

Picture Books and Strategies to Develop Visualization Skills in Young Learners and Reluctant Readers

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Abstract

Visualization is the cognitive process in which images are retrieved from memory without retinal input and based on readers' perception, experiences, and background knowledge (Salas et al., 2021). Skilled readers create images while reading while others may struggle. The purpose of this paper is to introduce practitioners to five picture books that lend themselves to teaching visualization. Each book is paired with a specific instructional strategy to introduce the skill, grades first to third grade, or to utilize with struggling, reluctant readers.

Have you read a book where the author uses language so masterfully that it creates vivid images and brings the story alive in your mind? You feel what the characters feel and see the setting so clearly and become entwined in the plot that you cannot put the book down until the last page is read. Then, someone in the entertainment industry decides to adapt a screenplay from the book and cast individuals who they think fit the author's original description. The director artfully recreates the story for the big screen, you go watch it and say to yourself, "that is **NOT** how I pictured the main character, setting, or even the plot." After disappointingly leaving the theater, you vow to only read the book since your mind created a much more sensational story.

The process of making mental pictures is called visualization and the ability to create these pictures leads to deeper, more meaningful comprehension (Salas et al., 2021). Skilled readers can effortlessly create these images in their minds while others may struggle. There are eight general reading comprehension strategies: (a) setting purposes for reading, (b) previewing and predicting, (c) activating prior knowledge, (d) monitoring, clarifying, and fixing, (e) visualizing and creating visual representations, (f) drawing inferences, (g) self-questioning and thinking aloud, and (h) summarizing and retelling (Duke et al., 2011, p. 64). This paper will focus primarily on visualization and provide children's literature and strategies that teachers can use to model and instruct both beginning and struggling readers.

Reading Comprehension Strategies

Teaching reading comprehension strategies are essential for readers to become self-regulated, independent thinkers (Morrow & Gambrell, 2018). These strategies are classified as thinking tools, which, given the text's demands, are used simultaneously for in-depth reading comprehension. Reutzel et al., (2005) argue that strategies should not be taught in isolation but as an integrated set in which the teacher explains and models, then students are given repeated opportunities to practice. While strategies should not be taught in isolation, it is essential that teachers understand how to model and teach visualization strategies. These strategies increase students' abilities to apply additional reading comprehension strategies (Morrow & Gambrell, 2018).

Visualization

Visualization is the cognitive process in which images are retrieved from memory without retinal input and based on readers' perception and experiences. The ability to create pictures in the mind impacts many cognitive processes such as motor control, attention, perception, planning, and memory and cultivates a heightened awareness of how readers see the world. (Salas, et al., 2021).

De Koning and van der Schoot (2013) describe reading as a "sensory experience," (p. 268) students do not rely solely on decoding words, but also utilize their senses to create mental images which further increases their comprehension (Sadoski & Paivio, 2004). Students who struggle with reading comprehension often lack the ability to create these images (Hibbing & Rankin-Erickson, 2003). When students are explicitly taught to visualize, they increase their abilities to recall, draw inferences, and make predictions (Gambrell, 1981; Gambrell & Bales, 1986; Pressley, 1976; Sadoski, 1983).

Teaching students to visualize from the text creates a more profound experience and understanding; it connects them to one's private sensory experiences making the story more personal for the reader (De Koning et al., 2013).

Dual-Coding Theory

Allan Paivio (1971, 1986, 1991, 2007) is responsible for creating and researching the theory of dual-coding theory (DCT). According to DCT, cognition involves the activity of two distinct subsystems, a verbal system (language) and a nonverbal system (imagery). The verbal system consists of words for objects, ideas, and/or events while the nonverbal system is composed of the background knowledge associated with words. These two systems are interconnected in our working memory which allows us to create images when we hear specific words so cognition is the interplay of these two systems (Paivio, 2006; Clark & Paivio, 1991; Sadoski & Paivio, 2001). Successful readers can easily integrate these two systems to create mental images from text; however, some students may experience difficulties with the verbal or nonverbal coding systems even though they are fluent readers (Hibbing & Rankin-Erickson, 2003).

