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*This article discusses teacher and student drawings in the classroom, illustrations in texts, picture books, and movies as external image-based tools that support reading comprehension.*

# A picture is worth a thousand words: Using visual images to improve comprehension for middle school struggling readers

**W**e are surrounded by visual imagery through television, movies, videos, computers, and illustrated texts. The use of these sources of images is obvious as one walks through a school. Classrooms in the United States often have computers, televisions, and VCRs. School classrooms, media centers, and computer labs are filled with visual images. Unfortunately this bombardment of visual images does not necessarily transfer to students' ability to create mental images that support reading comprehension. We have found that our students who lack the ability to create visual images when reading often experience comprehension difficulties. For these students the adage "A picture is worth a thousand words" is particularly relevant as they maneuver their way through the informational maze of learning from text. We asked our students to reflect upon that quote and write their thoughts in their journals. These middle school reluctant readers responded with comments such as the following (all comments are presented as written by students):

- A picture helps me by showing what's going on.

- In my textbooks when they show pictures it helps me see what they are talking about.
- If you look at a picture, it puts more ideas in your head.
- If you have a picture it may take a thousand words to get the true meaning of the picture.

These statements indicate the students' understanding of the supportive roles pictures play in helping them understand what they read.

We noticed that many of our reluctant and low-ability readers with comprehension difficulties were not able to describe the pictures in their minds as they read. Over our years of teaching we've had several students who claimed to "see nothing" as a result of their reading. This is not surprising given the issues faced by many of our students, specifically, limited vocabulary, little background knowledge about many topics, lack of understanding of the relationships represented in the language of the text, and lack of awareness that attempting to visualize what is happening might be helpful. Students are confronted regularly with the continuous images of television or video that create the visual

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representation for them. Students may become dependent on the action sequence of images because these images provide a concrete representation of actions, ideas, time, and space. Gaining meaning from an action sequence, as in television or video, is very different than using one's own concrete external experiences to create internal visual images that support comprehension.

As scholar-practitioners, we have paid close attention to the development of imagery skills in our students. We have noticed that the strategic use of visual material can enhance reading experiences for reluctant and low-ability readers and, indeed, can help them become more proficient creators of internal visual imagery that supports comprehension. In this article we discuss instructional tools appropriate for middle-level students that use external visual images to build comprehension and are supported by the research on mental imagery. We present a summary of points practitioners will want to consider when using sketches, illustrations, picture books, and movies with reluctant and low-ability middle school readers.

## **Pictures in the mind—Mental imagery**

The role of imagery in making sense of text has its theoretical roots in the work of Allan Paivio and his colleagues (Clark & Paivio, 1991; Paivio, 1971, 1983, 1986; Sadoski, Paivio, & Goetz, 1991). From this perspective, knowledge is represented both verbally and nonverbally in what is referred to as a dual-coding system, including both verbal and nonverbal representations of knowledge. Verbal representations of knowledge are composed of words (the verbal code) for objects, events, and ideas. The imagery or nonverbal system represents knowledge in “nonverbal representations that retain some resemblance to the perceptions giving rise to them” (Pressley & McCormick, 1995, p. 71). For example, the words *hot dog* may evoke a series of verbal representations—“something you eat in a bun,” “made of ground animal parts,” “high in preservatives,” and so on. *Hot dog* may also evoke nonverbal images that share some features with the actual perception or experience. Nonverbal images may include a visual image of a particular hot dog (the one I drooled over yesterday), an olfactory image (the smell of hot

dogs on a grill), a visual image of a context where hot dogs have been eaten (the baseball game when my son's team lost), emotional responses related to an event that included hot dogs (the disappointment team parents shared watching their sons leave the field), or other non-linguistic images associated with *hot dog*. According to dual-coding theory, it is possible to have nonverbal images only or images that also include associated words.

The concept of dual coding, or the coding of knowledge in both verbal and nonverbal representations, suggests that the elements of both systems are intricately connected. This connection between the verbal and nonverbal coding systems allows us to create images when we hear words and to generate names or descriptions of things we see in pictures. In fact, there is some evidence that successful readers do this automatically and that the inability to make verbal and nonverbal connections quickly and efficiently is related to learning disabilities (Swanson, 1989).

We have observed that creating a mental image of what is read is a natural process for our more proficient readers. In fact, when images do not come easily to our proficient readers, they see it as a warning that there is a breakdown in comprehension and are aware of the need to use a fix-up strategy (e.g., reread, adjust rate of reading, refocus). In contrast, many of the low-ability and reluctant readers with whom we have worked do not automatically create images or are unable to do so even with conscious effort. Rather than creating images associated with meaning, many of our struggling readers are focusing on the decoding of words. When asked about the reading that he had just completed, Shaun (pseudonym) put it this way, “I don't know what happened, I was too busy reading the words.”

The more we encountered students like Shaun, the more we became aware of the specific challenges faced by our low-ability readers. Shaun happened to have difficulty with comprehension because he labored at decoding. In contrast, some students read the words fluently but still lacked the ability to create mental images that related to the text. In cases like this, there may be problems in the verbal or nonverbal coding systems or their ability to function in an integrated fashion. Consequently, connections between words and images may not be made, thus putting comprehension at risk.

