

Capstone Site and Setting

To holistically address the needs identified throughout the needs assessment process, this capstone experience was completed at East Carolina University's Department of Occupational Therapy, located in Greenville, North Carolina. The digital nature of this capstone project prompted a more population-based approach, which allowed the student to expand beyond the capstone site and work alongside several community-based partners to support the development of an accessible resource for the IDD community.

Population and Participants

All participants involved in the capstone process met the inclusion criteria of being a young adult (18 to 26 years old) and having mild to moderate IDD (APA, 2022). Participants were recruited from established community-based partnerships, personal connections, and by email. Participants were utilized as actors throughout the filming process. At the end of the capstone experience, one participant completed all eight multimodal educational learning lessons during the piloting process. They also provided meaningful and impactful feedback at key stages throughout the project to enhance formative evaluation of the finalized product.

Theoretical Frameworks

This capstone project was guided by both the Model of Human Occupation and the educational framework, Universal Design for Learning.

Model of Human Occupation

The Model of Human Occupation (MOHO) is an occupation-based framework that explains how occupations are chosen, patterned, and performed. This framework embodies a holistic approach, recognizing that many factors beyond just motor, cognitive, and sensory impairments contribute to difficulties in everyday occupation (Forsyth et al., 2019). Individuals with IDD face a wide variety of barriers to safe and successful participation in community mobility, with many challenges stemming beyond just population-based characteristics, needs, and limitations. MOHO revolves around four main concepts: volition, habituation, performance capacity, and environment (Kielhofner & Burke, 1980).

Volition describes how motivation impacts which activities an individual chooses to engage in (Forsyth et al., 2019; Kielhofner & Burke, 1980). This concept guided the student's exploration of questions such as, "how do individuals with IDD perceive themselves?"; "what community-based activities do they participate in?"; "do they desire to increase their independence?"; and "what are their previous experiences with community mobility?". Increased participation in community mobility and subsequent access to community-based opportunities can enhance empowerment and motivation for individuals with IDD.

Habituation explains the process of organizing actions into patterns and routines (Forsyth et al., 2019; Kielhofner & Burke, 1980). This concept guided exploration of questions such as, "what does day-to-day life look like?" and "what are their meaningful roles?". Engagement in community mobility helps enhance time management skills further promoting the development of positive habits in other areas of daily living.

Performance capacity encompasses the underlying mental and physical abilities and how those abilities are performed (Forsyth et al., 2019; Kielhofner & Burke, 1980). This concept

guided the exploration of questions including, “what are common characteristics of their diagnosis?”; “what are their strengths and weaknesses?”; “do they have unique learning needs, and if so, what are they?”; and “what are the skills required for safe and successful participation in community mobility?” One’s inherent mental and physical abilities significantly impact participation and safe performance in community mobility.

Finally, MOHO stresses that physical and social characteristics of an environment also impact occupational engagement (Forsyth et al., 2019; Kielhofner & Burke, 1980). Factors such as social support systems, societal norms and conventions, and geographical location all influence participation in community mobility.

Universal Design for Learning

Universal Design for Learning (UDL) is an educational approach that leverages the flexibility of digital technology to design accessible learning environments that offer options the diverse needs of learners (Meyer et al., 2014). This framework guided the process of developing and structuring the capstone project’s educational content (i.e., video models and end-of-lesson reflection questions). UDL revolves around three key principles, means of engagement, representation, and action/expression. First, educational materials should provide multiple means of engagement (Meyer et al., 2014). According to UDL, engagement is the “why” of learning. With this in mind, the capstone student designed interactive content that stimulated interest and motivation for learning. Additionally, according to UDL, educational materials should also provide multiple means of representation (Meyer et al., 2014). This principle is the “what” of learning. This principle states that information and content should be presented in multiple ways. Therefore, the capstone student designed materials that were multimodal and incorporated a combination of written, auditory, and visual components. Finally,

UDL states that educational materials should provide multiple means of action and expression (Meyer et al., 2014). This principle focuses on “how” learners demonstrate their knowledge. To address this area, the capstone program provided several opportunities for learners to exhibit their understanding, including a knowledge assessment and a practical skills evaluation.

Project Description

The primary focus area of this capstone project is program development and evaluation, and the secondary focus area of this capstone is advocacy. This project aims to enhance the understanding of available community mobility resources by developing an educational program that addresses the unique learning needs of those in the IDD population.

For this project, the capstone student developed the *Community Access-ABILITY* program. *Community Access-ABILITY* is a resource of eight digital interactive, multimodal learning lessons centered around teaching young adults with IDD the travel skills necessary for safe and successful utilization of specifically ride-hailing services such as Uber or Lyft. Refer to Table 1 below for a structural outline of the educational content.

Table 1

Structural Outline of Program’s Educational Content

Unit 1 – Understanding Ride-Hailing Services

Lesson 1.1 – Introduction to Ride-Hailing Services

Video 1 – Introduction to Community Mobility

Video 2 – What is Ride-Hailing?

Video 3 – Benefits of Ride-Hailing

Video 4 – Basic Steps of Ride-Hailing

Lesson 1.2 – Setting Up a Ride-Hailing Account

Video 1 – Introduction

Video 2 – Locate and Download the App

Video 3 – Create an Account

Video 4 – Add a Payment Method

Unit 2 – Preparing for Your Trip

Lesson 2.1 – Planning Your Trip

Video 1 – Check Your Phone Battery

Video 2 – Check the Weather Outside

Video 3 – Decide the Trip Details

Video 4 – Get Your Personal Belongings Ready

Lesson 2.2 – Ordering Your Ride

Video 1 – Locate the Search Bar and Enter Your Destination

Video 2 – Select Your Ride

Lesson 2.3 – Waiting for Your Ride to Arrive

Video 1 – Introduction

Video 2 – Collect Your Belongings and Move to the Designated Pickup Spot

Video 3 – Review Information About the Driver and the Car

Video 4 – Track the Car's Movement

Unit 3 – Beginning Your Ride (When the Car Arrives)

Lesson 3.1 – Confirming Details of the Ride-Hailing Car and Getting Inside

Video 1 – Match the Car with the Description in the App

Video 2 – Open the Car Door

Video 3 – Navigating Potential Problems: Poor Car Conditions

Video 4 – Get Inside and Put on Your Seatbelt

Unit 4 – During the Ride

Lesson 4.1 – Talking with the Driver During the Ride

Video 1 – Confirm Where You are Going with the Driver

Video 2 – Limit Talking to the Driver so They Can Concentrate

Video 3 – Don't Share Personal Information About Yourself

Video 4 – Navigating Potential Problems: Unsafe Driving Behaviors

Unit 5 – Arriving at Your Destination

Lesson 5.1 – Exiting the Car

Video 1 – Make Sure You are at the Right Place

Video 2 – Collect the Things You Brought with You

Video 3 – Thank the Driver

Video 4 – Open the Door and Exit the Car

Each learning lesson addresses a particular aspect of the ride-hailing process with subsequent content focusing on important skills within each phase. Each multimodal learning

lesson includes two to four short instructional videos discussing and demonstrating the correct way to complete the targeted skill. These educational videos are imbedded with narrative instruction, engaging graphics, text, and high-quality stock images and videos. To demonstrate use of video modeling techniques, video clips portray correct and incorrect performance of each targeted skill. These skills are modeled directly by a representative of the target population, young adults with IDD, to further support knowledge acquisition and retention. Each learning lesson concludes with four to six end-of-lesson reflection and application questions that offer learners a way to assess their knowledge and understanding. These interactive end-of-lesson questions directly align with the content of each video and are intentionally designed to be reflective of UDL principles through visually engaging formats and carefully worded prompts to support a wide variety of learning needs.

The *Community Access-ABILITY* program also includes an associated Companion Guide that provides learners and instructors with detailed instructions for how to follow along and interact with the digital content from each lesson. The guide includes learning objectives, links to access to the multimodal learning lessons, and written scripts for every video in sequential order. The guide also features instructor-specific copies for each learning lesson which include correct answer selections, options for alternative instructional adjustments, and additional opportunities for learning. To support UDL's principle of Multiple Means of Engagement and further highlight the program's multimodal nature, the Companion Guide also includes hard-copy, printable worksheets of the end-of-lesson reflection and application questions from each learning lesson, offering learners with an alternative way to interact with the content and assess understanding. Learners then have the flexibility to determine, select, and interact with the format (i.e., digital or hard copy) that best meets their unique learning needs.

Capstone Project/Experience Goals and Objectives

Based on the information obtained through the literature review and needs assessment, the capstone student developed several goals and objectives to direct the capstone experience. Throughout the planning process, original goals and objectives were altered to address logistics, particularly related to the student's projected timeline and the number of learning lessons she initially planned to complete. Several meetings were held with the student's site mentor and content expert to discuss a feasible and appropriate number of learning lessons to develop during the 14-week experience. Based on feedback provided by the student's capstone team, twelve learning lessons were streamlined to five, enhancing overall feasibility and tangibility of the end-product. That number was eventually adjusted up to eight during the Capstone Experience, after the student completed a detailed task analysis of the ride-hailing process. Further, a fourth goal was added to highlight and address the student's secondary focus area of advocacy. Specificity, measurability, achievability, and relevancy were all considered when drafting this goal. After careful consideration and discussion alongside the capstone team, the student felt this goal was suitable and important to include as a primary target area. The following goals and objectives reflect the intentions of this capstone project.

- Goal 1: Prior to beginning the Capstone Experience, the student will outline the generalized framework of the multimodal learning lessons.
 - Objective 1: The student will determine adequate technology needed for filming and identify where to acquire those resources.
 - Objective 2: The student will research *Universal Design for Learning* to enhance development of the multimodal learning lessons, particularly the end-of-lesson reflection question.

- Objective 3: The student will watch at least three YouTube videos on Interactive Microsoft PowerPoints to build understanding and confidence in using the platform.
- Goal 2: By the end of the Capstone Experience, the student will prepare, develop, and finalize at least five multimodal learning lessons, including videos and end-of-lesson questions.
 - Objective 1: The student will draft the filming outlines and scripts for learning lessons 1.1 - 2.3 by week four of the Capstone Experience.
 - Objective 2: The student will complete the filming process for learning lessons 1.1 - 2.3 by week eight of the Capstone Experience.
 - Objective 3: The student will develop and finalize the end-of-lesson reflection questions for learning lessons 1.1 - 2.3 by week eight of the Capstone Experience.
 - Objective 4: The student will edit and finalize the film footage, using the *iMovie* platform, for learning lessons 1.1 - 2.3 by week ten of the Capstone Experience.
- Goal 3: By the end of the Capstone Experience, the student will pilot the multimodal learning lessons with at least one individual with intellectual disabilities (IDD) to evaluate resource usability and assess knowledge/skill acquisition.
 - Objective 1: The student will identify at least one individual to pilot the multimodal learning lessons with and schedule times for administration by week seven of the Capstone Experience.