Scholars have applied visualization theories in teaching in a variety of ways. Hibbing and Rankin-Erickson (2003) suggest using the "television in the mind" analogy where students create images or "channels" in their minds to match the text (p. 760). When students experience difficulty creating images because of poor background or vocabulary knowledge, Hibbing and Rankin-Erickson (2003) suggest that teachers incorporate a quick sketch to bridge knowledge and aid in students' memory retention and recall.

Wilson (2012) created an instructional strategy, "brain movies" to use during literature circles. Students were able to bring the text to life in their minds and discovered that by sharing, each student's movie was unique. Furthermore, it helped students to remember additional details from the text. During instruction, an additional job was added to the literature circle roles, movie producer. This individual was responsible for facilitating the discussion on mental imagery which included questions on picturing how the characters, setting, and plot and selecting keywords that brought the story to life for readers

De Koning and van der Schoot (2013) claim visualization instruction which focuses on the "construction" process of nonverbal representations such as student or teacher-generated drawings is the most effective (p. 267). Van Meter (2001) describe how building a physical visual representation of text such as a reader-constructed drawing can support readers' comprehension. Drawing supports the integration of the verbal and nonverbal systems because it

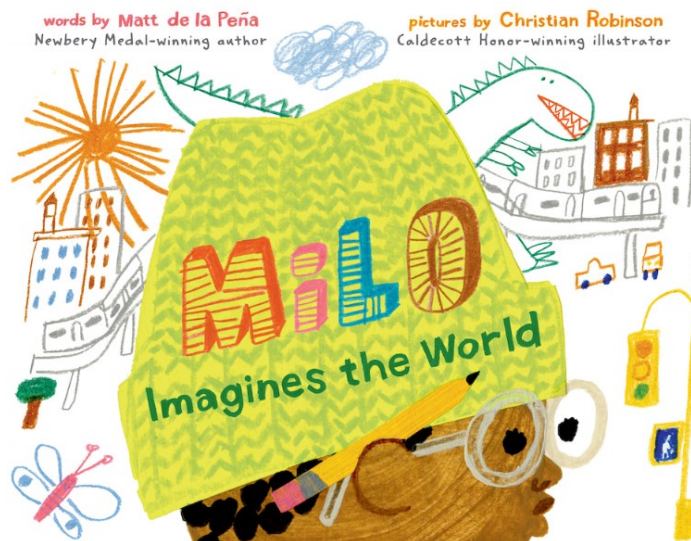
helps readers to construct accurate visual representations based on their internal representation of the text (Van Meter, 2001). Having students sketch their images moves from thinking abstractly to representing their interpretations concretely. This means teachers explicitly teach and model “how” to construct mental images during reading. Instruction requires repeated practice, intentional planning, and implementation of a specific strategy with the goal of students listening closely and thinking critically.

The purpose of this paper is to introduce practitioners to five picture books that lend themselves to teaching visualization. Each book is paired with a specific instructional strategy to introduce the skill, grades first to third grade, or to use with students struggling with constructing mental images.

Book 1 – de la Peña, M. (2021). *Milo imagines the world*. G. P. Putnam’s Sons.

Audience: 1st-3rd grade

Visualization Strategy: Storyboarding in Person (Salas, et al., 2021)



Milo Imagines the World is a story written by Matt de la Peña, illustrated by Christian Robinson. Milo rides the subway in the city with his older sister to visit their mother in jail. To pass the time, he studies the other passengers’ faces and imagines what their life is like outside the subway ride. One passenger, a whiskered man with a crossword puzzle, Milo imagines him playing solitaire in a cluttered apartment full of pets and he shares his drawing with his sister. Another boy boards the train with his bright white Nikes and Milo imagines the boy being carried away in a horse-drawn carriage that carries him to a castle. Throughout the train ride, Milo continues to imagine and draw people in his sketch book until he gets off the train. When he arrives at the jail, he shares his drawings with his mother.

