What-Can I-Do: Teaching Social Problem Solving to Young Adults with Intellectual and Developmental Disabilities

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HOW TO CITE:
Torres, A, Kearney, K. B., Garbett, D., & Nunes G. M. (2025). What-Can I-Do: Teaching Social Problem Solving to Young Adults with Intellectual and Developmental Disabilities. *International Journal of Special Education, 40*(2), 161-173.

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DOI:
https://doi.org/10.52291/ijse.2025.40.29

ABSTRACT:

Direct support professionals (DSPs) are crucial in providing services to individuals with intellectual and/or developmental disabilities (IDD), but often lack adequate resources. This study developed an intervention to equip DSPs to teach social problem-solving skills to young adults with IDD preparing for employment. The intervention combines a mnemonic teaching strategy, "What Can I Do?", with remote audio coaching (RAC). The "What Can I Do?" mnemonic guides users through three problem-solving phases: 1) Identifying the problem (WHAT setting/situation), 2) Generating alternatives (CAN I help/call for help), and 3) Comparing and selecting options (What DO I do/report). A multiple-probe design across participants was used with three young adults with IDD to evaluate the intervention's effectiveness. Results showed two of the three participants significantly improved their job-related social problem-solving skills. The study emphasizes the importance of individualized instruction, consistent repetition, and explicit teaching of social problem-solving skills for this population. Implications for practice and future research directions are discussed.

Keywords: Direct Support Professionals, Social Problem Solving, Intellectual and Developmental Disabilities, Remote Audio Coaching

INTRODUCTION

Problem solving is one of the central elements of self-determined behavior, which refers to the ability of individuals to make choices and take actions that align with their own goals and preferences. This concept encompasses skills such as decision-making, goal setting, self-advocacy, and self-awareness (Burke et al., 2020).. These skills require targeted, systematic instruction to learn (Kurth et al., 2025). Equipping direct support professionals (DSPs) with practical and effective interventions to teach social problem solving is one practice to improve self-determination in individuals with intellectual and/or developmental disabilities (IDD). Social problem solving refers to the process of problem solving as it occurs in the *real world* (D'Zurilla et al., 2004). Having these skills allow self-determined people to participate in actions and activities that support self-directed goals and personal desires. People with strong self-determination skills set personal goals based on their interests, strengths, and preferences (Schillaci et al., 2021). Possessing robust self-determination skills is highly correlated with higher quality of life outcomes (Nota et al., 2007), increased academic outcomes (Lee et al., 2010), and positive employment outcomes (Martorell et al., 2008; Papay & Bambara, 2014).

Employment facilitates skill development and has a range of social and psychological benefits such as promoting financial independence, increasing community involvement, and providing opportunities to fulfill one's potential (Boles et al., 2019; van Hooft et al., 2020). Adults with IDD value paid employment, but they are more likely to be unemployed and work fewer hours compared to those with other disabilities (Cheng et al., 2018). The current rate of individually integrated paid employment for adults with IDD is less than 17% (National Core Indicators, 2025). Yet people with IDD have potential for securing competitive employment and living independently if they receive adequate supports and training (Wehman et al., 2018). The support from DSPs can play a critical role in this process.

Direct Support Professionals

DSPs provide people with disabilities a wide range of services in activities of daily living, promoting physical and emotional well-being, and improving quality of life (Friedman, 2018). Examples of DSP job duties include assistance with health and safety, advocacy, communication, education on self-care skills, and promoting self-determination. DSPs work in a variety of settings including participant's homes, private and public educational institutions, and employment support programs (Bogenschutz et al., 2014). DSPs are at the front line of the critical services provided to individuals with IDD but they face a series of difficulties such as high and demanding workloads, low wages, as well as lack of resources, tools, and supervisory support (Friedman, 2018). Low education, inadequate preparation, and lack of resources are common barriers for those DSPs who provide the most support (National Direct Service Workforce Resource Center, 2022). Traditional methods of teaching critical skills often rely on generalized training programs that may not address the specific, real-world challenges DSPs encounter in their daily work. These methods can fall short in equipping DSPs with practical, adaptable strategies for teaching essential skills to individuals with IDD (Institute for Disability Research, Policy, and Practice, 2024). Not only are DSPs key to the quality care of millions of people in the United States, but ineffective services can keep individuals with IDD from being integrated into the community (American Network of Community Options and Resources, 2014; Friedman, 2018). This highlights the need for innovative, effective interventions and tools that DSPs can utilize face-to-face or virtually to teach critical skills. By addressing these gaps, the proposed intervention aims to provide DSPs with targeted, practical resources that are directly applicable to their unique challenges, ultimately improving outcomes for individuals with IDD.

