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Sue Livingston

CUNY La Guardia Community College

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COMPREHENSION STRATEGIES OF TWO DEAF READERS

Sue Livingston

Abstract

Strategies for reading comprehension used by two deaf college students as they discussed assigned readings with their teacher and classmates are here shown in examples categorized, tallied, and compared. Both were active users of strategies, and their pattern of strategy use was similar: interpreting, questioning, paraphrasing, and integrating were the strategies most used. The student reader who preferred expressing and receiving English-like sign manifested a higher proportion of inaccurate interpretations and paraphrases than did the student reader who preferred receiving and expressing American Sign Language (ASL), primarily because the former was unfamiliar with written linguistic cues and conventions of narrative prose, but also because of distractions from her personal experience. The comparison suggests that competence in reading is more closely related to text-based competencies than to the kind of face-to-face language the reader brings to the text.

Strategies of comprehension

How do deaf students *make* meaning from text? What comprehension strategies do they employ as they attempt to construct their rendition of an author's intent? In a review of the reading education literature, Palinscar and Brown (1984) found considerable agreement on what these strategies are. In general they are activities that both enhance comprehension and provide means for checking whether comprehension is occurring. These strategies are not unique to the act of reading but instead reflect underlying cognitive processes that assist in thinking and learning in general:

They comprise a set of knowledge-extending activities that apply in a wide range of situations other than reading.... They are as

applicable when one is listening or debating as when one is reading. (Palinscar & Brown 1984: 119f)

The most important of these strategies are:

- activating relevant background knowledge
- concentrating on major content at the expense of trivia
- evaluating content for internal consistency
- engaging in periodic review and self-interrogation
- drawing inferences of many kinds (1984: 120).

When readers use these strategies while attempting to make meaning from text, they afford us glimpses of the process of reading comprehension, or of how comprehension happens.

Poor readers, unfortunately, are not as strategic as they might be when they encounter text (Spiro & Myers 1984). They have difficulty interpreting events and making predictions (Collins & Smith 1982), and in formulating their own questions about problematic aspects (Andre & Anderson 1978). Non-proficient native and non-native (i.e. ESL) readers of English in a landmark study by Block (1985) failed to integrate prior and subsequent text and too often used their background knowledge to divert their attention from the intent of the text.

Studies of deaf students' interaction with text have been focused primarily on miscue analyses (Ewoldt 1981) or on schema development (Kluwin et al. 1980). The actual strategies deaf readers employ as they attempt to make meaning from text have not been investigated.

Two deaf readers

The participants in this study were members of a basic reading course exclusively for deaf and hard-of-hearing students at LaGuardia Community College of the City University of New York (CUNY), who at the end of twenty weeks of course work manifested the richest use of comprehension strategies when

compared with their classmates. They were placed in this course either by attaining a similar score on the test used by CUNY (Test of Linguistic Skills: Reading Component), or by moving up through lower-level courses by passing course work and uniform departmental examinations.

The students were assigned a classic text in the field of deafness: Joanne Greenberg's *In This Sign* (Holt, 1970). The novel chronicles the lives of two deaf adults trapped in poverty before, during, and after the Depression of the 1930s, as a consequence of their deafness and under-education. For each class session the students read approximately ten pages and came to class with a response paper, on which they were required to write the gist of what they had read, their reaction to it, and questions they wanted answered. This response paper served as the springboard for class discussion, which focused primarily on the thoughts and concerns of the students about specific segments of the previous night's reading assignment. As students spoke about aspects of the text, they revealed, to varying degrees, how much they understood, how their comprehension was taking place, and the artifacts of their mis-comprehension.

Because the class was a mix of signing deaf students and hard-of-hearing students who knew little sign language, an interpreter was employed to sign for the hard-of-hearing students (when they spoke) and to speak for the deaf students (as they signed) so that all could understand. This created a "tape-able" environment, albeit primarily deaf. Classes met for 70 minutes four times a week.

Approximately 25 hours of taped classroom discussion were transcribed and categorized according to the Block (1985) classification of comprehension strategies. This system was used because it is comprehensive, reflects current thinking in the field of reading, and had already been field tested on Block's group of English-as-second-language readers. (See Appendix for examples of transcriptions and classification system.) Once categorized, the number of instances of strategy use per category and in total were tabulated. Within the categories of "Interprets Text" and

“Paraphrases,” accuracy of response was noted as well. Two of the students, here Brenda and Donna, who manifested the richest use of strategies, were selected for the brief case-study descriptions presented below.

