How do Speech and Language Difficulties Impact Learning?

Gloria Maccow, Ph.D.
Assessment Training Consultant

**Today’s One-Hour Agenda**

I. Language and Learning

II. Language Weaknesses and Classroom Performance

III. Resources and Strategies to Facilitate Language Development in the Classroom

**Learning**

What is learning?

How do we know learning has occurred?
In our schools and classrooms, we expect children to **learn and remember**.

(See, e.g., Squire, 1987)

<table>
<thead>
<tr>
<th>Composite/Subtest</th>
<th>Std. Score</th>
<th>%ile Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language Memory</td>
<td>85</td>
<td>16</td>
</tr>
<tr>
<td>Following Directions</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Formulated Sentences</td>
<td>6</td>
<td>25</td>
</tr>
<tr>
<td>Recalling Sentences</td>
<td>11</td>
<td>63</td>
</tr>
</tbody>
</table>

(CELF-5: Age 13:3)

**The Process of Learning**

Input → Process → Output
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Learning: A complex process!
- Memory
- Language
- Visual-Spatial
- Attention/Executive Functions
- Sensory Input/Motor Actions

Language and Learning

Receptive
Children must understand words and sentences to perceive and process information.
- Listening

Expressive
They must use words to show they can retrieve information from memory.
- Speaking

How do children master oral language?
- Phonology
- Morphology
- Syntax and Grammar
- Semantics
- Pragmatics
- Oral Language

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Understand and Use Language: Oral and Written

<table>
<thead>
<tr>
<th>Oral</th>
<th>Written</th>
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<tbody>
<tr>
<td>Receptive</td>
<td></td>
</tr>
<tr>
<td>Listening</td>
<td>Reading</td>
</tr>
<tr>
<td>Comprehension</td>
<td>Comprehension</td>
</tr>
<tr>
<td>Expressive</td>
<td></td>
</tr>
<tr>
<td>Oral Expression</td>
<td>Written Expression</td>
</tr>
</tbody>
</table>

Language and Literacy

Early development of reading depends critically on whether the receptive phonological component of the aural system and the expressive phonological component of the oral system are developing in an age-appropriate manner (Berninger, 2007).

Connecting Written Language to Oral Language

Phonological Recoding

See
Dog

Say

(Joseph, 2006)
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Importance of Oral Language

If children have been offered fewer opportunities to hold conversation, they may:

• have limitations in the grammar they control
• have difficulties comprehending oral and written language
• have limited control of some of the most common sentence structures used in storybook English
• be unable to anticipate what may happen next in sentences

(Gentile, 2003)

Language Development and Lexical Knowledge

Children learn word meanings through conversations with other people.

• They often hear adults repeat words and use new and interesting words.
• The more words they hear, the more word meanings they learn.

(National Reading Panel Report, 2000)
Differences in Vocabulary Acquisition

(Hart & Risley, 2002)

Kindergarten Readiness

(Klein & Knitzer, 2007)

A weakness in oral language can adversely affect learning to read which, in turn, will affect reading to learn.
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Building Blocks of Learning

CONCEPTUAL

READING COMPREHENSION

WRITTEN EXPRESSION

MATH PROBLEM-SOLVING

SYMBOLIC

PHONOLOGY

ORTHOGRAPHY

MOTOR

FOUNDATIONAL

SELF-ESTEEM

EMOTIONS

BEHAVIOR

ATTENTION AND SELF-REGULATION

Phonology

Orthography

Motor

CONCEPTUAL

SYMBOLIC

FOUNDATIONAL

Language and Learning

Reading: Two Major Parts

Pronouncing written words (decoding).

Comprehending written words and text.

A major correlate of comprehension is vocabulary size.

Comprehension

Vocabulary

Coding Word Forms in Verbal Working Memory (Berninger, 2007)

Morphological

Phonological

Orthographic

Academic

Orthographic

Excess

Figure 2: Creating interrelationships among the three word forms
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**Phonological Loop (Berninger, 2007)**

![Phonological Loop Diagram](Image)

**Written Language Problems and the Three Word Forms (Berninger, 2007)**

![Written Language Problems Diagram](Image)

**Language and Reading (Shaywitz, 2003)**

![Language and Reading Diagram](Image)
What do the data suggest about language and learning?

<table>
<thead>
<tr>
<th>Receptive Vocabulary</th>
<th>Expressive Vocabulary</th>
<th>Diff.</th>
<th>Sign. of Difference</th>
<th>Base Rate</th>
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</thead>
<tbody>
<tr>
<td>SS = 94</td>
<td>SS = 73</td>
<td>21</td>
<td>.01</td>
<td>&lt;1%</td>
</tr>
</tbody>
</table>

(PPVT-4; EVT-2)

Is Knowledge of Semantics and Syntax Enough?

"My parents said it was raining cats and dogs. I'm hoping for a German Shepherd."
Metalinguistic Awareness

<table>
<thead>
<tr>
<th>Test Scores</th>
<th>Scaled Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metalinguistics Profile</td>
<td>5</td>
</tr>
<tr>
<td>Making Inferences</td>
<td>3</td>
</tr>
<tr>
<td>Conversation Skills</td>
<td>7</td>
</tr>
<tr>
<td>Multiple Meanings</td>
<td>5</td>
</tr>
<tr>
<td>Figurative Language</td>
<td>4</td>
</tr>
</tbody>
</table>

(CELF-5 Metalinguistics)

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Developing Language Competence

(The Connection Between Oral and Written Language) (ASHA, 2001)
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**Contributions of SLPs**

<table>
<thead>
<tr>
<th>Direct Services</th>
<th>Collaborative Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Develop language competence for students with communication disorders.</td>
<td>Contribute to literacy efforts of the school district for all students.</td>
</tr>
</tbody>
</table>

(ASHA, 2001)

**To Improve Learning Outcomes, Instruction and Intervention Should Facilitate Development of . . .**

- Listening Ability
- Language
- Lexical Knowledge
- Phonological Awareness

**Oral Language**

Reading and writing instruction alone is not enough to equalize the language gaps of many children struggling to acquire language.

