

The Use of Videos with Visual Scene Displays (Video VSDs) to Support Participation and Communication



David McNaughton, Tom Jakobs, Erik Jakobs & Janice Light



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Communication

- Speech will not meet communication needs of
 - 40% of adults with autism spectrum disorders
 - 50% of adults with Down syndrome
- Less than 10% of adults with developmental disabilities who **need** communication supports **receive** communication supports



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Participation and communication



Riding the Bus			
bus schedule	time	bus fare	buss pass
walk	bus stop	wait	bus token
bus	get on bus	sit down	
look out bus window	pull cord	stop	get off bus



3

Video Models: Learn new skills with videos



nice round buns okay 1 2 3 4 5 6 7 8 9 10

How to make Finnish LASKIAISPULLAT | Car's Kitchen



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Visual Scene Displays

- Many individuals with CCN benefit from visual scene displays (VSDs) to support communication



I am going to the Mall

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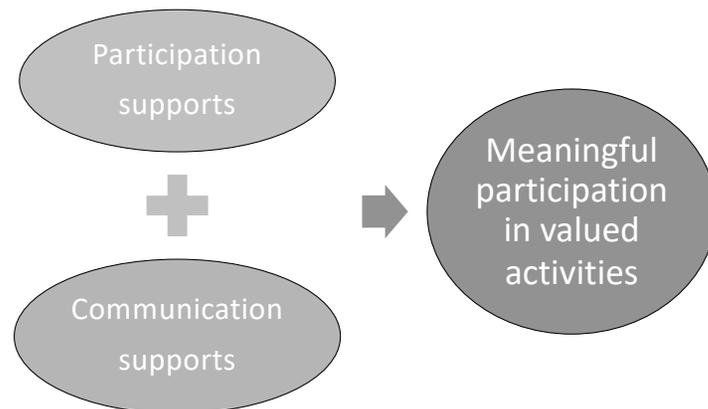
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Video Visual Scene Displays = Video modeling + Communication supports

- Watch the video until a “pause” (still image)
 - Cue to perform step
- The still image is a *Visual Scene Display*
 - Can be programmed with hotspots

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4 studies

- Adolescent with ASD in vocational and community activities
- Adolescent with ASD in vocational activities
- Adolescents with developmental disabilities in volunteer/community-building activities
- Adolescent with Down syndrome in community shopping activities

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Effects of videoVSD on participation in community & vocational activities by an adolescent with ASD:

Tara O'Neill
(Penn State University/Misericordia University)

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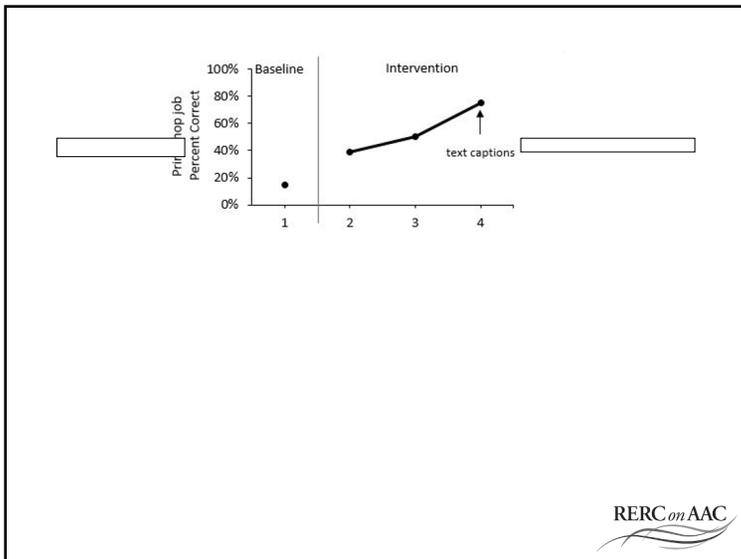
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Participant & Procedures