Teaching Social Problem Solving

Problem solving involves using available information to identify and design solutions to problems. A problem is a task, activity, or situation for which a solution is not immediately identified, known, or obtainable. Solving a problem, therefore, is the process of identifying a solution that resolves the initial perplexity or difficulty (Wehmeyer & Field, 2007). This is a key skill of someone who is self-determined. In most social problem-solving models, four foundational steps are included in the process: (1) defining the problem, (2) generating alternatives, (3) comparing alternatives, and (4) selecting the best one (Canter, 2004; D'Zurilla & Nezu, 1980). Though models differ in the number of steps and what they include in each one, these 4 foundational steps are at the core (Kahn & Bullis, 2021).

A number of strategies to promote problem solving have been evaluated for individuals with disabilities. Bauminger (2002) developed a curriculum to teach students with autism social and interpersonal problem-solving skills. Students were taught about social concepts,

such as starting a conversation, and then were presented a vignette of a student having difficulty implementing the skill. Students went through an eight-stage problem solving process with their teacher. After seven months, students generated more appropriate solutions to problems faced in social situations and initiated more social interactions with their peers. In another study, Bernard-Opitz et al. (2001) developed a computer program to teach students with developmental disabilities social problem-solving skills. The program first presented pictures or videos of people experiencing social conflicts. For example, scenarios included children arguing over whose turn it was to use a slide or a child unable to reach fruit on a tree. The program guided students through an animated problem-solving process, encouraging them to generate alternative solutions such as taking turns, asking for help, or using tools to resolve the conflicts. The program guided students through an animated problem-solving process, in which they were asked to generate alternative solutions. After identifying an alternate solution, a video clip of the actors resolving the problem was presented. As students had repeated experience with the program, they generated more alternative solutions. The increase in the generation of solutions observed in this study suggested that generating more solutions to a problem often lead to a better resolution (D'Zurilla & Nezu, 1980; Wehmeyer, & Field, 2007).

"What Can I Do?"

"*What Can I Do?* is a mnemonic device that is designed to help users to remember the three-phase problem solving process: 1) Identifying the problem: *WHAT setting am I in? WHAT is the situation?* 2) Generating alternatives: *CAN I help? CAN I call someone else to help?* 3) Comparing alternatives: *What options DO I have?* and selecting the best option to *DO*. We used remote audio coaching (RAC) to deliver this intervention to create better access opportunities for both DSPs and individuals with IDD.

Mnemonics. A mnemonic is an instructional strategy to help individuals memorize specific information. Mnemonic instruction connects new learning to prior knowledge through the use of visual and/or acoustic cues such as key words, rhyming words, or acronyms (Scruggs et al., 2010). Mnemonic instruction has been used with students with disabilities to teach many skills, such as academic content (Zisimopoulos, 2010), problem solving skills (Scruggs & Mastropieri, 1992), completion of job application (Nelson et al., 1994), and career decision making (Torres et al., 2022). In particular, several studies demonstrated positive results from the use of mnemonic instruction with students with IDD (Torres et al., 2022; Test & Ellis, 2005; Mastropieri & Scruggs, 1989). These findings highlight the potential of mnemonics as a practical and effective tool for teaching critical skills to individuals with IDD. Building on this foundation, the current study explores how mnemonic strategies can be integrated with remote audio coaching to address the unique challenges faced by DSPs in teaching social problem-solving skills. By combining these approaches, this research aims to extend the application of mnemonic instruction to real-world, dynamic learning environments, thereby addressing gaps in previous studies that primarily focused on static or classroom-based settings.

Remote Audio Coaching. RAC is a remote teaching strategy that is technology assisted form of covert audio coaching (Joseph et al., 2021). Covert audio coaching is performance feedback that involves an instructor providing coaching statements based on a participant's performance while engaging in a behavior (Bennett et al., 2013). RAC emerged during the COVID-19 pandemic era with the increasing need for interventions that can be implemented remotely. Three recent studies show promising results utilizing RAC. In the first study, researchers utilized RAC for teaching on-topic, small talk conversational skills to college students with IDD (Joseph et al., 2021). In the second study, RAC was used in combination with screensharing to teach job search skills to adults with IDD through remote audio coaching (Kearney & Torres, 2022). In the third study, RAC was used in combination with screensharing and mnemonic instruction to teach career decision making to adults with IDD (Torres et al., 2022). All studies demonstrated that RAC was effective at increasing the targeted skills. In addition, all participants in these studies maintained the skills upon removal of the intervention. RAC could be used effectively by DSPs to teach various skills to individuals with IDD.

