

# A Tool for Supporting Communication in the Workplace for Individuals With Intellectual Disabilities and/or Autism

Career Development and Transition for  
Exceptional Individuals  
2017, Vol. 40(4) 244–249  
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sagepub.com/journalsPermissions.nav  
DOI: 10.1177/2165143416683927  
cdtei.sagepub.com



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## Abstract

Speech and language impairments can pose significant challenges to the successful workplace inclusion of young adults with intellectual disabilities (IDs) and/or autism spectrum disorders (ASD). Breakdowns are most likely to occur when support staff, workplace supervisors, or co-workers are unsure how to support effective communication. “Communication Stories” offer an innovative means of helping young adults with ID/ASD advocate for themselves by teaching others about the expressive, receptive, and social/pragmatic communication strategies they use. This article provides guidelines for how to develop customized, electronic “Communication Stories” for young adults with ID/ASD to use in the workplace. Suggestions are also given for use in other contexts, and for low-tech options.

## Keywords

language impairment, communication supports, transition, employment, technology, intellectual disabilities, autism, self-advocacy

## Introduction

*Ms. Jackson is an employment specialist at a post-high school program that helps young adults transition from school to work. Her student, Juanita, will graduate this spring and has just begun her work internship at a local grocery store. Juanita is diagnosed with a moderate intellectual disability (ID), and experiences significant communication difficulties. She is extremely shy, and has a hard time staying focused, following multi-step instructions, and asking for help. She speaks quickly using two to three word phrases, and is often unintelligible. Sometimes, she uses a speech-generating application on her iPad to help clarify her speech. Karl, Juanita’s supervisor at the store, is friendly with her, but almost always in a rush. When Juanita arrives at work, Karl greets her, quickly enumerates her tasks for the day, and hurries off to another part of the store. Juanita has a hard time understanding Karl because he talks so fast. She frequently gets confused by the rapid-fire instructions he gives her, and sometimes makes mistakes pricing merchandise and stocking shelves because she is too afraid to ask questions. Ms. Jackson is worried that Juanita’s communication challenges have not only kept her from really “connecting” with Karl, but may possibly threaten her job security. Because of her communication*

*difficulties, Juanita’s team thinks she would benefit from a customized “Communication Story.”*

Young adults with IDs and autism spectrum disorders (ASDs) experience high rates of unemployment and underemployment (Newman et al., 2011). Difficulties finding and maintaining employment are compounded when young adults with ID/ASD also have speech and language impairments. Although there is very little recent research in this area, studies have shown that the ability to communicate effectively (e.g., advocate for help, greet co-workers appropriately) is highly valued by employers (Riches & Green, 2003). Conversely, a lack of communication skills may result in job loss. For example, a study of adults with ASD found that many were terminated from their jobs as a result of poor communication skills (Müller, Schuler, Burton, & Yates, 2003).

Furthermore, individuals with ID/ASD who are able to find and maintain jobs do not necessarily experience

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meaningful workplace integration. Experts argue that true integration cannot be accomplished if employees with disabilities are not given authentic opportunities to communicate with their employers and co-workers about work-related issues, as well as engage in more casual conversations (Riches & Green, 2003). Employers, co-workers, and other important adults (e.g., residential support staff) often lack knowledge of how to provide appropriate communication support for individuals with ID/ASD. As a consequence, they may be uncomfortable and/or lack confidence when interacting with these individuals. This discomfort may result in avoiding interactions with individuals with ID/ASD or dominating conversations instead of facilitating more reciprocal interactions (McConkey, Morris, & Purcell, 1999). In either of these types of situation, communication outcomes are less than optimal.

Several recent studies have found that iDevices (e.g., iPods and iPads) can be used to support improved communication in individuals with ID/ASD, and especially to facilitate greater independence and autonomy when asking for help (e.g., Kagohara et al., 2013; McNaughton & Light, 2013). Given how effective and easy-to-use iDevices appear to be, there is a surprising lack of literature on the use of iDevices or other recent technologies to support improved communication in the workplace.

While much research on improving communication skills of adults with ID/ASD focuses exclusively on changing the communication behaviors of individuals with disabilities, some experts have also considered the behaviors of their communication partners (Sack & McLean, 1997)—in other words, focusing not only on improving communication skills of the individual with disabilities but also on identifying and addressing contextual factors that can sometimes more easily be modified—such as partners' communication styles (e.g., changing the way in which employers talk to employees with disabilities). This approach is based on an understanding of communication as a transactional process, the success of which depends equally on both members of the interaction (Kent-Walsh & McNaughton, 2005).