Effective, targeted intervention can create a direct connection and explicit curriculum that links language and literacy development.

(Gentile, 2011; 2003)
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Proficiency in Literacy

Interactions in Oral Instructional Curriculum

EXPLICIT CURRICULUM
Reading Skills
Writing Skills

EXPLECT CURRICULUM
Oral Language
Discourse
Learning Behavior

Teacher-Student Interactions

(Gentile, 2011; 2003)

OIC

Language

Discourse

Learning Behavior

(Gentile, 2011; 2003)

The Human Sentence

(Gentile, 2011; 2003)

Objective
Students will practice constructing and listening to elaborated sentences.

Materials
- Oral Language
- Student notebooks
- Pencils
- A few objects/items

Procedures
1. Ask the students to choose a topic or object they would like to talk about. They can use background knowledge or a prior learning experience from the curriculum. This will be the subject of their sentence.
2. Give the selected object to one student and say: You can be the first part of our sentence. You will be [name the object/subject].
3. Ask for a related detail about the subject and solicit a volunteer to represent that part of the sentence. For example, if the subject is a monkey, you could ask:

   What does a monkey do?
4. Prompt for another related detail about the subject or the first detail, and solicit another volunteer to represent the final part of the sentence. For example, if the first detail was east butter, you could ask:

   Do monkeys eat butter?
5. Finally, ask for one last related detail and assign another student to represent the final part of the sentence. For example, if the last detail was in the morning, you could ask:

   Why do monkeys eat butter in the morning?
Lesson on Language Development for English Language Learners

Direct, Explicit Instruction in Vocabulary

Skills and concepts targeted in the activities include:
- Listening, speaking, reading and writing
- Language processing of nouns, verbs, adjectives, and prepositions
- Antonyms and synonyms
- Categorization
- Word parts (prefixes, suffixes, and roots)
- Rhyming
- Compounds
- Onomatopoeia
- Meaning and usage
- Storytelling
- Word play

(Montgomery, J. K., 2007)

Word Web
Guided Practice Activity

Objective: The student will name items related to a theme.
Evidence Base: Using a list of words to develop a map of relationships is an effective method to learn and remember categories (Kosig, Diamond, & Griefes, 2000).

Directions:
1. Before the lesson, print out six copies of the blank word web provided on the CD-ROM. Depending on the student’s writing ability, you may complete the word webs or ask the student to complete them.
2. Introduce the activity and demonstrate how to use the word web. For example, write the theme “airport” in the center of the word web and say “I love to travel. I have been to many airports. Tell me some things that go with airports or that you might find in an airport.”
3. Supply one or two responses to get the student started, or use prompting questions such as, “What kind of machines might be at an airport?”
4. Reinforce sensible responses and write them on the lines that extend from the center of the word web. Query nonverbal responses.
5. Repeat the activity using the other themes listed below.

Group Modification: Ask students to take turns naming items related to the theme. You may either complete a single word web as a class or ask each student to complete his or her own word web.

(Bridge of Vocabulary)
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Phonological Awareness

Children are ready to read when they can...

- Hear the way words sound
- Identify rhyme and alliteration
- Blend sounds
- Recognize onset and rime
- Identify sound units in words

8/31

<table>
<thead>
<tr>
<th>Name</th>
<th>Pointed to</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ah</td>
<td>Apple</td>
<td>+</td>
</tr>
<tr>
<td>An</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cu</td>
<td>Cup</td>
<td>+</td>
</tr>
<tr>
<td>Da</td>
<td>Daffodil</td>
<td>+</td>
</tr>
<tr>
<td>De</td>
<td></td>
<td></td>
</tr>
<tr>
<td>El</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ja</td>
<td>Jump rope</td>
<td>+</td>
</tr>
<tr>
<td>Jas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ke</td>
<td>Comic book</td>
<td>+</td>
</tr>
<tr>
<td>Ku</td>
<td>Cubby</td>
<td>+</td>
</tr>
<tr>
<td>La</td>
<td>Lamplight</td>
<td>+</td>
</tr>
<tr>
<td>Ma</td>
<td>Cubby and shoes</td>
<td>-</td>
</tr>
<tr>
<td>Mar</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mi</td>
<td>Mirror</td>
<td>+</td>
</tr>
<tr>
<td>Rz</td>
<td>Window</td>
<td>?</td>
</tr>
</tbody>
</table>

What do the data suggest about language and learning?
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**Weaknesses in Production of Language**

Weakness in oromotor structure and/or visual–motor integration.

- Speech therapy and/or occupational therapy.
- In the classroom, focus on output demand of tasks.
  - When verbal expression is a weakness, a pointing response may be an alternative.
  - When visual–motor integration is a weakness, dictation to scribe or touch screen may be considered.

**In Summary . . .**

Ability to access language fluently facilitates comprehension.

**Questions**

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References and Resources


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Thank you for attending!

[pearsonclinical.com/language.html](http://pearsonclinical.com/language.html)