Purpose of the Study

The special education and rehabilitation fields benefit greatly from intervention-based research, particularly in addressing the challenges faced by individuals with IDD in acquiring critical life and job-related skills. While previous studies have demonstrated the effectiveness of mnemonics and other instructional strategies in teaching academic and problem-solving skills, there remains a gap in applying these methods to real-world, dynamic environments such as the workplace. Additionally, the

potential of combining mnemonic strategies with innovative tools like RAC has not been fully explored. To address this gap, we developed an intervention "What Can I Do?" designed to teach individuals with IDD how to solve problems on the job. This intervention consisted of two teaching strategies: a mnemonic and RAC, aiming to provide a practical and scalable solution for teaching social problem-solving skills. The effectiveness of the intervention was evaluated using a multiple probe design across participants. This study seeks to answer the following research question: What are the effects of "What Can I Do?" on the acquisition of social problem-solving skills for young adults with IDD? By addressing this question, the study aims to contribute to the growing body of research on evidence-based interventions that support individuals with IDD in achieving greater independence and success in the workplace.

METHOD

Participants

The three participants in this study were dually diagnosed with autism spectrum disorder (ASD) and an intellectual disability (ID) based on the Wechsler Adult Intelligence Scale – Fourth Edition (WAIS-IV) (Wechsler, 2008). All participants were enrolled in an inclusive postsecondary education program at a four-year university in the Southeastern United States. This program was a comprehensive transition program for adults with a diagnosed intellectual and/or developmental disability. Participants were recruited for this study based on recommendation by instructors of the program based on their attendance record, previous employment experience, and self-reported interest in the target skill. The recommendations were based on the participants' interest in finding employment, desire to improve decision making skills, consistent attendance in the program, and willingness to participate. Instructors identified potential participants from informal observations during class time, group activities, and social time between classes. Prior to beginning, the study was approved by the University's institutional review board (IRB); verbal and written assent was obtained from all students, and written consent was obtained from parents or guardians. Participation to the study was voluntary. Participants, parents and guardians informed that the participants can refuse to participate in the study or stop participating at any time without giving any reason without penalty. For the purpose of confidentiality, we used pseudonyms instead of real names in the study.

Alexander

Alexander was a 22-year-old White male diagnosed with ID and ASD on his most recent psychological evaluation. Alexander had a WAIS full-scale IQ score of 40. He was able to follow one-step directions but would need prompting to follow multi-step directions. Social problem-solving was an area of need for Alexander according to instructor report. Alexander never had a paid job before, but he did volunteer in his community at a local animal shelter with the support of a job coach.

Darryl

Darryl was a 28-year-old White male diagnosed with ID and ASD on his most recent psychological evaluation. Darryl had a WAIS full-scale IQ score of 74. He was able to follow multi-step directions with minimal support. Social problem-solving was an area of need for Darryl based on instructor report. At the time of the study, he was working at a part-time job at a nursing home with the support of a job coach.

Dante

Dante was a 23-year-old Hispanic male diagnosed with ID and ASD on his most recent psychological evaluation. Dante had a WAIS full-scale IQ score of 65. Dante could follow one-step directions but needed prompting for more complex sets of directions. Social problem-solving was an area in need of development for Dante according to instructor report. He did not have a paid job prior, but he had some experience working with a job coach at an on-campus internship in the student fitness center.

Setting

All aspects of the study took place virtually using the videoconferencing application Zoom. Researchers used a professional Zoom account to prevent potential privacy issues. Participants downloaded the Zoom application to their laptops or tablets prior to the study. Each participant was familiar with the Zoom application and had at least eight months of experience using it. All participants used a laptop computer to access the virtual sessions. Prior to the study, all students indicated that they would connect remotely from their homes. So, researchers asked all caregivers not to assist or participate in the sessions. During the sessions, the researchers did not observe any caregivers in the room, however some students used a virtual background which could have prevented researchers from seeing other people even if they were present in the room.

Dante was observed at a desk in the office-like environment during all sessions. Darryl used a virtual back-

ground, so the researchers were not able to observe what room he was in during the sessions. Alexander was observed at a desk in his bedroom or used a virtual background. Dante used headphones in one session to minimize noise or interference, but researchers never heard any background noise or interference during any of the sessions. Each baseline, intervention, and follow-up session consisted of the participant, interventionist, and primary data collector. The interventionist was a DSP worker in an educational setting working with young adults with wide range of disabilities with less than one year of experience. A primary data collector was a graduate student in a rehabilitation counseling program who had two years of experience working with individuals with IDD. Also, a secondary data collector watched selected recorded sessions for interobserver agreement or fidelity purposes. A secondary data collector was the first author, a doctorate degree researcher in the field of rehabilitation counseling. During the sessions, the primary data collector kept her camera and microphone off at all times and removed her name from the screen, ensuring that participants could only see and hear the interventionist. Those precautions minimized potential distractions and lessened the probability of any undue influence data collectors might cause the participants.

