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Drue E. Narkon & Jenny C. Wells

a University of Hawaii, Honolulu, HI, USA

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Improving Reading Comprehension for Elementary Students With Learning Disabilities: UDL Enhanced Story Mapping

DRUE E. NARKON and JENNY C. WELLS
University of Hawaii, Honolulu, HI, USA

Story mapping is an effective visual strategy to enhance comprehension of narrative text in students, with or without disabilities. This article demonstrates how instruction can be designed using principles of universal design for learning with the evidence-based story-mapping strategy to improve reading comprehension for elementary students with a reading disability. Applying the principles of universal design for learning in the instructional design of a story-mapping lesson increases accessibility and removes barriers to engagement and interaction experienced by students with learning disabilities who have reading and writing challenges. An illustration of the planning and delivery of a universal design for learning enhanced story-mapping lesson that fits into the classroom schedule in inclusive general education or special education classrooms is included.

Keywords: learning disabilities, reading comprehension, story map, universal design for learning

How do students make meaning from narrative text? Reading comprehension is a complex interaction between the reader's (a) vocabulary knowledge, (b) interaction with the text, and (c) application of reading comprehension strategies (National Reading Panel, 2000). Reading comprehension is more than “decoding words fluently and understanding the meaning of individual words” (Roberts, Torgesen, Boardman, & Scammacca, 2008, p. 66); there must be present the capability of connecting prior knowledge to new information being read and an understanding, as a whole, of the meaning of the written text (Roberts et al., 2008). Good readers activate prior knowledge to organize and develop inferences to assist them in connecting with the text. They also monitor their understanding as they are reading and use specific cognitive strategies when they encounter barriers that assist them in their comprehension (National Reading Panel, 2000).

Reading Comprehension Issues for Students with Learning Disabilities (LD)

Many students, including those without disabilities, struggle with accessing the general curriculum because of reading comprehension difficulties (Meo, 2008; Proctor, Dalton, & Grisham, 2011). Although not all students with LD experience difficulties in reading, the majority do (Bryant, Bryant, Hammill, Sorrells, & Kethley, 2004). Students with LD who struggle with reading comprehension constitute about 80% of students identified with LD (Gersten, Fuchs, Williams, & Baker, 2001; Wade, Boon, & Spencer, 2010). Several cognitive factors underlying the reading comprehension difficulties of these students with LD are deficits in (a) working memory (Swanson, Kehler, & Jerman, 2010), (b) transfer of knowledge, and (c) information processing (Swanson, 1987). Although the complex cognitive processing required to comprehend text, referred to as automatization, is accomplished easily in good readers (Swanson, 1987), struggling readers are disadvantaged in their ability to simultaneously store and process information contained in the text (Stetter & Hughes, 2010; Swanson et al., 2010). These underlying deficits and the demands of text comprehension put the student with a reading disability at an extreme disadvantage in understanding the meaning of written text. In the National Longitudinal Transition Study 2, “...21% of students with learning disabilities (LD) are five or more grade levels below in reading” (Kennedy & Deshler, 2010, p. 289).

Swanson and De La Paz (1998) stated that good readers are typically not aware that they are using metacognitive strategies (i.e., intentionally recruiting and using specific strategies based on task demands) although they consistently do so. Students with reading disabilities and other struggling readers experience difficulty applying strategies strategically and using metacognitive strategies while reading (Antoniou & Sovignier, 2007; Gersten et al., 2001; Wade et al., 2010). Specifically, they exhibit the following difficulties: (a) failure to monitor their understanding, (b) inability to use strategies that are appropriate for the task, (c) inability to make inferences based on the text, and (d) failure to integrate ideas within the text. They have developed neither strategies for tracking their understanding as they read nor strategies to repair their understanding (Roberts et al., 2008). They also fail to link new information with prior knowledge or monitor their...
comprehension of what they are reading (e.g., pausing after each paragraph to summarize or ask questions, confirm or refute predictions). In some cases, as a result of their limited independent reading, they do not possess adequate prior knowledge or the knowledge they access is unrelated, or even incorrect, making text comprehension impossible (Roberts et al., 2008).