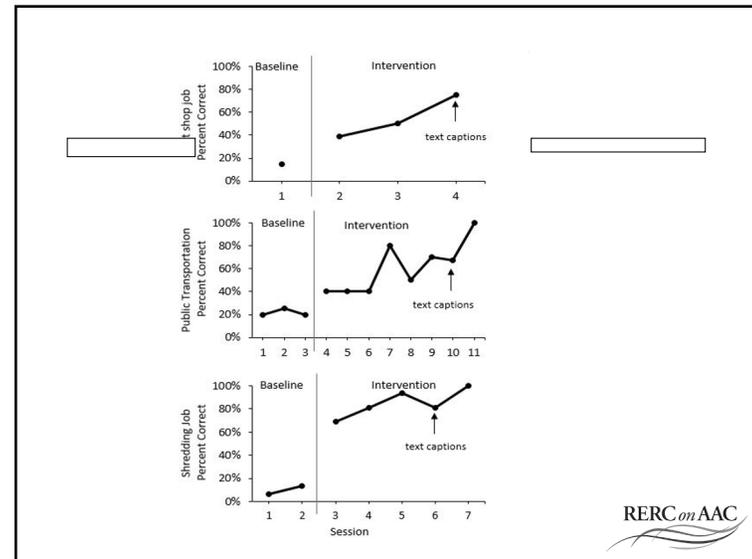
- 16 year old with autism spectrum disorder
 - Verbal, but highly prompt dependent for both participation and communication
- Developed task analyses for 3 settings to identify task steps
- Baseline and intervention phases
 - Riding public transportation (bus)
 - Working at the print shop
 - Shredding job at school

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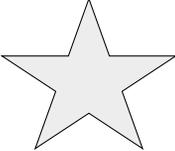
Video Visual Scene Displays =
Video modeling + Communication supports

- Watch the video until a “pause” (still image)
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S.T.A.R.S



- S – Select a key activity and Create a task analysis
- T – Take video
- A – Add VSDs
- R – Record communication
- S - Support its use with a model/guided practice/independent practice
- ! - celebrate success and make changes as needed



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Effects of videoVSD on
participation in vocational activities by
adolescent with ASD:

Salena Babb & Jessica Gormley
(Penn State University,
Omaha Medical Center)



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Participant

- 18 year old male with autism
 - High school student
 - No functional speech
 - A few signs – mostly yes/no, thank you
 - Prompt dependent



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S – **Select a key activity** and Create a task analysis

- Employment
- Communication



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S – **Select a key activity** and Create a task analysis

- Working at the library
- Local elementary school



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S – Select a key activity and **Create a task analysis**

1. Ask to put the books away:
Can I put the books away?
2. Pick up the box of books
3. Bring the box to the table
4. Empty the books on to the table
5. Sort the books into piles based on categories
6. Ask a staff member to check your work:
Can you check my work?



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T – Take video

- Record someone completing each step in the task analysis
- Use the tablets camera



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A - Add VSDs

- Pause the video
- Create a VSD (still image)
- Some will include speech, some will not

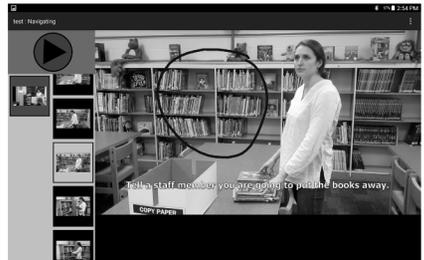


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R – Record Communication

- Hotspots
- Words or phrases



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S - Support its use with a model/guided practice/independent practice

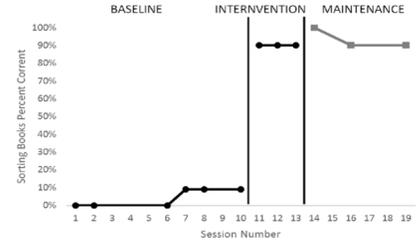
- Model
- Guided Practice
- Independent Practice

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Results: Putting Away Books/Sorting

