

LIVING INDEPENDENTLY IS FOR EVERYONE (LIFE):

Therapist Manual

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1. INTRODUCTION

Adults with intellectual disability (ID) secondary to Down syndrome (DS) often present with significant volume reduction in the frontal lobes and anterior cingulate cortex, leading to deficits in metacognitive ability (Pujol et al., 2015); these deficits likely contribute to the difficulties experienced by this population when performing complex IADLs, such as shopping. Shopping in particular is a critical IADL skill for adults with ID secondary to DS, as it promotes autonomy, social inclusion, and community participation (Wilton et al., 2018). Although there is evidence that metacognitive strategy-training interventions can improve functional shopping performance in individuals with metacognitive deficits resulting from schizophrenia (Kim et al., 2020) and autism spectrum disorder (Lamash & Josman, 2019), LIFE is the first program to apply these techniques to improve shopping performance in adults with ID secondary to DS.

LIFE is a metacognitive strategy-training intervention program designed to improve shopping performance in adults with ID secondary to DS. It consists of eight 90-minute intervention sessions that occur in community-based settings on a weekly basis. During each session, clients are provided the opportunity to select a recipe, create a shopping list of necessary ingredients, travel to a local grocery store to purchase ingredients, and then prepare the recipe. Sessions conclude with 10 minutes of caregiver education to promote carryover of skills developed during the program.

This manual was developed following a pilot study that examined the effectiveness of the LIFE program in a small sample of adults with ID secondary to DS (O'Neill & Gutman, in press). It is intended to guide occupational therapists and other program administrators in implementing the program within their respective communities. This manual provides users with detailed information about the LIFE program, including descriptions of essential program elements, techniques to facilitate specific shopping skills, as well as suggested outcome measures. It also includes practical information for successful implementation, such as weekly intervention session content and a variety of resources.



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2. ESSENTIAL ELEMENTS OF THE LIFE PROGRAM

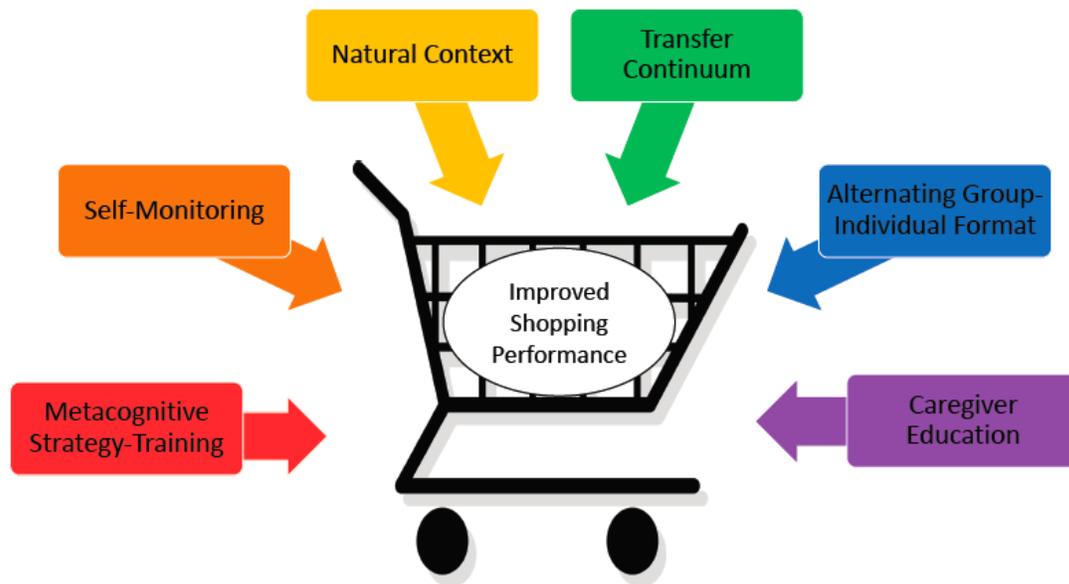


Figure 1 LIFE essential elements

Metacognitive Strategy-Training

Metacognitive strategy-training is used throughout the LIFE program to improve clients' shopping performance by explicitly teaching them to use metacognitive strategies. Metacognitive strategies are used to organize incoming information for more efficient processing and can include the use of external aids (e.g., graphic organizers, smart phone apps, and visual cuing cards), as well as internal strategies such as visualization, self-questioning, and verbalization of task steps (O'Neill & Gutman, in press; Toglia, 2011). During each session, the therapist encourages and reinforces metacognitive strategies generated by clients, as self-generated strategies are more likely to be remembered than strategies provided by others (Goverover et al., 2010; O'Neill & Gutman, 2020). When clients spontaneously use appropriate strategies, the therapist explicitly identifies the strategy and provides positive feedback. For example, if a client spontaneously crosses off an item on the shopping list after placing it in the shopping cart, the therapist might say, "I like how you are crossing off items on the shopping list as soon as you find them; that's a great strategy to keep track of what you have and what you still need to get!" By bringing the strategy to clients' awareness, the strategy becomes more readily available for use during task performance.

Self-Monitoring

Another essential element of the LIFE program is the emphasis on improving clients' self-monitoring skills, which are the skills that enable one to evaluate one's performance and detect errors while engaging in a particular task (Goupil & Kouider, 2019; Toglia, 2011). In order to achieve independent functioning in shopping tasks, clients must demonstrate improved self-monitoring skills, thereby allowing them to select and apply appropriate metacognitive strategies. Therapists should promote clients' self-monitoring abilities by employing a facilitative, rather than a directive, therapeutic approach; this can be achieved through the use of the mediation hierarchy described in Section 3 of this manual. The mediation hierarchy replaces direct instruction with a series of cues that progress from general to specific to draw clients' attention to key aspects of performance (see Section 3 for specific examples of how the mediation hierarchy can be used to facilitate specific shopping skills). In addition to the mediation hierarchy, the therapist supports clients' self-monitoring skills through the use of guided anticipation techniques, as well as stop-and-check periods (Toglia, 2011). Guided anticipation techniques are used prior to the shopping activity to help clients predict their shopping performance and potential performance challenges; client responses are then recorded for later comparison with actual performance. Stop-and-check periods are introduced by the therapist approximately halfway through the shopping activity to encourage clients to evaluate their performance (see Section 5 for a description of the stop-and-check period).

