To better understand the nature of students' approaches to literary understanding, a study compared the meaning-making approaches of traditionally judged above and below average readers. In all, 144 protocols were analyzed from 24 students (12 seventh graders and 12 eleventh graders, half in each class judged as above and half as below average performers). Think-aloud tape recordings were transcribed and analyzed. Findings suggest a similarity in better and poorer readers' overall approaches toward meaning. They seemed to move from a search for initial ideas into a meaning-development mode at similar points in their reading. However, the quality of their envisionments differed markedly, and the difference seemed to be influenced by their differing expectations about the kinds of understandings they would gain from each kind of reading experience. From early on, the better readers set a primary purpose for reading (to engage in a literary experience or to gain discursive understanding), and these expectations guided the kinds of information they sought and the meanings they developed. In contrast, the poorer readers seemed less aware of the different representations that were appropriate for each particular type of reading. While poorer readers arrived at discrete local meanings, there was no overriding end toward which they were building, leading them to create more fragmented envisionments from which they were more easily dislodged. (Seven tables of data are included; 64 references are attached.) (Author/RS)
Approaches Toward Meaning in Low- and High-Rated Readers

Judith A. Langer
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Approaches Toward Meaning in Low- and High-Rated Readers

Judith A. Langer
University at Albany, SUNY

Abstract

This study compared the meaning-making approaches of traditionally judged above and below average readers. It sought to better understand the nature of the students' approaches to literary understanding and to differentiate them from the approaches toward understanding that characterize more discursive, information-getting kinds of reading.

In all, 144 protocols were analyzed from 24 students (twelve 7th graders and twelve 11th graders, half in each class judged as above and half as below average performers). Over several weeks, each student engaged in six think-aloud sessions during which time they read two short stories, two poems, one science passage, and one social studies passage. All think-alouds were tape recorded and transcribed to permit qualitative data-driven analyses of students' language and thought as evidence of their processes of interpretation.

Findings suggest that there is an interesting similarity in better and poorer readers' overall approaches toward meaning. They seem to move from a search for initial ideas into a meaning-development mode at similar points in their reading. However, the quality of their envisionments differs markedly, and this difference seems to be influenced by their differing expectations about the kinds of understandings they would gain from each kind of reading experience. From early on, the better readers seemed to set a primary purpose for reading (to engage in a literary experience or to gain discursive understanding) and these expectations guided the kinds of information they sought and the meanings they developed. In contrast, the poorer readers seemed less aware of the different representations that were appropriate for each particular type of reading. While they arrived at discrete local meanings, there was no overriding end toward which they were building, leading them to create more fragmented envisionments from which they were more easily dislodged.
Approaches Toward Meaning in Low- and High-Rated Readers

Judith A. Langer
University at Albany, SUNY

This study is one of a series I have undertaken at the National Research Center on Literature Teaching and Learning in an attempt to better understand the learning and teaching processes involved in the study of literature as well as the similarities and differences in approaches to meaning development higher and lower rated readers make during literary readings (where readers attempt to live through the experience) and during discursive readings (where their primary goal is to gain information, clarify a point, or extend their knowledge of a topic or idea). The work grows from a constructivist view of reading holding that meaning resides in the reader who is guided by both the text which serves as an available guide and by past experiences and knowledge (Anderson, 1984; Spiro, 1980). It also builds on related work by literary theorists and language researchers who seek to understand how students interpret as well as structure the language they read (Fillmore, 1981; Fish, 1989; Iser, 1978; Langer, 1986). Although these various works differ in the relative contribution they ascribe to the text and author in meaning development, all consider reading to be a personally active, meaning-creating experience during which understandings grow and change over time in response at least as much to readers' personal and cultural experience as to the texts they are reading.

Reading as Envisionment-Building

In my work, I argue that if we are to better understand the ways in which poorer as well as better readers go about constructing meanings from text, we need to focus on the act of meaning itself, during the process of students' envisionment-building (Langer, 1985; 1986; 1987; 1989; 1990; Langer, Bartolome, Vasquez, & Lucas, 1990). Envisionments are text-worlds -- the ideas, images, questions and hunches that fill a person's mind during every reading, writing, speaking, or other experience where people gain and share knowledge through language (Fillmore, 1981; Kay, 1987; Langer, 1985, 1987). For reading researchers, the word envisionment refers to the understanding a person has about a text, whether it is being read, written, discussed, or tested. What is important is that an envisionment is subject to change at any time as ideas unfold and new ideas come to mind.

For example, envisionments change as a reading progresses because as new information is read some ideas are no longer important, some are added, and some are reinterpreted. Each envisionment includes what the reader does and does not understand at a particular point in time, as well as the reader's momentary suppositions about how the whole piece will unfold. Even after the last word has been read and the book closed, the reader is left with an envisionment that is also subject to change, with additional thought, other reading, or discussion. This vantage point provides one way to examine the act of meaning-development in all readers, including those who perform more poorly than their classmates, and for whom lack of literacy often becomes a barrier to success both in and out of school.
From this orientation, I have been studying the ways in which envisionments develop -- how meanings grow from the reader's vantage point. In earlier work (Langer, 1990), middle and high school students from diverse populations engaged in interviews and think-alouds focusing on their experiences during their reading of short stories, poems, social studies texts, and science texts. Analyses of patterns of on-line reader-text interactions led to two types of descriptions: (a) patterns of stances, or changing relationships readers take toward texts at different points in their process of meaning-making; and (b) patterns of orientation toward meaning readers take based upon their perceived primary purpose for engaging in the activity.

Stances in the Process of Interpretation

Results from this earlier work suggested that during reading, there are a series of relationships readers take toward a text, each adding a somewhat different dimension to the reader's growing understanding of the piece. These stances are recursive rather than linear (they have the potential to recur at any point in the reading), and together provide different kinds of knowledge -- enriching the reader's developing envisionments. The four major stances in the process of understanding described previously are:

1. Being Out and Stepping Into an Envisionment - In this stance, readers attempt to make contacts with the world of the text by using prior knowledge, experiences, and surface features of the text to identify essential elements (e.g., genre, content, structure, language) in order to begin to construct an envisionment.

2. Being In and Moving Through an Envisionment - In this stance, readers are immersed in their own understandings, using their previously constructed envisionment, prior knowledge, and the text itself to further their creation of meaning. As they read, meaning development moves along with the text; readers are caught up in the narrative of a story or are carried along by the argument of an informative text.

3. Stepping Back and Rethinking What One Knows - In this stance, readers use their envisionments to rethink on their own previous knowledge or understandings. Rather than background knowledge informing their envisionments as in the other stances, in this case readers use their envisionments to rethink their prior knowledge.

4. Stepping Out and Objectifying the Experience - In this stance, readers distance themselves from their envisionments and assume a "critical" manner by reflecting on and reacting to the content, the text, or to the reading experience itself.

Over time, across the reading of an entire piece, readers weave a growing web of understandings. It is woven through the variety of recursive stances a reader takes along the way (see Table 1). It is through these shifting relationships between self and text that readers structure their own understandings, gain different kinds of knowledge, and enrich their growing responses.
Table 1

Stances in the Process of Understanding

<table>
<thead>
<tr>
<th>Stance</th>
<th>Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Being Out and Stepping Into an Envisionment</td>
<td>forms tentative questions and associations in attempt to build text world</td>
</tr>
<tr>
<td>Being In and Moving Through an Envisionment</td>
<td>uses local envisionments and personal knowledge to build and elaborate understandings</td>
</tr>
<tr>
<td>Stepping Back and Rethinking What One Knows</td>
<td>uses growing understandings to rethink previously held ideas, beliefs, or feelings</td>
</tr>
<tr>
<td>Stepping Out and Objectifying the Experience</td>
<td>distances self from text to examine, evaluate, or analyze the reading experience or aspects of the text</td>
</tr>
</tbody>
</table>

Orientations Toward Meaning

While the stances describe the relationships between readers and texts for all types of reading, readers' particular concerns, and thus their orientations toward meaning, differ substantially when they are reading for literary as opposed to other purposes. In any reading, the reader is not only guided by the local envisionment as it exists at that point in time, but also by the reader's sense of the whole. And the role of that overall sense is quite different in the two contexts (see Table 2).

Exploring a horizon of possibilities. When reading primarily for the literary experience, a reader's sense of the whole changes and develops as the envisionment unfolds -- a reader's envisionment exists as a constantly moving horizon of possibilities (see Iser, 1978; Langer, 1990, for discussions of horizon). These possibilities change over time, emerging out of the developing envisionment of the human situation as reflected in the characters, events, and relationships portrayed in the text. In literary readings, readers clarify their ideas as they read and relate them to the growing and changing horizon -- the horizon modifies the parts and the parts modify the horizon. In doing this, readers continually explore possibilities, see many sides, and go beyond their envisionments; they focus on the human situation and the complex meanings embedded in it.