Materials

The interventionist utilized the "What Can I Do?" visual that was created in PowerPoint with the prompt "What Can I Do?" and a picture of different work-related problem situations in each session (see Figure 1). The interventionist shared the visual and asked, "*What Can I Do?*" The mnemonic was used for the participant to remember each step during the problem-solving process.

Work-Related Problem Situations

Prior to start of the study, researchers determined 30 common problem-situations that occur in workplaces such as a grocery store, restaurant, or hotel. An example of a work scene / problem is "a customer spilled milk on the floor in a grocery store." Table 1 provides examples of problem scenarios that are used in the study.

To determine the work-related problem situations, researchers surveyed five local store managers and job owners. They listed the reported problem situations and selected the most frequently occurring situations for this study. PowerPoint visuals were then created using images downloaded from websites by using Google search engine. A different scenario was used each day for data collection probes as well as intervention sessions.

Independent Variable

The independent variable was RAC, coupled with the "What Can I Do?" mnemonic visual implemented remotely via Zoom. RAC refers specifically to the virtual, verbal coaching that occurred via Zoom. During intervention, the interventionist shared her screen so the participant could see the accompanying "What Can I Do?" visual and used RAC to verbally model to the participant the steps in the "What Can I Do?" mnemonic. The interventionist shared a picture of a problem situation in a workplace and said, "*What Can I Do*?". The partici-

Table 1. **Work-Related Problem Situations**

Scenario #	Work Setting	Description
1	Restaurant	Customer complains about bill
2	Restaurant	Bartender (coworker) is asking help getting ice
3	Restaurant	Customer complains about a dirty glass
4	Gym	Customer is asking for pool hours
5	Gym	Manager points out that the sanitizer spray is empty and needs to be refilled
6	Gym	Customer forgot his lock's combination and is asking your help to open the locker
7	Grocery Store	Coworker is asking for help stocking shelves
8	Grocery Store	Customer in a wheelchair is asking for help
9	Grocery Store	Customer is asking for a price on an item
10	Hotel	Customer lost her room key and needs a new one
11	Hotel	Customer is asking help with luggage
12	Hotel	Customer is complaining about a clogged tub

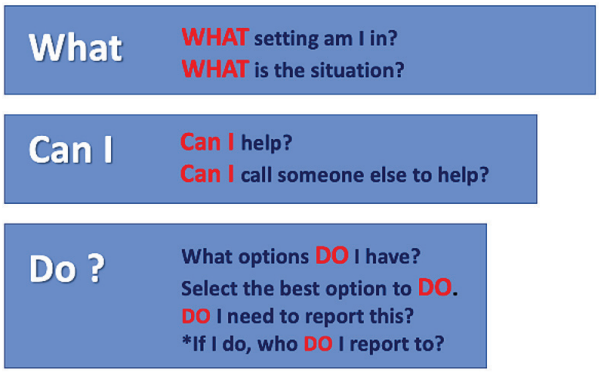

Figure 1. What Can I Do? Visual

pant used the "What Can I Do?" mnemonic visual to go through the problem-solving task analysis to determine what is the best option to do in that particular situation. If the participant missed a step or made an error on any step, the interventionist used RAC to correct the step. For example, if the participant forgot to compare alternative options, the interventionist would highlight the accompanying phrase on the visual and verbally say, *"What options DO I have?"*

Dependent Variable and Data Collection

The researchers developed a task analysis of the problem-solving process using the mnemonic "What Can I Do?". The task analysis was comprised of 8 steps, 1) WHAT setting am I in? 2) WHAT is the situation? 3) CAN I help? 4) CAN I call someone else to help? 5) What options DO I have? 6) Select the best option to DO. 7) DO I need to report this? 8) IF I DO, who do I report to? The task analysis can be seen in Figure 1. These steps were informed by established decision-making process models, such as the Rational Decision-Making Model (Simon, 1977), which emphasizes identifying the problem, generating alternatives, and selecting the best course of action. While the steps were not pre-tested or validated through another source, they were designed to align with these theoretical frameworks to ensure a structured and logical approach to problem-solving. This alignment provides a strong foundation for the intervention, even in the absence of pre-testing.

The dependent variable was the percentage of steps completed correctly and independently (meaning with no level of prompting from the interventionist) in the problem-solving task analysis. Each step in the task analysis was scored by a data collector as either (a) correct or (b) incorrect; if correct, then the data collector scored whether the step was completed independently. Researchers created a paper data sheet to collect data.