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Research on mental imagery demonstrates that comprehension of text is enhanced when students are prompted or taught to use mental imagery. For example, learners who were instructed to create mental images of events in sentences learned two to three times as much as learners who read aloud the sentences repeatedly (Anderson, 1971). When children are taught to generate mental images as they read, they experience greater recall and enhanced abilities to draw inferences and make predictions (Gambrell, 1981; Gambrell & Bales, 1986; Pressley, 1976; Sadoski, 1983, 1985). Suzuki (1985) identified implications for educators in her review of the imagery research. Specifically, she determined that there is evidence that prompting students to use imagery and verbal elaboration has a powerful effect on learning and remembering. For greatest benefits, the type of prompting needs to be related to the age of the learner. Younger learners may need demonstrations, whereas older learners may require “try-to-imagine” instructions only. Suzuki also found evidence that even the most proficient older adolescent readers may need help in transferring strategic behavior from one task requiring imagery to other tasks requiring imagery.

### **Television in the mind—A strategy for imaging**

As teachers of reluctant and low-ability readers, we have encountered students who lack the ability to create pictures in their minds. Therefore, we have incorporated several strategies to help students become aware of the imaging process. One strategy we use is an analogy of a television in the mind. This analogy helps students to realize that there should be more going on in the reading process than just “barking the words.” We talk about the television screen that we “watch” as we read, and we use think-alouds to talk about the pictures on our mental screen as we read. We emphasize the need for the pictures to match the words. We explain that when the pictures and words do not match (e.g., a student’s mind wanders to picturing the dance on Friday night rather than picturing the actions of the text) it is as if the channel has been switched from the “story” channel to the “dance” channel. We teach students they need to do something when this “channel switching” happens, such as

refocus or reread in order to “get back on the right channel” and create an appropriate mind picture.

In our work with struggling readers, we have learned that sometimes the words and pictures may not match, not only because of a lack of focused attention or the struggle to decode words but also because of a limited vocabulary or background knowledge. For example, when reading *SOS Titanic* (Bunting, 1996), Clarissa (pseudonym) expressed puzzlement when she read, “The deck steward gestured toward the serving cart that held silver teapots, sugars and creamers, cups and saucers” (p. 83). Clarissa did not understand the use of the word *saucer* in relation to *cups and saucers*. She was imaging as she read, but her image of *saucer* was tied to outer space and not to dishes. We observed another instance of confusion due to lack of experience when Teyen (pseudonym), a student whose first language was not English, looked bewildered after reading “They gave up the firewood business after Hal got his Caterpillar paid off” from *A Killing Freeze* (Hall, 1988, p. 94). The student said it did not make sense, “because a *caterpillar* is a fuzzy worm before it turns into a butterfly.” After Teyen was shown a picture of a *Caterpillar tractor* he could resume his reading with understanding. These students were aware of the “static” caused by mental pictures that did not make sense and, unlike many reluctant readers, asked for clarification.

Our reluctant and struggling readers often felt they had read when their eyes had passed over the words. This type of reading can result in the lack of a picture or a fuzzy picture on the mental TV screen. When students become aware of the lack of an image or “static” from a current image, they can then be taught to use fix-up strategies such as changing their rate, rereading, refocusing attention, or asking for clarification to overcome the confusion. The ability to regain an image related to the text becomes an indication that comprehension is back on track. The research on mental imagery (Gambrell, 1981) confirms that students may need to be prompted repeatedly to focus on their mental images, or “television in the mind,” as a way to monitor comprehension. In addition to prompting, teachers may need to teach and model the fix-up strategies to use when the picture is missing or fuzzy. We have found that this modeling and prompt-

ing must be an ongoing process. Students may not engage in these processes independently—at least not until they see the value and feel the success of doing so.

## Drawings in the classroom

There are times when students cannot create a picture in the mind due to lack of background knowledge or the complexity of the text. Clarissa achieved instant understanding simply by being told that, in the context of the story, a saucer was a “little plate that a cup sat on.” For Teyen, a verbal description of a Caterpillar as a “vehicle used in road building” did not trigger understanding. However, after seeing a picture of a Caterpillar tractor he not only could create an image in his mind of what this was but also could see why it was important to the meaning of the text. Sometimes a verbal description is sufficient and other times an actual picture may be necessary to reach understanding.

Some students experience confusion due to lack of understanding of critical features in the setting or spatial relationships between characters or items discussed in the text. We have found that a drawing or quick sketch made by the teachers is a useful tool to help create understanding. For example, one seventh-grade student responded to a paragraph in *Earthquake Terror* (Kehret, 1996) by stating, “I don’t get what’s going on.” Others from her class of low-ability readers (i.e., students scoring in the bottom quartile on a standardized achievement test) nodded in agreement at her expressed confusion. The paragraph described the making of a small shelter in the woods by using the trunk of a downed maple tree and three small alders to form the walls and roof of the shelter. The paragraph read as follows,

After stripping off as many of the lower branches as he could, he laid the root end of the alder on top of the downed maple’s trunk. He did the same thing with the other two alders. Next he gathered pine and cedar boughs.... He laid them on top of the alders, forming a crude roof. He placed the alder branches that he had removed across the far end of the shelter, propping them up to form a back wall. The shelter was shaped like half a tent, with an opening at one end. (pp. 46–48)

After the teacher drew a step-by-step sketch of what was happening, the students voiced understanding. See Figure 1 for the drawing.

