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Dean, Julia Catherine, "Teaching Decoding Through Constant Time Delay to Students with Severe Disabilities and Verbal Difficulties" (2020). *Appalachian Student Research Forum*. 32.  
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# Teaching Decoding Through Constant Time Delay to Students with Severe Disabilities and Verbal Difficulties

PRESENTER: **Julia Catherine Dean**  
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**INTRO:**

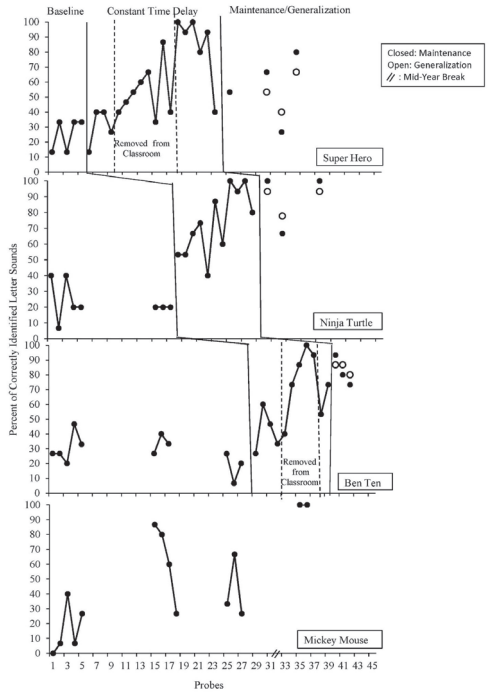
The purpose of this study is:

- To determine if teaching decoding through constant time delay is effective in teaching students with severe disabilities and verbal difficulties:
  - letter sounds within consonant-vowel-consonant words.
  - to read constant-vowel-constant words.
- To determine if teaching decoding through constant time delay builds independent reading and decoding skills in students with severe disabilities and verbal difficulties.

**METHODS**

- Independent Variable: Constant Time Delay- An evidence-based practice for teaching academic skills that is a form of systematic instruction.
- Dependent Variable: Decoding-Sounding out a word by saying each sound and then blending the sounds together to read the word.
- Research Design: Single Case Multiple Probe Across Participants Design
- Materials: Index cards with CVC words, small picture cards, index card windows, and a trifold choice board by Augmentative Resources.

**RESULTS**



Results indicated a **functional relation** between the use of **constant time delay** and decoding of **CVC words**. Additionally, students were able to **maintain** and **generalize** learning.

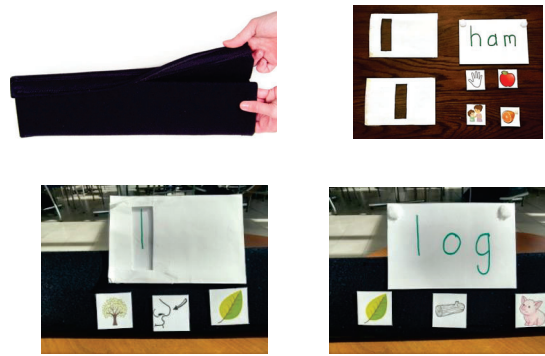
Students with **severe disabilities** and **verbal difficulties** can effectively learn **decoding** of CVC words through **constant time delay** and can **maintain** and **generalize** the skill.

Results were **similar** to other studies which implemented **constant time delay** to promote **emergent literacy skills** (e.g., Browder et al., 2012; Dessemont et al., 2019; Spooner et al., 2015; Tucker Cohen et al., 2008).

Practitioners can use **constant time delay** to teach **decoding** to students with **severe disabilities** and **verbal difficulties** and to promote **early reading skills**.

Future research should **replicate** the study with students from **different age groups** as well as **examining** the effects of this strategy on the **acquisition** of **CCVC** and **CVCC** words.

Participant Information						
Student Name	Age/Grade	Ethnicity	Disability	IQ and Determining Test	Pertinent Educational History	Verbal Abilities
Super Hero	Third Grade 9 Years Old	Caucasian	Intellectual Disability, Down Syndrome, Acute Myeloid Leukemia (AML-in remission)	WISC-V, Full Scale IQ: 40 (<0.1%ile)	WJAT-4, Word Reading: 55, 0.1%ile Spelling: 55, 0.1%ile	Responds to yes or no questions; speech is unintelligible; receives SLP services
Ninja Turtle	Kindergarten 5 Years Old	African American and Caucasian	Developmental Delay	Battelle Cognitive Test: Score 55 (<3.00 Z-score)	Battelle Developmental Inventory-Second Edition (BDI-2); Echolalia Informal Language Sample: Severe delays in receptive, expressive, and pragmatic language	Echolalic; speech is not used to communicate; receives SLP services
Ben Ten	Kindergarten 5 Years Old	Caucasian	Autism	Battelle Cognitive Test: Score 55 (<3.00 Z-score)	Battelle Developmental Inventory 2nd edition; Personal/social: 55, -3.00 z-score Communication: 55, -3.00 z-score Cognitive: 55, -3.00 z-score	Speech is unintelligible; only vocalizes when upset or happy; receives SLP services



