Coaching Itinerant Teachers of Young DHH Students: Improving Treatment Integrity for a Vocabulary Intervention

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Presentation at ACE-DHH 2016
New York, New York
Funding for this project provided by the Institute of Education Sciences
Grant # R24C12001
Purpose/Research Questions

What is the effect of coaching on itinerant teachers’ implementation of Vocabulary for Success?

a. Can professional development for Vocabulary for Success be delivered with integrity?

b. What were the effects of coaching on itinerant teachers’ treatment integrity?

c. What are the effects of improved treatment integrity on the vocabulary learning of young DHH children?

d. What aspects of coaching do itinerant teachers find most helpful to intervention implementation?
Why Treatment Integrity?

- Effective instructional strategies
- Can be facilitated

(Hall & Louck, 1977; O’Donnell, 2008)
Measuring Treatment Integrity

<table>
<thead>
<tr>
<th>Surface Fidelity</th>
<th>Process Fidelity</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Adherence</td>
<td>• Quality of Delivery</td>
</tr>
<tr>
<td>• Duration</td>
<td>• Participant Responsiveness</td>
</tr>
<tr>
<td></td>
<td>• Program Differentiation</td>
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</tbody>
</table>

(Harn, Parisi, & Stoolmiller, 2013; O’Donnell, 2008)
Why Coaching?

- Sustain use of intervention
- Less isolation
- Safe environment

(Joyce & Showers, 1995)
Why Vocabulary?

• Strong vocabulary = Better reading comprehension
• 2,000 words
  ▪ 50% of DHH children delayed
• Teachers must know effective vocabulary strategies

(Cunningham & Stanovich, 1998; Tabors, Snow, & Dickinson 2001; Luckner & Cooke, 2010)
Methods

Coaching

Treatment Integrity

Student Vocabulary Learning

Qualitative

Quantitative
Participants and Setting

• Three student-teacher dyads
  ▫ DHH students in grades K-2
• Students placed in general education settings served by itinerant teachers.
• Intervention was implemented during regular pull-out service time.
Procedures

Pre-Intervention
- Student Assessments
- Teacher Interview

Baseline
- Screen unit words
- Teacher baseline instruction
- Teacher Professional Development

Intervention
- Teacher implements intervention
- Researcher assessed student word learning
- Coaching

Maintenance
- Assessed students at least two weeks after completion of each unit
- Teacher interview after third unit

Repeated for each unit
The Intervention

Vocabulary for Success

Explicit Instruction
- Fast Mapping
- Extension Activity – Drill and Practice

Implicit Instruction
- Interactive Book Reading
- Teacher-Student Conversations
- Extension Activity – Rich Context

Hamilton & Schwanenflugel, 2011
Explicit Instruction: Fast Mapping

Urchin

A sea animal with sharp spikes on its body

Ball

Banana
Explicit Instruction: Drill and Practice
Implicit Instruction: Interactive Book Reading

Swimmy
by Leo Lionni
Pantheon

Competence Question: “Where do all of these animals live?”

Abstract Question: “Looks like those fish are hiding in some coral. Why do you think they are hiding there?”

Relate Question: “Those little fish made one big fish to hide. Have you ever played a game where you hide?”
Implicit Instruction: Conversations

- Contributions
- Open-ended questions
- Acknowledgements
- Follow student’s lead
- Vocabulary recasts
- “Tell-me” statements
- Linguistic expansion
Implicit Instruction: Conceptual

Science Experiment: tasting salt water

Arts & Crafts: salt water paintings
Coaching

- Coaching was defined as ongoing, individualized support in the use of Vocabulary for Success.
## Coaching: Theoretical Framework

<table>
<thead>
<tr>
<th>Concerns-Based Adoption Model</th>
<th>Whole Teacher Approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Takes time</td>
<td>• Ongoing support</td>
</tr>
<tr>
<td>• Individual</td>
<td>• Collaboration</td>
</tr>
<tr>
<td>• Can be facilitated</td>
<td>• Hands-on activities</td>
</tr>
</tbody>
</table>

(Anderson, 1997; Chen & McCray, 2012; Hall & Loucks, 1977)
# Coaching: Levels of Support

<table>
<thead>
<tr>
<th>Level of Support</th>
<th>Description</th>
<th>Units Used</th>
</tr>
</thead>
</table>
| Scheduled, in-person meetings    | • Meetings that were scheduled ahead of time according to the teacher’s schedule.  
                                 | • Agenda determined by researcher/coach based on treatment integrity checklists  
                                 |   • Retrained on specific components  
                                 |   • Watched implementation video together | 1 and 2 |
| Brief, in-person meetings        | • Unscheduled, occurred before or after intervention implementation.  
                                 | • Based on researcher/coach field notes and teacher questions | 1 and 2 |
| Online journal                   | • Maintained by teacher and researcher/coach  
                                 | • Teacher recorded information about lesson, reflected on implementation, and asked questions as needed.  
                                 | • Researcher/coach provided feedback based on teacher reflections, questions, and video-recorded sessions. | 1, 2, and 3 |
| Email and text messages          | • Used by the researcher to schedule student probes and request immediate information.  
                                 | • Used by the teacher for questions related to planning and implementation | 1, 2, and 3 |
RQ 1: Can professional development for Vocabulary for Success be delivered with integrity?

- **Surface Fidelity Measures:**
  - Duration
  - Adherence

- **Analysis:**
  - Consistency across teacher participants.
  - IOA
RQ 1: Results

- Initial Professional Development for V4S was standard across all 3 teacher participants
  - Duration: 125 minutes (range = 119-135)
  - Adherence: 100%
  - IOA: 100%
RQ 2: What were the effects of coaching on treatment integrity?