The strategy to use with students is called Storyboarding in Person and according to Salas et al. (2021), it is “a collaborative, kinesthetic visualization practice that draws from applied theater” (p. 16). Teachers select a portion of the text and divide it into three distinct visual frames then students use their bodies to “act out” these sections of the text. The second scenario Milo imagines is the boy with the bright white Nikes:

1. *Milo imagines the clop clop clop of the horse-drawn carriage that will carry him to his castle.*
2. *Imagines the clink clink clink of the guards slowly lowering the*

drawbridge. 3. Across the human-made moat the boy is met by a butler, two maids, and a gourmet chef offering crust-free sandwich squares (de la Peña, 2021).

Teachers would first go through this section of text and divide it into three parts then divide students into groups of four and ask the first group to illustrate the three sections of the text on a storyboard frame (Figure 1) and work collaboratively how they are going to act out each frame.

Figure 1

Storyboard Frame

Frame 1	Frame 2	Frame 3

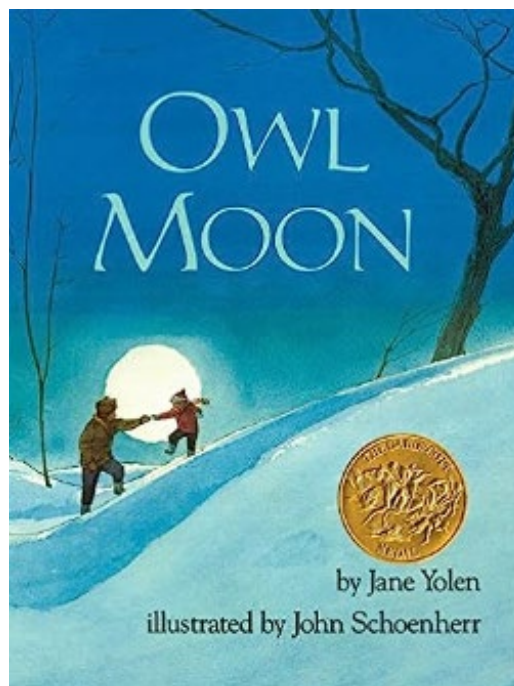
Note: Adapted from Salas et al., 2021.

There are five scenarios in this book that Milo imagines so you could assign the five to groups of students then progress through the entire story with students first sketching then acting out their assigned scenario. This strategy incorporates listening, speaking, and kinesthetic movement.

Book 2 – Yolen, J. (1987). *Owl moon*. Philomel Books.

Audience: 1st-3rd grade

Visualization Strategy: Image-Scaping (Salas, et al., 2021)



Owl Moon is a classic story written by Jane Yolen and illustrated by John Schoenherr and won the Caldecott Medal in 1988. It is an excellent choice for visualization because of Yolen's use of descriptive language. Late one winter's evening, a little girl and her father go into the woods searching for the Great Horned owl. The girl follows her father as he calls out, "Whoo-who-who-who-who-who" and they listened quietly for a response, no response. They travel further into the woods and he calls out again, and this time, an owl responds. Her father shines his flashlight and they catch a glimpse of the owl before it flies off and they return home.

The strategy to incorporate with this book is called Image-Scaping (Salas, et al., 2021). This strategy utilizes one large whiteboard in which individuals or small groups of students add their interpretations. The teacher begins by reading a small segment of text and students are invited to sketch on a piece of paper for about two minutes then their interpretations are added to the large board for about a minute. Students can come up individually or with a small group. Salas et al. (2021) describes the result as "collaborative, layered group illustration or representation of the passage" (p. 16). Furthermore, after completing the class picture, the teacher can hold a discussion about the accuracy of the groups' interpretations.

