MISCUE ANALYSIS OF READING ACROSS DIVERSE STUDENTS AND COMMUNICATION PREFERENCES

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ABSTRACT

Miscue analysis provides a strengths-based, student-centered assessment of reading processes and comprehension skills that can be utilized with deaf and hard-of-hearing (DHH) students across a range of language and communication methods. This assessment procedure avoids many of the biases from standardized testing as a result of developmental experiences and issues of access to hearing and spoken language. The detail of this analysis provides evidence of patterns in applying a range of reading strategies to the meaning-making process and the scored retelling evaluates comprehension, without relying upon question and answer skills. Three students' reading is analyzed across oral, conceptually-accurate signing, and American Sign Language with applications for scoring and utilizing results for research and instruction.

INTRODUCTION AND PURPOSE

Teachers of deaf and hard-of-hearing (DHH) students struggle to identify accurate and unbiased reading assessments in order to plan effective instruction and evaluate progress. Researchers also struggle to identify assessments that accurately indicate strengths and needs, and the effects of interventions. DHH students' unique developmental experiences and frequent incomplete access to spoken languages tend to negatively impact their abilities to perform commensurate with their abilities. Alvermann and Phelps (2002) identified four types of bias and applied to DHH individuals that include content bias, linguistic bias, functional bias, and consequential bias. Martin and Mounty (2005) identified difficulties with standardized test items that presumes experiences not accessible to DHH, embedded figurative or colloquial language use, inadequate context for the test item stems, multiple meanings of words, and multiple embedded dependent clauses that may mislead DHH test-takers. Weinstock and Mounty (2005) identified test difficulty as a result of language, content, and format of tests. Crawford (2005) identified difficulties due to truncated test language, double negatives, multiple embedded clauses, and complexity of similar answer choices. Typical test accommodations include sign language interpreting, extended time, or a private location; yet, none compensate for unequal access to spoken language or common developmental experiences, and the use of sign language may alter what is being measured. Thurlow, Johnstone, Thompson, and Case (2008) described accommodations as theoretically removing nonconstruct-related aspects of an assessment, but which may be difficult to access due to deafness.

In contrast, miscue analysis has been shown to be an effective research, diagnostic, and instructionally-relevant assessment of reading. This procedure has been utilized across a range of child and adult readers as well as with culturally and linguistically diverse students. Use includes students with non-standard spoken language dialects as well as second language learners. The miscue procedure individually assesses a range of sociopsycholinguistic skills as they are applied to the

reading process as the reader engages in meaning-making processes (Goodman, 1994/2003; Goodman & Goodman, 2009).

The procedure also has been successfully utilized with DHH students across multiple communication preferences (Chaleff& Ritter, 2001; Ewoldt, 1981; French, 1999; Gennaoui, &Chaleff, 2000). Across all populations, proficient readers are those who successfully construct meaning from the text and produce high percentages of syntactically and semantically acceptable sentences (Goodman & Watson, 1998). The focus on maintaining semantic and syntactically acceptable sentences, rather than word-for-word reading, is the theoretical perspective that allows for cross-linguistic analysis to include DHH students.

The benefit of the miscue analysis procedure is that it represents an authentic reading assessment that provides detailed information on the meaning-construction skills of readers (Goodman, 1994/2003; Goodman & Goodman, 2009). For DHH students, this authentic reading experience allows for flexibility in choosing appropriate content that substantially reduces issues of content bias, test item language and format difficulty, as well as complications resulting from accommodations. Instead, the DHH student reads a natural piece of text that has been selected to be appropriate in terms of reading level, genre, content, and format.

METHOD

The miscue analytic procedures consist of choosing an entire text to ensure a cohesive reading experience, and that produces a minimum of 25 miscues to allow for identification of patterns (Goodman, Watson, & Burke, 2005). This study asked student participants to suggest a topic or genre of interest and researchers selected stories that were new. This process allow researchers and teachers an opportunity to assess the student's ability to apply background knowledge and text features, strategies that are utilized by successful hearing readers but less often by DHH readers (Schirmer, Bailey, &Lockman, 2004). Students were told to read aloud or in sign, and attempt unknown words the best that they could. The reading was followed by a scored retelling procedure (French, 1999) to assess comprehension.Both the reading and retelling were videotaped to ensure accurate scoring.