Brenda

Brenda was 40 years old at the time of this study and has been profoundly deaf since birth. Her reading test result placed her into the group of LaGuardia students reading at the 8th grade level. Her memory of learning to read was of lip-reading her mother as her mother read her simple stories and of finding the main ideas from the articles given her in school. She read her first novel only after arriving at college and subsequently developed a taste for reading books about the struggles of Black people; e.g. *Kaffir Boy* and *The Autobiography of Miss Jane Pitman*. Her family communicated with her by using speech but lately has begun to fingerspell. Brenda was in oral education programs until she arrived at college, where sign is used. Her Grade Point Average after approximately two years was 3.13. She feels more comfortable expressing and receiving American Sign Language than more English-like signing.

Brenda used 91 instances of strategy in the discussions recorded, as Table 1 shows. She interpreted, questioned, paraphrased, and integrated information rather regularly, rarely using other types of strategy.

Strategy	Frequency of occurrence	
	#	%
Interprets Text	35	38.5
Questions Information in Text	19	20.9
Paraphrases Text	17	18.7
Integrates Information	14	15.4
Uses General Knowledge	2	2.2
Comments on Behavior	2	2.2
Anticipates Content	1	1.1
Monitors Comprehension	1	1.1
	91	

Table 1. Instances of strategies used by Brenda.

Many of Brenda's interpretations—the strategy used most often—were based on former understandings from the novel; these she integrated with new text in order to extend the meaning of ideas she was encountering, as shown in the examples on the next pages. Note also that how Brenda comments on her own behavior—informing us of the type of strategy that she will be using to construct her interpretation. (In the left column TEXT provides the actual passage from *In This Sign* that Brenda or Donna was reading.)

TEXT

As they came to the corner and started across the street, Abel took his hands out of his pockets and said fast into the cold: "This is Outside, Outside. This is where everyone wants to go, everyone runs!" ...Outside was all everyone talked about at school. Their eyes shone when they spoke of it, and down the narrow halls railed for the blind, they made their Signs sail over the teachers' heads, hide behind books, slip between the desks, and the Signs talked about Outside.

RESPONSE

I'm guessing. Outside means the world, things to look around at, because Abel and Janice . . . Abel stayed on the farm and he doesn't know about Outside and the world and Janice never learned about Outside. They're similar—curious about hearing world things.

Brenda seemed to need to create comparative contexts to assist her in internalizing the story line. In the example below, her question reveals that it was important for her to know whether Margaret's living conditions had improved since leaving her parents' home, perhaps hoping that this would happen with her marriage.

TEXT

William had worked so hard to get this shack. It was dark, dank and somber and there was not water—you had to go to the "big house" to bathe or wash—but they had a fair amount of quiet for William to study in.

RESPONSE

I'm saying William and Margaret's apartment—which is worse Vandalia Street or here?

Approximately 88% of Brenda's paraphrases were accurate explanations of the text:

TEXT

Marshall's new letter lay where his mother had filed it meticulously for answering.

We are all to blame for conditions which have produced such poverty. How can I tell the people here that we didn't know what was happening to them, that no one I ever knew had lived with fear, with despair; that I had to come down here to see before I could believe? I feel guilty and ashamed because of all the things I had—the comfort and the luxury that dulled me, that dulls my whole family to the whole world crying outside my safe and sheltered neighborhood.

RESPONSE

Marshall feels guilty because he's seen white people in luxury. He feels guilty. He doesn't feel comfortable. For example, his family has a nice house so he compares that with the blacks in poverty and he feels guilty and he thinks it's disgusting and that's what it means.

Such a high percentage of accuracy might explain why Brenda rarely monitored her behavior or used any of the language-specific strategies in which readers typically ask questions about problematic words and phrases. Interpreting, questioning information in the text, paraphrasing, and integrating text assisted Brenda in navigating smoothly through it.

Donna

Donna, 22 years old at the time of this study, has been profoundly deaf since birth. She first started using sign language when she

entered a preschool program for deaf children at the age of three. Family members speak to Donna normally, although they do know some signs for English words. Donna had a hard time recalling the kinds of things she likes to read and any good books that she has read. She remembered being taught to read by being shown pictures with questions she had to answer printed below that related to things in the picture. After two years at LaGuardia, Donna's Grade Point Average was 2.2. The Descriptive Test of Reading Skill placed her in the level of reading instruction for students reading at approximately the 7th grade level. She prefers receiving and expressing Manually Coded English.

Both Donna's and Brenda's use of strategies for comprehending were similar in pattern (compare Table 2 below with Table 1). Donna also had 91 instances of strategy use, and interpreting, questioning, paraphrasing, and integrating were her most frequently used strategies, as they were for Brenda.