Maintaining a point of reference. On the other hand, when reading primarily for discursive purposes (e.g., to get or share information or clarify an argument or perspective), the sense of the whole is used to provide a steady reference point. As the envisionment unfolds, readers use this sense as a focal point around which
to organize their growing understandings. New information might clarify the sense of the whole, but rarely changes it. From early on, readers establish their sense of the topic or the slant the author is taking and use this judgment to monitor their growing envisionments. Once established, it takes a good deal of countervailing evidence before readers revise their sense of the whole.

Table 2
Orientations Toward Meaning

<table>
<thead>
<tr>
<th>Literary: Exploring a Horizon of Possibilities</th>
<th>Discursive: Maintaining a Point of Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readers explore both their local envisionments and their overall sense of the whole as they enter into and reflect upon their text worlds.</td>
<td>Readers clarify their ideas and construct their text worlds by relating what they read to their relatively stable sense of the topic or point of the piece.</td>
</tr>
</tbody>
</table>

Issues Pertaining to Literature Instruction

The findings from this earlier work on stances taken during the process of interpretation and on distinctions between readers' differing orientations toward meaning based on their primary purpose offers promising contributions from which to rethink literature instruction in ways that support students' intellectual growth (e.g., Appleman & Hynds, 1992; Athanases, 1992; Beach, 1990; Diaz, 1992; Goatley & Raphael, 1992; Hynds, 1992; Langer 1990, 1991, 1992; McMahon, 1992; McMahon, Pardo, & Raphael, 1991; Newell & Johnson, 1992; Nystrand and Gamoran, 1992; Probst, 1992; Scholes, 1985). Such instruction could focus on students' abilities to engage in the sorts of reasoning and problem solving that are an intrinsic part of the literary experience.

It is clear, however, that many students are not successful in developing higher literacy skills. This lack of success has been blamed on many different factors, but it is unclear how previous studies relate to students' ability to adapt appropriate stances or orientations toward a text. In recent years, the study of poorer performing readers has tended to focus on two major issues: (a) strategic approaches toward meaning and (b) the instructional and social/political contexts surrounding learning. The first set is more relevant to the issues addressed here, and suggests that better and poorer performing readers differ in their abilities to: integrate textual and previously acquired knowledge and experiences (Garrison & Hynds, 1991; McCormick, 1992); perceive the intended purpose (McCormick, 1992); and to monitor meaning consistently (Zabrucky & Ratner (1992). However, more information is needed to understand the particular ways in which poor performing students engage in on-line envisionment-building.
Related Studies

My previous study (Langer, 1990) indicated that less as well as more proficient readers move through all of the stances when they read, and that poorer readers seem to be out and attempting to step into an envisionment (the first stance) more frequently than are better readers; however, differences between ability groups were peripheral to the central focus of that report. Purcell-Gates (1991) used the initial findings to frame a study of remedial readers’ strategies, analyzing the approaches toward understanding of participants in a university-based tutorial center, providing insights into some of the difficulties experienced by problem readers as they are engaged in making sense of literature. She described the overall pattern of the students she studied as

... on the outside and looking in. They rarely, if ever, "evoke a poem" in the words of Rosenblatt (1978). They find it difficult to move into an envisionment, and when they do, they elaborate upon it only momentarily before they again find themselves outside trying to get in.

She went on to suggest that their failure to develop and elaborate on meanings may be due to the overall passive relationship the remedial reader assumes toward the texts they read. Such findings are congruent to those of Johnston (1985), Risko and Alvarez (1986), and Gambrell and Heathington (1991), who note that poor readers do not actively engage in sense-making; rather they are less involved or focus primarily on the words at the expense of meaning.

A number of other studies have focused on the strategies readers use when approaching literary text. Hunt and Vipond (1984) distinguish among story-driven, information, and point-driven strategies, indicating ways in which different purposes for reading affect understanding, while Vipond and Hunt (1984) illustrate particular cognitive strategies associated with point-driven readings of literary texts. Applebee (1993), Purves (1989), and Marshall (1989) have found that in classroom instruction and assessment, literature is treated primarily as an information-getting activity. While these studies of instructional approaches and interactions provide initial explanations for the failure of poorer readers to construct fuller envisionments, they do not provide descriptions of the strategies poorer readers utilize to make the meanings they do when reading on their own.

The Study

The study reported here attempts to take that next step, focusing on the ways in which middle and high school students create meanings when they are reading literary and nonliterary texts. As in my earlier studies of younger children (Langer, 1986) and bilingual students (Langer, Bartolome, Vasquez, & Lucas, 1990), my goal was to study the course of meaning construction from the students’ points of view, as they interacted with the text. Because the earlier work indicated that young (third grade) and poor performing ESL students were not necessarily uninvolved in meaning-making, but often used strategies that were less apparent, this study sought to look beyond the students’ often nontraditional ways of conveying their developing thoughts.
Participants

The student-informants attended two cooperating school districts, one located in an inner-city and the other in a suburban area. The superintendent, principals, and English department chairpersons all expressed an interest in supporting the project. One middle school and one high school were selected as sites in each district. The suburban schools were in middle-class bedroom communities, students were generally bused to school, and approximately 49% of the high school graduates went on to 4 year colleges and 29% to other forms of post-secondary school education. The city schools were in areas where businesses and residences were nearby, where middle class, lower middle class, and poor children ordinarily walked to school, and where 27% of the students went on to four year colleges and 39% to other forms of post-secondary education.

To enlist participants, the teachers and research assistants described the project to the students, inviting them to become involved; all 7th and 11th graders and their parents also received letters requesting their consent for participation. Of those who responded, 18 were chosen at each grade level, with 9 students at each grade in each school (three judged by their teachers and statewide standardized test results as average, three as above, and three as below the norm for their grade in their school). Thus, the 36 students involved in this study were selected to represent a cross-section of students in order to permit us to learn about literary meaning-making strategies across a variety of students. Of these 36, the present report focuses upon the 12 above-and 12 below-average readers.

Materials

A general review of possible short stories, poems, science pieces and social studies pieces led to consideration of some 80 works, all of which were typical of those found in school collections and magazines designed for students in junior and senior high school, and each of which could be read by both 7th and 11th graders. The initial selection was narrowed to 8 poems, 8 stories, 4 social studies texts, and 4 science texts which were then field-tested for appropriateness. The field tests consisted of students reading and discussing the texts, and indicating whether they thought the texts would be familiar to and of interest to other students like themselves. The chosen texts did not present extreme difficulty for any of the field-test students to read and met their criteria for recommendation. The final selections were: "Man by the Fountain" (short story, Hebbelinck 1973), "I See You Never" (short story, Bradbury 1973), "The Fish" (poem, Bishop 1968), "Forgive My Guilt" (poem, Coffin 1966), "Birth of the Moon" (science, Birnbaum 1986) and "ER.A.: Triumph of the American Nation" (social studies, Todd & Curti 1986).

Procedures

Each student was seen on six occasions, each time to think-aloud while reading a different text. Although the think-aloud procedure clearly does not capture all of a reader’s thoughts and strategies and it does create an artificial reading situation (limitations are described by Ericsson & Simon [1984] and Afflerbach & Johnston [1984]), it has proven to be an effective technique for examining how students orchestrate their reading and writing strategies over time (Flower & Hayes, 1980a; Hayes & Flower 1980b; Hunt & Vipond, 1985). Langer (1986), for example, compared data obtained from think-alouds and stimulated recalls and reported that although think alouds tended to be longer and contained some of the more momentary decisions that were no longer remembered after the students had completed their readings and reported their recollections, the data
provided by the two procedures were qualitatively similar; she found no significant differences by mode (think-
 aloud vs. stimulated recall) in overall reading and thinking strategies.

During the first meeting, each student was introduced to the think-aloud procedure, and practiced it
with preselected short stories, poems, social studies passages, and science passages until he or she felt com-
fortable with the experience. The students were encouraged to verbalize their thoughts as they occurred,
rather than at a predetermined boundary (such as the end of a sentence or paragraph). This, it was hoped,
would minimize the distracting effect of the think-aloud procedure on the development of meaning.

Each student participated in six think-alouds (in response to two short stories, two poems, one
science text, and one social studies text); text order was counterbalanced. Each session was approximately 40
minutes in duration. Students were asked to read each piece in the manner in which they generally read pieces
of that sort. Although they could have been prompted to read the poems and short stories for literary purposes
(for the experience) and the science and social studies pieces for nonliterary purposes (to learn information or
understand more about a topic), the choice of orientation was left to the students themselves (based on their
reactions to each text). Each session was tape recorded for later transcription.