**Task Analysis for Intervention**

Zero Delay Round

- \_\_\_ Lay out word and answer choices (1 correct and 2 distractors)
- \_\_\_ Cover to show only letter 1. Say, "Which sound does this letter make? It is [Describe cards (ex. /d/ like duck, /b/ like bird, or /p/ like pig)]? It is [Describe correct answer (ex. /b/ like bird)]" then point to the correct answer
- \_\_\_ Have the student respond and provide an immediate reinforcement after every answer and say, "Good job that is [Describe correct answer (ex. /b/ like bird)]"
- \_\_\_ Repeat steps 2 and 3 for the two remaining letters.
- \_\_\_ Repeat steps 1-3 with full word.

Delay Round

- \_\_\_ Say, "Now it's your turn, I am going to show you the same word, but this time you answer."
- \_\_\_ Cover to show only letter 1. Say, "Which sound does this letter make? It is [Describe cards (ex. /d/ like duck, /b/ like bird, or /p/ like pig)]" while pointing to the answer choices.
- \_\_\_ Wait 5 seconds for response
- \_\_\_ If student responds correctly: mark + on data sheet, provide reinforcement, and say, "Good job that is [Describe correct answer (ex. /b/ like bird)]"
- \_\_\_ If the student responds incorrectly: block and redirect to the correct response, mark - on data sheet, and say, "It is [Describe correct answer (ex. /b/ like bird)]"
- \_\_\_ If student does not respond after set time: touch the correct response, have student indicate correct response, mark - on data sheet, and say, "It is [Describe correct answer (ex. /b/ like bird)]"
- \_\_\_ Cover to show only letter 2. Say, "Which sound does this letter make? It is [Describe cards (ex. /d/ like duck, /b/ like bird, or /p/ like pig)]" while pointing to the answer choices
- \_\_\_ Wait 5 seconds for response
- \_\_\_ If student responds correctly: mark + on data sheet, provide reinforcement, and say, "Good job that is [Describe correct answer (ex. /b/ like bird)]"
- \_\_\_ If the student responds incorrectly: block and redirect to the correct response, mark - on data sheet, and say, "It is [Describe correct answer (ex. /b/ like bird)]"
- \_\_\_ If student does not respond after set time: touch the correct response, have student indicate correct response, mark - on data sheet, and say, "It is [Describe correct answer (ex. /b/ like bird)]"
- \_\_\_ Cover to show only letter 3. Say, "Which sound does this letter make? It is [Describe cards (ex. /d/ like duck, /b/ like bird, or /p/ like pig)]" while pointing to the answer choices
- \_\_\_ Wait 5 seconds for response
- \_\_\_ If student responds correctly: mark + on data sheet, provide reinforcement, and say, "Good job that is [Describe correct answer (ex. /b/ like bird)]"
- \_\_\_ If the student responds incorrectly: block and redirect to the correct response, mark - on data sheet, and say, "It is [Describe correct answer (ex. /b/ like bird)]"
- \_\_\_ If student does not respond after set time: touch the correct response, have student indicate correct response, mark - on data sheet, and say, "It is [Describe correct answer (ex. /b/ like bird)]"
- \_\_\_ Show the entire word card. Say, "What is this word? While pointing and labeling the choices
- \_\_\_ Wait 5 seconds for response
- \_\_\_ If student responds correctly: mark + on data sheet, provide reinforcement, and say, "Good job that is [Describe correct answer choice (ex. /b/ /b/, bat)]"
- \_\_\_ If the student responds incorrectly: block and redirect to the correct response, mark - on data sheet, and say, "It is [Describe correct answer choice (ex. /b/ /b/, bat)]"
- \_\_\_ If student does not respond after set time: touch the correct response, have student indicate the correct response, mark - on data sheet, and say, "It is [Describe correct answer choice (ex. /b/ /b/, bat)]"
- \_\_\_ Repeat steps 1-26 for each of the remaining words.

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