- Objective 2: The student will begin piloting the multimodal learning lessons starting week 11 of Capstone Experience.
 - Objective 3: The student will revise the finalized multimodal learning lessons based on feedback provided from piloting throughout weeks 12-14 of the Capstone Experience.
- Goal 4: By the end of the Capstone Experience, the student will include a diverse range of diagnoses representative of the IDD population to expand understanding and illustrate the broad scope of individuals who could benefit from these materials.
 - Objective 1: The student will identify and establish at least one community-based partnership to determine potential participants for the filming and piloting processes prior to the beginning of the Capstone Experience
 - Objective 2: The student will ensure that videos and finalized multimodal learning lessons represent at least two different IDD diagnoses.
- Goal 5: By the end of the Capstone Experience, the student will share the finalized content and provide introductory education with relevant stakeholders and/or occupational therapy practitioners to promote cross-setting awareness and uptake of the material (*by week 14 of Capstone Experience*).
 - Objective 1: Identify and compile a list of occupational therapy practitioners and/or relevant stakeholders who may contribute to feedback or benefit from the digital resource (*by week seven of Capstone Experience*).
 - Objective 2: Upload finalized content onto an easily accessible, digital-based platform (*by week 14 of Capstone Experience*).

- Objective 3: Present on finalized content at the local and/or national level to promote need for and awareness of OT's role in community mobility among the IDD population (*by the end of the semester*).

Planning and Development

Steps to Implement Capstone Project

To achieve the goals and objectives outlined above, the student identified ten distinct steps for implementation. Table 2 provides a step-by-step layout of the development process.

Table 2

Doctoral Capstone Steps for Implementation

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- Step 1 – Identify and Establish Community Partnerships for Filming and Piloting
 - Step 2 – Complete Task Analysis of Ride-Hailing Process to Determine Curriculum Structure
 - Step 3 – Create and Draft Film Outlines and Scripts
 - Step 4 – Develop End-of-Lesson Reflection and Application Questions on Genially.com
 - Step 5 – Communicate and Schedule Dates for Filming with IDD Participants
 - Step 6 – Film Content for Learning Lesson Videos
 - Step 7 – Edit Film Content on iMovie and Imbed Finalized Videos into Genially.com
 - Step 8 – Build and Finalize the Full Multimodal Learning Lessons
 - Step 9 – Develop and Finalize the Program's Companion Guide
 - Step 10 – Pilot the Completed Multimodal Learning Lessons
-

Timeline

Based on the established steps for implementation, the student developed a week-by-week timeline of the capstone experience. Table 3 provides a detailed timeline, outlining the 14-week capstone experience. Refer to Appendix F for an infographic portrayal of this timeline.

Table 3*Doctoral Capstone Timeline*

Phases	Tasks
Pre-Capstone Experience	Identified potential community-based partnerships Drafted generalized framework of multimodal LLs
Weeks 1-2	Investigated and drafted media releases for filming Established IDD participants for filming and piloting Wrote initial draft of film outlines & scripts for LLs 1.1-1.2 Held weekly site mentor meetings Made continual refinements to content based on feedback
Weeks 3-4	Wrote initial draft of film outlines & scripts for LLs 2.1-5.1 Drafted learning objectives for LLs 1.1-2.2 Drafted end-of-lesson questions for LLs 1.1-1.2 Create interactive multimodal slideshows for LLs 1.1-1.2 Curated representative stock images/videos from Adobe Stock Held weekly site mentor meetings Made continual refinements to content based on feedback
Weeks 5-6	Created the <i>Community Access-ABILITY</i> program logo Created all eight learning lesson logos Piloted the film outlines & scripts with an IDD participant <i>*Formative evaluation*</i> Drafted learning objectives for LLs 2.3-3.1 Drafted end-of-lesson questions for LLs 2.1-3.1 Created interactive multimodal slideshows for LLs 2.1-3.1 Held weekly site mentor meetings Made continual refinements to content based on feedback
Weeks 7-8	Piloted the film outlines & scripts with an IDD participant <i>*Formative evaluation*</i> Finalized film outlines & scripts of all 8 Learning Lessons Drafted learning objectives for LLs 4.1-5.1 Drafted end-of-lesson reflection questions for LLs 4.1-5.1 Created interactive multimodal slideshows for LLs 4.1-5.1 Communicated and scheduled filming dates for LLs 2.2-3.1 <i>*IDD participant involvement*</i> Finalized sustainability plan Drafted list of stakeholders to send the finalized resource Held weekly site mentor meetings Made continual refinements to content based on feedback
Weeks 9-10	Filmed narrative script content for all 8 learning lessons

	Curated through all narrative filmed footage and edited down Filmed video modeling footage for LLs 2.2, 2.3, & 3.1 <i>*IDD participant involvement*</i> Communicated and scheduled filming dates for remaining LLs <i>*IDD participant involvement*</i> Edited full videos for LLs 1.1-2.2 on iMovie Held weekly site mentor meetings Made continual refinements to content based on feedback
Weeks 11-12	Filmed video modeling footage for LLs 1.2, 2.1, 4.1 & 5.1 <i>*IDD participant involvement*</i> Edited full videos for LLs 2.3-5.1 on iMovie Held weekly site mentor meetings Made continual refinements to content based on feedback
Weeks 13-14	Finalized all 8 multimodal learning lessons Created <i>Community Access-ABILITY</i> Companion Guide Piloted full program for UDL representation with OT educators <i>*Formative evaluation*</i> 1-on-1 piloting of complete program (8 learning lessons) <i>*Summative evaluation*</i> Held weekly site mentor meetings Made final refinements to content based on feedback

Evaluation Plan

To evaluate outcomes of the student's capstone program, *Community Access-ABILITY*, both formative and summative evaluation processes were completed. According to Meyers et al. (2014), "The most important kind of assessment, from a UDL perspective, is formative assessment" (p. 15). During the 14-week experience, the capstone student participated in on-going collection and analysis of feedback, received at various stages throughout the development process. Feedback was provided by relevant stakeholders including occupational therapists, higher-educational professors, and individuals with IDD.

Film outlines and scripts were specifically piloted with two young adults with IDD to refine wording, determine need for additional visual supports during the editing phase, and better understand speech tone and pacing for the filming process. These reviews were conducted both

in person and through Microsoft Teams. Scripts for each learning lesson were carefully and clearly read aloud in appropriate chunks, and participants were then asked to explain what they had just learned. Direct and indirect verbal cues were provided as needed throughout the vetting process to enhance content understanding.

To evaluate whether the program's overall instructional content adequately reflected UDL principles, the student developed a UDL Checklist. This tool addressed key areas within each of the three main principles of UDL, multiple means of engagement, representation, and action/expression. This checklist was specifically designed to evaluate wording, visual representation, and overall interactivity of the finalized learning lessons, including video content and end-of-lesson reflection and application questions. See Appendix G for a copy of the UDL Checklist.

Additionally, to address summative program evaluation, the capstone student piloted all eight finalized Learning Lessons with one participant (i.e., a young adult with IDD) during weeks 13 and 14. To assess learner knowledge acquisition and overall understanding, the student administered a pre-assessment prior to beginning the educational modules. End-of-lesson questions across all eight learning lessons were randomized, and feedback was not provided to the participant upon completion to minimize memorization and familiarity between pre- and post-assessments.

Weekly meetings were also held with the student's site mentor and content expert. The meaningful and impactful feedback received during these meetings informed continual adjustments and improvements of the educational content, which helped create a program that was high quality, trustworthy, and effective

Plan for Sustainability

The student took steps throughout the capstone process to ensure sustainability of the resources provided through the *Community Access-ABILITY* program. When formatting the educational content, the student intentionally chose platforms such as YouTube and Genially.com to ensure easy access and usability across multiple digital interfaces. Links to each learning lesson, including access to videos and end-of-lesson questions, are located in the Companion Guide for quick reference. Due to this nature, content can easily be shared among learners and instructors through email, text, or airdrop. Additionally, the accessible nature of the Companion Guide allows learners to save and print PDF worksheets of each learning lesson if physical content engagement is preferred.

Further, the capstone student and site mentor collaborated to obtain and design a formal webpage through East Carolina University. The finalized multimodal learning lessons and associated Companion Guide were placed onto the website as educational tools for OT practitioners, families, and clients to increase understanding and knowledge of ride-hailing services.

Out of the many modes of transportation, this capstone project only specifically addresses ride-hailing services such as Uber or Lyft. Therefore, this student, future OTD students, or ECU OT faculty can continue building upon the *Community Access-ABILITY* program by exploring other transportation services such as intercity buses, subways, or taxis.

Outcomes**Project Summary**

All five of the student's goals were met upon completion of the 14-week capstone experience. In total, the student developed eight finalized multimodal learning lessons, organized

into five units, producing three more lessons than initially planned. Within these multimodal learning lessons, the student also developed 30 high-quality, instructional videos, 46 interactive end-of-lesson reflection and application questions, and two simulated learning experiences. To create educational resources representative of the IDD population, the capstone student included a diverse range of diagnoses such as Developmental Delay, Fragile X Syndrome, Autism Spectrum Disorder, and Down Syndrome. These diagnoses were reflected through both Adobe Stock footage and filmed video modeling footage.

To evaluate resource usability and assess knowledge acquisition, the capstone student piloted both the film outlines/scripts and the finalized program with members of her target audience. During both stages of piloting, the educational content received high praise. Particularly, participants enjoyed the program's simplicity and usability. They felt the program was motivating, engaging, and enjoyable, also emphasizing appreciation for accurate representation of the IDD population. The participant who piloted the finalized program stated, "I love how the people in these videos look like me. I feel like using an Uber is something I can do." Upon completing the program, this particular participant demonstrated improved content understanding evidence by a 15% score increase, measured by the multimodal end-of-lesson reflection and application questions.

Finally, to promote cross-setting awareness and dissemination of the educational materials, the capstone student shared the finalized program with several stakeholders upon completion of the capstone experience. Stakeholders included occupational therapists in academia and hospital settings, employers, parents of individuals with IDD, and members of the target audience (i.e., young adults with IDD). Brief education was provided to stakeholders concerning purpose of the program and usability of the multimodal learning lessons.