**Figure 1**  
A teacher-drawn sketch in response to students’ questions about *Earthquake Terror*

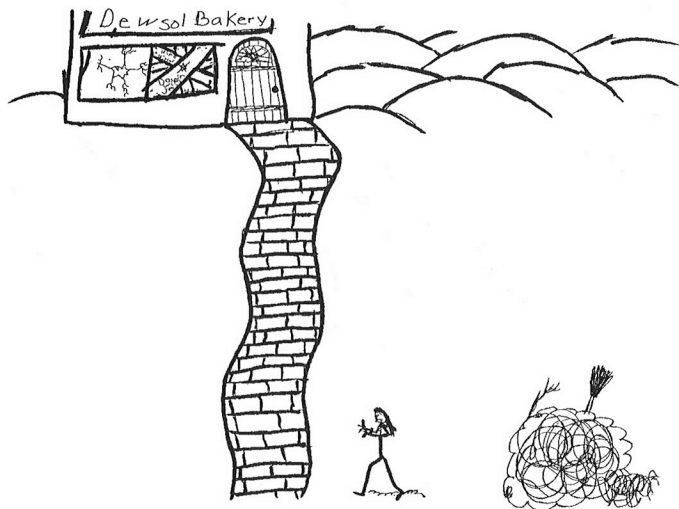


In the text *Watchdog and the Coyotes* (Wallace, 1995), the author took pages to describe the setting and the meeting of the three main characters, dogs who lived side by side. Once again some students were having trouble envisioning the setting. The students understood this important part of the novel after the teacher drew a diagram illustrating the spatial layout of the dogs’ neighborhood. A simple sketch can be worth a thousand words for some students.

Just as teacher-generated drawings help students visualize events and relationships portrayed in text, drawings done by students can inform the teacher about what students are or are not understanding about a text. When reading a novel aloud to students, we give them the option to just listen, or listen and create drawings based on the text being read. We have learned that these drawings provide a visible and explicit record of learning (McConnell, 1993).

Some students elected to produce drawings as they listened to the novel *The Night Crossing* (Ackerman, 1994), an adolescent novel dealing with the Holocaust. As we examined the drawings (see Figures 2, 3, and 4) it became clear that there was great variability in what the students were portraying. Drawings in Figures 2 and 3 represented scenes directly from the novel being read, whereas the drawing in Figure 4 may have had something to do with the topic of the Holocaust but had no direct connection to the events included in the day’s reading. Drawings that are related to the topic but not the text should prompt the teacher to question students to

**Figure 2**  
Student drawing, true to text, while listening to *Night Crossing*



see if they are comprehending the text or simply drawing something from related background knowledge but not tied to the events of the text. As Peeck (1987) pointed out, a student's failure to produce complete or accurate drawings can reveal comprehension gaps at an early stage in the learning process. We occasionally have had students who spent a great deal of time drawing superfluous details to cover up their lack of understanding of the text. For example, Figure 4 alerted us to question the student about his understanding of what had been read. His detailed drawing of Hitler speaking did relate to the events of World War II but had nothing to do with the day's reading. This drawing became the starting point of a conversation that cleared up his confusion about important events and relationships in the text.

In addition to informing the teacher of students' understandings, drawings can also aid in retention of information (Snowman & Cunningham, 1975). But as Peeck (1987) cautioned, drawings need to be accurate, and time spent drawing needs to be evaluated in terms of net gain. One way we have structured students' drawings is to have them quickly draw one sketch on a series of television screens each day after the read-aloud. This builds on our television in the mind analogy and communicates to stu-

dents that the purpose of this drawing is to track the action of the story and to represent the main idea or events of each day's reading. The drawings of the previous days provide an excellent source of information to help students activate background knowledge and reconnect with the text. The drawings also serve as a tool to help students make predictions about the subsequent reading.

Figure 5 shows the television screen drawings of one student after four consecutive days of reading *Night John* (Paulsen, 1993). Frame 1 depicts the setting, including the layout of the plantation and the relationship of the slaves' quarters to the main house and the fields. Frame 2 shows one event of the chapter, the slaves being served dinner out of a trough. Although this was not the only event in the day's reading, this event was one that illustrated the day-to-day treatment of the slaves that was key to the overall meaning of the chapter. Frame 3 illustrates the significant event of the "trading" that went on between the main characters—that of secretly exchanging the knowledge of how to write the letter A for tobacco. The final frame shows the hanging of a slave, one of the risks, discussed in the chapter, for slaves who break the rules. These drawings show not only the student's understanding of specific events in the text but also an understanding of the larger issues represented by these events.

### Illustrations in the text

In addition to prompting image making and using drawings to support imagery, it is important for teachers to consider the role text illustrations and book cover illustrations play in the reading process. Illustrations frequently serve an affective or motivational function for students. Peeck's (1987) review of the affective-motivational effects of illustrations shows many positive outcomes. Specifically, pictures can make reading a text more enjoyable, result in positive attitudes toward reading in general and toward illustrated text in particular, and can influence the time readers are willing to spend on a text. All of these effects are particularly beneficial for students who are reluctant readers.

Beyond the affective and motivational functions, illustrations also may serve to provide knowledge to students who are reading about things that are not part of their experience, as

with Teyen and the Caterpillar picture. As Schallert (1980) stated,

Pictures help the reader learn and comprehend a text when they illustrate information central to the text, when they represent new content that is important to the overall message, and when they depict structural relationships mentioned in the text. (pp. 513–514)