Miscue procedures mark unexpected deviations from the text in which –1 point indicates a significant change to the semantics or syntax, and –½ point represents a minimal change (Goodman et al., 2005). These miscues are totaled overall, and by category, to examine patterns across word omissions; graphophonic changes at the beginning, middle, or end of words; and syntactic or semantic changes due to additions, reversals, repetitions, or as a result of incorrect sign choice for students who sign. The retelling is scored using a story grammar of key elements for fiction, and narrative content elements for nonfiction, across 10 total points (French, 1999). This study presents one example of DHH students across each of three different language or communication methodologies, to examine its application and utility in identifying reading skills and needs.

RESULTS

DHH Students who use Oral and Spoken Communication

These DHH can be assessed using the standard miscue procedures in many cases. Student 1 was 9 years old, in the fourth grade, and enrolled in a self-contained (segregated) class for oral DHH students. He chose to read *Arthur's Underwear* by Marc Brown. Miscue results indicate 9.5 miscues across 639 total words:, or 98.51% accuracy and his retelling score was 9 of 10 points indicating excellent comprehension. Analysis identified that this student had no word omissions, 1.5 points for substitutions occurring at the beginning of the word, 5.5 for those in the middle of the word, and 1.5 at the end of words. He had only one addition, and 15 self-corrections. He also had several repetitions where he added emphasis and inflection to statements, such as "I need my pants!" demonstrating good awareness of punctuation as well as story and character development. The miscue analysis showed generally accurate reading that did not impact story comprehension.

The miscue analysis identified that Student 1's substitutions made good use of graphophonic skills in attempting unknown words. These substitutions included "traisor" for trouser, "amoba" for amoeba, "shuntilly" for suddenly, and "emeregency" for emergency. His 15 self-corrections indicated use of phrase- and sentence-level self-monitoring processes. His initial miscues suggested semantic and syntactic prediction strategies that were similar, and then corrected as he continued reading.

The miscue recording procedures also indicated a number of words in which he omitted the final /s/, found in: its, tricks, happens, and boots. This provides important speech-skill application information that can be shared withhis speech-language pathologist with additional strategies applied to his classroom work. The retelling analysis suggested a potential instructional target with regard to his extremely detailed story telling in which he appeared to focus on including every element of the story. Instead, he could learn how to prioritize and differentiate between major and minor story elements and move toward a summary. Overall, the procedure indicated high levels of reading skills and comprehension for this story.

DHH Students who use Sign Communication

Students who use a form of sign language should be assessed based on standard classroom practice and expectations. Student 2 was 11 years old and a sixth grader in a middle school program for DHH students, in a self-contained classroom. He had used an English-based form of sign language in elementary school and was transitioning to conceptually accurate signing. Standard communication practice for him was a mixture of English and ASL signs. His standard reading practice was to sign every word in the text. He played after-school football and was interested in Jerry Rice. The story chosen for him to read was about Jerry Rice, using the chapter "Mr. 49er" from the book *Football Stars* by S. A. Kramer.

Student 2's miscue showed 87 miscues over 648 words for a score of 86.6 percent. He had 7 self-correction and a number of word substutions, with 3.5 beginning-word errors, 5.5 middle-word, and 11.5 end-of-word errors. He had 53 omissions and had 13.5 miscues in conceptually-accurate sign choices, and no additions, reversals, or repetitions. His retelling of this nonfication story was scored at 5.75 of 10 points.

The analysis showed some strengths in using graphophonic skills and in demonstrating self-monitoring and correctioniabilities. However, his high number of omissions indicates that he did not have strategies, or feel confident in using strategies, to attempt these words based on the context, graphophonic, or other skills. Analysis of

conceptually-accurate sign miscues suggested a focus on word-based reading rather than conceptual meaning. His miscues included signing “cutting class” (missing class) as “scissor + ing + class” and “wheel around” (turning quickly) as “tire-wheel + circle”. Despite his own experience with, and interest in, playing American football, he signed “touchdown” as “TOUCH + DOWN” and did not know the signs for “PASS” or “TACKLE” or “RECEIVE”. Further examination of his retelling indicated that he focused on describing the story illustrations rather than text information. His lack of using typical ASL football signs and his poor comprehension of this biography, despite knowing about Jerry Rice, suggests significant difficulties in applying his own personal experiences and content knowledge to his reading processes and comprehension. This further suggests that his high number of omissions reflects his lack of comprehension and inability to utilize context and background reading strategies with unknown words.