Project Outcomes and Analysis

Pre-Capstone Work

Prior to beginning the capstone experience, the student spent extensive time reading literature on developing UDL-based educational resources to enhance her understanding of crafting engaging multimodal content. Additionally, she connected with local partners to establish equipment and technology needs which saved both time and money throughout the filming process. Initially, the student planned to utilize Microsoft PowerPoint to develop her multimodal learning lessons; however, after navigating the platform, she found the interface to be insufficient in producing interactive content. After researching additional platforms such as Prezi, Canva, and Kahoot, she ultimately found Genially.com which specialized in interactive, gamified content.

Identifying and Establishing Community Partnerships for Filming and Piloting

Initial weeks of the capstone experience were spent determining and establishing personnel needs for the filming and piloting processes. The capstone student came into the experience with a wide network of connections within in the IDD population, and she primarily pulled from those individuals before reaching out to local community-based organizations for additional support. After several in-person discussions, phone calls, and emails, with family members, employers, and those within the IDD population, the student was able to identify five young adults with IDD willing to participate in the project. Four of these individuals participated in the filming process, and one individual participated in the piloting process. Selected participants represented a variety of demographics including sex, race/ethnicity, and diagnosis. Refer to Table 4 below for the specific demographic characteristics of each participant.

Table 4*Demographic Characteristics of Participants*

Participant	Sex	Race/Ethnicity	Diagnosis
Participant #1 (Filming)	Female	Middle Eastern	Pierre Robin-Syndrome
Participant #2 (Filming)	Male	Black/African American	Fragile X Syndrome
Participant #3 (Filming)	Female	White/Caucasian	Developmental Delay
Participant #4 (Filming)	Male	White/Caucasian	Autism Spectrum Disorder
Participant #5 (Piloting)	Female	White/Caucasian	Developmental Delay

Completing a Task Analysis of the Ride-Hailing Process to Determine Curriculum Structure

The program's original curriculum plan included five learning lessons that revolved around the OT Community Mobility Skills Checklist for Intellectual and Developmental Disabilities, a community mobility assessment tool developed by Dr. Anne Dickerson. These original five learning lessons addressed specific cognitive perceptual skills required for utilization of ride-hailing services. However, after detailed discussion and deliberation with her site mentor and content expert, the student determined the need to restructure the program's curriculum. The capstone student recognized that utilizing ride-hailing services would likely be a complex, novel task for many learners; therefore, it was essential to present content in a more sequential and understandable manner.

The student then completed a detailed task analysis that examined the ride-hailing process from beginning to end. This step-by-step approach aimed to support cognitive mapping

of new information, facilitate more efficient processing, and promote skill generalization. The capstone student had to consider specific intellectual and adaptive behavior challenges experienced by those with IDD to adequately address challenging cognitive perceptual, behavioral, and communicative aspects of the ride-hailing process in the program's curriculum.

From this task analysis, the student identified four distinct phases within the ride-hailing process, 1) planning a ride hailing trip, 2) waiting on the ride hailing vehicle to arrive, 3) riding in the vehicle itself, and 4) arriving at the destination. These four phases ultimately became the program's unit structure, with an additional unit added at the beginning to properly introduce community mobility and ride-hailing services. The ride hailing process was broken down even further with careful consideration of certain logistical aspects such as downloading the ride-hailing app, creating an account, packing personal belongings, ordering a ride, tracking the ride-hailing vehicle's movement in real time, and reviewing the vehicle/driver's information. Emphasis was also placed on critical areas like decision making, planning/organizing, problem solving, appropriate communication, and overall safety to determine key subskills required for safe and successful completion of each step within the process. These key steps and subskills were refined into eight learning lessons which directly guided the program's video content. Overall, the curriculum structure follows a logical and natural sequence of events that correlates with the ride-hailing process itself, beginning with foundational concepts and progressing to more advanced information. Feedback was received from the student's site mentor and content expert which informed adequate wording (i.e., unit, lesson, and video titles) and finalized sequential order for all instructional content within the program's curriculum.

Creating and Drafting Outlines and Scripts for Filming

The first seven weeks of the capstone experience were spent writing film outlines and scripts in preparation for the filming process. Although seven weeks was more time than initially planned for this phase of the project, the student quickly recognized the importance of receiving extensive feedback and making continual refinements as these scripts laid down the foundation for the remainder of the capstone experience. To ensure promote learner comprehension and reduce cognitive load, it was crucial for information included in the film scripts to be high-quality, understandable, and short in length.

In total, the student developed eight film scripts, one for each multimodal learning lesson. Film scripts included a combination of narrative dialogue and parenthetical notes to guide the filming/editing processes. To support comprehension, the student ensured clarity and simplicity of the script dialogue, with feedback obtained from both OT educators and members of the target audience (i.e., young adults with IDD) throughout the seven-week writing period. Particular care was also taken to ensure that simplifying the vocabulary did not compromise the accuracy or intended meaning of the content. Based on feedback from relevant constituents, the capstone student made continual refinements until each script was fully polished and adequately reflective of UDL principles. Please see Appendix H for an example of a finalized film script from learning lesson 1.2.

Additionally, the student developed a film outline specifically designed for the video modeling content, the footage filmed with the IDD participants. The complex nature of this particular filming process required the student to carefully consider additional details including filming locations, materials needed, additional personnel required, and camera angles/blocking. It was especially important to draft simplified dialogue and break-up the scenes into short, 30

second to 60 second clips for enhanced task understanding and overall successful performance for all the actors behind the camera.

Developing End-of-Lesson Reflection and Application Questions

An integral component of the capstone experience revolved around designing multimodal, interactive end-of-lesson reflection and applications questions for learners to complete after watching the lesson's instructional videos. These questions were intended to assess overall comprehension and enhance knowledge retention. After finalizing film scripts, the capstone student spent extensive time brainstorming wording, structure, and overall visual representation for each questions. Information from the instructional videos was filtered into 46 questions, across eight lessons to help scaffold content and reiterate key concepts.

End-of-lesson questions were officially designed using the Genially.com website. This platform provided the opportunity to develop interactive, multimodal, quiz-like questions where learners could tangibly interact with engaging content and receive immediate consistent feedback for reflection. The simplistic nature of the platform supported both content design, from an editing perspective, as well as overall usability, from a viewer perspective. Vocabulary and visual imagery directly correlated with content from the instructional videos, further supporting knowledge retention and familiarity. Varying visual/auditory stimuli such as bold/italicized text, graphics, moving icons, and colorful shapes, were imbedded throughout the end-of-lesson questions to keep learners with diverse needs motivated and engaged in the content. Additionally, varying question-formats offered multiple ways to engage with the materials, promoting active learning. To keep learners motivated and reduce frustration, it was particularly crucial for questions to range in difficulty and offer learners a healthy mix of higher-level executive functioning challenges with easy opportunities for success. Some questions tasked

learners with selecting singular answers while others challenged them to identify up to four choices with both near and far distractors were imbedded into the content. Higher level questions were strategically designed to activate working memory, planning and organization, cognitive flexibility, and selective attention.

To emphasize skill acquisition and generalization, the capstone student also designed two practical learning experiences, directly simulating the process of 1) downloading a ride-hailing app and creating an account and 2) using the app to order a ride. This provided learners with a tangible opportunity for advanced practice in a safe, controlled setting. These simulated experiences were also designed in Genially and were imbedded into the end-of-lesson reflection and applications from learning lessons 1.2 and 2.2. Please refer to Appendix I for sample end-of-lesson reflection and application questions from learning lesson 1.2.

Filming and Editing Content for Learning Lesson Videos

The capstone student filmed content in two distinct phases. First, she began the process by filming all the solo, narrative content. This content consisted of direct, instructional information with the student acting as the primary narrator. The selected background was professional and simplistic to minimize viewer distraction, while the narrator's attire was intentionally bright and colorful to direct audience attention. The capstone student's facial expressions, tone of voice, intonation, pacing, and use of short, impactful sentences further facilitated engagement and understanding. To produce high-quality audio and video, narrative filming was completed using the Black Magic 4K camera with external lighting added for supplemental brightness. In total, the capstone student filmed over ten hours of footage across all eight film scripts.

Phase two of the filming process revolved around use of video modeling techniques to demonstrate correct and incorrect completion of targeted skills. All video content from this phase was created with young adults with IDD with varying diagnoses, ultimately helping make the finalized program more meaningful and relevant to the target audience. Additional personnel supported filming both on and off camera, allowing the capstone student to primarily direct the process. Teaching strategies such as positive reinforcement, verbal repetition, modeling, and direct visual prompting were utilized to meet the actor's learning needs and promote overall task understanding and performance. Actors responded well to direct coaching, demonstrating excellent ability to follow task instructions and produce high-quality skill representation. For more mobile and accessible camera management, all video modeling content was captured using cinematic video recording on the student's iPhone. This allowed the opportunity to film at unique locations with varying camera angles and was particularly helpful in capturing close-up footage inside model ride-hailing vehicles.

Editing took place during weeks 9-12 of the capstone experience. The student spent extensive time imbedding filmed video footage with relevant graphics, text, and high-quality stock images/videos from Adobe Stock to ensure the creation of multimodal content, primarily utilizing the iMovie platform. In total, the student developed 30 fully polished instructional videos which reflect a healthy balance between simplistic content and engaging visual/auditory stimuli. With each video only ranging from 60 seconds to five minutes in length, content promotes sustained attention and overall comprehension. All videos were ultimately placed onto YouTube under private links.

Finalizing the Multimodal Learning Lessons

The capstone experience resulted in the development of eight fully finalized digital multimodal learning lessons structured as standardized presentations on Genially.com. These lessons present all instructional content in a consistent format and offer clear, navigational prompts for easy accessibility and usability. This allows learners to focus on learning rather than expend unnecessary time or energy navigating the technology.

Each lesson begins with a title slide, featuring a distinct lesson logo. These unique, color-coordinated logos help learners stay on track and keep curriculum materials organized. Further, each lesson includes specific learning objectives, designed with Bloom's Taxonomy, that introduce clear expectations and anticipated learning outcomes. Next, learners can view the edited instructional videos which are imbedded directly onto the slides from YouTube. Following the videos, learners are prompted with the option to either revisit video content or advance straight into the end-of-lesson reflection and application questions which conclude each lesson. Please refer to Appendix J for the finalized interactive, multimodal slideshow for learning lesson 3.1.