Natural Context

Because adults with DS present with deficits in the ability to transfer and generalize learned information across a variety of tasks and contexts, use of the natural context is an important element of the LIFE program. Specifically, the therapist utilizes outcome measures that are ecologically valid and, if possible, performance-based (see Section 4 for suggested outcome measures). The therapist also provides clients with opportunities to practice shopping skills in real-life stores throughout the community, rather than in a mock clinic-based grocery store with simulated materials. This ensures that clients are exposed to the various challenges associated with shopping (e.g., long wait times, distracting visual or auditory stimuli, environmental barriers affecting the ability to maneuver a shopping cart) and allows them to experiment with various strategies to overcome said barriers.

Transfer Continuum

Each session of the LIFE program is structured to build upon previous sessions and support client progression along the transfer continuum. Coined by Toglia (2011), the transfer continuum is a treatment approach that emphasizes providing clients with ample opportunities to practice learned

skills across multiple situations of similar complexity, but graded differences in context and stimuli. Because adults with DS present with deficits in the ability to transfer learned skills across varying contexts, progression along the transfer continuum occurs gradually across intervention sessions with minute changes to shopping environment and items shopped for. Additionally, the therapist assists clients to identify connections between the strategies used and challenges encountered during each session to facilitate transfer of learned skills.

Alternating Group-Individual Format

Throughout the LIFE program, sessions are provided in an alternating group-individual format, such that the first session is provided in a group format (i.e., 5-10 clients), the second session is provided in an individual format, and so forth. This format was selected because socially-oriented learning tends to be effective for individuals with ID secondary to DS, and use of a group format enables clients to learn from their peers as they model various skills and strategies (Grieco et al., 2015). Furthermore, complementing group sessions with individual sessions allows the therapist to provide clients with one-to-one intervention that is customized according to each client's unique needs.

Caregiver Education

In order to promote carryover of skills developed during the LIFE program, each session is followed by 10 minutes of caregiver education. At this time, the therapist provides caregivers with training in techniques to support clients' metacognitive abilities during everyday task performance. This can include the use of modeling to demonstrate the difference between directive and facilitative teaching approaches, as well as handouts designed specifically for caregivers (see Appendix 4 for a sample caregiver handout). Moreover, the therapist informs caregivers of the strategies that were implemented during the session and encourages caregivers to provide clients with opportunities to practice applying those strategies between sessions.

3. TECHNIQUES TO FACILITATE SPECIFIC SHOPPING SKILLS: THE MEDIATION HIERARCHY

The mediation hierarchy replaces direct instruction with a series of cues that progress from general to specific. The therapist begins cueing the client at the level of indirect cueing for each task when at least one of the following conditions are met: (1) the client explicitly requests assistance, (2) the client has not recognized or corrected a performance error within a period of at least two minutes, or (3) the client has not initiated performance at least two minutes after instructions have been provided. In order to progress to the next level of cueing, the therapist must provide the client with two different cues from each level. Sections 3.1 - 3.5 below describe how the mediation hierarchy can be used to facilitate specific shopping skills; examples of metacognitive strategies to support each shopping skill are provided as well.

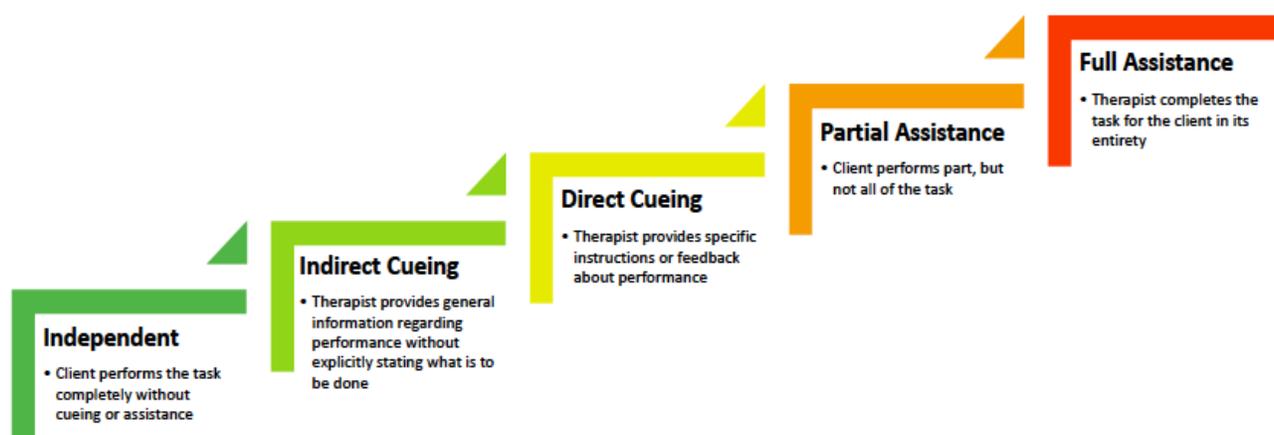


Figure 2 The mediation hierarchy

3.1 Composing a Shopping List

Indirect Cueing: Therapist provides general information regarding performance without explicitly stating what is to be done

- Ask open-ended questions to facilitate strategy generation and/or application of previously used strategies (e.g., “Can you think of any strategies that will help you make the shopping list? How will you know what you need to buy? Are there any strategies that you’ve used before that might help you make the shopping list?”)
- Draw attention to key aspects of task performance to hint at what the client needs to do; cues can be verbal (e.g., “Did you forget anything? Where else can you look for *ingredient*? How do you know how much of *ingredient* you need to buy”), although nonverbal cues are preferred (e.g.,

use expectant facial expression, gesture/motion towards general area where ingredient can be found, direct eye gaze towards ingredient)

Direct Cueing: Therapist provides specific instructions or feedback about performance

- **Facilitate strategy generation and/or application of previously used strategies by asking suggestive questions and, if necessary, using directive statements** (e.g., “Should you cross off the ingredients we already have? Did the grouping strategy help you make the shopping list last time? Remember to scan each shelf from left to right, ‘like reading a book,’ when you look for *ingredient*.”)
- **Indicate what the client needs to do;** cues can be verbal (e.g., “Should you check the recipe to find out which ingredients we need? Did you check the refrigerator for *ingredient*? Hmm, I don’t remember seeing *ingredient*; check again to make sure we really have it.”), although nonverbal cues are preferred (e.g., point to ingredient on recipe, point to location where ingredient can be found, gesture to indicate that ingredient is located to the left/right of another object)