Analyses

All analyses were qualitative in nature, involving successive steps of data reduction and verification.
To accomplish this, each of the transcripts was carefully read, first separately and later in comparison with the
other transcripts, in a search for patterns of "on-line" concerns the students voiced during reading. Once identi-
fied, specific evidence for these patterns was sought by returning to the transcripts for examples in the students'own language. A recursive process of refining patterns and returning to the transcripts for evidence was re-
peated several times. The endpoint of the analytic recursions provided a final set of descriptive patterns.
Thus, annotation of data, recursive analyses, and identification of recurring themes and patterns were used to
provide qualitative reliability (Goetz & LaCompte, 1984).

Although the readings of all pieces were analyzed, and the findings reported are based on the complete
set of analyses, two pieces, a short story ("I See You Never") and a science passage ("Birth of the Moon"), will
be used as examples throughout this paper. They were selected because they provided the clearest and most
consistent examples of the patterns represented across all the readings.

"I See You Never" is about Mr. Ramirez's imminent deportation to Mexico. He is an illegal alien who
has clearly enjoyed living and working in the United States and would like to stay. However, he over-extended
the tenure of his visa, was apprehended by the police, and escorted to his apartment in order to pick up his
belongings. Mrs. O'Brian, his landlady, seems deeply moved by his predicament, slowly realizing, as Mr.
Ramirez has pointed out, that they would never see each other again.

"Birth of the Moon" is about the impactor theory of the moon's formation, positing that billions of
years ago a planet-like object with a core of iron impacted with the earth, sending hot gasses and other materi-
al into space. These materials held together, forming the moon. The theory explains that the moon and earth
have both similar and different chemistries because of the ways in which particular chemicals were deposited
or interacted as a result of the original impact.
The findings presented here are based on comparisons in meaning-making approaches of the higher and lower performing students (144 readings done by 24 students).

Results

The most interesting findings grow from the analyses we undertook to explore possible differences underlying the remarkable similarity with which high- and low-performing students drew upon the stances in their attempts to make sense. The analyses indicate there are differences in the ways in which the two groups approached meaning, primarily related to the kinds of understandings they expected to arrive at, the ways in which they enriched and elaborated the understandings they already had acquired, and the ways in which they responded to uncertainty. Further, the findings suggest that it is erroneous to assume that poor readers do not know how to gain meaning from print, that they do not know how to call upon a variety of knowledge sources, nor even that vocabulary knowledge is at the heart of the comprehension differences between lower and higher performing students. Instead, it seems that the better readers know how to build on what they understand while the poor readers do not; thus, during the reading of a piece, poor readers' envisionments remain so thin and unelaborated that they are easily dislodged.

Approaches to Meaning Development

Stances Called Upon

In order to better understand the knowledge sources the students used to build their envisionments during meaning development, we began by comparing the frequency with which the students in the high- and low-performing groups entered the various stances as they read "Birth of the Moon" and "I See You Never." Findings indicate that both groups of students entered (see Table 1 for description of stances) all of the stances at least some of the time (see Table 3). The first two stances, Being Out and Stepping Into an Envisionment and Being In and Moving Through an Envisionment, were called upon more often than the last two stances, Stepping Back and Rethinking What One Knows and Stepping Out and Objectifying the Experience. (This pattern mirrors that of the entire sample, reported in Langer, 1990.) What is particularly interesting, however, is the pattern of frequency with which the different groups of students entered into the stances, and the patterns of ways in which they responded to their ideas within those stances.
Tabl 3

Average Proportion of Comments Within Stance

<table>
<thead>
<tr>
<th>Stance</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;Birth of the Moon&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>high-rated readers</td>
<td>.26</td>
<td>.69</td>
<td>.03</td>
<td>.02</td>
</tr>
<tr>
<td>low-rated readers</td>
<td>.35</td>
<td>.63</td>
<td>.01</td>
<td>.01</td>
</tr>
<tr>
<td>&quot;I See You Never&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>high-rated readers</td>
<td>.29</td>
<td>.70</td>
<td>.00</td>
<td>.007</td>
</tr>
<tr>
<td>low-rated readers</td>
<td>.47</td>
<td>.52</td>
<td>.00</td>
<td>.002</td>
</tr>
</tbody>
</table>

Across passages, low-rated readers were gathering knowledge from which to develop an envisionment (Stance 1) more of the time than the high-rated readers, while the high-rated readers were developing and elaborating their envisionments (Stance 2) more of the time than the low-rated readers. On-line analysis indicated that the quality of the students' comments differed markedly, with the higher performing students developing richer initial envisionments which they built upon even further by using information from the text and their background knowledge to move their understandings along.

Few students, either high- or low-performing, stepped back from their developing envisionments and rethought what they already knew or stepped out to objectify the experience (Stances 3 and 4). However when they did, differences were discernible; a larger percent of better readers entered these stances at least once during their readings (see Table 4). For example, half of the high performing readers rethought their own previous knowledge and understandings (Stance 3) at least once for "Birth of the Moon" compared to 16% of the low-performing readers, and 70% of the better readers objectified the text and their understandings in a critical manner (Stance 4) at least once in comparison to 33% of the poorer readers. A similar pattern maintains for their reading of "I See You Never," where few high- but no low-performing readers stepped back and rethought their own experiences based on their reading of the piece (Stance 3), and 33% of the high readers objectified the experience in a critical manner (Stance 4) compared to only 18% of the poor readers.
Table 4

Proportion of Readers Entering Stances 3 and 4

<table>
<thead>
<tr>
<th>Stances</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Birth of the Moon&quot;</td>
<td>0.50</td>
<td>0.70</td>
</tr>
<tr>
<td>high-rated readers</td>
<td>0.16</td>
<td>0.33</td>
</tr>
<tr>
<td>low-rated readers</td>
<td>0.16</td>
<td>0.33</td>
</tr>
<tr>
<td>&quot;I See You Never&quot;</td>
<td>0.09</td>
<td>0.33</td>
</tr>
<tr>
<td>high-rated readers</td>
<td>0.00</td>
<td>0.18</td>
</tr>
<tr>
<td>low-rated readers</td>
<td>0.00</td>
<td>0.18</td>
</tr>
</tbody>
</table>

The discrepancy in frequency of response in rethinking their own experiences (Stance 3) by the two groups of readers seems related to the fact that when developing their meanings (Stance 2), the better readers tended to refer more often to their background experiences and knowledge (as well as the text) and thus had a more ready avenue of awareness of ways in which their new understandings could inform their old ideas. Because the poorer readers tended to focus on the text in their initial sense-making, they were also less likely to step back to rethink their own experiences.

There was a great deal of uniformity in the focus of the comments the good and poor readers made when they came to the end of their readings; both tended to offer overall judgments or summaries. However, during reading, the higher performers were more likely to make substantive critical comments (Stance 4) that expanded their envisionments, making connections with other works they had read, making judgments about what they were reading, or focusing on various aspects of the writer’s craft to enrich their understandings. Both groups of students also objectified the experience (Stance 4) when they encountered difficult or unfamiliar material when they were reading. However, the better readers reacted by trying to make what sense they could, while the poorer readers generally commented on the words, particularly their difficulty or newness.

When I began these analyses, I had expected to find that the poorer readers would not only be attempting to create an envisionment (Stance 1) more of the time, but that they would rarely leave the first stance. If this were so, it could be argued that they did not have the strategic knowledge to gather the kind of information they needed to build an envisionment at all (i.e., that they could read words but not build meanings). However, findings proved this hypothesis wrong: Both groups of students began developing their understandings (Stance 2) at about the same point in each reading (see Table 5).
Table 5
Average Number of Sentences Read Before Entering Stance 2

<table>
<thead>
<tr>
<th></th>
<th>High-rated readers</th>
<th>Low-rated readers</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Birth of the Moon&quot;</td>
<td>13.6</td>
<td>14.6</td>
</tr>
<tr>
<td>&quot;I See You Never&quot;</td>
<td>12.1</td>
<td>13.7</td>
</tr>
</tbody>
</table>

Thus, the lower performing readers did not begin developing their envisionments (Stance 2) until much later than the better readers, but they were more likely to revert back to the first stance. In comparison, once the better readers began developing their growing understandings (Stance 2), they were more likely to maintain and more fully develop them. In fact, the poorer readers made many more comments that indicated they were trying to re-create an envisionment (Stance 1) near the middle and end of their readings than the better readers, indicating that they had more difficulty maintaining and building on their envisionments.