Building a Companion Guide

During the final weeks of the capstone experience, the student developed the *Community Access-ABILITY* Companion Guide, a centralized and summative tool where learners and instructors can access all educational materials. The Companion Guide includes narrative film scripts, learning objectives, and links to access the multimodal slideshows for all eight learning lessons. Additionally, the guide includes instructor-specific copies of the questions, allowing the program to be used in collaboration with peers, parents, or in vocational training with occupational therapists. These instructor manuals provide correct answer choices, additional

learning opportunities, and additional teaching strategies including verbal cueing/prompting levels, visual support strategies, and safety training tips. The Companion Guide also includes printable worksheets of the end-of-lesson reflection and application questions, offering a non-technological option to access materials when technology is a distractor or too complex. The unique format of the guide allows it to be used directly alongside the program's digital content or in isolation.

Piloting the Complete Program - Results from the Evaluation Process

Halfway through the capstone experience, the student vetted her film scripts and outlines with two young adults with IDD. During this process, both participants demonstrated positive understanding with an estimated 75% comprehension rate across all eight learning lessons. This percentage was encouraging given that the information was presented solely through auditory means. Program materials would eventually be enhanced even further by incorporating visual supports into the filmed instructional videos and end-of-lesson questions. Based on feedback received during this process, the student made appropriate refinements to the film scripts and outlines.

For summative evaluation of the *Community Access-ABILITY* program, the student piloted finalized materials and learning lessons with one young adult with IDD. To do so, she administered a singular pre-assessment to this individual, with the post-assessment given naturally and sequentially through the end-of-lesson reflection and application questions. After navigating through the entire program one time, including all 30 videos and all 46 end-of-lesson questions, the participant's score increased from 68% to 83%.

To evaluate the program's overall representation of UDL principles, two higher education, OT educators completed the student's UDL Checklist. Both were credible resources

due to their extensive training and background in the UDL framework. In relation to principle #1, Multiple Means of Engagement, the program scored a 100%. Five-out-of-five ratings were given on all subareas including the program's ability to recruit interest, sustain learner effort and persistence, and support self-regulation. For principle #2, Multiple Means of Representation, the program also scored 100%. Educators felt that the program adequately presented content in multiple formats and that visuals and graphics were clear, high contrast, and accessible. Further, they felt that instructional material was clearly organized and logically sequenced with adequate scaffolding of information. Finally, OT educators rated the program a 96% for principle #3, Multiple Means of Action and Expression. According to their reviews, navigation of the program was intuitive and accessible with clear instructional directions for all tasks. Further, they noted that the bridge between the instructional videos and end-of-lesson questions successfully offered learners with multiple opportunities to learn and practice content. Overall, the *Community Access-ABILITY* program received high praise for its versatile learning materials and strong representation of the guiding principles of UDL.

Discussion

Interpretation of Results

Results and feedback from the piloting processes indicate successful development of multimodal, UDL-based educational materials focused on enhancing ride-hailing competency for young adults with IDD. The increase in knowledge acquisition, demonstrated through completion of the end-of-lesson reflection questions, suggests that the *Community Access-ABILITY* program adequately structured the ride-hailing process and presented material in an effectively understandable manner, supporting learning comprehension. Additionally, consistent positive feedback across multiple stakeholders including educators, parents, and young adults

with IDD indicates the program was easily accessible and relevant to the participants' needs. Consistent themes emerged throughout the piloting processes, including 1) addressing a significant need for the IDD population, 2) reducing caregiver burden by enhancing travel independence, 3) presenting content in an effective manner through simple vocabulary using and engaging visuals, and ultimately 3) producing an impactful, functional product. Several educators, particularly those working in secondary transition planning expressed excitement and eagerness to share the finalized resource with their IDD students. Overall, the program received significant positive feedback and displayed positive results in relation to knowledge acquisition and understanding.

Dissemination

This capstone project was disseminated as a poster presentation on April 23rd, 2026, at AOTA INSPIRE in Anaheim, California. During this presentation, the capstone student displayed a hard copy of the full Companion Guide as well as demonstrated engagement with the interactive multimodal learning lessons using an iPad. The project was also disseminated as an oral presentation on April 29th, 2026, at East Carolina University's College of Allied Health Sciences Research Day.

Limitations

Due the focus areas of this capstone project (i.e., program development/evaluation and advocacy), formal research measures were not taken during general development or piloting. Although results from the piloting process indicated an increase in competency, the capstone student is unable to generalize findings. Future research with more formal, methodological designs, such as a randomized control trial should be conducted to determine overall efficacy of the program. Additionally, participant samples were relatively small across both filming and

piloting. Several other diagnoses fall within the IDD population; therefore, it is important for those individuals to be represented in future content. Further, the finalized program was only piloted with one individual; therefore, statistical analysis was not possible. Future endeavors should build upon this work to determine the efficacy of this program in the IDD population.

Additionally, a limited budget reduced the student's ability to produce high-quality film footage, particularly in relation to the video-modeling content. Future endeavors, with an increased budget, could utilize professional filmmakers and actors to increase the quality of the visual content throughout the program. Further, due to the capstone student's home location, majority of filmed was completed in urban and suburban environments, potentially making the content less generalizable to those who live in rural areas. Incorporating professional personnel into the filming process could support filming in diverse locations, increasing demographic representation and overall comprehension.

Implications for Profession

Adequate access to community mobility resources promotes engagement in meaningful occupations including work, education, health management, leisure, and socialization. However, individuals with IDD face significant barriers to community mobility, often relying on their parents for transportation. This reliance is largely due to population-specific deficits as well as inadequate educational resources on this particular topic. Unfortunately, there are currently no multimodal educational materials made for individuals with IDD that teach on the travel skills necessary for safe and successful use of ride-hailing services. The *Community Access-ABILITY* program is a groundbreaking resource for the OT profession, offering practitioners with a clear client-centered educational tool, rooted in UDL principles and task-analysis. More specifically,

practitioners can incorporate the program into vocational training by using the Companion Guide as they walk clients through the instructional videos and end-of-lesson questions.

Future Directions

The *Community Access-ABILITY* program is a portion of a larger project done in collaboration with Dr. Anne Dickerson and Dr. Heather Panczykowski. The program's educational materials will likely be utilized as intervention tools for individuals with IDD upon their completion of the OT Community Mobility Skills Checklist for IDD (OT-CMSC-IDD). This detailed assessment tool addresses key physical, cognitive, behavioral, and communication skills required for successful use of alternative modes of transportation. Clients, alongside family members or occupational therapists, fill the checklist out, noting whether they can complete the target skill independently, potentially with training, or not at all. The digital checklist then filters through responses and matches clients with appropriate, feasible community mobility options. Individuals who match with ride-hailing services will ultimately be directed to the *Community Access-ABILITY* program's interactive, multimodal learning lessons where they can access client-centered educational resources and develop competency in the ride-hailing process. To enhance materials available to instructors, the development of goals using goal attainment scaling (GAS) is a valuable next step. Reflective of both the IDD checklist and the *Community Access-ABILITY* program's educational materials, this resource would provide instructors with ready-made transportation goals that can be easily selected, individualized, and used to monitor learner progress.

Further, the *Community Access-ABILITY* program can continue to be expanded upon by addressing additional forms of community mobility including intercity buses, trains/subways/trams, taxis, or paratransit services. Future learning lessons can mimic the

program's current multimodal presentation for consistency, accessibility, and carry-over of information.

Conclusion

Within the field of OT, community mobility is often referred to as an occupation enabler (Womack & Silverstein, 2012). Community mobility serves as an essential tool for accessing both meaningful and necessary activities within daily life including work, education, health management, and social participation (Koketsu, 2018; AOTA, 2020; Pfeiffer & Sell et al., 2020). While many Americans primarily use their personal vehicles for travel, a large proportion of the population relies on alternative modes transportation to access their community (Burrows & Burd, 2024). However, safe and successful use of alternative options including public bus, trains, subways, taxis, or ride-hailing services requires specific cognitive, behavioral, and communication skills to adequately meet the complex demands of these services and the environments they operate in (Bezyak et al., 2023; Lubin & Deka, 2012; Riser et al., 2015; Xu et al., 2024).

Individuals with IDD often face significant barriers to independence and engagement in meaningful occupations, including community mobility (Carey et al., 2024; Pfeiffer & Falo et al., 2020; Smith-Hill et al., 2024). Personal barriers including deficits in adaptive behavior, executive functioning, comprehension, reasoning, and social skills limit independence in transportation, leading to a significant reliance on caregivers for access to their local communities (Carey et al., 2024; Price et al., 2018; Smith-Hill, 2024). Additionally, external barriers including poor transition planning in high school and a lack of suitable, client-centered resources on travel skills further exacerbate this gap (Benson et al., 2021; Mogensen et al., 2024; Young-Southward et al. 2017). Limited access to transportation further restricts involvement in

educational, vocational, recreational, and social opportunities within the community, all of which are essential for fostering greater independence, autonomy, personal identity, and overall quality of life (Bross & Frederick et al., 2023).

This capstone aimed to develop ride-hailing competency among young adults (ages 18-26) with IDD by creating multimodal educational materials that teach the practical travel skills needed for safe and successful use of services such as Uber and Lyft. This project utilized the Universal Design for Learning educational framework as well as evidence-based video modeling techniques to create the *Community Access-ABILITY* program (Bridges et al., 2020; Domire & Wolfe, 2014; Haring et al., 1987; Mechling et al., 2014; Meyer et al., 2014; Mousa AL-Salahat, 2016). *Community Access-ABILITY* is a digital, educational program including eight multimodal, interactive learning lessons, organized into five units. The capstone student used evidence-based OT approaches, including activity analysis to break down the ride-hailing process into key stages, ultimately structuring the program's curriculum. Each multimodal learning lesson includes short instructional video content followed by interactive end-of-lesson reflection and application questions. Two learning lessons also feature simulated learning experiences where learners can practice creating a ride-hailing account and ordering a ride using the app in a controlled, safe environment.

The capstone student completed this project across a 14-week experience, featuring several key stages of development such as 1) identifying and establishing community partnerships, 2) completing a task analysis of the ride-hailing process, 3) creating film outlines and scripts, 4) developing multimodal end-of-lesson reflection and application questions for knowledge acquisition, 5) filming narrative instructional content and video modeling footage, 6) editing filmed footage and imbedding engaging graphics, 7) developing a summative Companion

Guide to aid instruction of the program, and 8) piloting the finalized program. In total, the capstone student developed 30 instructional videos using iMovie, 46 interactive end-of-lesson questions and 2 simulated learning experiences using Genially.com, and a 182-page Companion Guide to be used alongside the digital program.