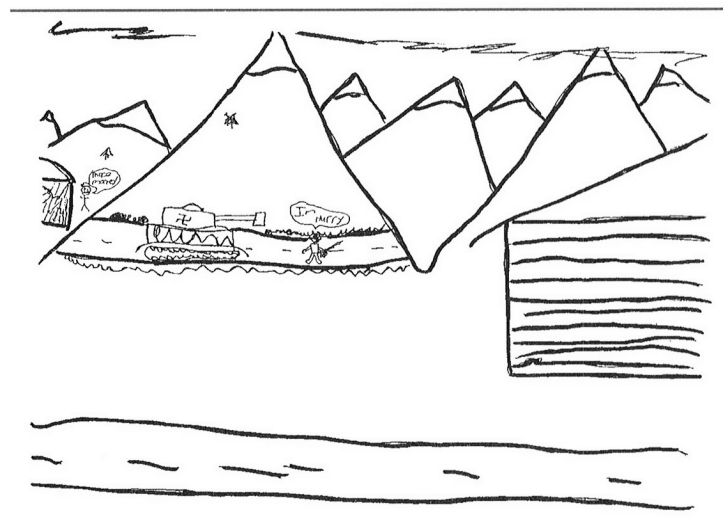
The role of illustrations may be more critical for struggling readers than skilled readers. For example, Rusted and Coltheart (1979) confirmed that poor readers frequently move from text to pictures to text as they read, using the pictures as a tool for understanding. In contrast, good readers pay little attention to the illustrations during their reading. Goldstein and Underwood (1981) confirmed that less competent readers are influenced to a greater degree by text illustrations. For readers who struggle, pictures operate beyond the decoration function (Levin, Anglin, & Carney, 1987), serving as a tool to create or confirm understanding. An example of this was when a small group of students reading *Slam* (Myers, 1996) repeatedly looked back at the cover to verify points in the novel. The cover depicts a young man holding a basketball in one arm, staring through a chain-link fence. Students turned to the cover when *Slam*, the main character, was described as being six feet, four inches. One young man turned to the cover when we read, “I remember walking away to the other side of the park and then turning back and looking through the fence to where he was” (pp. 30–31). The next day the student pointed out the cover illustration and retold the incident in the prereading discussion.

Sometimes a picture is *not* worth a thousand words. When the text and illustrations do not match, the illustrations can actually interfere with comprehension and reduce learning (Willows, 1978). We found this to be true when a group of middle school reluctant readers read “A Few Dirty Words” (Scott, 1999), a play dealing with harassment in school. The students nearly rebelled due to the one illustration that accompanied the play. The illustration of two young male basketball players and a female manager appeared four pages into the play. The students had already created an image of the characters based on the text. The images described by the students did not match the illustration. According to the students, the two basketball players pictured were

too young and the boys’ shorts looked like dresses. There was a noticeable change in the students’ attitude from that point on. The play no longer held credibility, and motivation to continue reading it declined. This experience caused us to pay attention to the text-illustration match in the materials we use with our students and to try to use a mismatch productively.

A text-illustration mismatch can be used to engage students more deeply with the text if the students are set up for it. Our experience when reading *Such Nice Kids* (Bunting, 1990) provides an example of this. We knew that the main characters depicted on the cover of this text looked much younger than they were described in the text. In our prereading discussion of the book with a small group of eighth-grade boys, we asked them to make predictions about the ages of the characters. We then asked the boys to look for information as they read that either supported or refuted their predictions. Several times while reading the novel, discussion returned to the cover illustration. The students definitely felt the boys on the cover looked younger than 17, as described in the text. However, they still studied the cover and tried to identify the characters by name. And, regardless of the obvious misrepresentation of age, the readers used other information on the cover to predict what was going to happen. One of our final discussions included an overall critique of the cover

Figure 3  
Student drawing, true to text, while listening to *Night Crossing*



**Figure 4**  
**Student drawing, unrelated to text events,**  
**while listening to *Night Crossing***

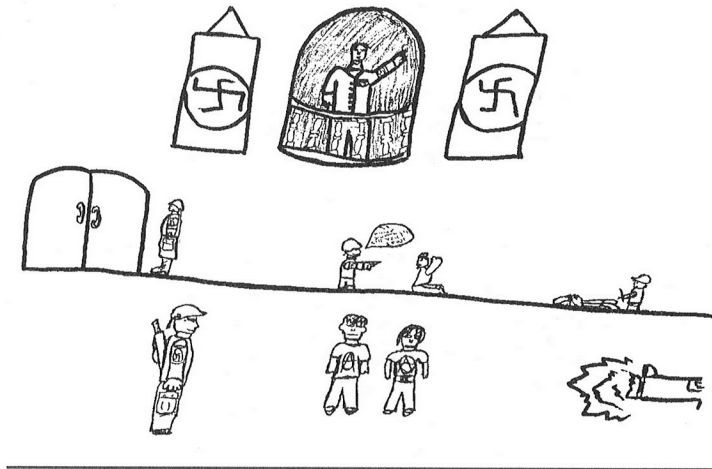


illustration based on information in the text. The active and detailed discussion provided evidence that proactive attention to a text-illustration mismatch and supporting discussions can help readers engage more deeply in analysis of the text.

Because novels for adolescents usually present only a cover illustration, we had students read picture books as a way to better understand their use of illustrations. A picture book is defined as a storybook that is “a fiction book with a dual narrative, in which both the pictures and the text work interdependently to tell a story. It is a tale told in two media, the integration of visual and verbal art” (Bishop & Hickman, 1992, p. 2). After students read the picture books, we asked them to write in their journals about how the pictures helped them and what they liked or disliked about the illustrations. Comments such as the following support the view that “pictures in text consistency produce prose-learning benefits” (Levin et al., 1987, p. 53).

- It helped me get a better clue of what’s going on. Helped me see what I was reading.
- The pictures toled the rest of the story.
- So I could picture out what the chipmunk was doing—it also helps me read faster.
- I liked tha pictures because it was less to read and so I could just look at tha picture instead of having to picture it in my brain.

These responses confirmed for us that low-ability readers do use illustrations to help them picture story details and to verify their understanding. Students can benefit from the use of illustrations if they are in alignment with the text and if students are making connections that support meaning making.

## Picture books to build background knowledge

Given our students’ positive response to picture books, we have used them as a tool to build background knowledge needed for the understanding of adolescent novels taught in the classroom. Specifically, before reading novels dealing with the Holocaust, our students read picture books that dealt with World War II. After reading a self-selected picture book, students filled out comment forms asking questions about reading the picture books. Student comments ranged from general to specific, dealing with three distinct areas: (a) the artwork, (b) the emotions portrayed or evoked, and (c) the increase of specific content knowledge or awareness of details.

