Volume 43, Issue 2
October 2025

Research, Advocacy, and Practice for Complex and Chronic Conditions

A Journal for Physical, Health, and Multiple Disabilities

Council for Exceptional Children

Complex and Chronic Conditions: The Division for Physical, Health and Multiple Disabilities

ISSN 2831-5723

© Division for Complex and Chronic Conditions

RAPCC
ISSN: 2372-451X
http://scholarworks.iu.edu/journals/index.php/pders/index

If you are new to the CCC division, our group supports teachers, administrators, health care providers, and families who support children with physical, health, and multiple disabilities. We support students who have a large range of cognitive abilities and a variety of educational placements. At the heart of our division is a desire to support students who experience medical, physical, and health conditions. They might have only one diagnosis or multiple diagnoses.

Complex and Chronic Conditions: The Division for Physical, Health and Multiple Disabilities of the Council for Exceptional Children (CCC-DPHMD), formerly DPHMD, is the official division of the Council for Exceptional Children (CEC) that advocates for quality education for all individuals with physical disabilities, multiple disabilities, and special health care needs served in schools, hospitals, or home settings.

The goals of CCC-DPHMD include:

- Promoting the continued development of adequate resources and programs that address the many areas of need associated with serving children and adults with physical and/or multiple disabilities, and special health care needs.
- Sharing relevant and timely information on current issues, instructional strategies, adaptations, and research through the annual CEC convention, professional meetings, training programs, and publications.
- Providing technical assistance and preservice and in-service education.
- Advocating for funds and policies that promote supportive legislation and funding for persons with physical disabilities, multiple disabilities, and special health care needs.
- Supporting the activities, policies, and procedures of the CEC and the other CEC divisions

Research, Advocacy, and Practice for Complex and Chronic Conditions, 2025, 43(2), pp.12-17
https://doi.org/10.14434/rapcc.v43i2.39564

RAPCC
ISSN 2831-5723
https://scholarworks.iu.edu/journals/index.php/pders/

Implications and Strategies for Practitioners

Using Story Boxes for Students with Complex Disabilities to Promote Student Engagement

Dr. Sarah Sehlinger
Indiana University Southeast

Abstract: *Students with complex or severe disabilities are often left out of or may not benefit from literacy activities due to the nature of their disabilities. One way to help this population of students obtain better access literacy skills is through story boxes. By pairing a text with concrete objects, students are engaged in a sensory experience to facilitate better engagement, comprehension, and understanding of vocabulary. The research behind story boxes and the process for creating your own story box is described in this article.*

Keywords: story boxes, severe disabilities, literacy

Correspondence concerning this article should be addressed to Dr. Sarah Sehlinger, Assistant Professor, Indiana University Southeast. 4201 Grant Line Rd. New Albany, IN 47150

Using Story Boxes for Students with Complex Disabilities to Promote Student Engagement

Literacy has often been one of the most identified areas of importance when it comes to instruction for all students (Copeland & Keefe, 2007). For those students with severe or complex disabilities, participation in literacy activities can be challenging (Morningstar et al., 2017). Special education teachers might also find themselves struggling to provide engaging instruction for this population of students (Merimee et al., 2019). In addition to these difficulties, research suggests that students with severe disabilities are often left out of comprehensive literacy instruction due to the low expectations based on the nature of their disabilities and the question of whether they benefit from such instruction (Petersen, 2016). However, Browder et al. (2008) stresses the importance of providing access to literature to all students, making adaptations when necessary.

Story boxes are one way to approach literacy for students who need a multisensory experience with a text. Essentially, story boxes feature a container filled with text and corresponding objects. This strategy allows students to engage with concrete objects to facilitate a connection between words and their meanings (Merimee et al., 2019). Story boxes are easily adjusted based on the age group you are working with and can be tailored to meet the needs of the students participating (Collins, 2009). For example, teachers can select a variety of readings and levels of text and be intentional when choosing vocabulary words and specific objects to go with them. This article aims to share the process for creating your own story boxes to use with students to promote literacy skills and student engagement.

Story Boxes

Story boxes fall under the umbrella of shared reading. Hudson & Test (2011) define shared readings as a strategy involving a read aloud with opportunities for students to interact with the text and reader. The term “story boxes” seems to stem from the visual impairment community, specifically from the Perkins School for the Blind. Their website links multiple articles and ideas to help individuals create their own story boxes. Using objects to represent vocabulary terms is not a new concept and has been used often with a variety of audiences in mind, including those with visual impairments, English language learners, and Autism. (Collins, 2009; Merimee et al., 2019; Mucchetti, 2013).

Muccehtti (2013) found that adding objects to text during shared reading led to increased story comprehension and task engagement. In addition to including a repeated line and shortening the text, Browder et al. (2008) found that adding objects to a story increased independent responses during story-based lessons. Brug et al. (2015) also found offering objects during multisensory storytelling led to increased attention to the chosen book. The exposure to objects representing vocabulary can become predictive as students engage with the materials more often (Brug et al., 2015). For example, Merimee et al. (2019) found that students started licking their lips when they heard the word “candy” after being offered a lick of a lollipop in previous sessions. Objects allow the students to make concrete connections to a word that they might not have understood previously.