Results from piloting and dissemination demonstrated positive reception from a variety of relevant stakeholders including educators (OT and non-OT), employers, young adults with IDD, and their parents and family members. Feedback highlighted the overall accessibility of the program with many appreciating the simplicity of vocabulary and use of engaging and consistent visual supports presented throughout the program. Another key theme found throughout the piloting process included the program's successful use of video modeling techniques for supporting comprehension and knowledge retention, enhancing visual representation of the IDD population, and advocating for increased client-centered educational resources in the community mobility space. Ultimately, the capstone student was able to adequately represent UDL principles and provide learners with multiple ways to engage with the program, both digitally and non-digitally. Further, results from the one-on-one piloting experience demonstrated an increase in ride-hailing competency, suggesting efficacy of the overall program in enhancing ride-hailing skills for this population.

With the proper support, individuals with IDD are fully capable of accessing community resources and building independence in daily living skills, including community mobility. Developing easily accessible and multimodal educational materials is an excellent way to empower underserved populations and address critical service gaps. Occupational therapists play an integral role in both the creation of client-centered educational resources as well as the

implementation of effective interventions due to their holistic understanding of personal and environmental contexts in combination with the demands of daily living activities.

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Appendix A

Table of Data Collection Strategies During Needs Assessment

Strategy	Setting/Context	Description of Tool	Who	When
Interview	In-Person at Awaken Coffee Shop	Semi-structured interview; open-ended; multiple choice; single response; Likert scale	Anna Arnold, Shift Manager	February 6, 2025
Interview	In-Person at the Autism Society of North Carolina - Greenville	Semi-structured interview; open-ended; multiple choice; single response; checklist	Raymond Henderson, Direct Support Professional	February 24, 2025
Focus Group	In-Person at the Autism Society of North Carolina - Greenville	Semi-structured interview; open-ended; multiple choice; single response; checklist; Likert scale	Five “Transitions” Groups Participants; Young Adults (18-29 years-old) with I/DD and ASD	March 3, 2025
Participant Observation	In-Person at the Autism Society of North Carolina - Greenville	Active observation on-site during the “Transitions” Group session	Five “Transitions” Groups Participants; Young Adults (18-29 years-old) with I/DD and ASD	March 3, 2025

Appendix B

Needs Assessment Interview Questions: Awaken Coffee (A. Arnold – Shift Manager)

Demographics:

1. What is your contact information and preferred method of contact?
 - a. Email:
 - b. Phone Number:
2. What is your job title here at Awaken?
3. How long have you worked at Awaken?
4. Could you please briefly describe some of your main roles and responsibilities here at Awaken?

Task Boxes:

5. What task boxes does Awaken currently have?
6. What aspects or processes of the task boxes do employees find challenging to complete?
(*E.g., form of media; wording; absence and/or presence of interactive components*)
7. What aspects or processes of the task boxes do employees find straightforward to complete?
(*E.g., form of media; wording; absence and/or presence of interactive components*)
8. What additional task boxes would be beneficial for your employees? What skill areas and/or activities are currently not being addressed?
9. On average, how much time do employees spend working on the task boxes? Are these tasks completed intermittently throughout the day or is there a designated period of time for employees to focus on them?
10. Are employees ever provided with materials from the task boxes, such as worksheets or handouts, to take home?
11. Have you observed any positive changes in work performance, confidence, or self-esteem since implementing the task boxes?
12. Do employees typically complete the task boxes independently or alongside someone else, such as a manager or fellow employee?

Learning Styles:

13. How do the employees learn best?
 - ☐ Verbal instruction
 - ☐ Visual demonstration
 - ☐ Visual cueing, reminders, or lists
 - ☐ Hands-on practice
 - ☐ Repetition
 - ☐ Independent learning
 - ☐ Learning alongside peers
 - ☐ Other: _____

Needs and Barriers:

14. What do you perceive as the top three barriers or challenges to employees' work performance and overall success?

- a. *E.g., being on time/time management; interacting with customers/social skills; following directions; problem identification; problem solving; task initiation; task completion; safety awareness*
- 15. What do you perceive as the main barriers or challenges to your own work performance and overall success (as a manager)?
- 16. From your perspective, what are the key strengths of the Brew Crew?
- 17. From your perspective, what are the key strengths of the Allies team?

Impact of Transportation:

- 18. Based on your perspective and experience, please describe the primary barriers and challenges your employees encounter with regard to transportation.
- 19. How does transportation impact daily operations at Awaken?
 - ☐ Employees arriving late to work
 - ☐ Employees leaving work early
 - ☐ Employee morale (*e.g., stressed if transportation is late; low energy; low self-esteem*)
 - ☐ Scheduling
 - ☐ Call Outs
 - ☐ Other: _____
- 20. Do you consider improving transportation options and enhancing related skills (*e.g., social skills, safety awareness, etc.*) as a potential avenue for Awaken to support its employees? From your perspective and experience, would you consider transportation and community access as key areas worth addressing at this location?
 - ☐ Yes
 - ☐ No
- 21. Does Awaken currently provide any transportation-related resources to the employees? If so, please elaborate.
- 22. Which method do you believe would be the most effective in meeting the needs of your employees? Please select from the following options and provide further explanation.
 - ☐ Hands-on task boxes – *E.g., workbooks, structural activities*
 - ☐ Virtual task boxes – *E.g., educational videos on a device such as an I-pad or computer with interactive elements*
 - ☐ Multi-media task boxes – *E.g., educational video modules + workbooks*
 - ☐ In-person classes or training sessions

Operations:

- 23. How long is a typical shift for employees?
- 24. How and when are staff/employee trainings typically offered? Are any team meetings or training sessions held outside of regular work hours?
- 25. Could you briefly describe Awaken's long-term vision for their employees, including their growth potential at Awaken and beyond?

Processes:

- 26. If I were to develop video-based educational modules, would it be possible for some of the Awaken employees to participate in the filming process?

Appendix C

Needs Assessment Interview Questions: Autism Society of NC – Greenville (R. Henderson – Direct Support Professional)

Demographics:

1. What is your contact information and preferred method of contact?
 - a. Email:
 - b. Phone Number:
2. What is your job title here?
3. Could you please briefly describe some of your main roles and responsibilities?

Themed Weeks/ Skills Currently Addressed:

4. What groups does the Autism Society currently run?
5. What aspects of the groups do members find challenging?
(*E.g., social communication; turn-taking; form of media; wording of information; absence and/or presence of interactive components*)
6. What aspects of the groups do members find relatively straightforward?
(*E.g., social communication; turn-taking; form of media; wording of information; absence and/or presence of interactive components*)
7. In relation to transportation and community mobility, what would be some skill areas that you think would be important to address (*E.g., navigation skills, wayfinding, ordering/using Uber, using public transport system, reading/following pedestrian signs, safety awareness*)? What skill areas and/or activities are currently not being addressed?
8. When do you run your group sessions (*E.g., timeframe*)?
9. Are members ever provided with materials from groups, such as worksheets or handouts to take home?

Learning Styles:

10. How do the group members learn best?
 - ☐ Verbal instruction
 - ☐ Visual demonstration
 - ☐ Visual cueing, reminders, or lists
 - ☐ Hands-on practice
 - ☐ Repetition
 - ☐ Independent learning
 - ☐ Learning alongside peers
 - ☐ Other: _____

Needs and Barriers:

11. What do you perceive as the top three barriers or challenges to group members' overall success?
 - a. *E.g., being on time/time management; social skills; following directions; problem identification; problem solving; task initiation; task completion; safety awareness*

Impact of Transportation:

12. Based on your perspective and experience, please describe the primary barriers and challenges the group encounters with regard to transportation.
13. From your perspective, how does transportation impact the daily lives of members?
- ☐ Socializing with peers
- ☐ Participating in community activities
- ☐ Self-esteem and confidence
- ☐ Reliance on caregivers
- ☐ Employment
- ☐ Other: _____
14. From your perspective, how willing do you think group members would be to try different transportation options (if they were provided with help like education and training)?

	Not Applicable	Very Unwilling	Somewhat Unwilling	Somewhat Willing	Very Willing
Public Intracity Bus (E.g., <i>GREAT</i>)					
Paratransit Bus (E.g., <i>PATS</i>)					
Ride-Hailing Services (E.g., <i>Uber</i> , <i>Lyft</i>)					
Taxi					
Private, For-Hire Services (E.g., <i>paying someone directly to provide daily transportation services</i>)					
Walking/Biking					

15. From your perspective and experience, would you consider transportation and community access as key areas worth addressing at this site?
- ☐ Yes
- ☐ No
16. Does this site currently provide any educational training or resources to parents?
If so, please elaborate.

Processes:

17. If I were to develop video-based educational modules, would it be possible for some of the members to participate in the filming process?
18. What is the most effective way for me to conduct interviews with group members?
- Would one-on-one interviews or small focus groups work better?
 - What are some potential dates and times that I could come and interview them?

Appendix D

Needs Assessment Focus Group Questions: Autism Society of NC – Greenville ("Transitions" Group Members)

Demographics:

1. Do you currently live here in Greenville? If not, which area or town do you live in?
2. Do you currently live at home with other people? If so, who do you live with?
 - a. *E.g., parents, siblings, grandparents, roommates*

Themed Weeks/Group Sessions:

3. Which group sessions have been your favorite? Why?
4. Which group session have been your least favorite? Why?

Transportation:

1. Do you have a driver's license or drive a car?
2. How do you get to and from here?
3. How do you get to/from fun events like socializing with friends or going to the movies?
4. How do you get to and from commitments like work or doctor's appointments?
5. What are the top 3-5 places you visit outside of your home? How hard is it to get to those places? Please check the box indicating the level of challenge.

	Very Hard	Hard	Normal	Easy	Very Easy
Place #1					
Place #2					
Place #3					
Place #4					
Place #5					

6. When you are planning on going to those places, are you able to leave whenever you want, or do you have to wait for your mom/dad/caregiver to be available?
7. How satisfied are you with your current transportation situation? Please explain.

Extremely Unhappy	Somewhat Unhappy	In the Middle	Somewhat Happy	Extremely Happy

8. Rate your level of agreeance with this statement: "I want to improve my independence in transportation." Please explain your response.

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree

9. How willing are you to try different transportation options (if you were provided with help like education and training)?

