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Using Machine Theory To Analyze Oral Reading Inventory Results

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The concept of evaluating student reading through oral reading inventories was begun by Betts (1936) and further developed by Killgallon (1942). *The Reading Miscue Inventory* developed by Goodman and Burke (1972), continues to utilize an oral reading assessment base and is a comprehensive application of psycholinguistic theory to the evaluation of student reading.

Both instruments make the reading process as visible to the examiner as is currently possible so that the behavior of the reader in an actual reading situation can be observed, and the student's strategies for reading can be analyzed.

The following suggestions attempt to adapt miscue theory to the less technical and less time consuming oral reading inventory in the hope that the result may become an evaluation tool for the classroom teacher and reading specialist.

I. Word Recognition and Miscue Theory

In an oral reading inventory, errors (miscues) are identified and counted in order to determine a student's instructional reading level (and possibly an independent and/or frustration level).

However, in analyzing oral inventory results in order to learn more about *how* a student reads, miscues (errors) should *not* be equally weighed. Retention of *meaning* becomes the base from which we can evaluate the miscue. If meaning is retained, the miscue is of a low level of importance. If meaning is lost, the miscue is of a high level of importance.

To determine the amount of significance to attach to a miscue (error) in oral reading, the following guidelines, established by Goodman and Burke (1972) may be used:

1. Dialect: Is a dialect variation involved in the miscue? (Dialect differences are not to be counted as miscues since the reader is proving by these that she/he is reading for meaning).
2. Intonation: Is a shift in intonation involved in the miscue? (This is a significant miscue if it interferes with meaning).
3. Graphic similarity: How much does the miscue look like what was expected? (Indicates use of visual cues. This can be a significant miscue because it will may interfere with meaning; e.g., three for there).
4. Sound similarity: How much does the miscue sound like what was expected? (Indicates use of phonic cues. This is significant if it interferes with meaning; e.g., pot for pet).
5. Grammatical function: Is the grammatical function of the miscue the same as the grammatical function of the word in the text? (Indicates use of natural knowledge of grammar of one's language; e.g., a noun is substituted for a noun. This is not significant if meaning remains approximately the same).
6. Is the miscue self-corrected? (This is positive — the reader is reading for meaning. Sometimes, however, the reader may judge correction is not necessary as meaning is not interfered with. Or, the reader may self-correct silently — the student's later retelling or responses to comprehension questions will indicate this).
7. Grammatical acceptability: Does the miscue occur in a structure which is grammatically acceptable? (Indicates use of syntactic cues, such as word order. May or may not interfere with meaning).
8. Semantic acceptability: Does the miscue occur in a structure which makes sense? (Indicates reading for meaning; e.g., bird for canary).
9. Meaning change: Does the miscue result in a change of meaning? (This is the most significant miscue as it interferes with the author's meaning).

An evaluation of a student's miscues using the above guidelines will identify the reading strategies a student relies on and will show strengths and weaknesses in the student's reading ability. For in-depth analysis, a longer passage than is normally found in an oral reading inventory and one at a frustration level is considered desirable.

II. Comprehension and Miscue Theory

The oral reading inventory includes questions to measure a student's comprehension skill. The score from these questions, of course, is used in an oral reading inventory along with the word recognition score to determine instructional and other placement levels. Student responses to these comprehension questions also give insight into strengths and weaknesses in general comprehension and into specific types of comprehension skills.

Often, however, the questions on an oral reading inventory may not be of a consistent or high quality, may not be passage dependent, and may not allow an in-depth analysis of comprehension abilities.

The method of *retelling*, developed by Goodman and Burke (1972), can be adapted to the oral reading inventory. Some oral reading inventory passages are more adaptable to retelling than others, but on the whole, this method will give valuable additional information on a reader's ability to gain meaning from print. In order to adapt the retelling procedure to an oral reading inventory, the following process should be used.

Informing the Reader

Before a student reads the passage aloud, tell the student he/she will be asked to retell the story after oral reading in his/her own words.

The student then reads the passage aloud.

Recording

Both the oral reading responses and the retelling may be taped by the examiner for later transcription, or the examiner may note miscues and retelling responses as the student reads and retells.

Guiding the Retelling

Retelling must immediately follow oral reading — if oral reading inventory questions are also to be used, they must not precede the retelling. The child is

asked to retell the story in his/her own words. The examiner *should not interrupt* the retelling until the reader has finished.

What to Look for in Retelling

The examiner must first determine whether the passage has a Story (narrative) Format or whether the passage has an Informational (instructional) Format.

Having determined whether the passage has a Story Format or an Instructional Format, the examiner looks for the following in the student's retelling (Goodman and Burke, 1972):

Story Material Format
(for fictional or biographical materials)

Character Analysis:

Recall:

A listing of the characters involved in the story. (Roles more important than names).

Development:

Information concerning the characters' physical appearance, attitudes and feelings, relationships to other characters.

Events:

The actual happenings as they occur. (Starts at the beginning, follows the sequence).

Plot:

The plan upon which the sequence of events is organized. (The overall question or problem).

Theme:

The generalization, perspective, or viewpoint of the story.

Informational Material Format
(for instructional material)

Specifics:

The actual happenings, items, instances, or bits of information in the material.

Generalizations:

General information which can be deduced from examination of the interrelationship of specific items or facts. Generalizations relate directly to the topic.

Major Concepts:

Overarching or universal views which can be abstracted from generalizations. Concepts can be applied to diverse topics and across fields of study.

When the student has finished retelling,

the examiner may ask questions to gain more information on comprehension. These may be follow-up questions on the retelling and/or any or all of the comprehension questions from the oral reading inventory.

Goodman and Burke (1972) suggest the following guidelines for forming follow-up questions:

1. The questions should make use of no specific information not already introduced by the reader.
2. The questions should tend to be general in nature so that their formulation does not lead the reader to insights or views which do not grow from his own reading.
3. Any mispronunciations or name changes which the reader has instituted should be retained by the teacher.

The examiner can utilize the retelling and the responses to questions to evaluate the depth of meaning acquired from the

reading. Certain readers will read orally with good phrasing, intonation, and few miscues; however, their ability to retell (gain meaning) may be low. Other readers will make many miscues and use poor intonation and phrasing; yet their ability to retell may be high.

This information, combined with the types of miscues made, will provide the examiner with information on the strategies, as well as the lack of certain strategies, a student uses to read. This information should then be used to develop an instructional program for the student.

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