Partial Assistance: Client performs part, but not all of the task

- **Use modeling** to demonstrate part of the task (e.g., identify ingredient on recipe, search for ingredient in kitchen, and then either cross off ingredient if found or include in shopping list if not found)
- **Modify the task/environment** (e.g., reduce number of irrelevant ingredients stored in kitchen, place necessary ingredients on counter with 2-5 irrelevant ingredients, provide pictures of each ingredient, perform calculations regarding ingredient quantity)

Examples of metacognitive strategies for composing a shopping list:

- **Grouping:** Rearrange ingredients list into smaller groups according to storage location to improve efficiency and organization
- **Visualization:** Use mental imagery to assist with visual search by picturing the ingredient
- **Checklist:** Check or cross off ingredients after they are located to reduce redundancy
- **Systematic visual search:** Search for ingredients in an organized manner using a left to right, top to bottom approach

3.2 Retrieving a Shopping Cart

Indirect Cueing: Therapist provides general information regarding performance without explicitly stating what is to be done

- **Ask open-ended questions to facilitate strategy generation and/or application of previously used strategies** (e.g., “Is there anything you can do or use to help you remember to get a shopping cart? What strategies have you used in the past to help you remember things?”)
- **Draw attention to key aspects of task performance to hint at what the client needs to do;** cues can be verbal (e.g., “Are you forgetting anything? Do you have everything you need to begin shopping? There are a lot of items on your shopping list; how will you carry all of it?”), although nonverbal cues are preferred (e.g., use expectant facial expression, gesture/motion towards another shopper with a shopping cart, stand in close proximity to the area where shopping carts are stored)

Direct Cueing: Therapist provides specific instructions or feedback about performance

- **Facilitate strategy generation and/or application of previously used strategies by asking suggestive questions and, if necessary, using directive statements** (e.g., “Should you put a sticky-note reminder on the shopping list to help you remember to get a shopping cart? Try saying the steps of your shopping plan out loud before you go into the store; get a shopping cart, find the items on the shopping list, and then pay for the items.”)
- **Indicate what the client needs to do;** cues can be verbal (e.g., “Should you get a shopping cart? That person seems to be done using their shopping cart; can you ask them if you can use it? Check by the store entrance for a shopping cart.”), although nonverbal cues are preferred (e.g., point to location where shopping carts are stored, gesture/mime pushing a shopping cart)

Partial Assistance: Client performs part, but not all of the task

- **Modify the task/environment** (e.g., allow client to bring reusable shopping bags, park next to shopping cart corral if possible)

Examples of metacognitive strategies for retrieving a shopping cart:

- **Visual reminders:** Place a note or picture of a shopping cart in a visible location as a self-cue
- **Verbalization:** List steps of the shopping task out loud before performance to improve ability to remember and execute steps of shopping plan appropriately
- **Visualization:** Use mental imagery to assist with visual search by picturing a shopping cart before entering the store

3.3 Locating Correct Items on the Shopping List

Indirect Cueing: Therapist provides general information regarding performance without explicitly stating what is to be done

- **Ask open-ended questions to facilitate strategy generation and/or application of previously used strategies** (e.g., “Can you think of any strategies that will help you find the items on the shopping list? How will you know if you found everything you need? Is there anything you can do or use that would help you find the items on the list quickly?”)
- **Draw attention to key aspects of task performance to hint at what the client needs to do;** cues can be verbal (e.g., “Do you have everything you need? What’s next? Where else can you look for *item*?”), although nonverbal cues are preferred (e.g., use expectant facial expression, direct eye gaze towards item, stand in close proximity to the item)

Direct Cueing: Therapist provides specific instructions or feedback about performance

- **Facilitate strategy generation and/or application of previously used strategies by asking suggestive questions and, if necessary, using directive statements** (e.g., “Should you ask a store employee for help? Did picturing what the item looks like help you find the items on the shopping list last time? Remember to read the sign before going into the aisle so you don’t waste time.”)
- **Indicate what the client needs to do;** cues can be verbal (e.g., “Should you check the shopping list to make sure you get the right amount of *item*? Did you look in the *store aisle* for *item*? I don’t think *item* was on the shopping list; check the list again to make sure you are buying the right *item*.”), although nonverbal cues are preferred (e.g., point to item on shopping list, gesture/motion towards aisle where item can be found)

Partial Assistance: Client performs part, but not all of the task

- **Use modeling** to demonstrate part of the task by locating one or more, but not all, of the items on the shopping list
- **Modify the task/environment** (e.g., read store aisle signage aloud to client, direct client to appropriate aisle, simplify instructions by presenting items on shopping list one at a time, provide client with pictures of each item on the shopping list)

Examples of metacognitive strategies for locating correct items on the shopping list:

- **Visualization:** Use mental imagery to assist with visual search by picturing the item
- **Checklist:** Check or cross off items after they are located to reduce redundancy
- **Systematic visual search:** Search for items in an organized manner using a left to right, top to bottom approach
- **Reading store aisle signage:** Read signage before entering store aisles to improve efficiency and prevent entry into unnecessary aisles
- **Asking for help:** Ask store employees for assistance if unable to locate an item
- **Grouping:** Rearrange shopping list into smaller groups according to store location to improve efficiency and organization

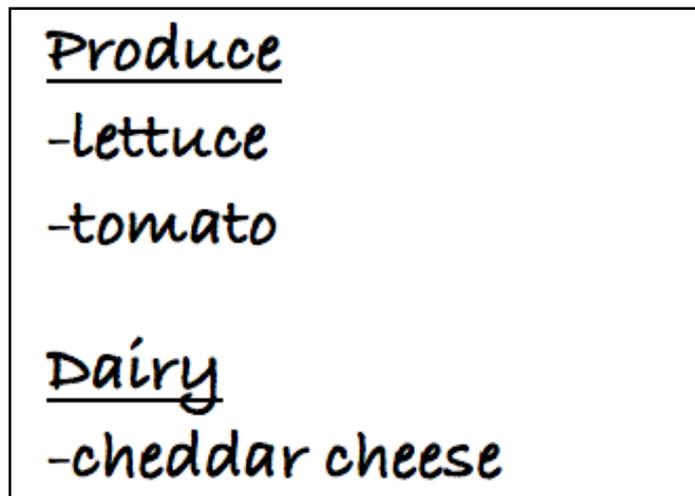


Figure 3 Grouping strategy: Locating correct items on the shopping list

3.4 Comparing Prices to Select the Lowest Price

Indirect Cueing: Therapist provides general information regarding performance without explicitly stating what is to be done