	Not Applicable to Me	Very Unwilling	Somewhat Unwilling	Somewhat Willing	Very Willing
Public Intracity Bus (E.g., <i>GREAT</i>)					
Paratransit Bus (E.g., <i>PATS</i>)					
Ride-Hailing Services (E.g., <i>Uber</i> , <i>Lyft</i>)					
Taxi					
Private, For-Hire Services (E.g., <i>paying someone directly to provide daily transportation services</i>)					
Walking/Biking					

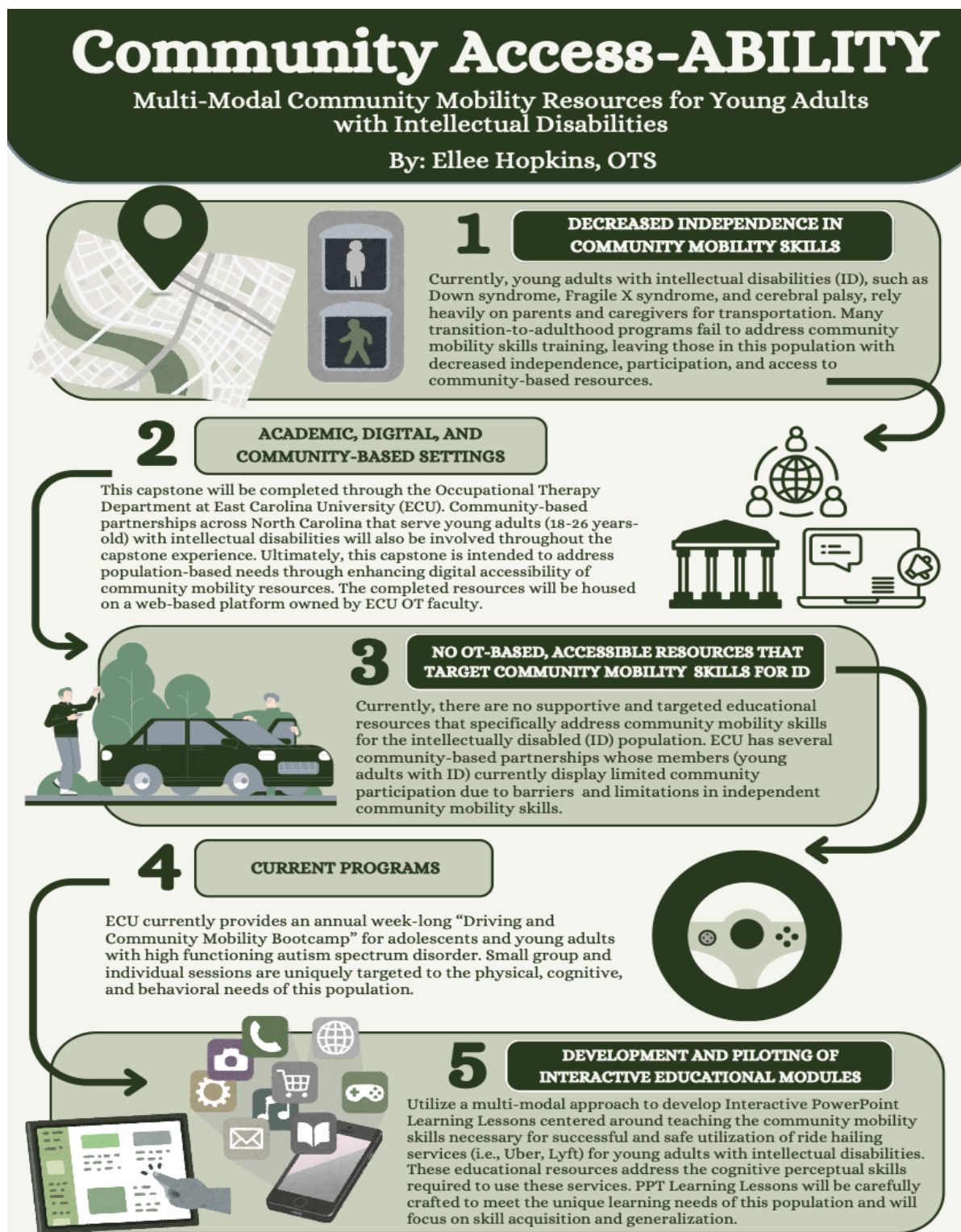
10. Do you have any experience using ride-hailing services such as Uber or Lyft? What do you know about how they work?
11. Do you have any experience using a public bus? What do you know about how they work?

Use of Technology and Learning Styles:

12. Do you currently use technology on a daily basis? If so, through what means?
- ☐ Not Applicable – I Do Not Use Technology
 - ☐ Phone
 - ☐ Tablet
 - ☐ Smartwatch
 - ☐ Computer
 - ☐ Television
 - ☐ Other: _____
13. Could you share more about how you use technology and what you know about technology?
- a. Have you downloaded apps before onto your phone or tablet?
 - b. What games or apps do you currently use?
 - c. Is it easy or challenging using those apps?
 - d. Have you ever used GPS on your phone before, like Google or Apple Maps?
14. If you had to learn something totally new, what is the best way for you to learn?

Appendix E

Infographic Summary of Needs Assessment



Appendix F

Infographic of Capstone Timeline



Appendix G

UDL Checklist

Evaluator Name: _____

Date: _____

Rating Scale:

1 = Not at all

2 = Needs improvement

3 = Partially met

4 = Mostly met

5 = Fully met

Multiple Means of Engagement	
Recruiting Interest	
Content is relevant, authentic, and meaningful to the learner	<i>Rating (1-5):</i> <i>Notes:</i>
Minimizes unnecessary distraction	<i>Rating (1-5):</i> <i>Notes:</i>
Sustaining Effort and Persistence	
Clear goals are stated in learner-friendly language	<i>Rating (1-5):</i> <i>Notes:</i>
Tasks are structured with appropriate challenges and supports	<i>Rating (1-5):</i> <i>Notes:</i>
Collaboration or peer interaction is encouraged (if applicable)	<i>Rating (1-5):</i> <i>Notes:</i>

Self-Regulation	
Promotes reflection, goal setting, or monitoring of progress	<i>Rating (1-5):</i> <i>Notes:</i>
Provides strategies for managing frustration, difficulty, or uncertainty	<i>Rating (1-5):</i> <i>Notes:</i>
Multiple Means of Representation	
Perception	
Information is available in more than one format (e.g., text, visual, audio)	<i>Rating (1-5):</i> <i>Notes:</i>
Visuals and/or graphics are clear, high-contrast, and accessible	<i>Rating (1-5):</i> <i>Notes:</i>
Language and Symbols	
Vocabulary and symbols are defined or supported with explanations	<i>Rating (1-5):</i> <i>Notes:</i>
Supports are available for unfamiliar concepts (e.g., examples, analogies)	<i>Rating (1-5):</i> <i>Notes:</i>

Comprehension	
Activates or builds background knowledge	<i>Rating (1-5):</i> <i>Notes:</i>
Scaffolded supports are included (e.g., graphic organizers, modeling)	<i>Rating (1-5):</i> <i>Notes:</i>
Information is clearly organized and logically sequenced	<i>Rating (1-5):</i> <i>Notes:</i>
Multiple Means of Action and Expression	
Physical Action	
Learners can access materials through multiple tools/options.	<i>Rating (1-5):</i> <i>Notes:</i>
Navigation is intuitive and accessible (e.g., headings, links, layouts)	<i>Rating (1-5):</i> <i>Notes:</i>
Expression and Communication	
Offers multiple ways for learners to demonstrate understanding	<i>Rating (1-5):</i> <i>Notes:</i>

Instructions for tasks are clear and flexible	<i>Rating (1-5):</i> <i>Notes:</i>
Executive Function	
Provides opportunities for planning or organizing tasks	<i>Rating (1-5):</i> <i>Notes:</i>
Prompts and layout support reflection and revision	<i>Rating (1-5):</i> <i>Notes:</i>

- Multiple Means of Engagement Final Score: _____/35
- Multiple Means of Representation Final Score: _____/35
- Multiple Means of Action and Expression Final Score: _____/30

Strengths Identified:

Areas for Improvement:

Appendix H

LL 1.2 – Setting Up a Ride Hailing Account (completed with the person who helps you manage your money)

Unit 1: Understanding Ride Hailing Services

Setting Up A Ride Hailing Account

Learning Lesson 1.2



Start



VIDEO 1 - Introduction

(blank screen with text – “Lesson 1.2: Setting Up a Ride Hailing Account” in center of screen)

(fade transition to blank screen with text - “Introduction” on screen)

(narrator appears on screen w/ plain background, taking to camera)

Narrator: “Now that we know what ride hailing is, let’s learn how to begin the ride hailing process. The first thing to do is set up an account.”

(insert text with “ride hailing” in-timing with voiceover - EDITING STEP)

Narrator: “But before we go any further, I'd like to mention something important. To set up your account, you will be sharing some personal information. This includes your credit card information, your phone number, your email address, and a password. So, please ask your parent, guardian, or the trusted person who helps with your money to help you set up your account. It’s very important to complete this step with someone you trust as you will be using some private, personal information that needs to be protected and handled safely.”

(cut to b-roll with instrumental background music once narrator script ends).

- Shot: subject A and subject B (friend and/or family) sitting on couch together
 - *subject A and subject B sitting close together on couch, subject A is holding smartphone in hand, subject B is pointing to phone and providing explanation to

*subject A; both individuals alternate between looking at the phone and looking at one another, nodding in understanding throughout**

- **shot is filmed from front (slightly to side) facing, static shot from eye-level**
- *Filming location: living room*

(fade transition)

Narrator: “Alright, now that we’ve covered that important information, let’s begin!”

Narrator: “To set up an account, the first thing you’ll need is a smartphone - one that you can download and use apps on. Some examples of smartphones are iPhones and Androids. *(insert phone graphic with text “smartphone” also on screen - EDITING STEP)*. For ride hailing, your phone will be your main tool for ordering, paying, and tracking your ride.”

(cut to b-roll with instrumental background music once narrator script ends)

- *Shot: Subject A (IDD actor) holding smartphone*
 - **front-facing shot of subject A looking and smiling at camera, holding up their smartphone (with black screen); w/ slow-motion dynamic movement**
 - *Filming location: inside home with natural lighting*

(fade to black screen with text “Click the Grey Arrow to View the Next Video”)

VIDEO 2 - Locate and Download the App

(blank screen w/ text – “Locate and Download the App” in center of screen)

(narrator appears on screen w/ plain background, taking to camera)

Narrator: “Using your smartphone, the next thing to do is download the ride hailing app. *(insert graphic on screen of app icon with text “Ride Hailing App” also on screen)*. Two common apps are Uber and Lyft. *(insert Uber and Lyft icon graphics)*. You only need one app to use ride hailing services. So, discuss with your trusted parent or guardian to decide which app you’d like to use. For guidance and considerations on how to choose between Uber and Lyft, please refer to the *Community Access-ABILITY* Companion Guide.” *(insert graphic of program logo on screen - EDITING STEP)*.

