The World of Words (WOW): Enhancing vocabulary and conceptual development for preschool children at risk

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Logic Model

Our goal:

Proximal Outcomes
- Increased teacher, child talk
- Improved L/L environment

Intermediate Outcomes
- Increased conceptual knowledge
- Increased receptive & expressive vocabulary

Distal Outcomes
- Improved growth trajectories
Lesson Design

Vygotskian Model

Step 1: Get Set

Identify topic, introduce prototype—explicit instruction

Step 2: Give Meaning

Learn new in-category words

Step 3: Build Bridges

Compare in- and out-category items

Step 4: Step Back

Support active discussion
Curriculum Overview: Content-rich instruction

♦ Tuning In & Content Video
♦ Teacher-Student Dialogue
♦ Information Book Reading
♦ Picture Cards
♦ Time for a Challenge
♦ WOWphone
Lessons always begin with a Tuning In clip, which illustrates a selected phonological awareness skill or letter sound and gives children an opportunity to practice with their teacher.
Video clips highlight the key concept and related vocabulary. Teachers and children co-view a video segment, engaging in discussion about what they saw and heard in the video.
Teacher-Student Dialogue

Teachers and students practice words and concepts together, using call and response techniques.
Each day the teacher will read a part of the specially developed information book designed to use words and ideas from the video, and connect it to children’s personal experiences.
Children receive take-home books to color and read with their parents.
Picture cards help children learn new ways to categorize their new knowledge and sort new words. Sorting cards created a number of unique opportunities for children to use their new words and concepts.
Time for a Challenge…

The snake in the middle represents a “challenge” word. Children debate whether a snake could be a pet, based on the concepts they learned defining what a pet is.
WOW Phone

Wild Animals Category
Pets Category
Water Animals Category

Choose Category

Picture 1

Zebra
Correct  Incorrect

Results
Student Results:
Press this button to show Harry’s results.

Category Results:
Press this button to show all results from the Water Animals Category.

Overall Results:
Press this button to show aggregate results from all students and categories.

Harry’s Results
Category: Water Animals Category
Score: 7/7 (100%)

Class Average: Ms. Marie 1st
Category: Water Animals Category
Average Percent Correct: 80 %
A Formative Experiment*

- What factors enhance or inhibit the intervention’s effectiveness in achieving goals?
- How can the intervention be modified to better achieve goals?
- Have the outcomes been met? Why or why not?
- Qualitative and quantitative evidence
A Formative Experiment

♦ Teachers and students in 22 classes
  ♦ N=322
  ♦ 12 treatment classes; Six exemplary teachers
  ♦ 10 control; Five average teachers

♦ Four-month trial
  ♦ Pre-post PPVT; WOW; GGG; Tell Me
  ♦ Progress-monitoring-WOW-end of unit; GGG
  ♦ Video-taping circle time conversations- T/C
  ♦ ELLCO; Focus groups; Observations

♦ Seven categories in two units assessed
## Child Characteristics

<table>
<thead>
<tr>
<th>Sample</th>
<th>N</th>
<th>Female N</th>
<th>Minority N</th>
<th>Age in Months T1 Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Sample</td>
<td>322</td>
<td>162 (50%)</td>
<td>136 (42%)</td>
<td>51.40 (6.01)</td>
</tr>
<tr>
<td>Treatment Only</td>
<td>192</td>
<td>95 (50%)</td>
<td>75 (39%)</td>
<td>52.16 (5.80)</td>
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<tr>
<td>Control Only</td>
<td>130</td>
<td>67 (52%)</td>
<td>61 (47%)</td>
<td>50.62 (6.23)</td>
</tr>
</tbody>
</table>

a. Treatment and control groups are significantly different by age; \( t = -2.27, \ p < .05 \).

## Teacher Characteristics

<table>
<thead>
<tr>
<th>Sample</th>
<th>N</th>
<th>Minority N</th>
<th>Age Mean (SD)</th>
<th>Years Experience Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Sample</td>
<td>13</td>
<td>2 (15%)</td>
<td>39.54 (10.80)</td>
<td>10.31 (7.40)</td>
</tr>
<tr>
<td>Treatment Only</td>
<td>7</td>
<td>1 (14%)</td>
<td>43.57 (10.60)</td>
<td>12.14 (9.37)</td>
</tr>
<tr>
<td>Control Only</td>
<td>6</td>
<td>1 (17%)</td>
<td>34.89 (9.79)</td>
<td>8.17 (3.97)</td>
</tr>
</tbody>
</table>
Teacher Feedback

♢ Lesson length and managing attention
  ♦ Long lessons, but rich and engaging materials
  ♦ Choral response: mixed reviews
  ♦ Pre-viewing questions
  ♦ Explicit instruction

♢ Children’s learning
  ♦ Excitement over “sophisticated” language
  ♦ Interest, persistence, engagement
  ♦ Home-school connection via take-home books
Child Outcomes

- PPVT-III
- G3 Picture Naming
- WOW Vocabulary
- PA: Alliteration
- PA: Rhyming
Expressive Vocabulary: G3 Picture Naming

Figure 2: Change in Average Picture Naming Scores by Group

- Treatment
- Control
Expressive Vocabulary: WOW In-Category Words

Figure 3: Change in Average WOW Vocabulary Scores by Group
Phonological Awareness: G3 Rhyming

Figure 4: Change in Average Rhyming Scores by Group
Benefits of Formative Experiment

- Evidence of learning what we taught; no evidence for improved language skills
- Justifies curriculum; revisions
- Child assessments; refinements
- Benefits of multimedia
Thank You!

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