Many students critiqued the artwork. Overall, the more realistic or true to the text the illustrations were, the better the students liked them. For example, some students wrote,

- I liked the pictures because they were well-drawn and detailed and colorful.
- He did a good job in drawing them. It looks exactly what I would picture in my mind.
- I liked all of the different colors but all the pictures were kinda blurry and not too clear.
- The pictures were not very colorful. I liked that because it showed how dark and dull the Holocaust was.

In research, Gombrich’s (1982) arguments supported the conclusion that pictures are supreme in their capacity to arouse emotions. Many students’ comments addressed the emotive power of illustrations and the role illustrations played in helping them understand the emotions of the characters. For example, some students stated the following:

- They (the pictures) helped a lot because I really understood how the boy felt.
- They (the pictures) were very graphic, showed real cruelty.

- I like how they (the pictures) made the people's face sad and happy. You could feel the emotion.
- I could see the emotions on the faces and know what they were going through.

The low-ability reader might not have the memory “pegs” (Gambrell & Jawitz, 1993) for some of the specific details within a text. Visual representations can provide the memory peg needed (Kozma, 1991) to connect with appropriate background knowledge. Specifically, students may not understand the written description until they have the visual representation to link with it. Students’ comments expressing expanded understanding of specific details in the picture books on World War II provide evidence of the role illustrations may play for some readers.

- It helped me understand how people can build things so nicely and how the guards would watch them all the time.
- The kids used sticks as guns. They didn't use plastic ones!
- They showd want it was like after the bomb and before.
- In one of the pictures it showed Anne and her sister sitting together with a big blanket around them and they were both bald because the Germans shaved there heads to make things out of. And that showed me that it was cold and sad where they where.

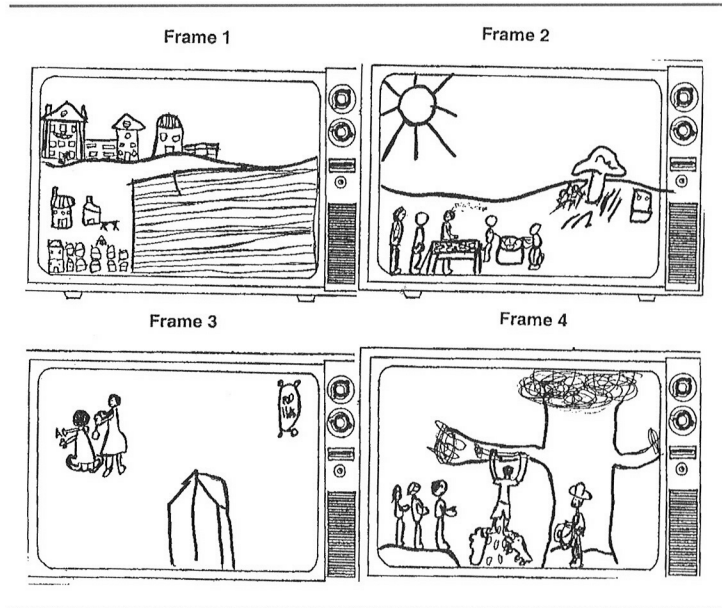
The comments of our students demonstrate that text illustrations support low-ability readers. Students used the illustrations to assist them in understanding what they read and as vehicles to provide additional and supporting information.

### Movies as image makers

“Seeing is beeter than hearing seeing is be-living,” wrote one of our students when asked to write in his journal about his reaction to watching a movie version of a book we had been reading. For this student, the visual images provided by the movie cleared up many of his confusions and helped him “imagine” the reality of what he was reading.

Showing movies in a reading classroom can facilitate different learning goals. Movies in the reading classroom can have many of the positive affective-motivational effects found in illustra-

**Figure 5**  
Student drawings following read-aloud of *Night John*  
on four consecutive days



tions (Peeck, 1987) and can provide students with critical background information and support for understanding related texts. Movies are enjoyable, they motivate the learner, and they can result in positive attitudes toward reading. Movies also can provide time contexts, setting details, and other important situational information for those students who have less prior knowledge of the subject being addressed. Movies can be a language model for individuals who are reading texts that include unfamiliar dialect. Visual representations offer memory pegs that can be used to form associations with information already in long-term memory (Kozma, 1991). Our experiences support the belief that movie images provide information students need to make sense of text. However, the type of movie and how it is used must match the teaching objective and the learning needs of the students. Following are examples of using movies to meet different learning goals.

Before beginning a literature unit about the Holocaust with a class of middle school reluctant readers, we asked students what they knew about the subject. Seven of the 12 students knew nothing about it. The others knew it had to do with Hitler and the killing of many Jewish people. We



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decided to use movies to help build the background knowledge our students needed if they were going to successfully read *The Devil's Arithmetic* (Yolen, 1988) and *Daniel's Story* (Matas, 1993).

To meet the objective of building background knowledge, the movies we selected were not video versions of the books; rather they were such things as historical documentaries and clips from other fictional and nonfictional movies about the same time period and context. We selected movies that would provide information about the setting; the historical and religious context; the multiple layers of conflict between individuals, communities, races, and religions; and characters—not specific to the books, but rather the roles played by individuals or groups during the Holocaust.