Narrator: “To find the app you’ve decided to use, open the app store on your phone. Next, type in the name of the app into the search bar. Choose the correct app from the list you see. These apps are free, and you can download the app by clicking the “download” button. When it is finished downloading, tap the “open” button or find the app on your phone’s home screen.”

- *EDITING STEP: insert screen recording of – unlocking phone, opening app store, searching Uber app, and downloading the app onto home screen – in the allocated empty space next to the narrator on screen*

(fade to black screen with text “Click the Grey Arrow to View the Next Video”)

VIDEO 3 - Create an Account

(blank screen w/ text – “Create an Account” in center of screen)

(narrator appears on screen w/ plain background, talking to camera)

Narrator: “Once the ride hailing app is open, you will see the log-in screen. *(insert screenshot of Uber and Lyft home screens)*. This is where you will create your personal account.”

Narrator: “To do this, you will need to enter your name, your phone number, an email address, and a unique password.”

- *EDITING STEP: insert screen recording of inputting simulated info on log-in screen*

Narrator: “A password is a code that needs to be kept secret and safe. It should be something that you can remember, but also not easy enough for someone else to guess. Here’s a tip! Don’t use things like your birthdate or your home address as your password. Other people could easily guess that information.”

Narrator: “Instead, create your password based on something you like. For example, you could use the name of your favorite food or maybe your favorite animal. To make your password even safer, add 2-3 meaningful numbers at the end.”

Narrator: “For example, I love turtles and my jersey number growing up was 88, so my password might look something like Turtles88!”

Narrator: “Now, let’s watch how all of these steps come together.”

Narrator: “From the log-in screen, add your phone number. Next, add your email address. Then, add your first and last name. The app will then take you to the home screen. To add your unique password, first click on the account tab in the bottom corner. Next, click on the profile circle in the top right corner. Next, click the security tab. Then, click where it says ‘password’. This is where you will add in your unique password. After you’ve typed in your password twice, click ‘update’. Now your account is officially created!”

(fade to black screen with text “Click the Grey Arrow to View the Next Video”)

VIDEO 4 - Add a Payment Method

(blank screen w/ text – “Add a Payment Method” in center of screen)

(narrator appears on screen w/ plain background, talking to camera)

Narrator: “Once your account has been created, you will need to add a payment method like a credit card. It can be your own card or it can be a card from your parent or family member. This will be how your ride is paid for in advance. So, no need to worry about carrying cash!”

(cut to b-roll with instrumental background music once narrator script ends)

- *Shot: subject A holding payment methods*
 - **front facing, close-up, static shot of subject A holding credit card in one hand, smiling at the camera**
 - *Filming location: inside home with natural lighting (cut back to narrator with plain background, talking to camera)*

Narrator: “Let’s see how this is done! First, make sure your app is open. Next, click on the “account” tab in the bottom corner of the app’s home screen. Then, click on the “wallet” button. This is where you will type in your credit card information.”

Narrator: “It is very important to type in this information carefully and exactly as it is written on the card. After you’ve typed in your card number, your payment information is saved to your account! And once this step is done, your account is all set up!”

(cut to b-roll with instrumental background once narrator script ends).

- *Shot: subject A and subject B adding payment method onto phone*
 - **subject A and subject B standing at kitchen counter, phone is placed on the kitchen counter facing up, subject A is holding debit/credit card in hand, subject B is pointing to information included on the card, both subjects are looking down at the card**
 - **slow-motion dynamic movement right to left, front-facing with both subject A and subject B in view**
 - *Filming location: living room*

(cut back to narrator with plain background, talking to camera)

Narrator: “Many ride hailing apps include safety tools to help keep you safe during your ride. For example, on Uber, you can add your parent or guardian as a trusted contact. They will be able to follow your location during your rides. For more information on this and other safety features, please refer to the Companion Guide.” *(insert logo graphic - EDITING STEP)*

(fade to black transition)

(narrator appears on screen w/ plain background, talking to camera)

Narrator: “Great job, you’ve made it to the end of this learning lesson! Today we learned how to set up your ride hailing account! Let’s review the steps! The first step is to collect your smartphone. The next step is to search for the ride hailing app in the app store. Next, download the app onto your phone. Then, create your account with log-in information and a password. And finally, add a payment method, like a credit card.”

(fade to black screen with text “Learning Lesson 1.2 - Setting Up a Ride Hailing Account” with lesson logo on screen)

Appendix I

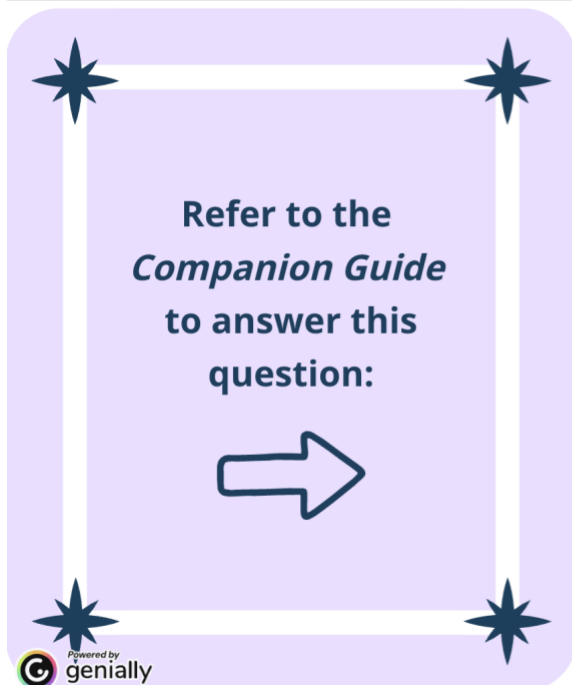
Learning Lesson 1.2 End-of-Lesson Reflection and Application Questions

Lesson Questions

Setting Up a Ride Hailing Account



Start



Why is it important to set up a ride hailing account with a **trusted** person?

Who is your **trusted** person?

→ Next

Select 4 things you need to set up a ride hailing account.



Smartphone



Driver's License



Cash



Ride Hailing App



Credit Card



Unique Password

→ Next



Drag each phrase into the correct category:

Good or Bad Password

Good Password



Bad Password



A code that is EASY for others to guess

A code that is secret and safe

Your birthdate

A code that is HARD for others to guess

Something you like and a number

→ Next



Put the steps of setting up a ride hailing account in the correct order

1		Search for the ride hailing app in the app store
2		Create your account with log-in information and a password
3		Collect your smartphone
4		Download the app onto your phone
5		Add a payment method, like a credit card



→ Next

Simulated Practice - Setting Up a Ride Hailing Account

- Follow the instructions on each slide.
- Ask questions throughout if you need help.
- This is a practice activity, so no real information is used.
- Press start to begin!



Start

Step #1

Get Your Smartphone

Start



Tap the phone you use



→ Next



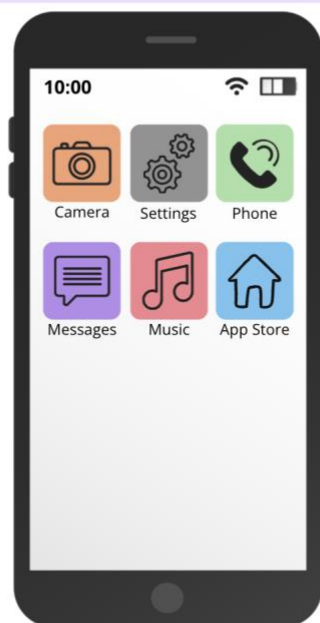
Step #2

Search for the ride hailing app in the App Store

Start



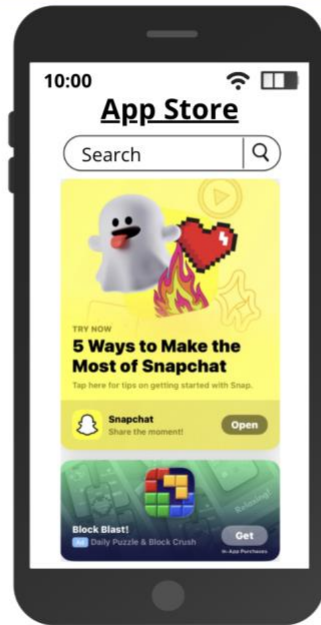
Tap the App Store



→ Next

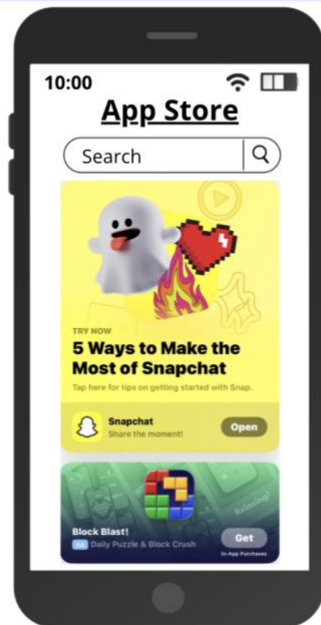


Click the 'Search' Bar



→ Next

What do you want to put in the 'Search' Bar?



Drag your answer to the 'Search' Bar

Block Blast!