- **Surface Fidelity Measure:**
  - Adherence
    - Teacher Baseline Instruction
    - Teacher Implementation

- **Analysis:**
  - Descriptive statistics comparing use of components between baseline instruction and each unit of instruction.
  - IOA
<table>
<thead>
<tr>
<th></th>
<th>Teacher A</th>
<th></th>
<th>Teacher B</th>
<th></th>
<th>Teacher C</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Baseline</td>
<td>Unit 1</td>
<td>Unit 2</td>
<td>Unit 3</td>
<td>Baseline</td>
<td>Unit 1</td>
</tr>
<tr>
<td><strong>Fast Mapping</strong></td>
<td>33%</td>
<td>84%</td>
<td>100%</td>
<td>100%</td>
<td>33%</td>
<td>95%</td>
</tr>
<tr>
<td><strong>Interactive Book Reading</strong></td>
<td>0%</td>
<td>92%</td>
<td>100%</td>
<td>96%</td>
<td>0%</td>
<td>88%</td>
</tr>
<tr>
<td><strong>Conversation</strong></td>
<td>50%</td>
<td>43%</td>
<td>63%</td>
<td>77%</td>
<td>0%</td>
<td>67%</td>
</tr>
<tr>
<td><strong>Drill and Practice</strong></td>
<td>60%</td>
<td>60%</td>
<td>70%</td>
<td>70%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Rich Context</strong></td>
<td>0%</td>
<td>90%</td>
<td>100%</td>
<td>90%</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Unit Average</strong></td>
<td>74%</td>
<td>87%</td>
<td>87%</td>
<td></td>
<td>90%</td>
<td>93%</td>
</tr>
</tbody>
</table>
RQ 3: What are the effects of improved treatment integrity on the vocabulary learning of young DHH children?

- Measures for each unit
  - Student word knowledge
  - Student definition knowledge
  - Teacher treatment integrity

- Analysis
  - Compared TI scores to student word and definition scores
Student Word Knowledge: Results

Student A

Student B

Student C
Student Definition Knowledge: Results

Student A

Student B

Student C
## Treatment Integrity and Definition Knowledge

<table>
<thead>
<tr>
<th>Unit</th>
<th>Teacher-Student A</th>
<th>Teacher-Student B</th>
<th>Teacher-Student C</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Treatment Integrity</td>
<td>Definition Knowledge</td>
<td>Treatment Integrity</td>
</tr>
<tr>
<td>Unit 1</td>
<td>39%</td>
<td>32%</td>
<td>88%</td>
</tr>
<tr>
<td>Unit 2</td>
<td>67%</td>
<td>43%</td>
<td>82%</td>
</tr>
<tr>
<td>Unit 3</td>
<td>38%</td>
<td>33%</td>
<td>82%</td>
</tr>
</tbody>
</table>
RQ 4: What aspects of coaching do itinerant teachers find most helpful to intervention implementation?

- **Measures:**
  - Teacher Interviews
  - Teacher Journals

- Qualitative analysis using inductive methods
  - Constant Comparative Analysis
Results: Benefits of Coaching

- Individualized Support
- Instructional Planning
- Collaboration
- Reflective Teaching
“But I also thought the positive feedback was good too because sometimes I would do something and I didn’t know it was good, so when I read through the journal or you told me, “Oh, you did that and that was good.” .....hearing that that strategy worked then I was like, “okay, well, then I can keep doing that then.”

“....when you had said let’s work on turn taking and not worry about the conversation itself, just [signs “turn taking”], and I think that helped me a little bit.”

“....I think when somebody knows your situation and when somebody can say, “I understand.” That, just somebody understanding, that’s a huge thing. “
Instructional Planning

• “.....before I was overwhelmed and I think it was because I didn’t have ....that theme to connect it to so I was just overwhelmed with planning all these different sort of activities that didn’t really all go together, but I was trying to make them go together, but didn’t have anything to make them go together.”

• “Cause if I got stuck....then I’m like, now, “What do we do next?” I had something to look at and reference to and we can keep the structure going, I can move on.”

• “I felt like it was such a good framework, such a good foundation that I was able to take my ideas...and put it in, with what I felt was relative ease.”
Collaboration

• “I enjoyed that, I enjoyed the back and forth, I enjoyed the prompting question, I enjoyed the guidance that was offered in the face-to-face. That just works better for me. I enjoy being able to throw [around and] bounce ideas.”

• “.... because especially the first two units, well, really that second unit when it was a collaboration, but it even happened in the third unit where I would run things by you.....It was nice to have somebody to bounce those ideas off of.”

• “....all of the other teachers aren’t directly accessible to me, so it was nice to have you [to] get those ideas from.”
Reflective Teaching

• “I did notice a couple of times like watching the videos, “Miss L! You are doing a lot of talking! Let her do some of it.”

• And then talking to you and thinking about it, reflecting as you’re talking, and going, “Oh, okay that’s where I made the mistake.”

• [N]ot only the strategies, but looking at yourself as a teacher...all those kinds of things, I really did enjoy and I felt like I learned a lot.

• “How many times did I refer back to the journal?! I really did, and read it again and again.”
Conclusions

- Coaching is a way of improving treatment integrity.
- Implicit and Explicit vocabulary instruction in the context of thematic units effective way to build expressive vocabulary.
Limitations

• Study design did not allow for a functional relationship to be established between coaching and treatment integrity.

• Treatment Integrity could have improved for other reasons
  ▫ Multiple times to practice
  ▫ Teacher experience
Practical Implications

• Coaching
  ▫ Improves intervention implementation and overall teaching skills.
  ▫ Front-loading effective teaching practices offsets cost.
References