Envisionment-Building Differences

Thus far, we have seen that while both groups of students entered each of the stances at least some of the time for some of the texts, and while the poorer readers tended to enter the second stance at about the same place in their reading as the better readers, they seem to have been more easily dislodged from their envisionments than the better readers. This occurred particularly when the information they read about was unexpected or when the words, concepts, or organizational structure of the text was unfamiliar or difficult. As a result, the poorer readers resorted more frequently to the first stance, trying to gain enough background information to again return to envisionment-building. The better readers also met with problems caused by unfamiliar or unexpected words or concepts, but their more richly elaborated envisionments and their firmer expectations about their purposes for reading (literary or discursive) seemed to provide them with the ability to temporarily tolerate these difficulties while moving on in their envisionment-building.

Analyses of the students' comments suggest the following patterns of differences that distinguish between the better and poorer readers: differences in orientations toward meaning; differences in the robustness of envisionments; differing expectations of meaning change; and different ways of responding to uncertainty. These will be discussed in turn below.

Differences in Orientations Toward Meaning

From the moment they begin to hear or read a piece, people generally have a sense of whether it will be primarily fictional or discursive (S. Langer, 1953; J. Langer, 1986). It is this early assumption that has the potential to provide readers with a direction or expectancy about meaning, moving them to seek one kind of information versus another in their initial Stance 1 attempts to gather enough knowledge to step into an envisionment. It can also guide the kinds of meanings they seek as they move through the other stances as well. We would expect this orientation to develop easily and quickly at the point of entry into a text and change only when
the succeeding language and structure of the text and the readers’ awareness of a mismatch demands otherwise (see Langer, 1990). In this study, the better readers at both grade levels seemed able to make this determination, while the poorer readers, particularly the 7th graders, were less clear about how to orient themselves. At grade 7, for example, Toya, an above-average reader, immediately recognized that she would be reading about science:

Birth of the Moon, Okay, so this is gonna be, it sounds like its gonna be an astronomy story.

Ron, on the other hand, a 7th grade below-average reader, focused on the details he was reading, without relating them clearly to an overall purpose for his reading:

Rocks vaporize, and a jet of hot gas squirts violently into space. This is really getting serious. Everything is flying all over the place.

In comparison, Alberto, an 11th-grade above-average reader said:

Birth of the Moon, by Shira Birnbaum. Sounds like its gonna be an informational story about facts on how the moon is constructed and what makes it up.

And Bill, also an 11th-grader, said:

Birth of the Moon by Shira Birnbaum, Hmmm it might be some sort of scientific paper.

The poorer readers never set a primary purpose for their own reading, and thus oriented themselves toward a literary reading some of the time while at other times they focused on the information to be learned. Thus their distinctions about their primary purpose for reading became blurred, without using either orientation to guide or shape the kinds of information they sought nor to suggest the kinds of meanings they were after or would arrive at. Such lack of direction restricted the poorer readers when they were attempting to gather enough data to begin to build envisionments (Stance 1), contributing to the development of relatively weak and potentially unstable envisionments.

Differences in Robustness of Envisionments

Throughout their readings, the better readers seemed to actively create envisionments that had more depth, scope, and context. They often created understandings that had not been overtly described in the piece, and elaborated on them, making each envisionment fuller -- and more their own. When they read, the better readers seemed more intent on developing their understandings, and used a variety of strategies to do this. It was this search for fuller understanding that seemed to enrich the better readers’ envisionments, keeping them from ‘losing sense’ and falling back out of their envisionments (and reverting to Stance 1), as did the poorer readers.

They developed more robust envisionments in a number of ways. The better readers were more likely to make overt connections while the poor readers seemed to focus on what they were reading as unlinked bits of information. For example, Harold, a below-average 7th-grade reader, fails to establish a connection between
the earth and moon rocks:

Why were the moon rock-like the Earth but different from it too? They were from different places.

In contrast, Pedro, an above-average 7th-grade reader said:

Why were the moon rocks like the Earth but different from it too? Here's where the Impactor Theory comes in. Okay, so what they're saying in that paragraph is the moon has a lot of the same character the moon's structural make-up, but in some ways they're very different.

In addition, the higher performing readers often called upon their background knowledge to enrich their understandings; they speculated about how what they were reading might be related to other things they knew about, while the poorer readers simply tried to build their envisionment from what they read. For example, Norman, an above-average 11th-grade reader said:

Parts of the Earth's surface were ripped to bits. And a jet of hot gas squirted thousands of miles into space. Maybe that's how the stars were formed.

Similarly, Gretchen, a 7th-grade above-average reader said:

And a jet of hot gas squirted thousands of miles into space. I'm gonna guess. This is how Haley's comet was formed too.

And Christa, an 11th-grade above-average reader said:

And a jet of hot gas squirted thousands of miles into space. Oh, so if this is during dinosaur time, the hot gas may have killed them, and I think that's the Greenhouse Effect.

In comparison, the below average readers focused on clarifying their understandings of what they had read, but did not speculate on how the text was related to what they already knew. For example, Ron, a 7th-grade poor reader trying to clarify his envisionment said:

And a jet of hot gas was squirted thousands of miles into space. That's, that's amazing. Jet of hot gas? I don't understand this. I thought gas, oh, I see, gas squirted thousands of miles.

Similarly, Anna, a 7th-grade below-average reader said:

And a jet of hot gas squirted thousands of miles into space. I couldn't imagine it being squirted that far.

and Carla, an 11th-grade below-average reader said:
And a jet of hot gas squirted into space. Well, is that possible? I can imagine it.

In addition, when they read, the above-average readers tended to call upon their personal experience and knowledge to elaborate on or add new dimensions to their envisionments, while the poorer readers seemed to focus on the text exclusively. When they did focus on personal experience, these served more as asides and were rarely used in ways that elaborated on their envisionments.

Gretchen, a 7th-grade better reader, when developing ideas in Stance 2, tried to use her related knowledge to further develop her envisionment:

Unlike Earth, the moon rocks had very little metallic iron (iron by itself not mixed with other elements). Um, that I can understand 'cause, like no gravity, like everything automatically floats. I mean, like metal too floats because I've like seen the astronauts, like their heads going one way and their feet going another way.

However, when some of the below-average readers began to use their personal knowledge to build understanding, they spun away from their meanings, often losing their already developed envisionments and finding themselves back in Stance 1. For example, Mandy, a poor reader in 7th-grade said:

Nobody knows what really happened, says astronomer and computer programmer Willy Benz of the Los Alamos that's Spanish, I guess. I think it is. National Laboratory in New Mexico. Probably because it's in New Mexico. I take Spanish. I like that language. It's one of the easiest languages you can learn.

Even when the students stepped back and objectified their reading experience (Stance 4), the quality of their responses and the ways in which their responses contributed to enriched envisionments differed. For example, focusing on the language of the text, Francoise, a good reader in 11th grade, said:

Also, he had ridden the streetcars, all night some nights, smelling electricity, his dark eyes moving over the advertisements, feeling the wheels rumble under him. That's really good. You can feel the motion of the streetcar.

Focusing on sentence structure, Linda, an above-average 7th-grade reader, initially has difficulty with the style but then validates the usage she has noticed:

And he had gone to picture shows five nights a week for a while. That sentence starts with "and." We learned in first grade, when we were younger, they told us not to start sentences with "and" and "but," but now they do that all the time.

And focusing on the credibility of the information, Jeff, an above-average 11th-grade reader said,

All through the ages, scientists have tried to figure out how the moon first formed. Some said it got trapped in the Earth's gravity while whizzing through space. I don't understand how they
got this information. Maybe there's no proof.

In comparison, Jon, a below-average 7th-grade reader said:

"Oh, goodbye Mrs. O'Brian. I see you never." That sounds weird.

And Peter, a below-average 11th-grade reader said:

The rocks also contained magnesium, manganese and silicon I never heard of them.

Different Expectations of Meaning Change

The higher performing readers were more inclined to leave open the likelihood of meaning change as they read. Although this difference in openness occurred in all stances, its absence was particularly inhibiting to the poorer readers during meaning development (in Stance 2) where the better readers explored a range of possible meanings, explanations, or interpretations while the lower performing students tended to arrive at and settle for the first possibility that came to mind without examining what came to mind or looking further.

For example, Neisha, an above-average 11th-grade reader said:

One of her sons, behind her, said that her dinner was getting cold, but she shook her head at him and turned back to Mr. Ramirez. So, maybe either the son doesn't like Mr. Ramirez and he just wants to get rid of him and have his mother back, or maybe he just doesn't understand what's going on.

In comparison, Laura, a below-average 7th-grade reader said:

"What's wrong, Ma? asked her son. Now I know the kids didn't know what was going on.