Prior to start of the study, first and second authors provided a 30-minute training to the interventionist (DSP) on the delivery of the intervention. During the study, treatment fidelity was monitored and recorded. The interventionist received an additional 20 minutes of coaching halfway through the study. The primary data collector also received some brief training on the data collection and data sheets.

Each intervention session began with a 5-minute data collection probe, prior to the implementation of the intervention. This means that prior to reviewing the "What Can I Do?" mnemonic visual that day, the participant was asked to complete the steps in the problem-solving task analysis to the best of their ability, without any assistance. This guaranteed a minimum of 24 hours between the implementation of the intervention and the next data collection probe, avoiding immediate practice effects and artificially inflated scores. All data were converted to percentages by dividing the number of steps correct by the total number of steps and multiplying by 100.

Inter-observer Agreement, and Treatment Fidelity

To determine inter-observer agreement, all data were recorded. A secondary data collector randomly selected 40% of all sessions and evaluated for the purpose of agreement. These agreement sessions included 30% of baseline, and 50% of intervention sessions for all participants (40% overall). Researchers determined agreement by counting the steps in the task analysis marked the same by both observers and dividing that number by the total number of steps in the task analysis, then multiplying by 100. Agreement between the two researchers across all participants and sessions was 98%.

The secondary data collector also collected data on treatment fidelity. During baseline condition, a 4-step fidelity checklist was used to ensure that experimental procedures were followed, but no part of the intervention was delivered (1. Connect through Zoom, 2. Provide the scenario, 3. Ask the question "What Can I Do?" and 4. Provide no further instructions). During the intervention condition, a 5-step fidelity checklist was used to ensure that the interventionist used the "What Can I Do?" and RAC intervention (1. Connect through Zoom, 2. Provide the scenario, 3. Ask the question "What Can I Do?", 4. Go through the intervention steps, 5. Provide feedback). The data collector gathered fidelity data for all participants during 85% of all baseline and intervention sessions. During each fidelity observation, the interventionist implemented the experimental protocol with 100% fidelity.

Experimental Design and Procedures

This study used a multiple probe design across participants to determine the impact of the "What Can I Do?" on participant situational problem-solving skills on the job. The design used multiple probes during baseline to prevent repeated exposure to inaccurate practice of the skills before the intervention was introduced. Introducing the intervention in a systematic, staggered way demonstrates that the increase in skill acquisition is due to the introduction of the intervention rather than chance (Kennedy, 2005).

Baseline

No intervention or teaching was delivered during baseline. All baseline sessions began with the interventionist, participant, and primary data collector logged into Zoom. Then interventionist would say, "I am going to show you a picture of the workplace and I want you to tell me What Can I Do?". The interventionist shared her screen, so everyone could see the same "What Can I Do?" PowerPoint with the mnemonic and a picture of the work scene for that day. No other instruction was provided. The data collector recorded on the data sheet if each participant verbally completed any of the steps in the problem-solving task analysis during this time. Baseline sessions were held until at least three data points demonstrated a low and stable (or decelerating) trend of accurate skill performance. The baseline session ended if the participant did not complete any of the steps in the task analysis after 15 seconds, or if participants verbally indicated that they did not know what to do.

Intervention

All intervention sessions began with the interventionist, participant, and primary data collector logged into Zoom. The intervention for this study was RAC, coupled with the "What Can I Do?" mnemonic visual implemented remotely via Zoom. Participants received the intervention individually during a 15-min period. As described in the data collection section, a data collection probe was administered at the beginning of each session, prior to the intervention. This resulted in a minimum 24-hour delay between intervention and data collection, avoiding the performance data on that day being artificially inflated by immediate practice effects.

Once the data collection probe was completed for that session, the intervention was administered. When delivering the intervention, the interventionist shared her screen to display the visual "What Can I Do?" mnemonic, which comprised eight questions, along with a picture of the workplace. The interventionist verbally practiced with the visual, then allowed the participant to verbally practice each step of the mnemonic independently. If an error occurred, the interventionist stopped the participant and provided a verbal prompt using the mnemonic. For example, if a participant missed a question from the 'what' section, the interventionist would say, "Don't forget the second question, WHAT is the situation?" Once the participant practiced the mnemonic, the interventionist transitioned to the slide with only the "What Can I Do?" phrase and the picture of the situation in a workplace. The participant would then practice the eight questions from the mnemonic. The interventionist provided corrections if needed during the independent practice.