Procedures

Find or write your text

Story boxes are most typically associated with commercially available children's books, because they are easy to access and create no extra work for the teacher. However, story boxes are not just bound to these books specifically. Another option is for teachers to write their own text if they are unable to find a book that matches their instructional intention that week. This would be especially beneficial when instructing on content specific alternate assessment standards. For example, a short story on the water cycle could be used with students to reinforce instruction on that concept. When writing an original text, brainstorm words to highlight with specific objects. Perhaps cotton balls can be clouds, and a plant can represent transpiration.

The approach taken should depend on the purpose of reading the story. If goals are simply exposing students to literature, introducing new vocabulary, and keeping it fun, choosing a commercially available text is the way to go. The teacher might also want to consider what the students' interests are, what they are learning in other classes, or topics they might need to be familiar with for daily living purposes. If unable to find the right text to fit your needs, writing one is simple and lets the teacher choose what is emphasized and conveyed through the words.

Choose your vocabulary

After writing or selecting the text, the next step is to choose specific vocabulary words to highlight. A common approach is to choose vocabulary from the text that students might not be familiar with. This allows them to learn the word and use the object to decipher its' meaning. There are no rules when it comes to story boxes and how many or what words to choose. Again, think about the purpose for reading the story. The teacher might want to choose a word on each page or every few sentences. On the other hand, instructors might choose just a few words to highlight with objects because that sufficiently helps the students understand the text. For example, for the text, *Chicken on Vacation*, selected words might include crab, shovel, ship, and hat.

Select objects

Pairing the vocabulary to the objects is the fun part of this process! Once the vocabulary words are chosen, the teacher can think about potential objects that would help students better understand each word. Again, there are no rules here. For the *Chicken on Vacation* vocabulary, potential objects might include sand toys to represent the crab and shovel, a hat, and a bath toy for the boat. While those objects are directly linked to the words, the teacher can also select objects to represent specific features of words. If the word is "bird," it is not necessary to bring in a stuffed bird. Instead, focus on a feature of a bird, like its' feather. The feather would still provide a visual and sensory experience for the students when they encounter the word "bird." Even focusing on certain features of the word will help the student further understand the vocabulary word.

One thing to keep in mind when selecting items is the sensory experience students will receive. For the book *The Very Hungry Caterpillar*, an apple will allow students to touch the hardness, feel the juice, see the color, smell the fruit, and taste a piece. Including more than one sense can improve the connection students form to the word. Using story boxes does not have to break the bank, as it is likely teachers have access to most objects, either in their classroom or home (Merimee et al., 2019; Collins 2009). Once all objects have been selected, story boxes can be kept in a large bag with the text, like in Figure 1. Boxes or storage bins can also be used to hold the text and objects. All these options keep materials together and are easy to grab when ready to start your story.

Figure 1
Story Box Example

Implement with students

Once the objects have been chosen, the story box can be implemented with students. Typically, the teacher or a student will start reading the story aloud. When they come to one of the chosen vocabulary words, the teacher should introduce the object, pointing out characteristics. For example, “look at the color of the crab and how many claws it has.” Each object should be passed around, allowing each student to engage with it by looking, touching, smelling, tasting, or even listening. The teacher also wants to show any pictures that accompany the text. These visuals provide another sensory experience for students to engage with to develop connections with the text. Story boxes can be implemented with just one student or with a group of students.

As the story box is implemented, look for signs of engagement with students. Hettiarachchi & Ranaweera (2013) noted that one of their participants started reaching for and hugging a chosen object. Merimee et al. (2019) counted things like head movements and vocalizations, all which increased when story boxes were used during group literacy time. Depending on each student, slight differences in behaviors can indicate an increase in engagement with the story box.

Expanding the experience

Some teachers might also want to incorporate a comprehension component to this literacy activity. To do that, the teacher would create some comprehension questions based on the text. Again, you can tailor your comprehension questions to the abilities of the students. Reading the story first without the objects and having the students answer the comprehension question can provide some pre-intervention data. Next, read the story with the objects multiple times during the week before having students answer the same comprehension questions at the end of the week, allowing the teacher to determine growth from the initial responses. Brug et al. (2015) found that student attention increased from the first to fifth reading during multisensory storytelling. Response modes to the comprehension questions can also be tailored to meet individual needs. For example, Mucchetti (2013) used a response board with four answer choices consisting of text, pictures, and objects that allowed students to indicate their answer to six basic comprehension questions.

The teacher might also want to use this group time to promote social skills. The students will need to take turns engaging with each objects and pass it on, giving them the opportunity to make eye contact or turn their head and interact with their neighbor. Those interactions could be verbal or through the use of assistive technology. Students or teachers could set up certain words or phrases in communication devices before starting the reading group. Phrases could include things such as “my turn” or “here you go” or “you’re next.” Assistive technology can also be used as a means of responding to comprehension questions.

Conclusion

In a 2021 review of shared reading studies, Toews et al. found that out of 29 studies that included story adaptation, only five used object supports. Using story boxes is a practical strategy that has yielded positive results in several studies (Browder et al., 2008; Merimee et al., 2019; Mucchetti, 2013). Given the low cost and ease of implementation, teachers should not be intimidated to try this strategy in their classrooms. The use of objects gives students the opportunity to make connections to vocabulary and increase their engagement during literacy activities, two tasks that have often been viewed as a challenge for students with severe disabilities.

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