How can this strategy be implemented with *Owl Moon*? The first page of the story reads:

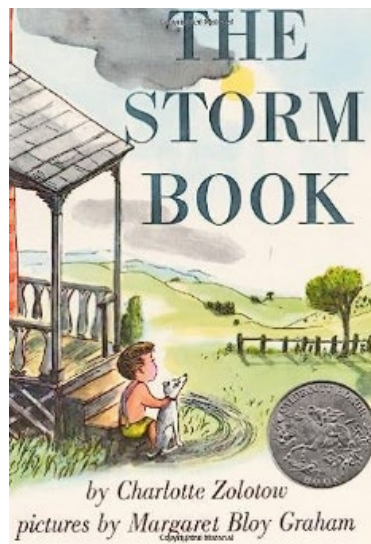
It was late one winter night, long past my bedtime, when Pa and I went owling. There was no wind. The trees stood still as giant statues. And the moon was so bright the sky seemed to shine. Somewhere behind us a train whistle blew, long and low, like a sad, sad song. (Yolen, 1987).

The teacher would model this passage to students by including the following elements in the visual representation: snow on the ground, large giant trees with no movement of the leaves, the moon, and a representation of the train whistle with musical notes. Teachers need to leave enough space for students to add to this drawing as the story progresses.

Book 3 – Zolotow, C. (1952). *The storm book*. Harper & Brothers Publishers.

Audience: 1st-3rd grade

Visualization Strategy: Logographic Cues (Beers, 2003).



The Storm Book written by Charlotte Zolotow and illustrated by Margaret Bloy Graham was written in 1952 and won the Caldecott Medal in 1953. This timeless story is about weather patterns, specifically a little boy's curiosity during a summer thunderstorm. The story captivates with the poetic text featuring onomatopoeia as the thunder "rrrrMMMMMMMMDDDDRRRRRR R R R" through the countryside, city, and seashore. Charlotte Zolotow's word choice skillfully describes the sights and sounds of a summer thunderstorm.

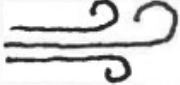
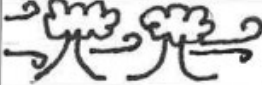


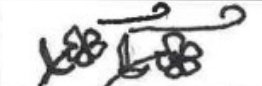



The visualization strategy is Logographic Cues (Beers, 2003) which is described as "a visual symbol used to support readers as they navigate a given text" and "designed to offer readers a high-utility message in a minimum amount of space" (p. 129). Teachers can design a bank of symbols; however, it is best for students to create their own which leads to a more meaningful, deeper connection to the story. Logographic cues support comprehension as they visualize the progression of the story, this happens through the personalized lens represented by their chosen logo graphics (Salas, et al., 2021).

To model this strategy for students, teachers should use a short excerpt from the text and use a think-aloud method to create their logographic cues (Figure 2). The passage from "The Storm Book:"

*A little cool **wind** suddenly races through the **trees**, sways the **rambler rose**, bends the **daisies** and **buttercups** and **Queen Anne's lace** and the long **grass** until they make a great silver sighing stretch down the **hill** (Zolotow, 1952).*

Teachers may have to share photographs with students to build background knowledge and refer back to the text passage so students can represent the text accurately, for example, adding the wind symbol to each cue and making sure the movement was correct. This exercise can help students envision the text and connect their experiences.

Figure 2*Logographic Cues for "The Storm Book"*

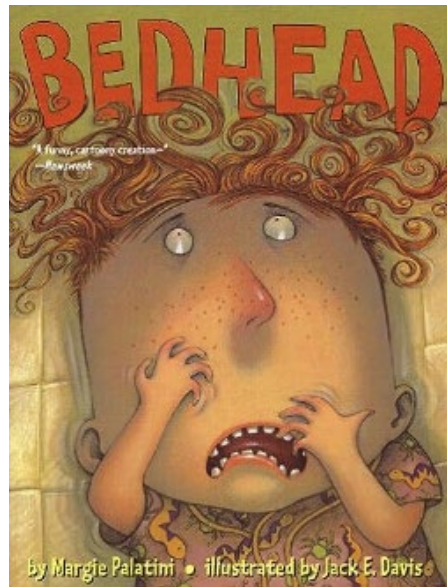
Word	Logographic Cue
wind	
trees	
rambler rose	
daisies	
buttercups	
Queen Anne's lace	
grass	
hill	

Note: Adapted from Salas et al., 2021.