In sessions 22 and 23 with Alexander and Dante, the interventionist introduced an additional component of the intervention: a peer video model. This component was introduced at the beginning of each session, prior to the interventionist coaching the participant through the mnemonic. Alexander and Dante watched Darryl successfully work his way through the mnemonic in the video model. The interventionist started by telling the participant to "watch the video and pay attention to the answers that he provides," and stating, "this is how I would like you to answer the eight questions." Then the interventionist would show the participant the video. After sharing the video, the interventionist asked, "did you see how after asking 'What Can I Do?', the participant answered the eight questions?" Then, the interventionist would share the screen of the PowerPoint with the "What Can I Do?" prompt and the picture of the workplace, and ask the participant, "What Can I Do?". The study ended after session 24 for all students due to the end of the semester.

Data Analysis

First, data were analyzed with traditional visual inspection procedures. The researchers calculated central tendency measures and determined data ranges for each participant during baseline and intervention. Researchers determined level, trend, and variability of the data across conditions to make decisions regarding condition changes (Kratochwill et al., 2013). After the visual inspection, researchers used the percentage of nonoverlapping data as an estimate of the intervention's effect size. The percentage of nonoverlapping data remains one of the most commonly used methods to establish effect size in single-subject design research (Scruggs & Mastropieri, 2013).

Researchers calculated the percentage of nonoverlapping data for each participant's baseline-to-intervention differences and used Scruggs and Mastropieri's standards to interpret the results. The intervention was determined to be (a) very effective if 90-100% of intervention data do not overlap with baseline, (b) moderately effective if 70-90% of intervention data do not overlap, (c) minimally effective if 50-70% of intervention data do not overlap, and (d) not effective if 50% or more of intervention data overlap (Scruggs & Mastropieri, 2013). The percentage of nonoverlapping data only looks at overlap, not the magnitude of change or variability, so in contexts where slight improvement may be clinically significant (such as when teaching skills to individuals with IDD), a moderate effect might still represent a meaningful effect.

RESULTS

The percentage of correct and independent responses for each participant is displayed in Figure 2. Individual results are discussed below.