After teaching the Holocaust unit, we asked the students to write in their journals about what they learned. Their knowledge had increased substantially. Many of the “facts” they talked about came from the movies they had seen rather than the books they read. Two students directly stated that the movies helped them to picture the events from their novels. The movies provided key images to enhance understanding and comprehension, allowing students to then create internal images as they read the novels. When students were asked to write in their journals about whether or not the movies had helped them understand the novels, they echoed many of the same things they had written regarding the support they had gained from picture books. Specific comments included the following:

- When you watch a movie you can get a better picture of what is happening.
- The movies helped us read in our book. It was like visual. I understand visual things better then reading.
- In the book when they talked about the ghetto it did not sound that bad tell you saw it—it was wet and dark...people where dying in the streets. In the books you have to make your own pictures.
- When you watch the movie, a lot of things just click.

Sometimes we have stopped in the middle of a book to watch a movie to help build necessary background knowledge. From the discussion we

had related to the novel *Monkey Island* (Fox, 1991), it was evident that the students did not understand that homelessness is a real problem that affects families and children very much like themselves. After seeing a television show based on a family's experiences with homelessness, two middle school students commented in the discussion, “I didn't realize people like me were homeless” and “I thought the homeless were bums.” Throughout the remaining discussions of the novel, students often referred to information from the movie. The movie had provided key images with which to connect new information from the novel (Gambrell & Jawitz, 1993). In this case, the movie did more than simply provide cognitive background information regarding the topic of homelessness. The movie provided students with a greater ability to reflect on the judgments they had made due to their lack of accurate information. Students' increased understanding better enabled them to empathize with victims of homelessness and to personally connect with characters and events in the novel.

We know of many teachers who use movies as a “reward” for finishing a class novel or play. After watching a movie version of *To Kill a Mockingbird* (Lee, 1960) in her English class, one struggling reader reported that she finally “got it” (the book). This report and others like it led us to believe that movies based on novels could be used more effectively with struggling readers, especially when the text is difficult and the novel is unfamiliar in vocabulary, language structure, dialect, setting, or time period. Our concern resulted in what we now refer to as the Watch-Read-Watch-Read (W-R-W-R) cycle of novel reading. Several teaching goals can be met with this technique. Specifically, W-R-W-R can be used to build background knowledge prior to reading and as students move through the text. It can also be used as a tool to confirm understanding of previously read text, to teach how to make predictions, to teach how to confirm or deny predictions, and to provide the students with memory pegs to use as they read. In order for this technique to be effective the teacher must be familiar with both the text and the movie, where they match well, and where they differ.

The basic W-R-W-R cycle goes like this:

1. The teacher introduces the novel in whatever motivating manner he or she decides would work best with students. Part of this should include a discussion that helps the

teacher gain an understanding of the background knowledge students bring to the text.

2. The teacher explains that the class is going to watch a brief clip of a movie based on the novel they will be reading. The teacher also instructs the students to attend to specific elements of the movie clip. This could include details related to setting, such as climate, rural versus urban, indications of poverty or wealth, or types of homes or buildings present. Students also could be prompted to pay attention to specific characters, their clothing, and their physical features and to try to predict their role in the novel. Students could listen for unique vocabulary or dialect used by the characters. Finally, students could try to get a sense of what problems might be faced by the characters. The teacher draws attention to those aspects of the text that he or she thinks could pose difficulty for students and that are represented in the movie clip.
3. Students watch the first movie clip. It could be a short three- to five-minute viewing or it could last longer, depending on the movie, its match to the text, and what the teacher's goals are. The point to remember is that students need to see enough to help them understand the targeted elements of the text and to motivate them to read, but not so much that they feel they don't have to read.
4. The class processes the critical elements of the movie, with the teacher directing the discussion to the critical elements that will facilitate comprehension. Part of this discussion should include students making predictions about what they will read in the first chapter (or whatever length of reading assignment). The success of this step depends on the teacher knowing what elements of the movie will be most useful to the understanding of the text and helping students "notice" these elements.
5. Students read the parallel text, looking for information that matches what they saw in the movie related to characters, setting, context, and so on. They also read to confirm their predictions related to the action sequence or problems presented in the first clip of the movie.
6. After students read the first assigned text, it is discussed with the specific intent of making the critical elements more salient and pointing out that students can use the images from the movie to add to their understanding.
7. Students watch the second clip of the movie. This clip should cover the material that students have just read but not go beyond that. This allows readers to see the visual representation of what they have read, to confirm the understanding they gained from reading, and to prepare them for the next section of reading.
8. Students discuss any new understandings and make predictions about the next section of text to be read.
9. The cycle of watch, discuss, read, discuss, watch, discuss, read discuss continues until the novel is complete or students have gained enough background that they can read the rest of the novel independently.

The W-R-W-R cycle is much like the Directed Reading-Thinking Activity developed by Stauffer (1969), with the visual representation provided by the movie inserted prior to each section of reading. This cycle of activities ensures students are understanding the novel and, perhaps more important, provides an opportunity to practice good reading processes. The parallel visual representation of the text allows students to practice visualizing, summarizing, predicting, and confirming even if they struggle with reading the text.

When we use movies at the end of a unit of study or a novel, different strategic purposes are at play. At the end of reading aloud *Night John* (Paulsen, 1993), we showed our seventh-grade students the movie of the same title (Hallmark Home Entertainment, 1996). In this case, we wanted students to compare and contrast the content of the book and movie. As part of this process, students created a Venn diagram plotting the similarities and differences between the book and the movie. Once students compared and contrasted the basic information included in each, the students were asked to write in their journals about whether they liked the book or movie better and why. The students overwhelmingly favored the movie, saying it provided more details and allowed them to see what was going on. Other students favored the movie due to affective reasons. Some students preferred the movie because Waller, the plantation owner, did not seem as mean in the movie as he was in the book. Specific comments favoring the movie included, "I liked the *movie* more than the book because..."

