



How to Use Scripts to Facilitate Communication in Various Settings
 Beverly Nichols, Stephanie L. Mattson, Juliana Aguilar, and Thomas S. Higbee



1

Introduction

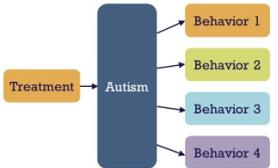
- According to the diagnostic criteria for autism spectrum disorders individuals must have a persistent deficit in social communication and interaction
 - Deficits in social-emotional reciprocity
 - Deficits in nonverbal communicative behaviors
 - Deficits in developing, maintaining and understanding relationships



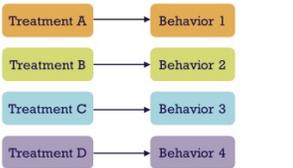
2

Medical vs. Behavioral Views of Autism

Traditional View



Behavioral View





3

Communication

- Deficits in social-emotional reciprocity
- Types of Communication
 - Requesting
 - Conversations (Initiations and Responding)
 - Commenting
- Communication can be...
 - Spontaneous
 - Independent
 - Prompted



4

Social Scripts

- Scripts function as cues to emit specifically trained words or phrases
- Interventionists use physical prompting, graduated guidance, and vocal prompting of the scripted statement to train individuals to use the script
- After the individual reliably follows the scripts, they are systematically faded
- After scripts are introduced and faded, individuals often continue to use the learned scripts even when they are no longer present
- Scripts have been identified as a effective intervention to teach communication for individuals between 3 and 19 years of age

Akers et al., 2016; McClannahan & Krantz, 2005; Topuz & Ulke-Kurkcuoglu, 2021



5

Script Formats

- Textual Script
 - Paper
 - Apple iTouch
 - Smartphone
- Audio Recorder (most commonly used in research)
 - Audio buttons
 - Mobile phones
 - Palm pilots
 - Apple iTouch

Topuz & Ulke-Kurkcuoglu, 2021



6

Textual Scripts

- Written script that an individual reads and repeats

Brodhead et al., 2016; Sellers et al., 2016

7

Textual Scripts

- Written script that an individual reads and repeats

Brodhead et al., 2016; Sellers et al., 2016

8

Textual Scripts

- Written script that an individual reads and repeats

Brodhead et al., 2016; Sellers et al., 2016

9

Textual Scripts

- Written script that an individual reads and repeats

Brodhead et al., 2016; Sellers et al., 2016

10

Textual Scripts - Advantages

- After the individual learns the script, they can largely manage it independently, which reduces the need for continuous prompting from another individual in the environment
- Easy to manage, transport, and fade

11

Textual Scripts – Prerequisite Skills

- Ability to read basic words
 - If the individual is not reading then the scripts can be pre-taught prior to the training
 - Or can be learned during the teaching process
- Ability to respond to physical prompts and imitate a vocal model

12

Auditory Scripts

- The script is recorded on a recording device that the individual listens to and repeats



Akers et al., 2018; Betz et al., 2011; Howlett et al., 2011

13

Auditory Scripts

- The script is recorded on a recording device that the individual listens to and repeats



Akers et al., 2018; Betz et al., 2011; Howlett et al., 2011

14

Auditory Scripts

- The script is recorded on a recording device that the individual listens to and repeats



Akers et al., 2018; Betz et al., 2011; Howlett et al., 2011

15

Auditory Scripts

- The script is recorded on a recording device that the individual listens to and repeats



Akers et al., 2018; Betz et al., 2011; Howlett et al., 2011

16

Auditory - Advantages

- After the individual learns the script, they can largely manage it independently, which reduces the need for continuous prompting from another individual in the environment
- Easy to manage, transport, and fade
- Great for individuals who do not have well-developed reading repertoires



17

Auditory Scripts- Prerequisite Skills

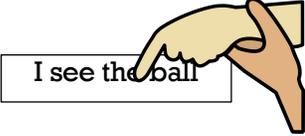
- Motor skills to press the button, start the computer recording, etc.
- Ability to imitate a vocal model