Book 4 – Palatini, M. (2000). *Bedhead*. Simon & Schuster.

Audience: 1st-3rd grade

Visualization Strategy: Reading Graffiti (Salas, et al., 2021)



Bedhead is an enchanting story written by Margie Palatini and illustrated by Jack E. Davis about a young boy, Oliver, and his unruly hair. The story features onomatopoeia and begins with Oliver “shuffle-shlump” to the bathroom and his curls “boing” and “bink-bink boing” throughout the story. Because today is class picture day, he tries to employ his sister and parents to help him get his hair under control. They goop, glop, and mousse his hair, however, Oliver’s hair is still out of control. He decided to contain it in a hat and when it came time to take the picture, he removed his hat and his curls “boing” everywhere, forever captured on the class picture.

The strategy to utilize with this story is Reading Graffiti (Salas, et al., 2021). According to Salas et al, this strategy is based on the concept of a “gallery walk” (p.14). The purpose is to have students illustrate how the text invokes images in the reader’s mind both concretely and abstractly. Teachers place large sheets of paper around the room with specific textual segments written at the top. After reading each segment from the book, the teacher asks students to go to the paper and quickly illustrate or sketch their interpretation graffiti style. After sketching, students return to their desks and listen for the next segment. This process builds upon each segment and encourages students to explain their interpretations. Salas et al. (2021) suggested the following questions to ask: “What might be missing?” and “What might we take away?”

In connecting this strategy to *Bedhead*, the teacher must go through the book and select sections of the text to add to the paper. In the selection process, make sure to begin with just a few sentences until students become accustomed to the task. For example, the first segment from the book could be:

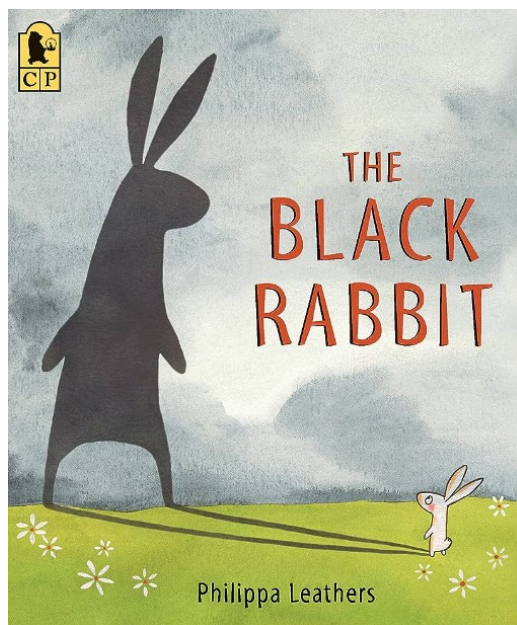
Shuffle-Shlump. Shuffle-shlump. Shuffle-shlump, shlumped bleary-eyed Oliver out of bed, down the hall, and into the bathroom. He yawned. He yanked. Splashed some water. Swished some mouthwash. Gave his front teeth a passable brushing (Palatini, 2000, p. 1)

Teachers can both model for students what this looks like either through kinesthetic movements or illustrate what this might look like through a drawing. Illustrator, Jack E. Davis, has captured this image on the first pages of the book. You can share this with students after they have created their own interpretation and compare it to the book. This strategy not only encourages visualization, but also incorporates listening and speaking.

Book 5 – Leathers, P. (2013). *The black rabbit*. Candlewick Press.

Audience – 1st-3rd grade

Visualization Strategy – Six-Grid graphic organizer (Davis, 2021).