Further, the better readers seemed more flexible, more ready and willing to reconsider their responses to a character or situation.

For example, Neisha (grade 11, above average) said:

The policeman smiled at this, but Mr. Ramirez did not notice. That's not very nice. It's not a nice policeman because he smiled and it's not something to smile at and they stopped smiling very soon. Oh, so maybe he does have a heart. Maybe the policeman suddenly realized it wasn't a funny matter.

In contrast, Laura (grade 7, below-average) said:

The policeman smiled at this, but Mr. Ramirez did not notice, and they stopped smiling very soon. He shouldn't have smiled. It's not happy, it's sad.
In response to "Birth of the Moon," the better readers similarly more readily weighed issues and took particular sides. For example, Tipper, an above-average 7th-grade reader, said:

Some said it got trapped in the earth's gravity while whizzing through space. Others said it split from the earth in a hot spinning cloud. I think that the best idea is that it got trapped in gravity.

Some even went further, trying to create new theories, like 11th grader Neisha who said:

How could they explain this confusing rock chemistry? Why were the moon rocks like the earth, but different from it too? Well, maybe it was a combination of all theories. Or the moon was swept away from part of the Earth and another planet that we don't know about.

In comparison, the poorer readers were more likely to respond with reiterations of the text, providing such comments as Brad's (11th-grade):

These differences led scientists to believe that Earth and the moon were closely related. It sounds to me like the moon and the Earth are like each other. That's what it sounds like to me.

In addition, the better readers were more likely to look ahead to what they might later read—to consider eventualities, even beyond where the piece has ended; while the poorer readers were more likely to focus on the meanings they had already developed. For example, Lars, an above-average 11th grade reader said:

"Oh, goodbye, Mrs. O'Brian. I see you never!" That might not be true. Maybe they'll meet again.

In comparison, Yolanda, a below-average 11th-grade reader said:

"Oh, goodbye, Mrs. O'Brian. I see you never!" So he thinks he's never gonna come back.

In response to "Birth of the Moon," the better readers looked ahead to the use of the knowledge gained from the material they were reading. For example, Neisha (grade 11, above average) said:

When people learned how to travel to the moon, astronomers cheered. The mystery of the moon's birth, they hoped, would be solved. Probably not. I think we'll see probably going to the moon would make it even more confusing.

And Carl, an above-average, 11th grader, said:

The mystery of the moon's birth, they hoped would be solved. I bet it still isn't.

In comparison, Ron, a below-average, 7th grader, said:
The mystery of the moon's birth, they hoped would be solved. Oh maybe they could have.

And Marvella, a below-average, 11th-grader said,

The mystery of the moon's birth, they hoped would be solved. They did a lot of research.

The better readers were also more likely to speculate about minor characters, seeking a place to fit them in their growing envisionments. For example, Lareen, a high-performing 7th-grade student said:

"Hurry up, Mom," said one of her sons. "It'll be cold." So, I wonder if her sons are living with her. It said they were all grown up, but they're still eating at her house.

In comparison, Linda, a below-average, 7th grade reader said:

"Hurry up, Mom," said one of her sons. "It'll get cold." Probably already cold.

Different Ways of Responding to Uncertainty

Throughout their readings, the better and poorer readers dealt with unfamiliar terminology, concepts, or unexpected structures differently. Although they both focused on various aspects of the text, the better readers again tried to speculate on possible meanings, calling on personal as well as text knowledge, while the poorer readers confirmed what they did not understand but did not speculate or probe. This inhibited their ability to move forward in envisionment building, often dislodging them from their envisionments and causing them to return to Stance 1 to regain meaning.

For example, when objectifying the experience (Stance 4), both better and poorer readers commented on the odd phrasing of the title "I See You Never," but the better readers went beyond commenting on the language, looking for explanations that would add to their understanding of the piece. Laura, a below-average, 7th grader said,

That's a weird title. I just wouldn't put it that way in a sentence.

In contrast, Annique, an above-average 11th grader said:

That's a pretty strange title. It doesn't. I mean grammatically it doesn't make much sense. It sounds like I would say 'I Never See You.' But I See You Never sounds almost like a foreigner saying this, or someone who doesn't know English well.

Both above- and below-average readers experienced difficulty with unfamiliar concepts and terminology. The poor readers became confused and fell out of their envisionments, while the better readers searched both their envisionments and related knowledge in order to modify and build on their envisionments to carry them through periods of uncertainty. For example, many of the poorer readers were thrown off when they got
to the section in "Birth of the Moon" focusing on moonrock chemistry. They were confused by the chemical terms, particularly "isotope." Laura, a below-average, 7th grade reader, said:

Like Earth, they contained several different isotopes of oxygen, that's a weird little phrase. I don't understand that different forms of an oxygen atom that's a weird word too. They are chemically the same, but have different numbers of neutrons and therefore different masses. This is hard to understand. And the isotope proportions of the moon rocks were just like the isotope proportions of earth rocks. I don't think I got that word right. If the earth had a lot of one kind of isotope that word again.

In contrast, even though they were unfamiliar with isotope, the better readers tried to work with it, to fit it into their understanding of the piece. Carl, a grade 7 better reader said:

Like Earth, they contained several different isotopes I don't know that word of oxygen (different forms of an oxygen atom that are chemically the same but have different masses). Oh, I don't know what that is, I'll read it again. Different forms of oxygen atom. They are chemically the same but have different numbers of neutrons. What is a neutron? and therefore different masses. Okay, yeah. Different masses, different sized and shaped maybe and the isotope proportions of the moon rocks were just like the isotope What is that word, I still don't know it. proportions of earth rocks. If earth had a lot more of one type of isotope Maybe its a kind of rock, maybe it's a kind of form or shape or some things to do with rock.

In a similar fashion Nola, a below-average 7th grade reader, was thrown out of her envisionment when she read:

The rocks also contained magnesium, manganese, and silicon, just like the Earth. Well, what's silicon, manganese, and magnesium. I don't understand this.

While Lareen, an above-average 7th grade reader, tried to make what sense she could:

The rocks also contained magnesium, manganese, and silicon, just like the earth. I've heard of silicon. They make silicon chips for computers, and there's a silicon plant where they make them all.

Both groups of readers also experienced difficulty with different kinds of organizational structures. For example, many students objectified the experience and entered stance 4 when they experienced difficulty making sense of flashbacks, depicting Mr. Ramirez' earlier experiences in California and Mrs. O'Brian's previous trip to Mexico. Hermie, a 7th-grade below-average reader said:

And he had gone to the picture shows five nights a week for a while. My God, he's really having fun with these policemen. I'm not too sure if he's in trouble or not. Then also, he had ridden the streetcars, all night sometimes, smelling the electricity, his dark eyes moving all over the advertisements, feeling the wheels rumble under him, watching the little sleeping houses and big hotels slip by. I still don't know what this is trying to say. The policemen and Mr. Ramirez they don't fit in too good. I don't know.
Henry, also a below-average 7th-grade reader, is aware of the "jump" but does not try to make sense of it:

"It sounds like they're jumping from, I'm not sure really. To me, it sounds like they're jumping from one thing to another. And I'm not sure I get it."

In contrast, Jack, an above-average 7th-grade reader, tried to make sense of the discontinuity:

"She remembered a visit she had made to some Mexican border towns -- hot days, the endless crickets leaping and falling or lying dead and brittle like the small cigars in the shop windows, and the canals taking water out to the farms, the dirt roads, the scorched fields, the little adobe houses, the bleached clothes, the eroded landscape. Now it sounds like, like she's it sounds really she's describing Mexico. That's what it sounds like, 'cause it's like real hot, like they said the crickets are jumping."

In response to the very same flashback, Lou, a below-average 11th-grade reader, said:

"I don't follow it, but there's a lot of telling in that sentence."

Thus, when they met with difficulty -- unfamiliar concepts, terms, or structure-- the poorer readers tended to stop the act of meaning-making; they neither maintained their old envisionments, leaving an open placeholder to be filled in later nor tried to construe some possible meaning that would permit them to read on. As a result, the thin envisionments they had built were shattered, and the poorer readers found themselves back in Stance 1, trying to gather sufficient information from which to build or re-build an envisionment.

Overall, we see that although both groups of readers responded to the text as they read, the poorer readers seemed not to develop an orienting frame from which to build their expected meanings; they did not have sufficient awareness of the genre-appropriate content to inquire, probe, connect, or speculate about what they were reading; what they might read; or what they didn't understand. Thus, they did not create envisionments with the depth or breadth of the better readers. Further, the poorer readers were more likely to discard or lose aspects of their envisionments they had once been aware of, while the better readers tended to work hard to relate information, round out and build their ideas, and make them cohere. Thus, it seems as if it is the quality of the envisionments they form within each stance, and the awareness of the kinds of information that might lead to a fuller understanding, as well as the means to do it, that differentiates the better from the poorer readers.