18

Textual Script Prompting Procedures

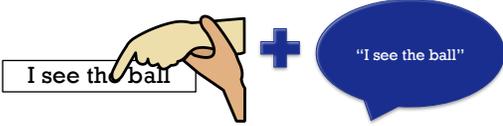
- First prompt level:
 - Combination of physical and vocal prompting procedures



19

Textual Script Prompting Procedures

- Second prompt level:
 - Combination of physical and vocal prompting procedures



20

Auditory Script Prompting Procedures

- First prompt level:
 - Combination of physical and vocal (recorded statement) prompting procedures



21

Auditory Script Prompting Procedures

- Combination of physical and vocal (recorded statement) prompting procedures



22

Script Fading

- Fade out the additional supports in the environment
 - Can include fading out words in text or audio
 - Can decrease the size of the cue in the environment
 - Transfer the support from the artificial cue to a cue commonly found in the environment
- Benefits of script fading
 - New untrained phrases
 - Helps to maintain new communication over time
 - Helps generalize new communication to new environments



Akers et al., 2016; Topuz & Ulke-Kurkcuoglu, 2021

23

Script Fading - Words

- Fade one word at a time back to front
- Same for auditory scripts – fade one word at a time back to front from recorded statement

1. "I see the ball."
2. "I see the ____."
3. "I see ____."
4. "I ____."
5. _____



24

Script Fading - Size

- Once the words have been faded you can fade the size of the remaining cue until it is gone

The diagram illustrates the process of fading the size of a script cue. It shows three stages of a hand holding a white rectangular card with a dashed line. In the first stage, the card is large. In the second stage, the card is medium-sized. In the third stage, the card is small. Blue arrows indicate the progression from left to right. The Utah State University logo is in the bottom right corner.

25

Script Fading – Natural Cue

- Use scripts on things in the environment to transfer support to natural cues

The diagram shows a wooden crate filled with colorful toys. A white script label is attached to the front. In the first stage, the label is large. In the second stage, the label is medium-sized. In the third stage, the label is small. Blue arrows indicate the progression from left to right. The Utah State University logo is in the bottom right corner.

26

Script Fading

- Making the script less conspicuous in the environment
 - Putting them on a key chain
 - Moving to using text messages, or having the script(s) on the phone

The images show a keychain with a small white script card and a smartphone with a script on the screen. The Utah State University logo is in the bottom right corner.

27

APPLICATIONS

The slide is a solid blue rectangle with the word "APPLICATIONS" in white, bold, sans-serif font centered on the slide. The Utah State University logo is in the bottom right corner.

28

Requesting

- Asking for things that are wanted or needed
 - It is important to garner an individuals motivation
- Types of requesting
 - Simple requests
 - Single phrase (Howlett et al., 2013)
 - Complex requests
 - Multiple phrases (Brodhead et al., 2015; Sellers et al., 2016)
 - Requests for information (Howlett et al., 2013)

The Utah State University logo is in the bottom right corner.

29

Simple Request Example

- Skill: Simple "I want" requests
- Setting: School snack time
- Script Format: Textual script
- What will the script say: "I want ____"
- Teaching Procedure: Two prompt levels
- Fading: Fade one word at a time back to front and cue size

The Utah State University logo is in the bottom right corner.

30

Simple Request Target Response



31

Simple Request 1st Prompt Level



32

Simple Request 2nd Prompt Level



33

Simple Request Fading Plan

- Remove words one at a time from front to back
 - "I want ____"
 - "I ____"
 - "____"
- Reduce the size of the cue on the table



34

Complex Request

- Skill: Simple Variations of types of requests
- Setting: School snack time
- Script Format: Textual script
- What will the script say: "I want ____", "Can I have ____", "Hand me ____", "I need ____"
- Teaching Procedure: Two prompt levels
- Fading: Fade one word at a time back to front and size