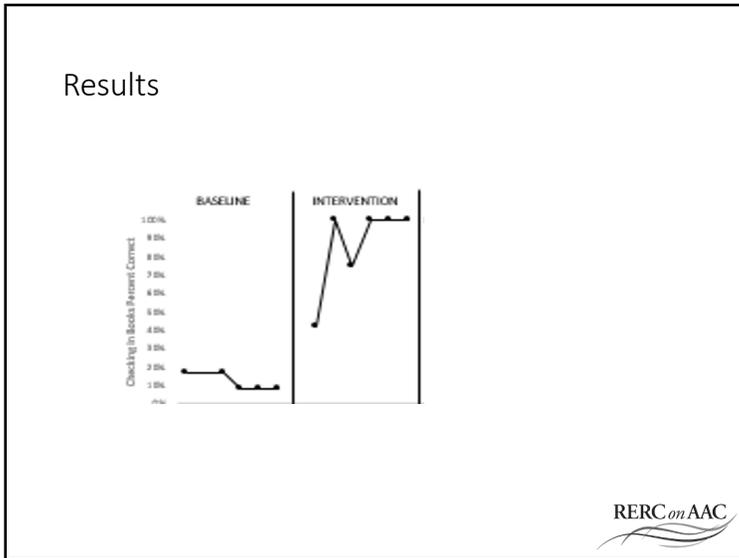
- Intervention = average of 90% across 3 sessions



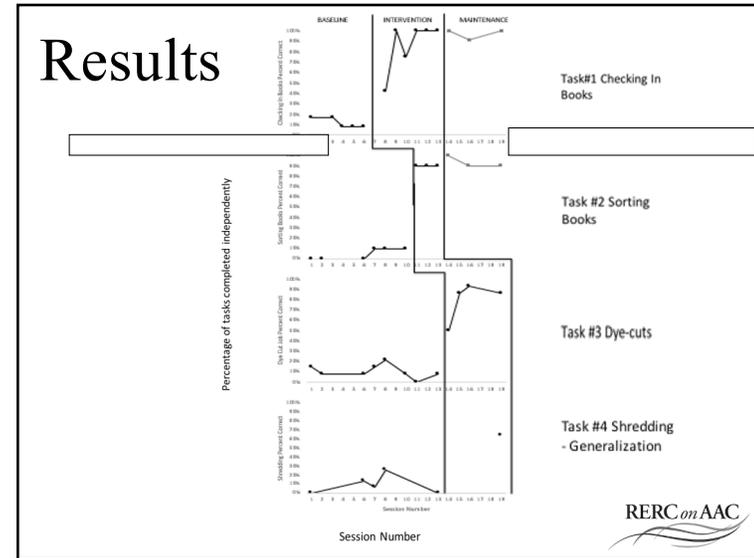
Session Number	Sorting Books Percent Correct
1	0%
2	0%
3	0%
4	0%
5	0%
6	10%
7	10%
8	10%
9	10%
10	90%
11	90%
12	90%
13	90%
14	90%
15	90%
16	90%
17	90%
18	90%
19	90%

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! - Celebrate success and make changes as needed

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Increasing Independence with AAC Video Visual Scene Displays

Salena Babb, David McNaughton, Janice Light,
Kirk Wydner, & Lucas Pierce

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S – **Select a key activity** and Create a task analysis

- Employment experience
- Communication opportunities



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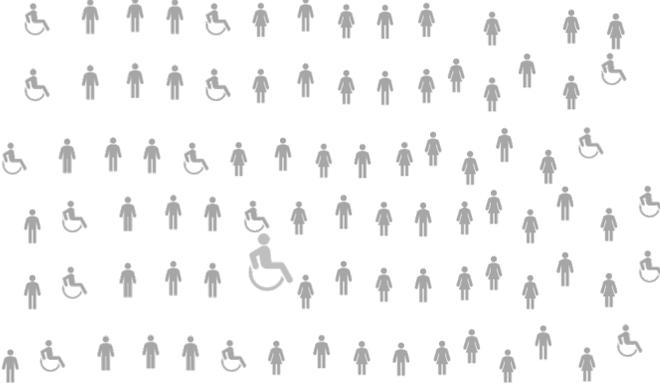
1 in 4 Americans volunteers