Strategy	Frequency of occurrence	
	#	%
Interprets Text	25	27.8
Questions Information in Text	19	20.9
Paraphrases Text	19	20.9
Integrates Information	12	13.2
Monitors Comprehension	5	5.6
Uses General Knowledge	4	4.4
Questions Meaning of a Word	3	3.3
Comments on Behavior	2	2.2
Anticipates Content	1	1.1
Displays Word Solving Behavior	1	1.1
	91	

Table 2. Instances of strategies used by Donna.

	<i>Incorrect interpretations</i>	<i>Incorrect paraphrases</i>
<i>Brenda</i>	5.7%	11.8%
<i>Donna</i>	20.0%	42.0%

Table 3. Percentage of incorrect interpretations & paraphrases by the two readers.

Although Brenda interpreted text more readily than Donna, Donna used a wider range of strategies. Donna questioned the meaning of specific words: "I don't know what *laid off* means here;" and displayed word-solving behavior: "We come to buy a dead box which meant a coffin, right?" Donna also needed to monitor how her understanding was progressing: "Before we go on, I'm confused about when this happened." Apparently she experienced more difficulty in following the story than did Brenda. Crucial for gaining insight into Donna as a reader was the finding that she had considerably more instances of incorrect interpretations and paraphrases than Brenda had.

The examples following show even more clearly the difference in these readers. (A funeral director trying to sell Abel and Janice an expensive coffin gets angry when they still want the cheapest.)

TEXT: "Wasn't the child worth anything?" he shouted at Margaret. "Didn't his life have any value to you?"

RESPONSE: OK, Isn't the boy worth it. The director is thinking that the boy isn't worth it because it's such a small boy. . . but the family felt it was important to the boy. . . he needed a beautiful coffin that would fit Bradley. This connects to. . . I had an experience with a good friend who died last year and the parents bought a beautiful coffin to show their daughter how much they loved her. You know it didn't matter if it was expensive. . . it was brass with a pillow because the parents knew that she loved pillows and blankets so they gave her a small pillow and a kind of veil to show how much they loved her even though the coffin was too expensive but they did it and that kind of connects to this story here. Do you know what I mean?

Swayed by thinking that the rhetorical question in the text is a negative declaration (*The boy isn't worth it*), Donna assumed that

the funeral director was telling the parents of Bradley not to buy the expensive coffin. This inaccurate interpretation seems to have been caused both by Donna's lack of familiarity with negative rhetorical questions in print and by the experience with funerals she relates. She may also have interpreted the funeral director's shouting as admonishment.

In the following example we see Donna's lack of familiarity with third-person narration joining with her view of the funeral director as an all-powerful advisor to create an inaccurate paraphrase. She attributes the questions thought by Janice but "heard" through the omniscient narrator as statements spoken by the funeral director:

TEXT

There were so many [coffins] and they were so big that the three people stood lost in the room and couldn't find the courage to move on to the carpet on which the director stood. He had gone ahead speaking without realizing it, a routine, low-voiced hum of words from which Margaret could make no sense, and of which the bleak couple behind her were unaware. Janice was bothered about the flowers. She remembered that flowers were part of funerals. Maybe there should be flowers, but they had no money. If they didn't have flowers, would it be wrong to Bradley: Would people laugh at them, and at him too, for being their child?

RESPONSE

The director was mad that they should have bought flowers and he said if they don't buy flowers people will laugh. I said Janice and Abel don't want to buy flowers. If they don't buy flowers people will laugh at them. So the director is mad at them. He's trying to advise them

In addition to having problems caused by third-person narration, Donna seemed to be unfamiliar with the structure of written narrative, particularly her difficulty in following the author's use of flashback. The context is this: In Chapter 1 Abel and Janice are in court because they failed to make payments on a car they bought. They are already married. In Chapter 2 they must sell Janice's ring in order to pay back what they owe, and once outside the jewelry story, after selling the ring, they start to think about the school where they met when both were students there. Donna's response:

Wait. I'm still a little confused. We're going off on a tangent so I want to straighten this out. OK. Before, Janice and Abel met there's this story about gesturing—the signing [in court]—and after that Janice had a feeling about Abel and they started to communicate outside? Or What?

Essentially Donna asks, “Why are Janice and Abel talking about meeting in Chapter 2 if they had already met in Chapter 1?” Donna was familiar with the way that directors in television and movies use time as they wish, but this appeared to be her first exposure to time jumps in written narrative. Here is her response to the birth of a second child when readers were not informed of the pregnancy: “But wait . . . at the beginning Margaret was born and then again Bradley so quick, so fast that it’s really complicated.”