Comparing Two Students

The insights gained thus far seem potentially rich in suggesting new ways to understand the instructional needs of poor readers, and as a basis for conceptualizing new directions in instruction. Toward this end, I will briefly compare the ways in which two 11th-grade girls, Helena a high-performing reader and Lena a low-performing reader, went about making sense as they read "I See You Never" and "Birth of the Moon." It will become evident that throughout her reading, Helena had a sense of the kinds of meanings she was after, an underlying assumption that meanings change and grow, and hence, a sense of the need to weave and shape and round out -- to orchestrate her meanings. Although Lena understood a great deal of what she read, she lacked a clear overall sense of the whole, and this seemed to inhibit her orchestration, resulting instead in smaller and
somewhat separated ideas.

"I See You Never"

Typical of the other better readers, Helena spoke more during her think-aloud than Lena. Her responses were generally three to four sentences in length, while Helena's were half that long. Lena's typed transcript for "I See You Never" was 3.8 pages long in comparison to Helena's 6.7 pages.

The percent of comments each girl made in stances 2, 3, and 4 followed the pattern of the larger group of students, with Lena, the poorer reader spending a much higher percent of time gathering data from which to build envisionments (Stance 1) than Helena (see Table 6). Lena began developing her envisionment (Stance 2) after the ninth sentence, Helena after the fifth.

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Both girls moved through all four stances while reading. Most of their comments indicate that they were in Stance 2, developing their envisionments most of the time. Like most of the other students in the study, many of their comments during the first part of the story focused on Mr. Ramirez while their comments in the second part of the story mainly focused on Mrs. O'Brian. In fact, their closing comments, reflecting on the story (Stance 4), are quite similar in kind and content. Lena says:

Sounds like she really liked him a lot. He was probably a good helper, a good companion to talk too. Never see you again.

and Helena says:

So, she probably liked the guy. It finally hit her that he's going away, and that they took him away, and she's never going to see him again.

However, it would be a mistake to assume that the similarity in the comments they made when they finished reading indicate the relative richness of the understandings each girl has developed. Both students worked hard to develop envisionments throughout their readings, but Helena's envisionments were always fuller and more developed than Lena's.
While the girls used personal experience as they tried to make sense of what they read, Helena searched for explanations to round out her understanding in ways that added to her growing envisionments. For example, at one point she said:

"I have bought a wristwatch and enjoyed that, too. I've had one for a long time, but I guess you come from different places, like sometimes you can't get them because they're too away or the people are too poor."

In contrast, Lena, who simply acknowledged her personal experience but didn't use it to speculate about the scene or the lifestyle she was reading about said:

"Behind Mrs. O'Brian, as he lifted his eyes, Mr. Ramirez saw the long table, laid with clean white linen and set with a platter, cool shining glasses, a water pitcher with ice cubes floating inside it, and a bowl of potato salad, and one of bananas and oranges cubed and sugared. I don't think I ever had bananas and oranges cubed. And sugar on them."

Although both girls spent the largest portion of their time building on their envisionments (Stance 2), Lena tended to look toward the information in the story as her source of possibilities to be explored as well as the source of information for envisionment-building, while Helena went beyond the text, using a far wider canvas of possibilities to explore and imagine responses to. For example, Lena didn't think of Mrs. O'Brian as being heavy set until she read the part of the story that describes her plump hands (she had not to this point in the reading raised the issue to herself of wanting a fuller developed conception of Mrs. O'Brian). Thus, when she read, she said:

"I have been here thirty months," says Mr. Ramirez, quietly looking at Mrs. O'Brian's plump hands. She must be a little heavy set. I don't know.

In contrast, Helena said:

"I have been here thirty months," said Mr. Ramirez, quietly looking at Mrs. O'Brian's plump hands. Oh, she's not a thin woman. I thought in the beginning she might be kind of heavy, because, I don't know, you kind of think of landladies as big ladies. I don't know why.

In a similar manner, Lena didn't speculate about Mrs. O'Brian's age until she came to the point in the story that mentioned her grown sons:

At this table sat Mrs. O'Brian's children, her three grown sons, eating and conversing, and her two younger daughters, who were staring at the policemen as they ate. She must be an older lady. She has grown sons.

In contrast, Helena had already guessed about Mrs. O'Brian's age early in the story:
There he had found the clean little room with glossy blue linoleum, and pictures and calendars on the flowered walls and Mrs. O’Brian as the strict and kindly landlady. I bet Mrs. O’Brian is about 50 years old or so.

When she finally came to the part in the story that mentioned the grown sons, Helena was able to confirm her speculation:

Oh, so she has grown sons. So I was right. She probably is in her 40s or 50s.

Not only did Helena try to envision what hadn’t been described yet, but she also tried to develop fuller envisionsments of what was being described. Early in her reading, Helena tried to picture Mr. Ramirez standing between the two policemen:

The soft knock came at the kitchen door, and when Mrs. O’Brian opened it there on the back porch were her best tenant, Mr. Ramirez, and two police officers, one on each side of him. Mr. Ramirez just stood there, walled in and small. So, he was really nervous obviously, because he’s standing in between the two police officers, and the way it sounds, I can picture Mr. Ramirez kind of short, maybe like five-five, and the policemen are these really big guys six feet tall. And these really muscular guys, and they’re overpowering him and stuff.

At the same point in the story, Lena was confused by the metaphor, walled in. Although she was not completely thrown out of her envisionment, it was weakened by her lack of understanding -- and she did not rely on her previous envisionment of Mrs. O’Brian’s rooming house to help her:

Mr. Ramirez just stood there walled in and small. I don’t know. Sounds like they’re in a jail or something.

Not only did Helena try to envision the physical images described in the story, but she also often wondered what small details might reveal about the characters. For example:

There he found the clean little room with glossy blue linoleum, That’s really weird, glossy blue linoleum. That probably means she waxes the floor a lot.

and:

Mr. Ramirez looked in again at the huge kitchen, and the young people eating and the shiny waxed floor. That’s the second time he talked about the shiny waxed floor, so she must keep everything really clean.

and:

There he found the clean little room with glossy blue linoleum... and pictures and calendars on the flowered walls. That’s probably wallpaper, and if Mrs. O’Brian lives there alone or something, that’s probably why it’s flowery, because guys usually don’t put up flowered wallpaper on
their walls. She probably did the decorating.

Instead of using the details to round out her envisionments, Lena tended to comment on the particular bit of information, indicating that she understood it, but did not use it in a constructive way. For example:

Mr. Ramirez looked in again at the huge kitchen, at the bright silver cutlery, and the young people eating and the shiny waxed floor. Sounds like a nice place.

Both Lena and Helena focused on Mr. Ramirez and Mrs. O’Brian while they read, but Helena also reflected on the minor characters, the sons and the policemen, and worked to fit them into her envisionment:

The policeman leaned forward, lured by the odor. This probably was late in the afternoon, and I bet the policeman was hungry and he was probably wondering what smelled so good.

Lena rarely commented about the minor characters, and when she did, it was generally to reiterate what the text had said:

The policeman leaned forward, lured by the odor. He leaned forward.

Finally, Helena added richness to her envisionment by trying to figure out the context of the story. She made a note of the fact that the story takes place in Los Angeles, and kept wondering when it was taking place:

He had come by bus from Mexico City to San Diego and then gone up to Los Angeles. Oh, so Mrs. O’Brian lives in Los Angeles.

and:

During the war he had worked at the airplane factory Oh, so it’s during some war. It hasn’t said which war, but because it says war, it’s probably not in the 1980s.

and:

He had worked at the airplane factory and made parts for the planes that flew off somewhere, and even now, after the war, he still held this job. Oh so he’s been, so maybe the war was two years ago. That doesn’t really make sense. If he’s just in this country for two years maybe his job wasn’t in the United States, maybe his job was in Mexico.

Instead of working toward building fuller envisionments, Lena focused on momentary meanings, and her concerns were narrow with no attempt to connect the issue at hand with others in her envisionment, even at very critical points in the story:

"I come to get my baggage and my clothes and go with these men." I wonder where?.
"Oh, goodbye Mrs. O'Brian. I see you never. I guess she'll never see him again.

Helena looked ahead as she read the story, and unlike Lena, instead of commenting on or restating what she was reading or asking open-ended questions without considering possibilities (e.g., I wonder where?), she used her already developed envisionments as well as her knowledge of human interaction to guess about how things might develop--thus adding meaning-laden predictions to her developing envisionment:

I come to get my baggage and my clothes and go back with these men. He doesn't sound too happy. He's probably feeling that Mrs. O'Brian likes, basically likes everyone, and she's sorry that he has to go. He was probably a very good tenant.