35

Complex Request Target Response



36

Complex Request 1st Prompt Level



37

Complex Request 2nd Prompt Level



38

Complex Request Fading Plan

- Remove words one at a time from front to back

I want _____	Can I have _____	Hand me _____	I need _____
I _____	Can I _____	Hand _____	I _____
_____	Can _____	_____	_____

- Use colors alone to cue response
- Reduce size of cue



39

Social Initiations

- The skill of orchestrating interactions, not simply responding to others
 - Play based initiations
 - Initiating play (Reagon & Higbee, 2009)
 - Commenting during play (Ganz et al., 2008)
 - Conversation Skills
 - Social Initiations (Gallant et al., 2017; Ganz et al., 2008)
 - Conversation Skills (Grober & Charlop, 2017; Matos et al., 2019)



40

Play Initiations

- Skill: End play with peer
- Setting: Free time
- Script Format: Audio Script – Mini Me
- What will the script say: “Thanks for playing”
- Teaching Procedure: Two prompt levels
- Fading: Fade one word at a time back to front



41

Play Initiation Target Response



42

Play Initiation 1st Prompt Level

Play Initiations First Prompt



43

Play Initiation 2nd Prompt Level




44

Play Initiations Fading Plan

- Remove words one at a time from front to back
 - "Thanks for playing"
 - "Thanks for"
 - "Thanks"
 - Just the button
 - Remove the button



45

Conversation Skills

- Skill: Conversations during play
- Setting: Free time
- Script Format: Text messages
- What will the script say: "Want to play blocks?", "I like your tower", "Let's play again", "That game was fun"
- Teaching Procedure: Pre-train how to use a cell phone
- Fading: Fade one word at a time back to front, stop sending messages



46

Conversation Skills

- Pre-requisite skills
 - Reading may be important for this type of skill as it will allow for novelty and variability to the materials used
- Pre-teaching
 - Teach individual what to do when a text message notification has been received
 - It may also be important to teach the individual to vocally repeat the text message received (typical prompting procedure)
- Reinforcement
 - Due to the difficulty of this skill and the multiple exchanges it may be necessary to add extra reinforcement during the teaching process



47

Conversation Skills




48

Conversation Skills - Fading

49

Work Settings

- Types of communication that may be needed in the workplace:
 - Requests
 - Confirmations
 - “Okay”
 - Pleasantries
 - “Thank you”
 - “Sorry for interrupting”

50

Requesting for Help with a Task

- Skill: Requesting for help with completing a work task
- Setting: Work- Making Copies
- Script Format: Textual script
- What will the script say: “Can you show me how?”, “I need more _____. Can you help me?”, “Can you show me what is wrong?” (Grob et al., 2019)
- Teaching Procedure: Two prompt levels
- Fading: Fade script size and put on a key chain

51

Fading the Scripts

Grob et al., 2019

52

Requests and Pleasantries

- Skill: Requesting for someone's time and thanking them
- Setting: Work- Office
- Script Format: Textual script as part of instructions
- What will the script say: “Do you have a minute?”, “Thank you for your time.” (Yamamoto & Isawa, 2020)
- Teaching Procedure: Two prompt levels
- Fading: Fade scripts out of instructions

53

Fading the Scripts

54

Script Planning Resource- Activity

- Think of someone who might benefit from the use of script(s)
- Use the **Script Planning Resource** to guide you in creating a plan, by answering each of the questions in the resource



55

Script Planning Resource

Think of the individual you want to use script(s) with. Use this worksheet to help you create a plan for creating, teaching, and fading scripts.

1. What skill are you trying to teach with script(s)?

2. Where does the individual need to use the script(s)?

3. What type of script(s) do you want to use?
 - a. What are the prerequisite skills to use this type of script?
 - i. Does the individual have the pre requisite skills? YES/ NO
 - ii. What type of technology is needed? (camera, cell phone, etc.) _____
 - iii. Do you have access to the required technology? YES/ NO
4. What would the script(s) say?
 - a. Do you want to include and teach a variety of scripts? YES/ NO

5. How will you teach the script(s)?
 - a. What type of prompting will you use? _____
 - b. Where will you teach the individual to use the script(s)? _____
6. What is your plan for fading the script(s)?