- Benefits of volunteering
 - Learn and practice new skills
 - Meet new people and develop friendships
 - Build self confidence and self-esteem



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- Benefits of volunteering
 - Learn and practice new skills
 - Meet new people and develop friendships
 - Build self confidence and self-esteem



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S – **Select a key activity** and Create a task analysis

- Backpack program within the school
- Elementary school cafeteria



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S – **Select a key activity** and Create a task analysis

1. Draft list of the steps
2. Perform the task
3. Revise draft
 - a) Perform again



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S – Select a key activity and **Create a task analysis**

1. Enter the office
2. Greet secretary: **Hi, how are you?**
3. Respond to secretary: **I'm okay** (or sign/vocalization)
4. Ask to enter the storage room: **I'm here to fill the backpacks.**
5. Ask to be let in to the storage room: **Can you let me in the storage room?**
6. Thank secretary: **Thank you**
7. Enter storage room and pick up backpacks



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Task Analysis

1. Enter the office
2. Greet secretary: Hi, how are you?
3. Respond to secretary: I'm okay (or sign/vocalization)
4. Ask to enter the storage room: I'm here to fill the backpacks.
5. Ask to be let in to the storage room: Can you let me in the storage room?
6. Thank secretary: Thank you
7. Enter storage room and pick up backpacks
8. Carry the backpacks to the cafeteria
9. Put the backpacks at the end of the table
10. Look at the menu



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T – Take video

- Record someone completing each step in the task analysis
- Use the tablets camera



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A – Add VSDs

- Pause the video
- Create a VSD (still image)
- Some will include speech, some will not



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R – Record communication

- Hotspots
 - Words or phrases



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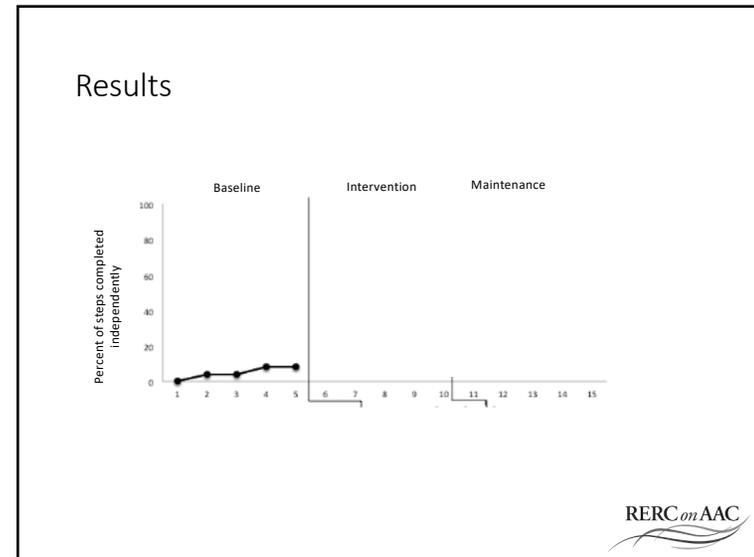
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S - Support its use with a model/guided practice/independent practice