The Black Rabbit is about a small, white rabbit that is being followed by a large, black rabbit on a beautiful, sunny morning. Everywhere he runs, behind a tree, over the river, the shadowy rabbit follows him. The rabbit tries to lose the black rabbit when he enters the deep, dark woods. Fortunately, the rabbit loses the black rabbit, however, he's confronted with a new problem, the wolf. The wolf chases him out of the deep, dark woods and just when the rabbit thinks the wolf is going to eat him, he opens his eyes to see the black rabbit standing behind him. The wolf runs off and the rabbit take the black rabbit's hand and they bounce across the field together.

The Six-Grid graphic organizer's preparation phase consists of teachers selecting a read-aloud text at the students' appropriate level and dividing the text into six manageable sections. Within each section, the teacher closely examines and selects vocabulary that might be multiple meaning words, adjectives, or verb tense that needs to be brought to students' attention. The implementation phase consists of students folding an 8 1/2"x11" piece of paper into thirds and then in half to create six boxes. Before reading a section of the text, teachers discuss vocabulary in-depth and provide the words in a visual format, for example, written on the whiteboard. While reading the section of the text, students listen and sketch the images that come to mind. After sketching, students can either label with the accompanying vocabulary word or write a brief sentence describing their picture (Figure 3). The procedure is repeated for each section of the text until all boxes are completed (Figure 4). Teachers should model first what this process will look

like for students. When initializing the six-grid organizer, students may struggle to transfer images to paper; however, through repeated practice, they will become more proficient. Teachers may also choose to reread the book to students sharing the illustrations so that students can compare the illustrator's interpretation to their own.

The Black Rabbit contains 20 pages with text so teachers can use sticky notes to mark off the six sections. The first four sections could contain three pages with the last two sections containing four pages. Within each section, teachers can look for unfamiliar vocabulary or grammatical patterns to point out to students. The first section of text reads:

*Rabbit woke up one morning and stepped out of his **burrow** into the bright sunlight. It was a beautiful day. But something was wrong. He was not alone. Rabbit was **scared**. "Go away, Black Rabbit!" he cried. But the Black Rabbit did not move (Leathers, 2013).*

The words selected from this first section to review with students are burrow and scared. Explain to students that you will be reading a portion of the text and they are to listen first then give them about a minute to sketch, label with vocabulary, and write a brief sentence about their drawing. Repeat the process until you've read the entire book then allow students to discuss their organizers with a peer. This strategy incorporates listening, speaking, and writing.

Figure 3

Visual Interpretation of Text – Grade 1


Text Read Aloud– <i>Fox the Tiger</i>	Example of Student Sketch
<p>"I wish I were a tiger," says Fox. "Tigers are big. Tigers are fast. Tigers are sneaky. Tigers are the best." (Tabor, 2018, pp. 5-9).</p>	

Figure 4
Completed Six-Grid Organizer – Grade 1



Conclusion

The ability to visualize is a language process, it connects words to visual concepts of these words and leads to deeper, more meaningful comprehension. Research affirms when mental imagery strategies are taught, there is a powerful effect on students' ability to recall text information, draw inferences, and make predictions (Gambrell, 1981). This means teachers explicitly teach and model "how" to construct mental images during reading. Instruction requires repeated practice, intentional planning, and implementation of a specific strategy with the goal of students listening closely and thinking critically. Implementing mental imagery strategies requires some planning and preparation. They should review children's literature to see if the prose lends itself to visualization, for example, how does the author use descriptive language? Additionally, teachers also review and adapt mental imagery strategies to their students' ages and abilities. Incorporating instructional practices such as teacher or student-generated drawings and modeling how to implement these strategies is equally important.

Those students who struggle to construct mental images and English language learners sometimes lack the background and vocabulary knowledge to successfully comprehend text. Hibbing and Rankin-Erickson (2003) write, "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..." (p. 758). With intentional planning, teachers can implement strategies that assist students in understanding the

relationship between language and images as well as building background and vocabulary knowledge to successfully comprehend text.

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