- Ask open-ended questions to facilitate strategy generation and/or application of previously used strategies (e.g., “Can you think of any strategies that will help you figure out which item is the cheapest? Is there anything you can do or use to help you figure out if one price is more or less than the other? What can you do to make sure you don’t skip over any of the prices?”)
- Draw attention to key aspects of task performance to hint at what the client needs to do; cues can be verbal (e.g., “Did you miss anything? How do you know that’s the cheapest price? Can you use something else to compare prices?”), although nonverbal cues are preferred (e.g., use

expectant facial expression, gesture/motion towards price stickers, raise eyebrows in confusion to imply that an error was made)

Direct Cueing: Therapist provides specific instructions or feedback about performance

- **Facilitate strategy generation and/or application of previously used strategies by asking suggestive questions and, if necessary, using directive statements** (e.g., “Do you think it would be easier to compare just two prices at a time? Did using the number line help you compare prices last time? Try repeating the lowest price out loud, until you find a cheaper price, so that you don’t forget it.”)
- **Indicate what the client needs to do;** cues can be verbal (e.g., “Should you check the price sticker to make sure you have the right price for *item*? Did you make sure to compare the prices across every brand of *item*? I see an *item* with a lower price, so keep looking. This price is for more than one *item*; use a calculator to find out how much it costs for just one.”), although nonverbal cues are preferred (e.g., point to price sticker, provide client with calculator, use a “thumbs up” or “thumbs down” gesture to indicate whether a price is higher or lower)

Partial Assistance: Client performs part, but not all of the task

- **Modify the task/environment** (e.g., reduce the number of prices to be compared by pointing out the lowest priced item and one other item, perform unit price calculations for client, provide client with visual representation of numbers)
- **Use modeling** to demonstrate price comparison techniques if there are three or more prices to be compared (e.g., “The Red Brand soup is \$1.29 and the Blue Brand soup is \$2.00. Since \$1.29 is less than \$2.00, that means the Red Brand soup is cheaper. Now it’s your turn; does the Green Brand soup cost more or less than the Red Brand soup?”)

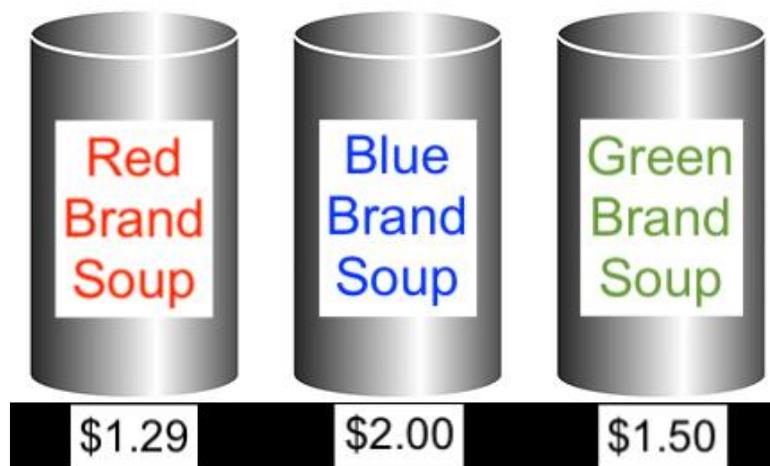


Figure 4 Modeling price comparison techniques

Examples of metacognitive strategies for comparing prices to select the lowest price:

- **Number line:** Compare prices along a horizontal line to provide a concrete representation of quantity (see Appendix 3 for a print-out number line)
- **Verbalization:** Continue repeating a price out loud until a lower price is located to maintain focus on relevant prices
- **Stimuli reduction:** Limit the number of prices to be compared by selecting just two prices to compare at a time

3.5 Purchasing Groceries With Sufficient Funds

Indirect Cueing: Therapist provides general information regarding performance without explicitly stating what is to be done

- **Ask open-ended questions to facilitate strategy generation and/or application of previously used strategies** (e.g., “Can you think of any strategies that will help you buy the groceries with the right amount of money? Are there any strategies that you’ve used before that might help you buy the groceries? Which strategies have you used before when working with money?”)
- **Draw attention to key aspects of task performance to hint at what the client needs to do;** cues can be verbal (e.g., “How will you know how much everything costs? How will you know if you have enough money? What’s next?”), although nonverbal cues are preferred (e.g., use expectant facial expression, gesture/motion towards payment screen, point to envelope/wallet containing money)

Direct Cueing: Therapist provides specific instructions or feedback about performance

- **Facilitate strategy generation and/or application of previously used strategies by asking suggestive questions and, if necessary, using directive statements** (e.g., “Should you round up to the nearest dollar to make sure you give the cashier enough money? Can you use the number line to help you round up to the nearest dollar? Use the grouping strategy to categorize the bills and coins, and then start with the highest amount.”)
- **Indicate what the client needs to do;** cues can be verbal (e.g., “Did you look at the payment screen to check the total cost? Should you count the money again to make sure you have the right amount? Use the money in the envelope to make *total cost*.”), although nonverbal cues are preferred (e.g., point to the total cost on the payment screen, use a “thumbs up” gesture to indicate that more money is needed, point to number line)

Partial Assistance: Client performs part, but not all of the task

- **Use modeling** to demonstrate calculating total cost by counting out loud
- **Modify the task/environment** (e.g., provide client with visual cue card indicating coin/bill values, round up the total cost for the client, simplify instructions by telling the client which coins/bills to select)

Examples of metacognitive strategies for purchasing groceries with sufficient funds:

- **Rounding up:** Round the total cost up to the nearest dollar to ensure sufficient funds
- **Number line:** Use a numbered horizontal line to provide a concrete representation of price for calculation of total cost
- **Grouping:** Organize bills and coins according to appropriate denominations to improve efficiency