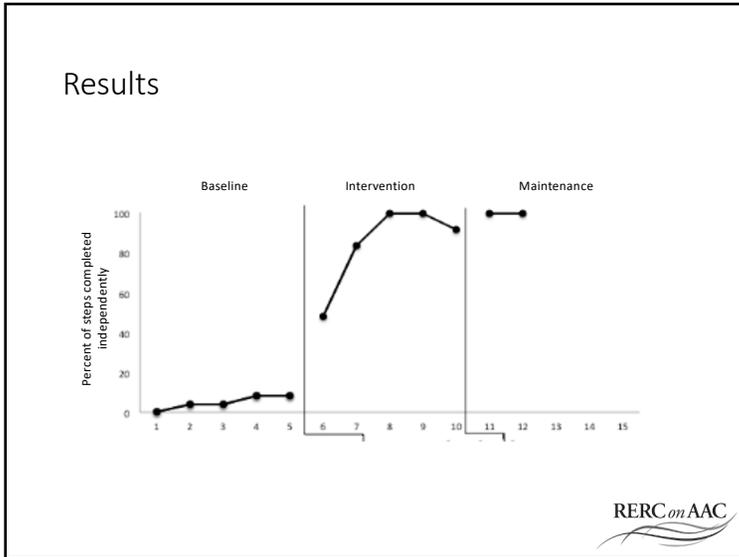
- Model
- Guided Practice
- Independent Practice

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! - Celebrate success and make changes as needed

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“It exceeded our expectations. I didn't know that the kids would be able to completely do it independently by the end.”

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- Most important aspect?
 - *“That those kids were able to feel success. I think they felt like they were a productive adult within this building. I think it built a whole lot of self-esteem with those kids.”*
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• *“A lot of teachers stopped by to check it out, not just special education teachers, there were other teachers that came by that were interested... Even the parents that were coming in the door were checking it out. We got a lot of people; it's like a little community all involved in it. It wasn't just us, it was other people cheering them on and wanting them to do well.”*



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Supporting Grocery Shopping for a Student with Developmental Disabilities using a Video VSD App

Sojung Jung, Ciara Ousley,
David McNaughton, & Janice Light



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S – **Select a key activity** and Create a task analysis

- **Grocery shopping**
 - Participation
(e.g., selecting the items)
- **Communication**
(e.g., interacting with store staff)



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S – Select a key activity and **Create a task analysis**

- Navigating the store
 - Grocery List:
 - Taco shells
 - Bananas
 - sliced cheese (deli counter)



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Sam	Deli Counter Clerk
8) Navigate to the deli counter	
9) "Hi, how are you?"	
	"Good, how are you?, What can I do for you?"
10) "I would like a quarter pound of 'Dietz & Watson' American cheese sliced thin."	



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Sam	Deli Counter Clerk
8) Navigate to item 3 (deli counter)	
9) "Hi, how are you?"	
	"Good, how are you?, What can I do for you?"
10) "I would like a quarter pound of 'Dietz & Watson' American cheese sliced thin."	
	"Is this thickness okay?"
11) "That's good"	



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Sam	Deli Counter Clerk
8) Navigate to item 3 (deli counter)	
9) "Hi, how are you?"	
	"Good, how are you?, What can I do for you?"
10) "I would like a quarter pound of 'Dietz & Watson' American cheese sliced thin."	
	"Is this thickness okay?"
11) "That's good"	
	"Is there anything else for you?"
12) "No, thank you"	
	"Thank you, have a nice day!"
13) "Thank you very much! Have a great day"	
14) Take the item from the clerk and place in cart	



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T – Take video



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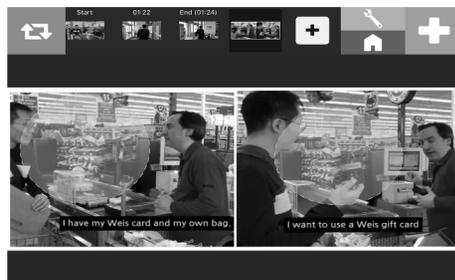
A – Add VSDs