Most of Lena's comments refer to the part of the text she had just read. The few times her comments refer back to earlier parts of the text, they usually spanned no more than one paragraph. However, one of the characteristics of Helena's reading was that she cycled back on her ideas. Throughout her reading, she kept several lines of inquiry going (e.g., what does the title mean, when does the story take place, where did Mr. Ramirez get all his money), and she usually followed up until she was satisfied. These attempts to fill in previously sought information indicate that she maintained some unanswered questions in her envisionments for long periods of time. For example, near the end of the story she referred back to the idea she had had about the title:

"Mrs. O'Brian, I see you never, I see you never." Oh, so I was right. I see you never, which is the title of the story, which is someone who really doesn't know English too well, because I would probably say I will never see you again.

Both Helena and Lena thought about what they were reading, but Lena tended to make judgments about the characters and actions. These were generally simple, dichotomized judgments such as good or bad, right or wrong:

During the war he had worked at the airplane factory and made parts for the planes that flew off somewhere, and even after the war, he still held this job. Well, that's good, at least he's doing something with his life. From the first he had made big money. That's good. He saved some of it and got drunk only once a week. Can't complain a privilege that to Mrs. O'Brian's way of thinking every good workman deserved unquestioned and unreprimanded. Nothing wrong with that.

and:

And he had bought a car, which later, when he forgot to pay for it, the dealer had driven off angrily from in front of the rooming house. When you don't pay your bill that's what happens.
In comparison, Helena tended to withhold making judgments, searching instead for underlying reasons, causes, or issues. For example, rather than judging Mr. Ramirez either in terms of his forgetfulness or illegal behavior, Helena tried to evolve possible reasons for his having gotten into trouble with the law:

"That's six months too long," said one policeman. Oh, so what happened was Mr. Ramirez obviously didn't have a visa that long to be in the country. Either he forgot or he was trying to evade the government.

Later in her reading, Helena again searched for possible reasons rather than making simple judgments:

One of her sons, behind her, said that her dinner was getting cold, but she shook her head at him and turned back to Mr. Ramirez. So, maybe either he doesn't like Mr. Ramirez and he just wants to get rid of him and have his mother back in the house, or maybe he just doesn't understand what's going on.

In cases such as these, we can see that while Helena's search for possibilities enriched her envisionments while keeping her continually open to still other possibilities, Lena's judgments served to put a lid on envisionment building, negate the need to keep an open mind for other possibilities, and thus minimize her expectation for changing interpretations.

Lena tried to maintain her earlier envisionments, even when newer information from the text made it questionable. For example, earlier in her reading, Lena formed an idea that Mr. Ramirez wanted to return to Mexico. Despite the fact that she had been reading about the policemen who were escorting Mr. Ramirez away, she said:

"I come to get my baggage and my clothes and go with these men." I wonder where. "Back to Mexico?" Sounds like he can't, doesn't like it here.

Then, when she reads about Mrs. O'Brian's description of her trip to Mexico, Lena maintained her inflexible notion that Mr. Ramirez wanted to return to Mexico, despite the dismal image of the country recalled by Mrs. O'Brian:

She remembered a visit she had once made to some Mexican border towns. So she knew where he was going. Why he wanted to go back, the hot days, the endless crickets leaping and falling or lying dead and brittle like the small cigars in shop windows, Well, I wouldn't want to go back to that, but to each his own and the canals taking river water out to the farms, the dirt roads, the scorched fields, the little adobe houses, the bleached clothes, the eroded landscapes. Why would anybody want to go back to that, you've got me.

And even when she realized that Mr. Ramirez wants to stay, she did not let go of her earlier idea about his wanting to return to Mexico. In her postreading interview, she ended up settling on both ideas about Mr. Ramirez:
He probably liked it better in Mexico 'cause it was more quiet. There wasn't a lot of people where he came from. And, then, in another way, he didn't want to leave, because he liked Mrs. O'Brian and she gave him the room and you know, he had the freedom to do whatever he wanted to do.

In review, we see that although Helena's and Lena's final comments about the story were quite similar, the quality of their understandings were very different. Helena seemed to have a better tacit (if not explicit) understanding of the kind of knowledge she was after in her reading of the story, and thus her orientation toward meaning led her to explore horizons of possibilities. She also seemed to have an implicit understanding of the constructive nature of any reading -- that meanings grow and change across time, based on new information from the text as well as new information from her own workings and constructions. With this understanding, Helena was moved to respond to uncertainty by supplying temporary meaning-fillers. Her stake wasn't great because she knew that it was likely her meanings would change later in the reading. Most importantly, Helena understood that the act of sense-making, of envisionment-building, involves active questioning, probing, and speculation about feelings, events, motivations, and behaviors, and that the process of literary understanding involves the connecting and weaving of these into some ever-changing whole.

"Birth of the Moon"

Based on a count of the girls' comments according to stance (see Table 7), it would seem that there are fewer differences between Helena and Lena's responses to "Birth of the Moon" than to "I See You Never." However, a closer analysis of the quality of their comments indicates that as with "I See You Never," the kind of overall knowledge Lena is after and the information she focuses on at any point in time reflects a relatively weaker overall orientation toward gaining information about the moon's creation. Hence, Lena's patterns of envisionment-building, and her envisionments as well, are again thinner than Helena's throughout the reading of the piece.

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<tr>
<th>Stance</th>
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<tr>
<td>Helena</td>
<td>.14</td>
<td>.75</td>
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<td>.02</td>
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<td>Lena</td>
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The greatest similarity between the two girls' readings is that they both commented they had learned "some of this stuff" in science class. Lena said:

Like Earth, they contained several isotopes of oxygen (different forms of an oxygen atom); they are chemically the same, but have different numbers of neutrons and therefore different
masses). I learned about that in science class, so I sort of know what they're talking about.

Similarly, Helena said:

Earth has lots of metallic iron, in fact the whole center of our planet is a big glob of it. I think we studied this in science.

This sense of familiarity with some of the content seemed to make both girls more comfortable with the material. However, the ways in which they used their school as well as everyday knowledge differed considerably. For example, both girls tried to reason and better understand the implications of what they read, but Helena linked the material in the text with her prior science knowledge and introduced her understanding of these into her envisionment—calling on it to develop speculations. In contrast, Lena merely used the text information as a taking off point to make superficial asides about causation. She did not seem to have a strong sense of the kind of knowledge that is appropriate for a science/discursive reading, and therefore didn't establish an information-rich envisionment (melding new and known information) to call upon. Thus, her speculations were more far afield. For example, Lena said:

So the moon was left without metallic iron. I wonder how it glows at night.

and:

Earth has plenty of these. Astronomers were puzzled. That's probably why the earth is like California gonna fall off the face of the earth. Maybe it's not strong enough to hold everything together.

and:

Another theory is that Earth spun around so fast that its shape changed. Strips of the Earth's surface peeled off in spirals as the earth turned. That sounds interesting. Strips of earth. Maybe that's how the sun gets really strong sometimes, causing cancer and all them things. That is strips coming off.

In contrast, Helena's orientation toward science reading guided her to negotiate her growing envisionments with her knowledge of possible scientific explanations. Although this does not mean that her scientific knowledge or her guesses were any more accurate than Lena's, her knowledge of the point of reference approach toward meaning construction as well as the use of scientific (as opposed to Lena's everyday) facts, provided her with a way to build a growing envisionment which was then available for potential revision at a later point in time. She said:

And the moon rocks had very few volatiles (materials that boil away quickly during the hot explosions, such as water, sodium, potassium, and lead). Oh, maybe there aren't life forms on the moon, because there's very little water, and you can't live without water.
A zooming planet-like object crashed into Earth at about 25,000 miles an hour. So, that was before dinosaurs, or did that kill the dinosaurs? I think it would be really great if they explained that, but they don’t.

And a jet of hot gas squirted thousands of miles into space. Oh, so if it is during dinosaur time, the hot gas may have killed them, and I think that’s the Greenhouse Effect.

Further, while both girls commented on a great deal of the information they were reading about, as in response to “I See You Never,” Lena tended to ask open ended questions or comment on her familiarity about the information:

Why were the moon rocks like Earth but different from it too? I wonder.

Helena, in contrast, tried to speculate about the information, thus enriching her envisionment:

Why were the moon rocks like Earth but different from it too? Well, maybe it was a combination of all theories. Or the moon was swept away from part of the Earth and another planet that we don’t know about.