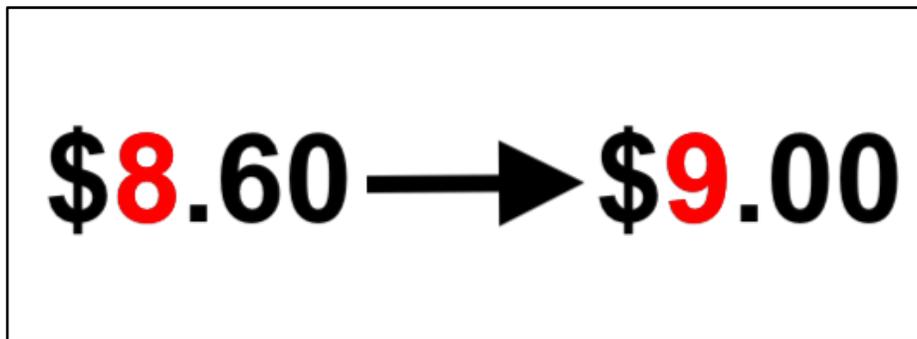


Figure 5 Rounding up strategy

4. OUTCOME MEASURES

In order to determine the effectiveness of the LIFE program, the therapist must select an outcome measure that is appropriate, ecologically valid, and performance-based. The selected outcome measure is administered to each individual client before and after participation in the LIFE program. If possible, the therapist should re-administer the outcome measure at least 1-month after intervention end to evaluate maintenance of learned skills. The following sections describe two outcome measures that can be used to determine the effectiveness of the LIFE program in improving clients' shopping performance: (1) the Shopping Skills Recording Sheet, and (2) the Test of Grocery Shopping Skills.

4.1 Shopping Skills Recording Sheet

The Shopping Skills Recording Sheet was developed by the authors during a pilot study to examine the effectiveness of the LIFE program with a small sample of adults with ID secondary to DS (O'Neill & Gutman, in press; see Appendix 1 for a blank recording sheet). Scoring is completed during real-life observations of clients as they compose a shopping list based on a selected recipe and available food stocks, and then as they shop for listed items at a grocery store located in their community. During each observation, data are collected regarding the time, frequency, and level of assistance required by the client to demonstrate six targeted shopping skills. Additionally, qualitative observations of performance, including strategy use, are to be recorded in a designated section titled "additional observations."

Time scores are determined based on the total amount of required for the client to compose a shopping list, locate correct items on the shopping list, compare prices to select the lowest price, and purchase groceries with sufficient funds. Scores for each of the aforementioned shopping skills are recorded in minutes, with lower scores indicating faster speed of completion. Next, frequency scores are calculated based on the number of instances the client is observed to use store aisle signage to locate needed items without cues. The range of possible frequency scores depends on the number of items on the shopping list (e.g., a score of 0/3 indicates that the client did not use store aisle signage to locate any items on the shopping list, while a score of 3/3 indicates that the client used store aisle signage to locate all listed items). Lastly, a 5-point ordinal scale is used to measure the level of assistance required by the client to compose a shopping list, retrieve a shopping cart, locate correct items on the shopping list, compare prices to select the lowest price, and purchase groceries with sufficient funds. The total score for each shopping skill can range from 1 to 5, with a score of 5 indicating greater independence.

4.2 The Test of Grocery Shopping Skills

The Test of Grocery Shopping Skills (TOGSS; Brown, Rempfer, & Hamera, 2009) is an ecologically valid, performance-based assessment of grocery shopping skills that can also provide information on a client's metacognitive abilities in the context of IADL performance (Lamash, 2018). Though no norms have been established, the TOGSS contains three subscales for scoring: accuracy, time, and redundancy. Scores on the subscales are associated with cognitive abilities such as problem solving, planning, processing speed, working memory, task persistence, and verbal memory (Rempfer, Hamera, Brown, & Cromwell, 2003). The accuracy subscale is related to the client's ability to locate specified items at the lowest price and is comprised of three 10-point subscales reflecting item, size, and price components. Together, the time and redundancy subscales indicate efficiency; the time subscale is a recording of the amount of time taken to complete the test and the redundancy score is calculated by subtracting the minimum number of aisles necessary to obtain all items from the actual number of times the client enters an aisle. Subscale scores are to be interpreted along with qualitative information obtained through observations (e.g., the order in which items are found, whether or not the client asks for help, visual scanning approach, and time use) which can provide insight on the client's use of metacognitive strategies (Brown, Rempfer, & Hamera, 2009).

5. WEEKLY SESSION CONTENT

The LIFE program consists of eight 90-minute intervention sessions that occur in community-based settings on a weekly basis. Sessions occurring during weeks 1, 3, 5, and 7 follow a group format, while sessions occurring during weeks 2, 4, 6, and 8 are provided in an individual format. Each session is divided into four parts: a 10-minute pre-shopping phase, a 40-minute shopping phase, a 30-minute post-shopping phase, and 10 minutes of caregiver education.

INTERVENTION SESSION TIMELINE	
Week 1	<i>Group session 1</i> Shopping location: Local grocery store #1
Week 2	<i>Individual session 1</i> Shopping location: Local grocery store #1
Week 3	<i>Group session 2</i> Shopping location: Local grocery store #2
Week 4	<i>Individual session 2</i> Shopping location: Local grocery store #2
Week 5	<i>Group session 3</i> Shopping location: Local grocery store #3
Week 6	<i>Individual session 3</i> Shopping location: Local grocery store #3
Week 7	<i>Group session 4</i> Shopping location: Local grocery store #4
Week 8	<i>Individual Session 4</i> Shopping location: Local grocery store #4

5.1 Group Sessions

The following format is intended for sessions occurring during intervention weeks 1, 3, 5, and 7 of the LIFE program. The total duration of each group intervention session is 90 minutes.