- you can actly see whats going on and you can under-stand it better.
- you can get a better picture of things. I'n the movie it seems like Waller is nicer then in the book. Waller helps them pick cotton.... I'n the book Waller treats them with no respect what so ever.
- movies are really discriptive. It show you exactly whats happening. It's also more relaxing. I also like it better cause the ending isn't letting you hang there as much as the book does.
- the movie was more interesting. It had a lot more detels, and you could acealy see what was going on and you just couldn't amagin it.

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**Figure 6**  
**Primary points for practitioners**

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1. Don't *assume* your students can use visual imagery to support reading comprehension. Check out their ability to create images with discussions of what they "see" or with student-generated drawings.
  2. Students who have imagery skills may need to be prompted to use imagery to support comprehension. Those who don't have the skill will need to be taught.
  3. Look for opportunities to model imagery strategies to your students. Discussing what you see on the television screen in *your* mind will help students better understand this process.
  4. Support for comprehension with visuals tools does not need to be elaborate. A teacher-drawn sketch or picture can provide the necessary clarification for students who are confused or lack the knowledge necessary for understanding.
  5. Lack of ability to create images or ineffective images may be due to lack of background knowledge or vocabulary rather than reading skill. If this is the case, background knowledge will need to be built. Providing the knowledge with picture books, movies, or other visual media also gives students a visual "memory peg" with which to connect new information from the text.
  6. Student drawings can be used for multiple purposes, but must be used strategically. Provide students with a purpose for drawing. Help them see that their drawings are a representation of their understanding, that drawings can help them remember important information, and that earlier drawings can be used to make predictions about what might happen next.
  7. Be mindful that lower ability readers tend to rely on text illustrations more than good readers. When the illustrations are accurate representations of the text, encourage students to use them to support comprehension. When the illustrations are not a good match, use this mismatch to provoke discussions that lead to deeper understanding of the text and build evaluation skills. Set students up for the mismatch beforehand so they won't be disappointed and possibly disengage from the text.
  8. Use movies in ways that address students' learning needs. Carefully select movies based on the learning goals—to build general background knowledge about a topic addressed in text; to provide visual images of setting, characters, and relationships in the story; to teach comprehension skills such as summarizing, predicting, and confirming; or to promote evaluation skills by comparing and contrasting the movie with the text. Be explicit with students about the learning objective for watching the movie.
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It is interesting that some students who preferred the book also said they liked it better because it provided more details. Many of these students liked the fact that they could create their own images of the characters in their minds, rather than using the ones provided by the movie. Basically, they liked their images better. Examples of comments by students favoring the book version of the story included, "I liked the *book* better than the movie because..."

- the book has more detail you get to know the characters a little better.
- it explained all the parts. I could see what I thought the book was about, and looked like. Not what someone else though.
- it had a lot more detail and it longer. I also liked to imagine what it would be like being a slave.
- you get to pick what everything looks like in your head.

Our students have provided evidence that the use of movies as an instructional tool has supported their learning. However, we have found that students benefit most when we are strategic about the use of movies and are clear with students about why we are using movies and what they should attend to. This is consistent with the work of Solomon (1984) who found that setting a purpose for viewing a program increases the learning related to that purpose. Teachers need to decide whether movies would be useful in addressing the learning goals and the needs of the students and then be explicit with students about the desired outcomes.

### **Final thoughts—A summary of important issues**

Research done on the role that imagery plays in reading comprehension has implications for teachers as they work with students of all abilities. Figure 6 presents a summary of the major points discussed throughout this article related

to using external visual images to support reading comprehension. These are presented as “Primary Points for Practitioners” and are based on research and our experiences with middle school struggling readers.

A picture truly is worth a thousand words for students who struggle with reading comprehension. We have found that if students can create their own images on the television screens in their minds as they read, their potential for understanding the text is increased. If students are not able to develop images because they are using all their mental energy to decode the words or their personal experiences have limited their vocabulary and background knowledge, external visual images can be used to develop understanding. Strategic use of external visual images can provide the background knowledge and memory pegs to help students “see” what is happening and unlock confusing text (Levin, 1981). In our work with struggling readers we have found that the use of sketches, illustrations, picture books, and movies provides students with information on which to build their internal images. By supporting students with these tools, the teacher provides students with essential elements necessary for responding to the text. Don’t be surprised that when you use these tools, comments like, “I don’t know what happened, I was too busy reading the words” change to “Oh! Now I get it!”