“Communication Stories” are an innovative tool designed to capitalize on both the ease-of-use and convenience of iDevices, and the importance of educating communication partners as a means of improving the quality of interactions in the workplace. This article describes “Communication Stories,” which were designed by Ivymount School staff to be created and shared by young adults with ID/ASD with guidance from their support staff (e.g., their transition coordinator, job coach, or residential provider).

## What Are “Communication Stories”?

The purpose of “Communication Stories” is to teach these young adults' communication partners about the expressive, receptive, and social/pragmatic language strategies

they use. “Communication Stories” are easily customizable for any individuals with ID/ASD and can be created on their personal iDevices. Each customized story comprises a series of captioned photos and video clips that illustrates how the young adult communicates, and provides an inexpensive and time-efficient means of sharing information with a wide range of potential communication partners, including—but not limited to—the young adult's workplace supervisor and co-workers.

Findings from a recent mixed-methods pilot study examining stakeholders' perceptions of outcomes related to the use of “Communication Stories” suggest that the stories may offer a promising means of supporting communication in the workplace (Müller, Pouliot, Frasché, Kern, & Resti, in press). Pre- and post-viewing evaluations indicated that job coaches ( $n = 64$ ) were significantly more knowledgeable of participants' communication strategies after viewing their stories, and post-viewing interviews found that employers ( $n = 9$ ) reported increased confidence interacting with participants, as well as the adoption of more appropriate communication strategies when talking with participants (e.g., securing participants' attention before beginning to talk, slowing down, reducing the length/complexity of instructions, using visual checklists).

## Developing “Communication Stories”

*Identifying potential users.* Many young adults with ID/ASD can potentially benefit from a customized “Communication Story.” Successful communication in the workplace requires comprehension of language to complete tasks, self-advocacy skills, the ability to formulate and express ideas, and the ability to engage socially with one's supervisors and co-workers. A “Communication Story” can help any young adult who is having difficulty communicating functionally in terms of one or more of the following domains: (a) *comprehension* deficits (e.g., difficulty understanding questions and directions delivered verbally, understanding directions containing novel vocabulary, difficulty answering WH-questions), (b) *expressive language* deficits (e.g., anything that limits the young adult from effectively sharing his or her thoughts, ideas, and feelings, such as difficulty producing and/or sequencing speech sounds, or reduced intelligibility), and (c) *social language* deficits (e.g., difficulty initiating and maintaining conversation, interpreting co-workers' nonverbal communication signals, and using expected social behavior in the workplace such as greeting their supervisor on arrival, and making eye contact). *Juanita experienced challenges in all these domains, and her transition team opted to create a “Communication Story” because they knew it would give her an easy-to-use means of advocating for her workplace communication support needs. Although the story would provide tips on how best to communicate with Juanita, sharing the story would enable*

*Juanita to communicate information without having to rely only on her limited verbal expression skills.*

**Getting started: Choosing a format.** “Communication Stories” are created using an electronic application on an iDevice so the story is interactive, is engaging, and can also travel with the young adult. A story can be created using any application that allows for single pages organized into a story, with each page containing text paired with pictures and/or video, and the ability to pair an audio recording with each page. The application should also be easy for young adults and staff members to program and navigate, and allow changes to the story over time. The application most commonly used by the authors is *MyPicturesTalk*, by Grembe Incorporated, because it meets all the qualifications outlined above. If a young adult does not have access to an iDevice, a low-tech version of a “Communication Story” can be created by pairing strategy scripts with pictures of the young adult using PowerPoint or word processing software, and then printing a hardcopy of the story to share.

**Story structure.** Each “Communication Story” includes three to five sections, and outlines specific communication strategy scripts that support the young adult in the workplace. Each section is based on the targeted area of communication, and labeled with user-friendly language (e.g., section on receptive language can be titled “How to Talk to Me”). Sections can contain one or more strategies, and whereas stories are usually no more than 15 to 20 pages, length ultimately depends on each young adult’s needs. Each strategy script is written as an “I” statement to ensure the stories are from the viewpoints of the young adult (e.g., “Sometimes it is hard for me to understand words. Here are ways to help me”), and to help young adults take ownership of their communication strategies. It is important to prioritize strategies that support the young adult in the widest variety of settings. *Ms. Jackson made sure that Juanita’s scripts were generic enough to not just apply to her job at the grocery store but also to her volunteer job at the library, and her adult-education class.* Scripts included in the story should focus on strategies that are evidence based (see Figure 1 for examples of strategy scripts).