Instagram

Ride Hailing App

Facebook

→ Next

Pick the correct app



→ Next

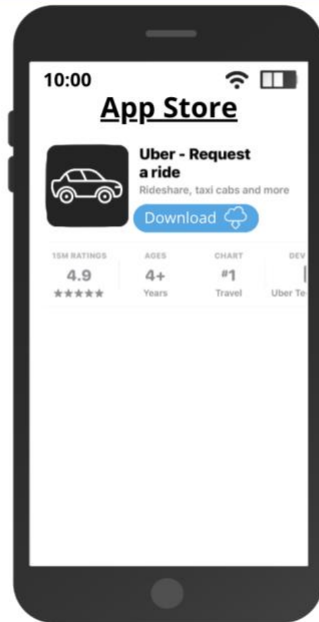
Step #3

Download the app onto
your phone

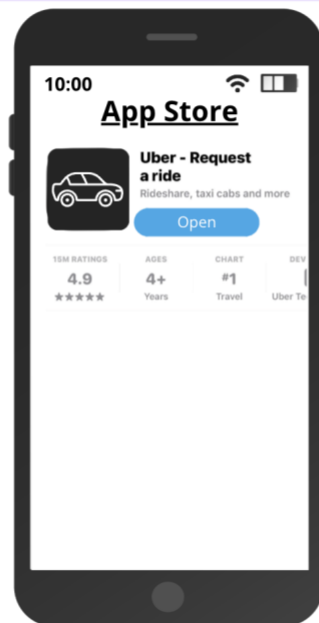
Start



Download the app

[→ Next](#)

Open the app

[→ Next](#)

Step #4

Create your account with
log-in information
and a password

Start



Add a phone number



Drag your answer to the grey bar

1234 Practice Street

(123) 456-7890

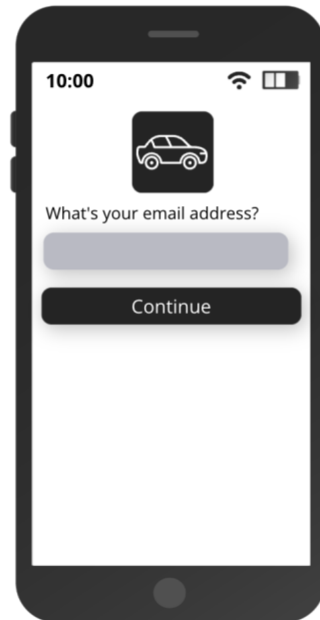
ridehailing111@gmail.com

John Smith

→ Next



Add an email address



Drag your answer to the grey bar

1234 Practice Street

(123) 456-7890

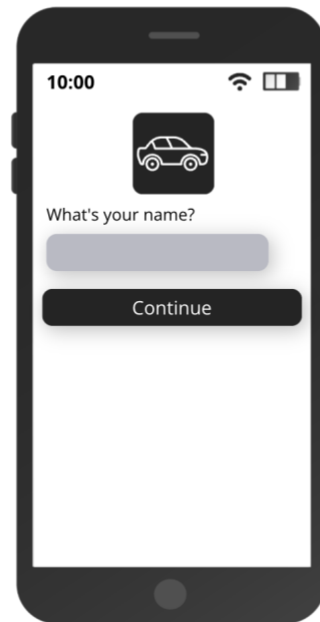
ridehailing111@gmail.com

John Smith

→ Next



Add your "name"



Drag your answer to the grey bar

1234 Practice Street

(123) 456-7890

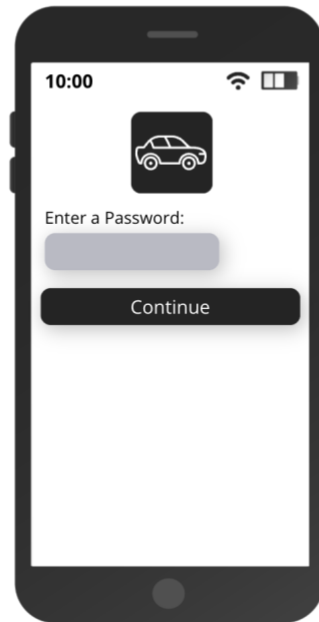
ridehailing111@gmail.com

John Smith

→ Next



Add a password



Drag your answer to the grey bar

1234 Practice Street

(123) 456-7890

01/30/2000

Turtles88

→ Next



Refer to the
Companion Guide
to answer this
question:



Let's practice creating a password!

What is something that you like?

+

What are 2-3 numbers that are
meaningful to you?

→ Next

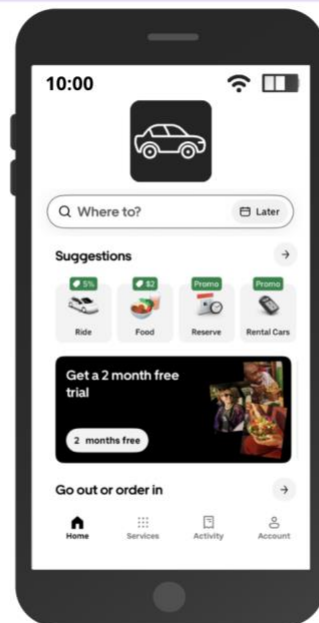
Step #5

Add a payment method,
like a credit card

Start

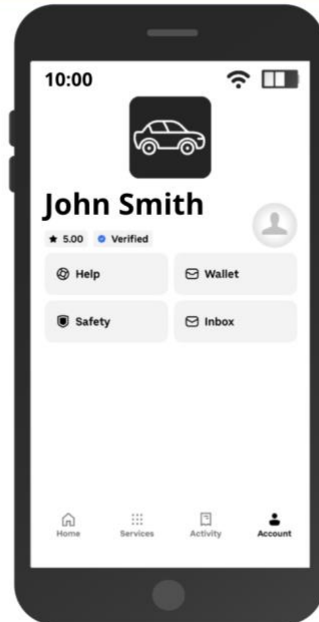


Click on "Account"



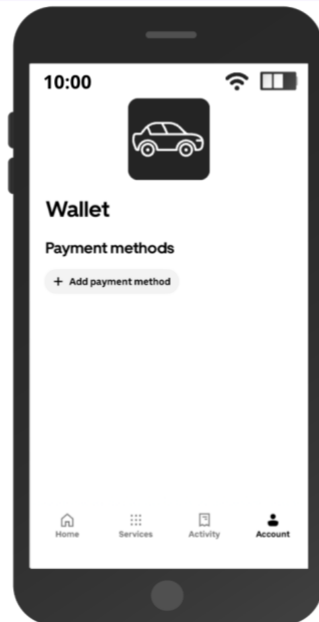
→ Next

Click on "Wallet"



→ Next

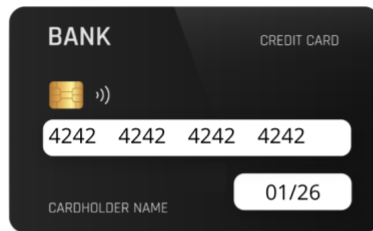
Click on "Add Payment Method"



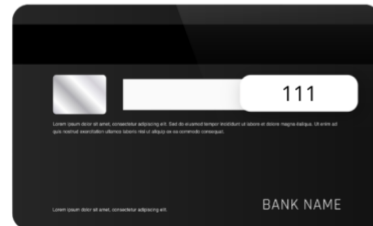
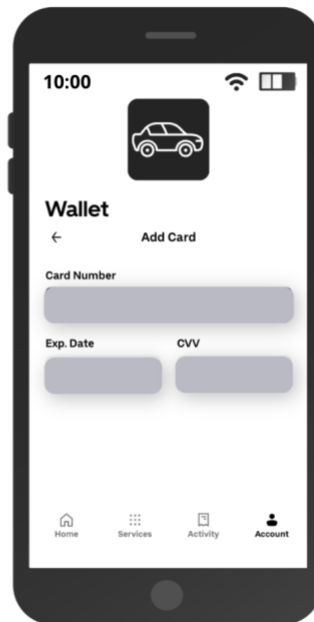
→ Next

Add a credit card number

Front:



Back:



→ Next

Your Account is Ready!

- ✓ Collected your smartphone
- ✓ Searched for the ride hailing app in the app store
- ✓ Downloaded the app onto your phone
- ✓ Created your account with log-in information and a password
- ✓ Added a payment method, like a credit card



→ Next

Appendix J

Finalized Multimodal Slideshow of Learning Lesson 3.1

Unit 3: Beginning Your Ride - When the Car Arrives

Confirming Details of the Car and Getting Inside

Learning Lesson 3.1



Start



Learning Objectives

- Identify the **correct vehicle** based on **important ride details**
- Identify important **things to check before getting inside** the vehicle
- Describe how to **safely enter** the ride hailing vehicle
- Recognize appropriate **places to sit** as a **passenger** inside a ride hailing vehicle



→ Next

Match the Car with the Description in the App

1

Lesson 3.1 - Video 1 - Match the Car with the Description in the App
Community Access-ABILITY



Watch on  YouTube



→ Next

Open the Car Door

2

Lesson 3.1 - Video 2 - Open the Car Door
Community Access-ABILITY



Watch on  YouTube



→ Next

Navigating Potential Problems: Poor Car Conditions

3

Lesson 3.1 - Video 3 - Navigating Potential Problems: Poor Car Conditions
Community Access-ABILITY



Watch on YouTube



→ Next

Get Inside and Put on Your Seatbelt

4

Lesson 3.1 - Video 4 - Get Inside and Put on Your Seatbelt
Community Access-ABILITY



Watch on YouTube



→ Next

Check your knowledge by
completing the lesson questions!

You can find them here:

End-of-Lesson
Questions

or in the printed
Companion Guide



Revisit these videos at any
point to review content!

1

Match the Car with the App

2

Open the Car Door

3

Potential Problems

4

Get Inside and Buckle Up

Lesson Questions

Confirming Details of the Car and Getting Inside



Start



Pick the car that matches the ride details.

Answer choices are on the next slide

**Meet at your pick-up spot
on 1234 Maple Street**

**8
min**



ABC-1234
Toyota Highlander

Sharron • 5.00 ★

Any pick-up notes?



→ Next

Pick the car that matches the ride details.

Car #1:



Car #2:



→ Next

Pick the car that matches the ride details.

Answer choices are on the next slide

**Meet at your pick-up spot
on 1234 Maple Street**

**8
min**



Jeff • 4.75 ★

DEF-5678
Toyota Camry

Any pick-up notes?



→ Next

Pick the car that matches the ride details.

Car #1:



Car #2:



→ Next

Pick the car that matches the ride details.

Answer choices are on the next slide

**Meet at your pick-up spot
on 1234 Maple Street**

**8
min**



XYZ-0123
Volvo XC90

Jennifer • 5.00 ★

Any pick-up notes?



→ Next

Pick the car that matches the ride details.

Car #1:



Car #2:



→ Next

What are 4 things to check when the car arrives?

The car's looks
and color

Your text
messages

The car's
license plate

If your phone
battery is charged

If the driver
knows your name

The driver's face
and picture



→ Next

True or False?

Click the correct answer to this statement:

You should check the car's and driver's
information AFTER getting inside.

True

False



→ Next

Which side of the car do you enter from?

Click on the correct answer.



The side closest to traffic



The side closest to the sidewalk



→ Next

Where do you sit in the car?

Click on the correct seat.



→ Next



What should you do if your seatbelt is stuck?

→ Next

Practice Scenario

What to do and say if the car's conditions are uncomfortable.



**Next, we will learn...
what to do during your ride!**

Click the logo to find Lesson 4.1



or follow along in the
Community Access-ABILITY Companion Guide