Pre-shopping Phase (10 minutes):

- Greet clients and provide an overview of planned activities (e.g., “I’d like you to work together to choose a recipe and figure out which ingredients you need to make the recipe. Next, we’ll go to the store to buy the ingredients. Once we get back, each of you will follow the recipe and use the ingredients you bought to make your own meal.”). For sessions occurring in weeks 3, 5, and 7, invite clients to discuss strategies used during previous sessions.
- Review two different recipes with clients (See Appendix 1 for sample recipes), not including recipes used during previous sessions; majority vote will determine which recipe will be used.
 - If any clients have food allergies, encourage those clients to identify potential alternatives (e.g., “Let’s look over the ingredients. Is there anything in here that may not be safe for you to eat? How do you know if something has *allergen* in it? What can you use instead of *ingredient* that won’t change the recipe too much? Do you think there is an *allergen-free* option?”).
- Ask clients to create a shopping list as a group, based upon the selected recipe and the ingredients that are available at the treatment facility. To facilitate strategy generation and task performance, provide cues in order from general to specific (e.g., “Can you think of any strategies that will help you make the shopping list? How will you know what you need to buy? Do you think we have *ingredient*? Where can you look to find *ingredient*? Should you check in the refrigerator or the pantry?”). Encourage clients to consider the amount of each ingredient necessary for each client to prepare their own meal.
- After the shopping list is finalized, employ guided anticipation techniques to help clients predict their shopping performance and potential performance challenges. For example, ask each individual client to predict total cost, location of the items (e.g., freezer aisles, produce section, baking aisle), and the length of time to locate all of the items on the list. Record client responses for later comparison.
- Next, facilitate generation of strategies to be applied during the shopping activity by providing the group with cues in order from general to specific (e.g., “Can you think of any strategies that will help you during the shopping activity? Is there anything you can do or use that would help you find the items on the list? Is there anything you can do or use to help you find the cheapest prices? Are there any strategies that you have used before that might help?”).

- If group members have difficulty identifying appropriate strategies, provide strategy suggestions; this may include asking store employees for assistance, reading aisle signage to find items, rearranging items on the list into smaller categories, and/or using a number line to compare prices.

Shopping Phase (40 minutes):

- The group will travel to a local grocery store to shop for ingredients; each group session will be held at a different grocery store to promote generalization. Upon arrival, encourage clients to locate items on the shopping list as a group.
- Halfway through the activity, introduce a stop-and-check period and use guided questioning to encourage self-monitoring of performance (e.g., “[Let’s pause and check how you’re doing. How are you doing with time? What else do you need to do/find before you are done? Are the strategies helping?](#)”). Provide clients with positive reinforcement when they spontaneously use appropriate strategies.
- When the clients indicate that they are ready to purchase the items, provide an envelope containing at least one \$20 bill, one \$10 bill, one \$5 bill, and four \$1 bills. Encourage clients to approach the check-out counter and then, once the cashier indicates the total cost, instruct clients to work together to determine the appropriate combination of dollar bills to pay for the items.

Post-shopping Phase (30 minutes):

- Once the group has reconvened at the treatment facility, facilitate a discussion on challenges that were encountered and strategies utilized while shopping. Next, ask clients to compare the actual total cost, location of items, and length of time to locate all of the items with predictions made during the pre-shopping phase.
- Invite clients to prepare their own meal, according to the recipe that was selected during the pre-shopping phase.
- Following meal preparation, instruct clients to clean the kitchen area and store leftover groceries appropriately, as a group. Provide cues from general to specific to assist clients with appropriate storage (e.g., “[Can you think of any strategies to help you put the groceries away? How do you know where to store the groceries? Where should *ingredient* be stored? Where is *ingredient* usually stored? Does *ingredient* need to stay cold?](#)”).
- Encourage clients to make connections between shopping performance and strategies used, as well as performance during previous sessions. Guide clients to identify ways the strategies used during the activity can be applied to other situations and/or contexts. [For example, the strategy](#)

of crossing off steps or tasks as they are completed can be used to follow a recipe and can also be used to keep track of household chores.

Caregiver education (10 minutes):

- Discuss strategies that were implemented during the session and encourage caregivers to provide clients with opportunities to practice applying those strategies between sessions.
- Train caregivers to use guided questioning techniques to support clients' ability to self-monitor performance. Provide concrete examples of guided questioning techniques used during the session, as well as handouts (See Appendix 3 for sample caregiver handout) that differentiate facilitation from direct teaching.

5.2 Individual Sessions

The following format is intended for sessions occurring during intervention weeks 2, 4, 6, and 8 of the LIFE program. Each client will sign up for a 90-minute time slot for a one-to-one intervention session with the occupational therapist during the aforementioned weeks.

Pre-shopping Phase (10 minutes):

- Greet the client and provide an overview of planned activities (e.g., “Today’s session will look a lot like last week’s group session. I’d like you to choose a recipe and figure out which ingredients you need to make the recipe. Next, we’ll go to the store to buy the ingredients. Once we get back, you will follow the recipe and use the ingredients you bought to make your own meal.”). Review strategies used during previous sessions with the client, including those used during group sessions.
- Invite the client to choose a recipe from a selection of two recipes (See Appendix 1 for sample recipes), not including recipes used during previous sessions.
 - If the client has any food allergies, encourage the client to identify potential alternatives (e.g., “Let’s look over the ingredients. Is there anything in here that may not be safe for you to eat? How do you know if something has *allergen* in it? What can you use instead of *ingredient* that won’t change the recipe too much? Do you think there is an *allergen-free* option?”).
- Ask the client to create a shopping list based upon the selected recipe and the ingredients that are available at the treatment facility. To facilitate strategy generation and task performance, provide cues in order from general to specific (e.g., “Can you think of any strategies that will help you make the shopping list? How will you know what you need to buy? Do you think we have

ingredient? Where can you look to find ingredient? Should you check in the refrigerator or the pantry?”).

- After the shopping list is finalized, employ guided anticipation techniques to help the client predict their shopping performance and potential performance challenges. *For example, the client will be asked to predict total cost, location of the items (e.g., freezer aisles, produce section, baking aisle), and the length of time to locate all of the items on the list.*
- Next, facilitate generation of strategies to be applied during the shopping activity by providing the client with cues in order from general to specific (e.g., *“Can you think of any strategies that will help you during the shopping activity? Is there anything you can do or use that would help you find the items on the list? Is there anything you can do or use to help you find the cheapest prices? Are there any strategies that you have used before that might help?”*).
 - If the client has difficulty identifying appropriate strategies, provide strategy suggestions; this may include asking store employees for assistance, reading aisle signage to find items, rearranging items on the list into smaller categories, or using a number line to compare prices.

Shopping Phase (40 minutes):

- Travel with the client to a local grocery store to shop for ingredients; each individual session will be held at a the grocery store from the previous group session. Upon arrival, encourage the client to locate items on the shopping list.
- Halfway through the activity, introduce a stop-and-check period and use guided questioning to encourage self-monitoring of performance (e.g., *“Let’s pause and check how you’re doing. How are you doing with time? What else do you need to do/find before you are done? Are the strategies helping?”*). Provide the client with positive reinforcement when he or she spontaneously use appropriate strategies.
- When the client indicates that they are ready to purchase the items, provide an envelope containing at least one \$20 bill, one \$10 bill, one \$5 bill, and four \$1 bills. Direct the client to approach the check-out counter and then, once the cashier indicates the total cost, instruct the client to determine the appropriate combination of dollar bills to pay for the items.