Although neither student tended to comment as often or as richly when reading “Birth of the Moon” in comparison to “I See You Never,” when they did, the patterns were similar, with Lena commenting about information she had just read, and with Helena reasoning about the ideas over longer stretches of text. Because she took a point of reference orientation, Helena tried to shape her growing envisionment in ways that would support her growing understanding of the moon’s creation. For example, Lena said:

When people learned how to travel to the moon, astronomers cheered. Sounds pretty exciting. It’s a challenge. The mystery of the moon’s birth, they hoped would be solved. It took a lot of work and research to find all that.

In contrast, Helena said:

Why didn’t it have metallic iron or volatiles? Oh, because it was so hot when the impact was that the iron in the center of the earth and everything else burned up, so there wouldn’t be any iron on the moon. Because the volatiles jetted into space just boiled away in the heat. Uh huh. And all the metallic iron from the impactor’s core plunged deep into the earth, I was right.

Further, Helena considered and weigh the substance of each of the theories she read:
Another theory is that the Earth spun around so fast that its shape changed. I don't believe that. Strips of the Earth's surface peeled off in spirals as the Earth turned. I cannot imagine that the Earth was spinning so fast that it was peeling. After perhaps a hundred thousand years or so, the spirals condensed to form the moon. I don't believe that.

Lena, on the other hand, was more tolerant of the theories she read:

All through the ages scientists have tried to figure out how the moon was formed. Yeah, I did. Some say it got trapped in Earth's gravity while whizzing through space. Others said it split off from Earth in a hot spinning cloud. Possible.

or:

And year by year it cooled down. By a long slow process called accretion (particles clinging and blending together), the materials in the disk condensed. Our round gray moon was born. So that's how the moon was made. By all these particles.

Lastly, Helena maintained an awareness of the text, objectifying it (Stance 4) as a way to comment on the appropriateness of the author's language and ideas. For instance, in response to the final two sentences in the article, she said:

But it may have happened this way. When all the parts of a theory fit together so nicely, that makes it look very good. That last sentence, his quote, doesn't make too much sense. It doesn't have anything to do with the article. Confusing, though. It was probably for a science magazine or something. But they should have explained some of the vocabulary a little more. I mean, I knew what they were saying, but maybe not everyone would.

Lena also found the final quote confusing but she didn't have an overall sense of orientation to guide her notions of the purpose and structure of the piece. Without a strong expectation about appropriate authorial language in this type of piece, Lena fell out of her envisionment and reverted to Stance 1 in an attempt to gather sufficient data to begin to rebuild her understanding:

When all the parts of a theory fit together so nicely, that makes it look very good. I wonder what that means.

Helena made a telling comment as she moved toward the end of the piece, after she had correctly guessed what happened to the metallic iron and the volatiles:

Because the volatiles jetted into space just boiled away in the heat uh huh and all the metallic iron from the impactor's core plunged deep into the Earth I was right none of it went into orbit. I could have written this article.
The mindset exemplified in her comment "I could have written this article," was one that informed and guided Helena's reading of the entire piece. She had a strong and stable sense of the piece as a discursive text, one that provided appropriate information about a scientific topic. Thus, she oriented herself toward learning information about the moon's origin; and throughout her reading she maintained this as her overall point of reference. She built her envisionments (including her expectations about meaning, her predictions, and the connections she made) with this in mind. While she read, she thought about the writing of the piece, and she often questioned and commented on the decisions the author made.

Without this overall orienting frame, Lena treated what she read as segments of information, to be understood at a local level, but not necessarily to be considered, speculated about, and shaped toward a particular point.

Looking across the girls' readings of both pieces, "I See You Never" and "Birth of the Moon," we see that their patterns of sense-making were fairly consistent across the informative and literary selections. They entered stances and built envisionments in similarly thin or elaborated ways across each of their two readings. The sense that they made was dependent on their well or poorly developed notions of the end goal of each particular reading, and of how best to orient their expectations -- toward exploring horizons of possibility or toward maintaining a point of reference.

Discussion

This study of better and poorer readers' approaches to meaning provides an opportunity to reflect on the kinds of expectations better and poorer readers have about the meanings they will derive, as well as the differences these expectations evoke in the students' moves toward meaning. We have seen that there is an interesting similarity in better and poorer readers' overall approaches toward meaning, with both kinds of readers entering each of the stances at least some of the time. Further, they seem to step into the second stance (the most active meaning-building stance) at similar points in their reading, and spend more time in that stance than in any other. However, the quality of poorer and better readers' envisionments differ markedly. The major patterns of difference that seem to distinguish the better and poorer readers can be recognized in the ways they orient themselves toward meaning in the first place, as well as the ways in which they build envisionments, expect understandings to change, and respond to uncertainty.

From early on, and throughout the reading, better readers seem to have a sense of the differing kinds of meanings that are the endpoints of literary versus discursive experiences, and their awareness of these different goals seems to help shape the ways in which they respond to the text, raise questions, and probe beyond -- the ways in which they go about building envisionments and deepening their understandings. In contrast, the poorer readers seem to be less aware (either tacitly or explicitly) either of the different kinds of knowledge each reading experience calls for, or of the different reasoning behaviors that might be entailed in arriving at these meanings. Thus, the better readers' approaches toward understanding are more of a unified piece as they traverse the ideas they encounter, while the poorer readers' approaches lack this guidance, keeping them unaware of the kinds of knowledge they need (or lack).

With these differences in orientation in mind, we have been able to see that students' approaches to the building of robust envisionments differ. In a sense, their notions of what kind of information is needed and

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hence their notions of "robustness" differ markedly; thus their meaning-making strategies also differ markedly.

**Shaping versus storing understandings.** In my efforts to be more succinct and capture the essence of better and poorer readers' envisionment-building differences, I have come to think of the contrast as shaping versus storing. The better readers seemed to be after as much knowledge as they could gather about possible theories of the moon's creation during their reading of "Birth of the Moon," and they asked questions, made connections, and shaped the ideas in their growing envisionments to lead them toward that goal. Similarly, when reading "I See You Never," they seemed to be after an understanding of the characters, the situation, the ways in which events came to happen as they did, and the possible relationships and feelings and causes that underlay and could shape potential interpretations. They shaped their understandings with these goals in mind. In contrast, the poorer readers were unable to build representations that were appropriate to each particular reading since these goals seemed to elude them. Thus, they tended to treat their envisionments as aggregations rather than as cohesive, ever-changing wholes. Without an overarching goal to guide them, gaining and responding to bits of information seemed to suffice.

The ways in which the better and poorer readers dealt with difficult text and unfamiliar words and concepts were affected by their perceptions of meaning development. For the better readers, shaping understandings was possible because they expected meanings to grow and change as a result of their shaping -- thus, momentary possible meanings could be filled in or a temporary meaning gap tolerated. In contrast, the poorer readers were after storage or aggregation of knowledge, with only a thin overarching sense of the whole to keep their envisionments together. With less rich information to call on, and with a weaker sense of the whole, unknown words and concepts were more likely to create a disjunction and throw them from their envisionments, with a need to gather more information by way of repair.

Because of the poorer readers' aggregative approaches to meaning-building, when they searched for meaning (particularly when they had been dislodged from their envisionments and had returned to Stance 1 to gather sufficient information to begin rebuilding understandings), as well as when they developed and elaborated meanings (particularly in Stance 2), they tended to search and reiterate what they had just read. These readers rarely looked for connections to what they had read or understandings they had long before, and even more rarely did they look ahead, hypothesizing about where the piece or their ideas might go.

**Implications**

The implications of these findings for instruction are interesting, moving us away from the traditional process/product debate (a primary focus on either the strategies students use to make meaning or on the particular information they come away with), and moving us instead toward a focus on the students' perceptions of the goals of particular reading experiences and on the kinds of meanings along the way that are useful in attaining the overall goals. In such cases, while strategies become important, they do so in the activity-based sense described by Leont'ev (1981)--as they are functionally useful along the way in helping students attain the meaningful goals they have set. It may not be knowledge of meaning-making strategies that poor readers lack so much as a vision of the kind of knowledge they are after in the first place.

Thus, instructional strategies for low-performing readers might do well to focus on helping students think about the primary purpose for their reading experience before they begin to read as well as during their reading. Such activities might help them consider the kinds of understandings they might come away with as
well as some meaning development approaches they might use along the way. Shaded think-alouds forming the basis for a prereading (or postreading) discussion might be one useful way for students to become aware of a variety of ways to set and achieve their purposes. Such activities may help below-average readers learn the advantages of assuming ownership for their reading experiences (e.g. Au & Jordan, 1980; Cazden, 1988; Langer & Applebee, 1986; Roberts & Langer, 1991) as well as strategies for how to do so. Of course, research is needed to bear this out.
References