**Developing story content.** At the heart of the “Communication Story” are the strategy scripts. The development of strategy scripts is a collaborative process with the young adult’s transition support team or employment team. A typical team might include the young adult, his or her parents, and key support staff (e.g., transition teacher, speech language pathologist [SLP], job coach). A simple template can be used to organize scripts by section, and keep track of the elements included in each page as the story is being created. It is also helpful to have team members (e.g., job coaches) capture video examples of young adults using

strategies in natural environments. If an SLP is a member of the team, it can be beneficial for them to provide final input on the “Communication Story” and strategies being included.

*Ms. Jackson worked closely with the transition team, and Juanita, to identify the most important strategies Juanita used when communicating. She thought about how important it was for Juanita’s communication partners to make sure they secure her attention before beginning to talk, make eye contact with her while talking, and speak slowly and clearly. Juanita reminded Ms. Jackson that she especially liked it when her supervisor wrote down work instructions as opposed to just telling her what to do. Juanita enjoyed picking out the job sites she wanted to talk about as part of her story, and selecting the teachers she wanted to include in her video clips. She also helped Ms. Jackson identify things she liked to talk about, including her family, going out to eat, fashion, and Big Time Rush (her favorite band). Because Juanita is difficult to understand due to articulation errors and a fluency disorder, Ms. Jackson recorded her own voice saying, “Give me a checklist with 2–4 words per step when giving me directions,” over an image of Juanita reviewing a checklist.*

When developing scripts, it is recommended that pages are included for each of the following sections, based on careful evaluation of the young adult’s communication needs: First, the young adult can introduce the interaction using an introduction page (e.g., “Can I tell you about myself?”) as a way to initiate sharing the story with a communication partner. *Juanita introduced her story to Karl by playing this page in the story, looking at him, and waiting for him to respond before moving forward to the communication strategy sections* (see Figure 2 for a sample of Juanita’s “Communication Story” script).

Second, the “How to Talk to Me” or receptive language section of the story focuses on strategies communication partners can use to adapt their language to meet the needs of the young adult. Example strategies include simplifying language, using a limited number of words when talking to the young adult, physically prompting the young adult through novel tasks, and using checklists with pictures. *Because Juanita has difficulty understanding Karl when he is speaking quickly, she included the script, “Please speak slowly” with a video example.*

Third, the “Self-Advocacy” section focuses on strategies the young adult is currently using to advocate for communication needs. A communication partner might not be aware of these strategies, and therefore be providing too much support to the young adult at new job sites. Examples of these strategies include telling someone “I don’t understand,” saying “Please show me the job,” or asking someone to “Please write it down.” *Juanita prefers to be shown how to do new tasks and processes the information better this way, but does not always remember to let someone*

| If the young adult experiences one or more of the following :                                       | You might include a strategy script such as:   |
|---|--|
| <b>Comprehension (e.g., Grow &amp; LeBlanc, 2013)</b>   |  |
| Appears not to listen to directions.  | “Say my name to get my attention. Wait until I look at you to speak.”  |
| Needs a longer time to process information.   | “Give me time to think.”   |
| Has trouble following verbal directions.  | “Sometimes I have trouble understanding words. Please use (insert maximum #) words when giving me a direction.”  |
| Processes visual information better than verbal information.  | “I am a visual learner. Show me a picture to help me follow a direction.”  |
| Has trouble understanding directions presented with a fast rate of speech.                          | “Please speak slowly.”   |
| Has trouble completing multi-step tasks.  | “Give me a checklist with (insert maximum #) words per step with pictures.”  |
| Has trouble completing novel tasks.   | “Show me how to do the job task. Help me do each step until I can do it by myself.”  |
| <b>Self-Advocacy (e.g., Lancioni &amp; O’Reilly, 2001)</b>  |  |
| Has a visual aid to remind them to use a specific strategy when asking for help                     | “I carry a strategy badge with me. A strategy that helps me is to say, “Please write down the words.”  |
| Doesn’t initiate asking for help.   | “Sometimes I will wait for you to ask me if I need help. Prompt me to say, “I need help.”  |
| <b>Expression (e.g., Sng, Carter, &amp; Stephenson, 2014)</b>                                       |  |
| Uses a communication modality other than vocal speech.  | “I use a speech-generating program to communicate.”<br>“I use American Sign Language to communicate.”<br>“I use gestures to communicate.”  |
| Uses vocal speech but is hard to understand.  | “Let me know you do not understand.”<br>“Ask me to say the words again.”<br>“Ask me to write down the words.”<br>“Ask me to show you a picture.”   |
| Describes events in a disorganized way.   | “I use graphic organizers to plan out what I am going to say before I tell you about an event.”  |
| Uses idiosyncratic gestures to indicate needs.  | “When I gesture like this, it means _____.”  |
| Has a speech-generating program.  | “The important phrases that I use throughout the day are on my home screen in my speech-generating program.”   |
| <b>Social/Pragmatic Language (e.g., Sng, Carter, &amp; Stephenson, 2014)</b>                        |  |
| Has trouble generating spontaneous language for workplace interactions.                             | “Teach me to use a script to help customers at my job site.”<br>“Keep the script in a place where I can see it while I am working.”<br>“Help me practice the words to say to my supervisor.” |
| Needs visual support maintaining conversation and has topics of interest.                           | “I like talking about music, movies, and my family.”<br>“I can show you pictures from my camera roll.”   |
| Uses different strategies to gain attention.  | “I can get your attention by moving closer to you.”<br>“I can get your attention by saying your name.”<br>“I can get your attention by tapping your shoulder.”                               |
| Needs help analyzing nonverbal signals in different environments (e.g. workplace, home, community). | “Show me the expected things to do and say at my jobsite.”   |
| Has trouble making and maintaining eye contact.   | “Sometimes I have trouble looking at you while I am talking. It can be hard for me to think of the words and look at you at the same time.”  |