DHH Students who use Native Sign Communication

Students who use a native sign language such as American Sign Language need to be assessed based on the equivalent meaning of phrases and sentences. This focus of miscue analysis on maintaining semantic and syntactic appropriateness, rather than word-for-word reading, supports the use of this procedure with diverse and DHH students (Goodman, 1994/2003; Goodman & Watson, 1998). Student 3 had Deaf parents, was 13 years old and in the eighth grade, enrolled in a self-contained deaf education classroom and attending several inclusive, vocationally-focused classes at the high school level. She had high interests in basketball and read a chapter from the book *Scottie Pippen: His Life Story* by Peter Hurrell. Her score for this meaning-based miscue across 225 words identified 7 miscues for a 96.88 percent accuracy. She had no scored omissions, repetitions, and one self-correction. She had no beginning-word or middle-word errors and one end-of-word substitution. She was marked as having 5.5 miscues for her sign choices. Her retelling was 8.5 of 10 points with a stronger description of beginning, rather than later elements, but with good summarizing skills across major story elements and conclusion.

Her substitution was signing the word “stare” as “START WITH” indicating a focus on phrase-level correctness in adding “WITH”. Her ASL miscues included signing “HAVE” for the text “have to”, and “B-L-O-W BEFORE” for “blew past” which in the text meant to run-quickly-by. Her substitution indicated use of graphophonicskills with similarity of word beginning (stare/start). This student did not use speech to communicate but indicate the presence of related skills. She also demonstrated high levels of bilingual fluency in decoding written English into conceptually appropriate and spatially accurate ASL through use of sign space, sign directionality, and non-manual markers. She accomplished this translation reading task by pausing at punctuation marks and phrases by using sign-holds and repetitions, allowing her to visually scan ahead before continuing with her ASL-based signing. This occurred quite consistently for commas and periods, and for preposition phrases. This sensitivity to written English was surprising, in conjunction with a story readability at the 6.8 grade level where her school-based assessments showed her to rarely exceed the third grade.

DISCUSSION

This study used miscue analysis to examine its application across three DHH students using different communication languages and methodologies. Its individualized

and student-centered evaluation of reading processes and comprehension identified unique strengths and needs across the students. The strengths-based focus resulted in delineation of particular strengths across Students 1 and 3 that had not been identified in other school-based assessments, with neither having been previously acknowledged as being “good” readers. Student 3 had been categorized as an unsuccessful reader, perhaps as a result of minority and bilingual issues described by Cummins (1986). This suggests that miscue analyses are useful in identifying positive aspects of DHH students’ reading that otherwise may be masked by standardized tests.

In addition, this analysis provided detailed information about Student 2’s extensive needs and struggles with making reading meaningful. He showed little evidence of applying his background information about the topic or his personal experiences in playing football, resulting in high numbers of omitted and substituted words, and poor comprehension.

Each student was evaluated for readingself-corrections, omissions, substitutions, additions, reversals, repetitions, and conceptual sign language errors, as appropriate, and comprehension. Despite using three different languages or communication methods, the analyses provided a thorough and individualized description of strengths and needs. The scored retelling’s use of open-ended and story specific cues allow DHH students to demonstrate comprehension through describing what was remembered without confounds due to inadequate question and answer skills.

Commercial and standardized assessments often present topics or use writing styles unfamiliar to DHH students or with decontextualized text passages, thereby confounding literacy assessment with experiential background and access factors. Content flexibility of the miscue analysis supports use of this process across the diverse and multiple languages of DHH students and among known or unknown topics and genres, as determined by the researcher or teacher. This procedure provides a more comprehensive and strengths-based assessment of DHH students’ reading skills than is available through most commercial and school-based tests. The importance of a strengths-based assessment for two of these three students was that their abilities can be more effectively utilized across other academic content, and for researchers this suggests the presence of stronger reading skills than often presented by standardized test scores.

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