 - a. Do you plan on fading how automatic the script(s) are in the environment? YES/ NO
 - b. If YES, how will you do that? _____



56

References

Alexis, J. S., Hgboe, T. S., Pollard, J. S., & Reinert, K. S. (2018). Sibling-implemented script fading to promote play-based statements of children with autism. *Behavior Analysis in Practice*, 11(4), 385-398. <https://doi-org.dial.lib.usu.edu/10.1007/s40617-018-0287-5>

Alexis, J. S., Pyta, N., Hgboe, T. S., Pyta, D., & Cerencauer, K. R. (2019). A synthesis of script fading effects with individuals with autism spectrum disorder: A 20-year review. *Review Journal of Autism and Developmental Disorders*, 1, 1-17. <https://doi-org/10.1007/s40489-019-0020-8>

Betz, A. M., Hgboe, T. S., Kelley, K. N., Sellers, T. P., & Pollard, J. S. (2011). Increasing response variability of mand frames with script training and extinction. *Journal of Applied Behavior Analysis*, 44, 357-362. <https://doi.10.1901/jaba.2011.44-357>

Brodhead, M. T., Hgboe, T. S., Cerencauer, K. R., & Alexis, J. S. (2016). The use of a discrimination training procedure to teach mand variability to children with autism. *Journal of Applied Behavior Analysis*, 49(1), 34-48. <https://doi-org.dial.lib.usu.edu/10.1002/jaba.280>

Crook, C. M., Jerome, D. C., Langston, C. A., & Williams, N. R. (2019). Assessing and teaching job-related social skills to adults with autism spectrum disorder. *Journal of Applied Behavior Analysis*, 52(1), 150-172. <https://doi.org/10.1002/jaba.503>

Orosberg, D., & Charlop, M. H. (2017). Teaching conversational speech to children with autism spectrum disorder using text-message prompting. *Journal of Applied Behavior Analysis*, 50(4), 789-804. <https://doi-org.dial.lib.usu.edu/10.1002/jaba.403>

Howlett, M. A., Sidener, T. M., Propp, P. R., & Sidener, D. W. (2011). Manipulation of motivating operations and use of a script-fading procedure to teach mands for location to children with language delays. *Journal of Applied Behavior Analysis*, 44(4), 943-947. <https://doi-org.dial.lib.usu.edu/10.1901/jaba.2011.44-943>

Reagan, K. A., & Hgboe, T. S. (2009). Parent implemented script fading to promote play-based verbal imitations in children with autism. *Journal of Applied Behavior Analysis*, 42, 659-664. <https://doi.org/10.1901/jaba.2009.42-659>

Saroff, R. A., Taylor, B. A., & Poole, C. L. (2001). Teaching children with autism to engage in conversational exchanges: Script fading with embedded textual stimuli. *Journal of Applied Behavior Analysis*, 34, 81-84. <https://doi.org/10.1901/jaba.2001.34-81>

Sellers, T. P., Kelley, K., Hgboe, T. S., & Wash, K. (2016). Effects of simultaneous script training on use of varied mand frames by preschoolers with autism. *Analysis of Verbal Behavior*, 30(1), 19-26. <https://doi-org.dial.lib.usu.edu/10.1007/s40489-016-0105-8>

Tryon, C. A., & Ellis-Kirsling, B. (2013). Script fading procedures: a systematic review and meta-analysis. *Review Journal of Autism and Developmental Disorders*, 1-20. <https://doi.org/10.1007/s40489-021-00298-7>

Yamamoto, S., & Isaacs, S. (2020). Effects of textual prompts and feedback on social niceties of adolescents with autism spectrum disorder in a simulated workplace. *Journal of Applied Behavior Analysis*, 53(3), 1404-1418. <https://doi.org/10.1002/jaba.667>

57



Thank you!



58