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R – Record communication



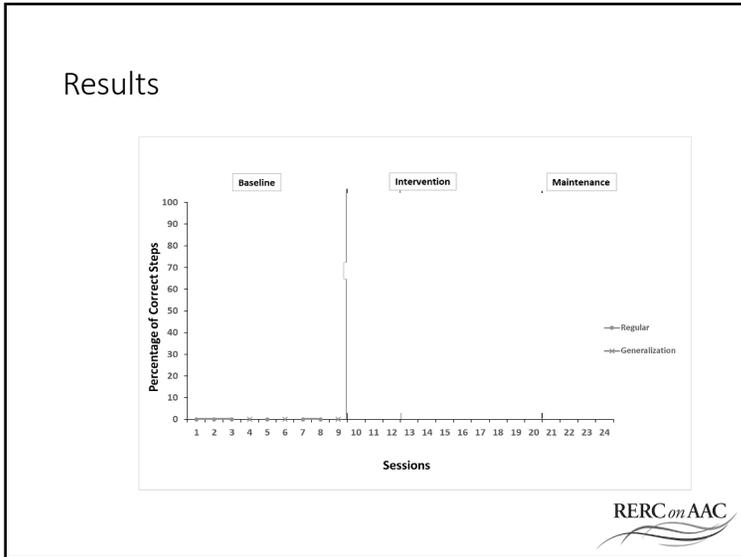
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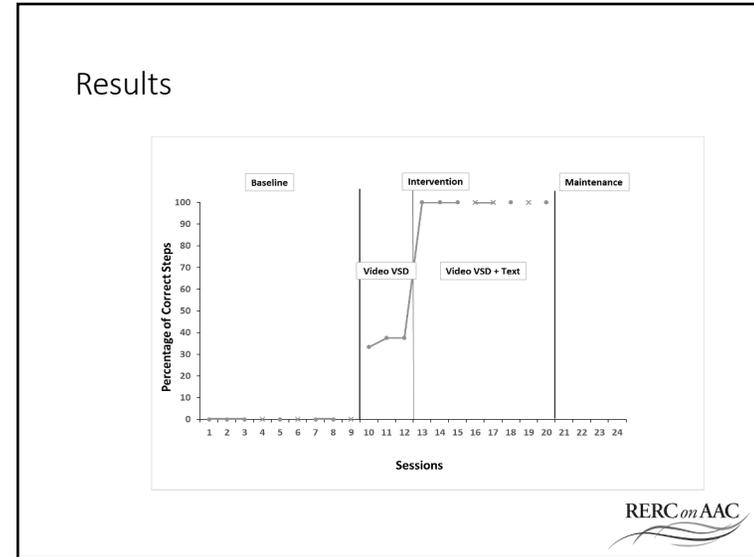
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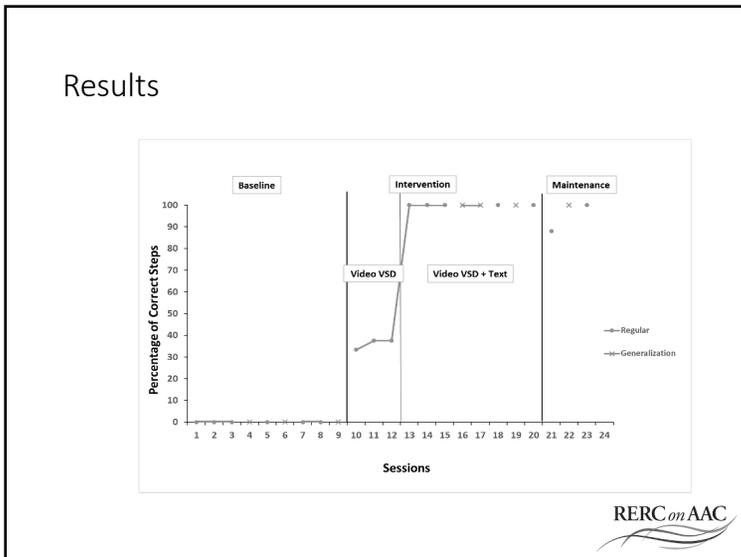
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! - Celebrate success and make changes as needed

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The full success of AAC intervention is best evaluated not by a single performance under controlled conditions,

but rather by the extent to which it improves access and participation in valued activities and experiences of everyday life.



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Technologies currently available

- Snap Scene



Supports the use of still VSDs with embedded hotspots



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