Post-shopping Phase (30 minutes):

- Upon return to the treatment facility, encourage the client to identify and discuss any challenges that were encountered and strategies utilized while shopping. Next, ask the client to compare the actual total cost, location of items, and length of time to locate all of the items with predictions made during the pre-shopping phase.

- Invite the client to prepare a meal, according to the recipe that was selected during the pre-shopping phase.
- Following meal preparation, instruct the client to clean the kitchen area and store leftover groceries appropriately. Provide cues from general to specific to assist the client with appropriate storage (e.g., “Can you think of any strategies to help you put the groceries away? How do you know where to store the groceries? Where should *ingredient* be stored? Where is *ingredient* usually stored? Does *ingredient* need to stay cold?”).
- Encourage the client to make connections between shopping performance and strategies used, as well as performance during previous sessions. Guide the client to identify ways the strategies used during the activity can be applied to other situations and/or contexts. For example, the strategy of crossing off steps or tasks as they are completed can be used to follow a recipe and can also be used to keep track of household chores.

Caregiver education (10 minutes):

- Discuss strategies that were implemented during the session and encourage caregivers to provide the client with opportunities to practice applying those strategies between sessions.
- Train caregivers to use guided questioning techniques to support the client’s ability to self-monitor performance. Provide concrete examples of guided questioning techniques used during the session, as well as handouts (See Appendix 3 for sample caregiver handout) that differentiate facilitation from direct teaching.

APPENDICES

Appendix 1: Shopping Skills Recording Sheet

Shopping Skills Recording Sheet

Observable Shopping Skill	Time (Minutes)	Level of Assistance	Frequency	Additional Observations
Composes shopping list				
Retrieves shopping cart/basket				
Locates correct items on shopping list				
Compares prices to select lowest price				
Purchases groceries with sufficient funds				
Uses store aisle signage to locate needed items				

Level of Assistance	
(5) Independent	Participant performs the task completely without cueing or assistance
(4) Indirect cueing	Therapist provides general information regarding performance, without explicitly stating what is to be done
(3) Direct cueing	Therapist provides specific instructions or feedback about performance
(2) Partial assistance	Participant performs part, but not all of the task
(1) Full assistance	Therapist completes the task for the participant in its entirety

Appendix 2: Sample Recipes



BLT Sandwich

Ingredients:

- 2 slices of bacon
- ½ cup of shredded lettuce
- 2 tomato slices
- ½ tablespoon (tbsp) of mayonnaise
- 2 slices of bread

Directions:

1. Wrap 2 slices of bacon with a paper towel and cook in the microwave for 1 minute, or until crispy
2. Place 1 slice of bread on a plate
3. Spread ½ tbsp of mayonnaise on the bread
4. Place ½ cup of shredded lettuce on top of mayonnaise
5. Place 2 slices of bacon on top of lettuce
6. Place 2 tomato slices on top of bacon
7. Place the second slice of bread on top of the tomatoes and press down gently to secure the sandwich
8. Enjoy your BLT sandwich!



Buffalo Turkey Wrap

Ingredients:

- 1 tablespoon (tbsp) of mayonnaise
- 1 teaspoon (tsp) of hot sauce
- 1 flour tortilla
- 1/4 cup of lettuce
- 4 slices of turkey

Directions:

1. Place tortilla on a plate
2. Mix 1 tbsp of mayonnaise with 1 tsp of hot sauce to make Buffalo sauce
3. Spread the Buffalo sauce evenly on the tortilla
4. Place 4 slices of turkey on top of the Buffalo sauce
5. Spread 1/4 cup of lettuce on top of the turkey
6. Roll up the tortilla, starting from the bottom
7. Enjoy your Buffalo turkey wrap!



Caesar Salad Sandwich

Ingredients:

- 4 slices of turkey breast
- 1 cup of shredded lettuce
- 1 tablespoon (tbsp) of shredded parmesan cheese
- 1 tablespoon (tbsp) of Caesar salad dressing
- 2 slices of bread

Directions:

1. Use your hands to tear 4 slices of turkey breast into small strips
2. Place the turkey breast strips into a large bowl
3. Place 1 cup of shredded lettuce into the bowl with the turkey
4. Place 1 tbsp of shredded parmesan cheese into the bowl with the turkey and lettuce
5. Pour 1 tbsp of Caesar salad dressing into the large bowl with the turkey, lettuce, and cheese
6. Mix the ingredients in the large bowl with a spoon
7. Scoop the salad mixture onto one slice of bread
7. Place the second slice of bread on top of the salad and press down gently to secure the sandwich
8. Enjoy your Caesar salad sandwich!



Chicken Salad Sandwich

Ingredients:

- ½ of a 5-ounce can of chicken breast
- 1 tablespoon (tbsp) of chopped celery
- 1 tablespoon (tbsp) of mayo
- ½ teaspoon (tsp) of lemon juice
- ¼ teaspoon (tsp) of Dijon mustard
- 2 slices of bread

Directions:

1. Use a can opener to open the can of chicken breast
2. Press the lid down and flip the can upside down over a sink to drain the water out
3. Scoop ½ of the chicken out of the can and into a large bowl
4. Place 1 tbsp of chopped celery into the bowl with the chicken
5. Add 1 tbsp of mayonnaise, ½ tsp of lemon juice, and ¼ tsp of Dijon mustard into the bowl with the chicken and celery
6. Use a fork to mash the ingredients together
7. Scoop the chicken salad mixture onto a slice of bread
8. Place the second slice of bread on top of the chicken salad and press down gently to secure the sandwich
9. Enjoy your chicken salad sandwich!



Microwave Breakfast Quesadilla

Ingredients:

- 1 flour tortilla
- 4 tablespoons (tbsp) of your favorite shredded cheese
- 1 egg
- 1 tablespoon (tbsp) of salsa

Directions:

1. Place tortilla in small microwaveable bowl
2. Sprinkle 4 tbsp of shredded cheese on top of the salsa
3. In a separate bowl, beat egg with a fork or whisk
4. Pour the egg on top of the cheese
5. Heat the tortilla in the microwave for 1 minute OR until egg is set (doesn't look wet or runny)
6. Take the tortilla out of the microwave and let it cool
7. Spread 1 tbsp of salsa on top of the egg
8. Fold the tortilla in half
9. Enjoy your breakfast quesadilla!