**Figure 1.** Sample strategy scripts.

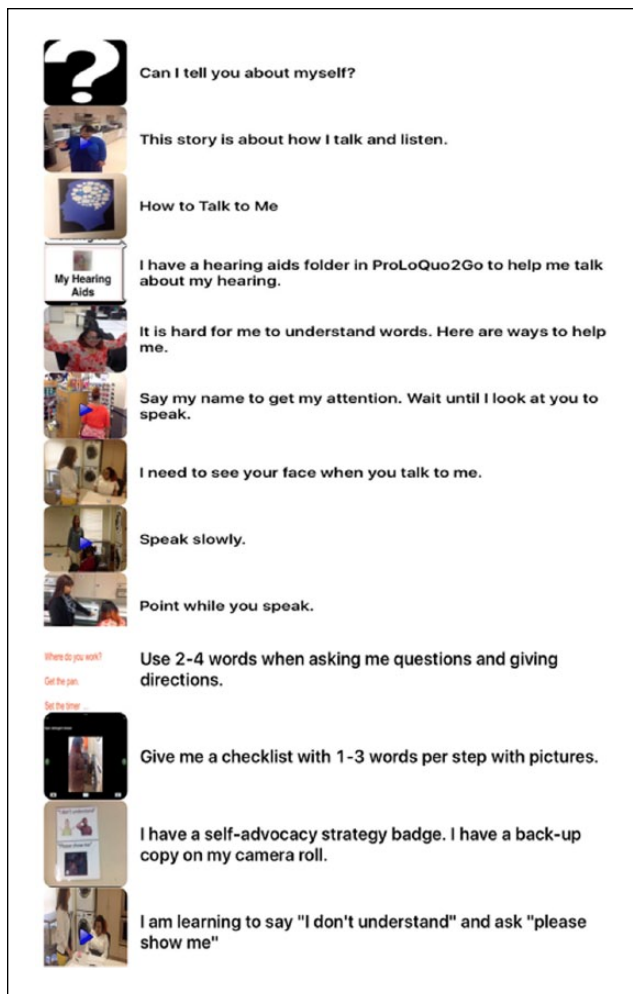
Note. This figure describes situations when “Communication Stories” can be helpful and sample strategy scripts. Strategy scripts should be selected based on the strengths and needs of the young adult. Other evidence-based strategies for use in “Communication Stories” can be found through the American Speech-Language and Hearing Association’s Evidence Maps (<http://www.asha.org/Evidence-Maps/>) and the What Works Clearinghouse (<http://ies.ed.gov/ncee/wwc/>).

know this. She included the script, “I can say, ‘Please show me the job task’” to remind Karl to help her self-advocate more independently.

Fourth, the “How I Talk to You” or expressive language section focuses on the primary modality the young adult uses to communicate (e.g., vocal speech, American Sign Language, gestures, speech-generating device). It can include information for how to help young adults formulate responses to questions and describe their job tasks using their primary communication modality. If young adults are verbal but have limited intelligibility due to articulation errors or dysfluency, this section can include strategies young adults use to repair communication breakdowns (e.g., write down the word, repeat slowly, find

a picture). Because Juanita uses a speech-generating program to clarify her speech, she included the script, “Ask me to find the speech-generating icon in my app. The icon is an owl.” If the young adult is nonverbal, this section can include information for how to navigate through folders and icons in their speech-generating programs, or provide information about the meaning of gestures they use to communicate.