Conclusion

Both Brenda and Donna were active users of comprehension strategies and showed similar patterns of strategy use, interpreting, questioning, paraphrasing, and integrating most frequently to assist them in the construction of meaning from the text. Donna used a slightly wider array of strategies than Brenda did, most likely because she was experiencing more difficulty with the text. Despite the similarity, however, there is a great difference in the accuracy of their interpreting and paraphrasing. Donna’s interpretations and paraphrases were much less accurate than Brenda’s, primarily because of her unfamiliarity with linguistic cues in written English, overuse of and distraction by personal experience, and unfamiliarity with conventions of narrative prose such as omniscient narration, flashback, and flash forward. These differences point to a lack of *text-based* competence in general and, more specifically, to a lack of experience with the workings of *text* within the genre of narration. Since Donna preferred English-like signing to ASL, her reading difficulties appear to be independent of experience with English in its “oral” form.

Discussion & implications

Although a formal comparison cannot be made of this study with that by Block (1985) because of differences in methods used—Block's readers performed think-aloud protocols as they read two expository articles; two of Block's findings should be noted. First, the non-proficient native and non-native readers of English in Block's study manifested similar patterns of strategy use (paraphrasing and interpreting) across languages (English, Chinese, and Spanish). Second, certain differences that did exist among Block's subjects characterized her less proficient from her more proficient readers. These differences—greater diversity of strategy use, less awareness of text structure, overuse of personal experience, and higher percentage of inaccurate paraphrases—were found across linguistic/cultural groups, indicating that her less proficient readers were not necessarily clustered in her non-native English-speaking groups but in fact were found in her native-speaking group as well. Block concludes that reading proficiency is determined more by the effective use of comprehension strategies than by the particular linguistic/cultural backgrounds of the readers.

Similarities between the Brenda-Donna contrast and that of Block's better and poorer readers should be apparent. Similar patterns of strategy use were found across readers, regardless of the languages they "spoke" or preferred to be addressed in. This points to the underlying cognitive nature of these strategies and the centrality of their use in making meaning from text being read. In addition, what distinguished Block's less proficient readers from her more proficient readers also distinguished Donna from Brenda as readers. These findings imply that for learning to read it is important to provide *text-intensive experiences*, in which students learn the workings of a variety of *texts*, and that the variety of language the reader brings to the text is of lesser concern.

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APPENDIX

Comprehension strategy categories discerned by Block (1985: 76-86)

Examples from the data in the present study:

- *Interprets Text: Makes an inference, draws a conclusion, or makes a hypothesis about the meaning of the text.*

Example: "They should have argued about the \$20 and not have accepted it."

- *Questions Information in Text: Requests clarification of ideas presented.*

Example: "If the ring is worth \$70, why is the jeweler only giving him \$20?"

- *Paraphrases: Rephrases information in text using different words but the same sense.*

Text: "Bradley, who like his sister, was a hearing and speaking child. . ."

Example: "It said Bradley speaks and hears very well."

- *Integrates Information: Connects information in the passage with information previously stated.*

Example: "It said before that Abel knew that his fooling around would get him in trouble so that's why he decided to stop."

- *Uses General Knowledge: Uses knowledge & experience to explain, extend, clarify, react to information in the text.*

Example: "Hearing people want deaf people to talk like they do."

- *Monitors Comprehension: Assesses understanding of text.*

Example: "Before we go on, I'm confused about when this happened."

- *Comments on Behavior: Comments about strategies being used.*
Example: "But now as a teenager he's twelve or thirteen . . .
Come on . . . wake up . . . read it again."
- *Anticipates Content: Predicts content that will occur.*
Example: "The jeweler will probably turn around now and sell
the ring for more than \$70."
- *Questions Meaning of a Word: Indicates that a particular word is not understood.*
Example: "I don't know what *laid off* means here."
- *Displays Word-Solving Behavior: Performs some action to help understand a particular word or words.*
Example: "We come to buy a dead box which meant a coffin, right?"
- *Reacts to Text: Reacts emotionally to information in the text.*
Example: "I lived in a dorm so I know what it's all about."
- *Corrects Behavior: Notices an assumption, interpretation, or paraphrase is incorrect.*
Example: "Oh, I didn't know they were already married in the first chapter."
- *Comments on Text Structure: Attempts to distinguish main points & examples.*
(No applicable example in this study)
- *Rereads: Rereads a portion of the text.*
Example: (Going back to reread) "It says it's the same man as before."
- *Questions Meaning of Clause or Sentence: Indicates that a portion of the text was not understood.*
Example: "I don't understand when they say a scrawny little girl with match-stick
arms and a tight face. I don't understand *match-stick arms*."

Sue Livingston is an Associate Professor in the Department of Communication Skills at LaGuardia Community College (the City University of New York). She obtained her Ph.D. degree in Applied Linguistics at New York University.