Microwave Ham & Cheese Quesadilla

Ingredients:

- 1 flour tortilla
- 4 tablespoons (tbsp) of shredded cheddar cheese
- 1 slice of ham

Directions:

1. Place tortilla on a plate
2. Sprinkle 4 tbsp of cheddar cheese on the tortilla
3. Use your fingers to tear the ham into small pieces
4. Sprinkle the pieces of ham on top of the cheese
5. Fold the tortilla in half, starting from the top
6. Heat the tortilla in the microwave for 30 seconds
7. Take the tortilla out of the microwave and let it cool
8. Enjoy your ham and cheese quesadilla!



Microwave Pizzadilla

Ingredients:

- 1 flour tortilla
- $\frac{1}{4}$ cup marinara sauce
- 4 tablespoons (tbsp) of mozzarella cheese
- 4 slices of pepperoni (OPTIONAL)

Directions:

1. Place tortilla on a plate
2. Spread $\frac{1}{4}$ cup of marinara sauce on the tortilla
3. Sprinkle 4 tbsp of mozzarella cheese on top of the sauce
4. Place 4 slices of pepperoni on top of the cheese (OPTIONAL)
5. Fold the tortilla in half, starting from the top
6. Heat the tortilla in the microwave for 30 seconds
7. Take the tortilla out of the microwave and let it cool
8. Enjoy your pizzadilla!



Microwave Quesadilla

Ingredients:

- 1 flour tortilla
- 4 tablespoons (tbsp) of shredded taco cheese
- 2 tablespoons (tbsp) of chunky salsa

Directions:

1. Place tortilla on a plate
2. Sprinkle 4 tbsp of taco cheese on the tortilla
3. Spread 2 tbsp of chunky salsa on top of the cheese
4. Fold the tortilla in half, starting from the top
5. Heat the tortilla in the microwave for 30 seconds
6. Take the tortilla out of the microwave and let it cool
7. Enjoy your quesadilla!



Tuna Salad

Ingredients:

- 1 (7 ounce) can of solid white tuna packed in water
- 4 tablespoons (tbsp) of mayonnaise
- 1 tablespoon (tbsp) of sweet relish

Directions:

1. Use a can opener to open the can of tuna
2. Press the tuna can lid down and flip it upside down over a sink to drain the water out
3. Scoop the tuna out of the can and into a large bowl
4. Place 4 tbsp of mayonnaise into the bowl with the tuna
5. Place 1 tbsp of sweet relish into the bowl with the tuna and mayonnaise
6. Mash the ingredients together with a fork
7. Enjoy your tuna salad!



Turkey Roll-ups

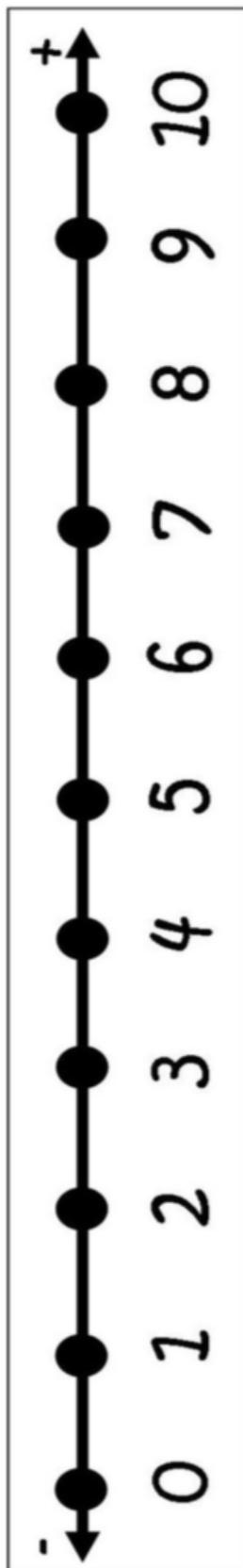
Ingredients:

- 1 whole wheat flour tortilla (fajita size)
- 1 tablespoon of low-fat chive and onion cream cheese
- 4 slices of turkey breast
- ¼ cup of shredded lettuce

Directions:

1. Place tortilla on a paper plate and use a knife to spread 1 tablespoon of cream cheese on the tortilla
2. Place 4 slices of turkey breast on top of the cream cheese
3. Spread ¼ cup of shredded lettuce on turkey breast
4. Roll up the tortilla, starting from the bottom
5. Use a knife to cut tortilla roll into 4 pieces
6. Push 1 toothpick into each piece to keep it closed
7. Enjoy your turkey roll-ups!

Appendix 3: Number Line



Appendix 4: Sample Caregiver Handout

Where is the Milk? Tips for Using a Facilitative Approach at Home



Imagine the following scenario: You are trying to get some work done around the house and your son/daughter interrupts you; he/she wants to prepare a bowl of cereal, but can't seem to find the milk. Without even looking, you know the milk is in the fridge, where it always is. Chances are that your son/daughter hasn't even looked there yet.

Because you want to get back to work, you may want to take the easy route and either **(a)** tell your son/daughter that the milk is on the bottom shelf of the fridge, next to the orange juice, or **(b)** get the milk out of the fridge yourself. While those options are certainly much quicker, locating the milk (or any item, for that matter) for your son/daughter means that you'll likely be faced with the same question many times in the foreseeable future.

The actions listed above can be described as a directive approach. Another option is using a facilitative approach, which involves guiding an individual to self-discovery. Although a facilitative approach generally takes a bit more time, it ends up saving time in the long run since self-discovery typically results in greater retention. What does a facilitative approach look like? Here are some examples:

- **Ask your son/daughter a series of open-ended questions to get him/her to think about where the milk may be located.** For example: "Where might we find the milk? Does it need to stay cold? Where do we usually store things that need to stay cold?"
- **Rearrange objects in the environment to simplify finding the milk.** For example: Store milk (and other frequently used items) in a location where it is easily visible. Display items horizontally, rather than one in front of the other if possible. It is often more difficult to recognize an item if it is partially obscured.
- **Use your body, not your voice!** For example: Stand next to the refrigerator. If your son/daughter is looking in the refrigerator and still can't find the milk, place your hand next to it to draw his/her attention to the milk.

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