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## References

- Anderson, R.C. (1971). Encoding processes in the storage and retrieval of sentences. *Journal of Experimental Psychology*, 91, 338–341.
- Bishop, S.R., & Hickman, J. (1992). Four or fourteen or forty: Picture books are for everyone. In S. Benedict & L. Carlisle (Eds.), *Beyond words: Picture books for older readers and writers* (pp. 1–10). Portsmouth, NH: Heinemann.
- Clark, J.M., & Paivio, A. (1991). Dual coding theory and education. *Educational Psychology Review*, 3, 149–210.
- Gambrell, L.B. (1981). Induced mental imagery and the text prediction performance of first and third graders. In J.A. Niles & L.A. Harris (Eds.), *New inquiries in reading research and instruction* (pp. 131–135). Rochester, NY: National Reading Conference.
- Gambrell, L.B., & Bales, R. (1986). Mental imagery and the comprehension monitoring performance of fourth- and fifth-grade poor readers. *Reading Research Quarterly*, 11, 454–464.
- Gambrell, L.B., & Jawitz, P.B. (1993). Mental imagery, text illustrations, and children’s story comprehension and recall. *Reading Research Quarterly*, 28, 265–273.
- Goldstein, R., & Underwood, G. (1981). The influence of pictures on the derivation of meaning from children’s reading materials. *Journal of Research in Reading*, 4, 6–16.
- Gombrich, E.H. (1982). *The image and the eye: Further studies in the psychology of pictorial representation*. Ithaca, NY: Cornell University Press.
- Kozma, R.B. (1991). Learning with media. *Review of Educational Research*, 61, 179–211.
- Levin, J.R. (1981). On functions of pictures in prose. In F.J. Pirozzolo & M.C. Wittrock (Eds.), *Neuropsychological and cognitive processes in reading* (pp. 203–228). New York: Academic Press.
- Levin, J.R., Anglin, G.J., & Carney, R.N. (1987). On empirically validating functions of pictures in prose. In D.M. Willows & H.A. Houghton (Eds.), *The psychology of illustration: Vol. 1* (pp. 51–78). New York: Springer-Verlag.
- McConnell, S. (1993). Talking drawings: A strategy for assisting learners. *Journal of Reading*, 36, 260–269.
- Paivio, A. (1971). *Imagery and verbal processes*. New York: Holt, Rinehart & Winston.
- Paivio, A. (1983). The empirical case for dual coding theory. In J.C. Yuille (Ed.), *Imagery, memory, and cognition: Essays in honor of Allan Paivio* (pp. 307–332). Hillsdale, NJ: Erlbaum.
- Paivio, A. (1986). *Mental representations: A dual-coding approach*. New York: Oxford University Press.
- Peeck, J. (1987). The role of illustrations in processing and remembering illustrated text. In D.M. Willows & H.A. Houghton (Eds.), *The psychology of illustration: Vol. 1* (pp. 145–155). New York: Springer-Verlag.
- Pressley, G.M. (1976). Mental imagery helps eight-year-olds remember what they read. *Journal of Educational Psychology*, 68, 355–359.
- Pressley, M., & McCormick, C. (1995). *Advanced educational psychology*. New York: HarperCollins.
- Rusted, J., & Colheart, V. (1979). The effect of pictures on the retention of novel words and prose passages. *Journal of Experimental Child Psychology*, 28, 516–524.
- Sadoski, M. (1983). An exploratory study of the relationships between reported imagery and the comprehension and recall of a story. *Reading Research Quarterly*, 19, 110–123.
- Sadoski, M. (1985). The natural use of imagery in story comprehension and recall: Replication and extension. *Reading Research Quarterly*, 20, 658–667.
- Sadoski, M., Paivio, A., & Goetz, E.T. (1991). A critique of schema theory in reading and a dual coding alternative. *Reading Research Quarterly*, 26, 463–484.
- Schallert, D.L. (1980). The role of illustrations in reading comprehension. In R.J. Spiro, B.C. Bruce, & W.F. Brewer (Eds.), *Theoretical issues in reading comprehension* (pp. 503–524). Hillsdale, NJ: Erlbaum.
- Snowman, J., & Cunningham, D.J. (1975). A comparison of pictorial and written adjuncts in learning from text. *Journal of Educational Psychology*, 67, 307–311.
- Solomon, G. (1984). Television is “easy” and print is “tough”: The differential investment of mental effort in learning as a function of perceptions and attributions. *Journal of Educational Psychology*, 76, 647–658.
- Stauffer, R.G. (1969). *Directing reading maturity as a cognitive process*. New York: Harper & Row.

- Suzuki, N.S. (1985). Imagery research with children: Implications for education. In A.A. Sheikh & K.S. Sheikh (Eds.), *Imagery in education* (pp. 179–198). Farmingdale, NY: Baywood.
- Swanson, H.L. (1989). Verbal coding deficits in learning-disabled readers: A multiple stage model. *Educational Psychology Review*, 1, 235–277.
- Willows, D.M. (1978). A picture is not always worth a thousand words: Pictures as distractors in reading. *Journal of Educational Psychology*, 70, 255–262.
- Fox, Paula. (1991). *Monkey Island*. New York: Bantam Doubleday.
- Hall, Lynn. (1988). *A killing freeze*. New York: Avon.
- Hallmark Home Entertainment. (1996). *Night John* (videotape). Los Angeles, CA: Signboard Hill Productions.
- Kehret, Peg. (1996). *Earthquake terror*. New York: Puffin.
- Lee, Harper. (1960). *To kill a mockingbird*. Philadelphia: Lippincott.
- Matas, Carol. (1993). *Daniel's story*. New York: Scholastic.
- Myers, Walter Dean. (1996). *Slam*. New York: Scholastic.
- Paulsen, Gary. (1993). *Night John*. New York: Bantam Doubleday Dell.
- Scott, Jordan. (1999, January 8). A few dirty words. *Read*, 48, 20–29.
- Wallace, Bill. (1995). *Watchdog and the coyotes*. New York: Simon & Schuster.
- Yolen, Jane. (1988). *The devil's arithmetic*. New York: Trumpet.

### Young adult materials cited

- Ackerman, Karen. (1994). *The night crossing*. New York: Alfred A. Knopf.
- Bunting, Eve. (1990). *Such nice kids*. New York: Clarion.
- Bunting, Eve. (1996). *SOS Titanic*. New York: Scholastic.

## Earthrise

Claudia M. Reder

Proud of his poem in which he has neatly printed the word *sunset*  
several times around the setting sun he had drawn,  
a first grader shares his poem with a classmate.  
The picture takes up the whole page.

His friend looks at it, says,  
“You know the sun doesn’t go down. It doesn’t really set.  
The earth is going around the sun. The sun doesn’t move.”  
The other boy looks surprised his poem is “wrong.”  
He erases the word *sunset*.

In its place, he writes, “Earth set.” He smiles.

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