Next, the “How I Interact” or social/pragmatic language section focuses on ways the young adult may initiate, maintain, or complete an interaction in different settings (e.g., work, home, school). It also includes information about the young adult’s unique interests to help communication partners better relate to him or her (e.g., “I like cooking and



**Figure 2.** Juanita's "Communication Story."

Note. This figure provides sample pages from Juanita's story.

talking about music"). *Juanita included information about her interests in her story, so her supervisor Karl could ask her about topics such as her family.*

Finally, the "Communication Story" should conclude with a script such as "Thank you for listening" and a video or picture of the young adult using their primary modality to say "Thank you." This provides a concrete end to the sharing experience for the young adult and allows him or her to complete the interaction naturally.

### Sharing Stories

"Communication Stories" are all about sharing information. Teaching young adults how to effectively share their stories can begin while the story is still being created, or when the story is complete. The teaching process should initially happen in a structured environment with limited distractions. Navigation through the story as well as pragmatic skills for sharing the story (e.g., turning the iDevice toward their

supervisor, looking at the iDevice screen while playing a video, maintaining proximity to the supervisor) can be taught through systematic instruction with response prompting strategies (e.g., most-to-least response prompting strategies such as system of least prompts).

As young adults become more fluent in navigating their "Communication Story," they can expand the audience they are sharing the story with to include frequent conversation partners (e.g., job coach, parents, school staff members). Sharing a story from start to finish takes approximately 10 to 12 minutes. When sharing, it is important that stories are viewed in a quiet environment with limited distractions. It is also beneficial if there is a place for the young adult and the communication partner to sit down. Whereas many young adults are motivated by the social attention received when sharing their stories, others may need some reinforcement and praise throughout the sharing process (e.g., "You are doing a great job sharing your story!").

After repeated practice opportunities, young adults should be ready to share their stories with novel communication partners including their workplace supervisor and/or co-workers. If possible, young adults should be given the opportunity to share their story multiple times with the same communication partner. This ensures that communication partners are able to fully comprehend and master the communication strategies outlined in the young adult's story. It is also recommended that a "cheat sheet" with a bulleted list of strategies be given to the workplace supervisor and/or co-workers, so they can reference strategies later as needed.

*Ms. Jackson set up a quiet time for Juanita to share her "Communication Story" with Karl. He and Juanita sat side by side in his office, and Juanita clicked through the story—remembering not to rush. She was very excited, and smiled proudly, pointing and commenting whenever she saw pictures of herself. Karl loved the story, and told Ms. Jackson how much it helped him learn about Juanita's support needs. After he viewed the story, he was more likely to slow down and really focus on his interactions with Juanita. He made sure to gain her attention before beginning to talk, and he used checklists more. Some days, he'd even stop to chat about Big Time Rush. After sharing her story, Juanita seemed more at ease around Karl, and would sometimes find him to ask for help if she was unclear about what to do next. This led to fewer workplace mistakes. Karl also asked Juanita to share her story with her grocery store co-workers, which led to more meaningful interactions, both casual and work related.*

### Young Adults as Self-Advocates

A key feature of creating and sharing "Communication Stories" is the involvement of the young adult in every step

of the process. “Communication Stories” were developed in large part as a means of empowering young adults to take ownership of their communication with significant others, especially workplace supervisors and co-workers. Although young adults will likely require support developing and sharing their stories, it is important to remember that young adults should be encouraged to be as actively involved throughout the process as possible. This means that support staff, while helping create opportunities for sharing “Communication Stories,” should try and remain in the background as much as possible while young adults are sharing their stories with others.

## Conclusion

Although adults with ID/ASD face a unique set of challenges, “Communication Stories” offer a promising means of supporting successful communication in the workplace and other possible settings. Not only do “Communication Stories” provide important time- and resource-efficient means of training employers, co-workers, and others to be better communication partners, they also support self-advocacy by providing young adults with ID/ASD a highly individualized means of independently teaching the important people in their lives about the communication strategies they use.

## Acknowledgments

The authors gratefully acknowledge the contributions of the Ivymount students, families, and workplace supervisors who participated in this study, as well as the Ivymount post-high school job coaches—Kimberly Blocker, Neal Gertner, Gregg Price, Paula Radbod, Frances Songa, and Tiffany Stevenson—without whom this project would not have been possible.

## Declaration of Conflicting Interests

The author(s) declared the following potential conflicts of interest with respect to the research, authorship, and/or publication of this article: Dani Pouliot created Communication Stories, and all five of the authors were involved in either implementing Communication Stories and/or evaluating their effectiveness. There are no financial conflicts of interest, however the authors are all invested in the success of Communication Stories.

## Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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