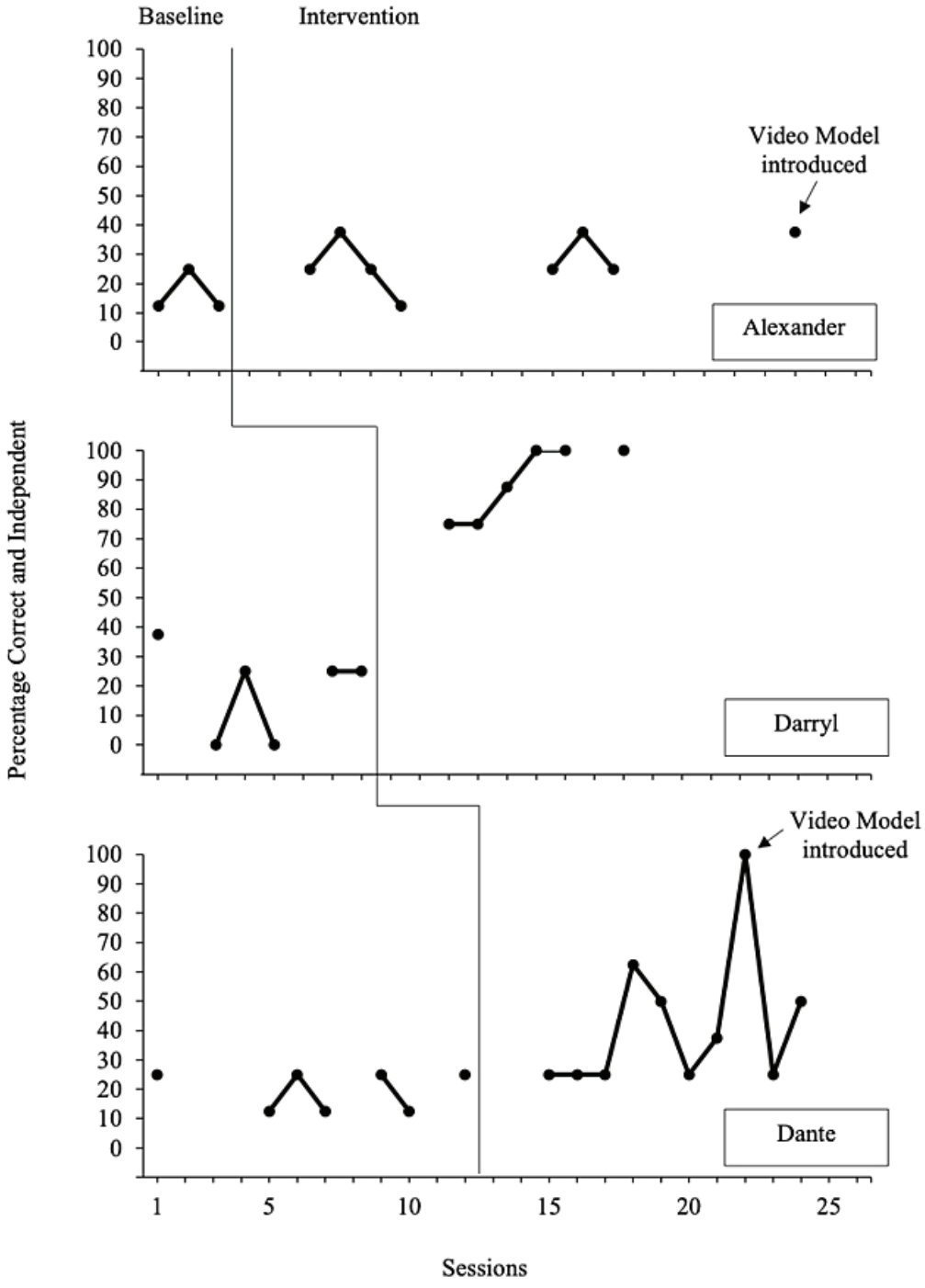

Figure 2. Percentage of Steps Performed Correctly and Independently

Alexander

Alexander had a stable baseline, only successfully completing one or two steps during the baseline phase. However, after the intervention was introduced, Alexander never got more than three steps correct in the task analysis. Alexander received an additional boost to the intervention using the peer video model in session 23, but he still only completed three of the eight steps correctly in the task analysis. He had a range of 12.5% to 37.5% accuracy with an average of 28% correct responses. Alexander did not reach the mastery criteria of three consecutive days in a row at 100% correct and independent responding.

Darryl

Darryl initially completed three steps correctly during baseline, but stabilized at two steps correct during this phase. Once the intervention was introduced, Darryl's skill acquisition grew rapidly, with a jump to 75% correct and independent responding after the first intervention session. By the fourth session of intervention, he completed 100% of the steps correctly and independently. Darryl had a range of 75% to 100% correct and independent responding with an average of 90% accuracy. He reached mastery criteria of three consecutive days at 100% correct and independent responding after six intervention sessions. The peer video-model was never introduced to Darryl due to his quick mastery of the skill.

Dante

Dante's baseline responding remained stable with accurate completion of one or two steps in the task analysis. After his fourth day of intervention, we saw a rapid growth from 25% to 62.5% correct and independent responding. His response after that remained variable. Upon introduction of the peer video-model, Dante reached 100% accuracy, but did not maintain that level. His overall responding during intervention was variable, with a range from 25%-100% and an average response of 42.5% correct and independent. Dante did not reach the mastery criteria of three consecutive days in a row at 100% correct and independent responding.

Post Hoc Analysis and Effect Size

A post-hoc analysis of the results using the percentage of nonoverlapping data was used to determine the effectiveness of the intervention based on the standards by Scruggs and Mastropieri (2013). The percentage of nonoverlapping data between baseline and intervention for Alexander was 38%, indicating the intervention was not effective for Alexander. The percentage of nonoverlapping data between baseline and intervention for Darryl was 100% indicating the intervention was very effective for Darryl. The percentage of nonoverlapping data between baseline and intervention for Dante was 50% indicating the intervention was minimally effective for him based on the Scruggs and Mastropieri (2013) standards. Further examination of Dante's results suggests this skill may have continued to improve with additional intervention sessions. When his data are individually analyzed, there is an increasing trend. Unfortunately, due to the end of the semester, time constraints prevented additional intervention sessions from occurring.

DISCUSSION

The findings of this study underscore the potential utility and adaptability of the "What Can I Do?" intervention in teaching workplace problem-solving skills to individuals with IDD. Insights into individual participant responses, coupled with support from existing literature, demonstrate the intervention as an accessible, scalable, and evidence-based approach for skill development.

Despite the variability in outcomes, this study highlights the effectiveness of integrating mnemonic strategies and RAC. Darryl's rapid skill acquisition underscores the strength of these evidence-based approaches, which have been shown to effectively enhance employability-related skills in individuals with IDD (Torres et al., 2022). Conversely, Alexander and Dante's variable outcomes illustrate the importance of addressing individualized learning needs, as their progress was influenced by factors such as session attendance, support needed, and learning preferences. These results underline the necessity of tailoring interventions to align with unique learner profiles, in keeping with research indicating that person-centered instruction is critical to the success of students with disabilities (Erickson & Davis, 2015).

A key feature of this study was the inclusion of peer video modeling as a supplementary instructional component. This approach, which has been demonstrated to improve skill acquisition in individuals with disabilities (Boles et al., 2019; DeBar et al., 2022), produced a marked short-term improvement in Dante's performance. However, the lack of sustained outcomes and minimal impact on Alexander's responses suggest a need for greater repetition and extended exposure to maximize the potential benefits of this method. The limited time available for Alexander to work with the peer video model, coupled with his challenges following multi-step

directions, restricted its effectiveness in his case. This highlights the importance of ensuring adequate practice opportunities and providing targeted supports for learners requiring additional instructional repetition to master complex skills (Swanson & Sachse-Lee, 2000).

Repetition emerged as a critical element in the learning process. Participants received multiple opportunities to practice the problem-solving task in various workplace scenarios, with those practicing more frequently showing better outcomes. Consistent with previous research, systematic repetition and practical application are essential for individuals with IDD to achieve skill mastery (Swanson & Sachse-Lee, 2000). The variability in participant responses further illustrates the importance of individualized strategies for delivering repetition, such as customizing session frequency and duration.

Notably, the assumption that skills like problem-solving and decision-making are learned incidentally is challenged by this study. The results emphasize the value of explicit instruction in teaching self-determination skills (Burke et al., 2020; Shogren et al., 2016). By providing a structured framework, the "What Can I Do?" intervention offers DSPs a user-friendly tool for teaching these essential skills with minimal training requirements, further enhancing its practical application.

Several practical advantages of the "What Can I Do?" intervention further support its utility. The virtual delivery format enhances accessibility, particularly for individuals with limited mobility or geographic barriers. However, delivering the intervention remotely also presented certain challenges. Technical issues, such as unstable internet connections, occasionally disrupted sessions, and required the interventionist to pause and re-establish the connection. Maintaining participant engagement in a virtual environment was another challenge, as the lack of physical presence made it more difficult to monitor non-verbal cues and ensure active participation. To address these challenges, the intervention incorporated regular check-ins during sessions to confirm understanding and engagement, along with clear instructions and technical support provided to participants beforehand. Additionally, while virtual backgrounds offered privacy and a neutral setting, they may have limited the interventionist's ability to fully observe participants' environments, which could have impacted the overall effectiveness of the sessions.

The intervention can be effectively implemented by DSPs with varying levels of experience, offering a structured method for training essential employment-related skills. The intervention's flexibility allows delivery in both one-on-one and small group contexts, increasing its applicability across diverse settings and learner needs. These features make the intervention a valuable resource for equipping individuals with IDD with the tools necessary for greater workforce readiness and independence.

LIMITATIONS AND FUTURE RESEARCH

While the study offers promising insights, its findings must be considered within the context of several limitations. First, reliable internet access is a prerequisite for the intervention presenting a potential barrier for some users, particularly those in underserved or rural areas. Addressing this limitation through alternative delivery methods, such as in-person instruction or hybrid models, would enhance the intervention's accessibility and applicability across diverse populations.

Second, the absence of follow-up sessions limits knowledge of the intervention's long-term effectiveness. Future studies should include follow-up evaluations to assess the retention and generalization of skills over time. This would provide a clearer understanding of whether the skills acquired during the intervention are maintained and applied in real-world contexts. Third, the study design did not include measures to assess generalization across real-life workplace scenarios, which limits the ability to determine how well the intervention prepares participants for dynamic, unstructured environments. Future research should incorporate opportunities for participants to apply their skills in real-world settings, such as internships or simulated workplace environments, to better evaluate the intervention's practical impact.

Additionally, the generalizability of the results to different settings and populations warrants further exploration. The study focused on a small sample of individuals with IDD, which may not fully represent the diversity of this population in terms of age, cultural background, or varying levels of support needs. Future research should aim to include a broader range of participants and settings to determine whether the intervention is equally effective across different contexts.

Finally, the virtual delivery format, while advantageous for accessibility, posed challenges in establishing experimental control. Factors such as the use of virtual backgrounds may have limited the interventionist's ability to fully observe participants' environments and engagement. Future studies could explore the impact of delivering the intervention in more controlled physical settings or through hybrid approaches that combine virtual and in-person components to address these challeng-

es. Incorporating real-world application opportunities or in-person peer modeling could strengthen the intervention's impact.

ACKNOWLEDGEMENT

None

DECLARATION OF INTEREST STATEMENT

The authors reported no potential conflict of interest.

ETHICAL STATEMENT

This study was approved by the Institutional Review Board of Seoul National University of Education (IRB No. SNUE-IRB-2024-002) on March 24, 2024. All procedures were conducted in accordance with the ethical standards of the institution and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Informed consent for participation was obtained from all subjects involved in the study. Participants were fully informed about the purpose and procedures of the study, their anonymity was guaranteed, and they were assured of the voluntary nature of their participation.

FUNDING

None

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