**Strategic Approaches to Reading Comprehension Instruction**

How can students with reading disabilities be provided effective instruction and support within the general education curriculum to facilitate their comprehension of narrative text? One instructional strategy that has been validated in both general and special education classrooms to foster comprehension of narrative text is story mapping (Gardill & Jitendra, 1999). The purpose of this article is to demonstrate how instruction can be designed using principles of universal design for learning (UDL) with the evidence-based story-mapping strategy to improve reading comprehension for elementary students with a reading disability. As direct/explicit reading comprehension instruction has been demonstrated to be beneficial for students with LD (Bryant, Goodwin, Bryant, & Higgins, 2003; Mathes, Fuchs, & Fuchs, 1997; Rupley, Blair, & Nichols, 2009) direct instruction lesson planning formats, expanded direct instruction (Hunter, 1994) and mini-lesson (Atwell, 1987; Calkins, 1986; Robb, 1999), are used to demonstrate the process and associated procedures in design and implementation of UDL enhanced story-mapping lessons.

**Story Mapping**

Story maps provide a visual representation for readers to facilitate their identification, organization, and analysis of story elements (Stetter & Hughes, 2010). A story map is the graphic representation of story grammar (Boulineau, Fore, Hagan-Burke, & Burke, 2004; Gardill & Jitendra, 1999; Idol & Croll, 1987; Stagliano & Boon, 2009). Stein and Glenn (1979) originally envisioned story grammar containing two major components: (a) setting, including characters and context; and (b) episodic events, including initiating events, internal responses, plans, actions, consequences, and reactions. Subsequently, other versions of story grammar were developed. Figure 1 illustrates a story map template that provides prompts for the students, space for the students’ written prediction responses, and additional boxes for students who choose to draw their responses. The elements of this story map are (a) character(s), (b) setting, (c) major events, (d) problem/conflict, and (e) story outcome (Mathes et al., 1997). Story map elements are prompts that assist students in identifying and locating important information (Stagliano & Boon, 2009; Stetter & Hughes, 2010) and serve as an organizer to assist the students later with their writing and comprehension of the narrative text (Boulineau et al., 2004; Gardill & Jitendra, 1999). The story map provides the necessary support to enable recall of the content of the story (Idol, 1987; Idol & Croll, 1987; Stein & Glenn, 1979; Stetter & Hughes, 2010). Over the years, story-mapping and computer-assisted instruction merged into a concept known as computer-based story mapping (Wade et al., 2010). Software programs such as Kidspiration (Kindergarten to Grade 5) and Inspiration (Grades 6–12) provide the option for developing a story map on the computer using the available templates.

Although these features of story maps provide readers with comprehension support, they do not provide complete accessibility to the narrative text or to the instructional requirements of a story-map lesson for a student with LD. There are additional learning challenges experienced by students with LD that interfere with their participation in a story-map lesson. The majority of students with LD experience reading difficulties and are characterized by a slower reading rate related to phonemic awareness and fluency difficulties (Bryant et al., 2004; Constantinidou & Stainthorp, 2009). These characteristics make decoding the text and extracting the relevant information to participate in a story-map lesson extremely difficult. Many of the students with reading difficulties also are impacted by writing difficulties that further interfere with their expression and engagement in instruction (Katusic, Colligan, Weaver, & Barbaresi, 2009). This combination of challenges creates significant additional barriers to accessing the curriculum. The UDL framework provides a means to proactively reduce these barriers and effectively support elementary students with LD who struggle with reading comprehension.

**Principles of UDL**

Applying the principles of UDL to the instructional design of story-mapping lessons increases accessibility and removes barriers to engagement and interaction with the content. Although controversy exists regarding the evidence base supporting the application of UDL (Edyburn, 2010; Spooner, Baker, Harris, Ahlgrim-Deizell, & Browder, 2007), it has become a component of recent educational legislation. Universal design has been embraced by the framers of Individuals With Disabilities Education Improvement Act of 2004 and the Higher Education Opportunity Act of 2008 and has been included in both pieces of legislation. In the Individuals With Disabilities Education Improvement Act (2004), UDL is described as a “scientifically valid framework for guiding educational practice” sec. 762 (G) (sec. 103 (C)). Both pieces of legislation use the language of the Assistive Technology Act, Section 3 (1998) for their description of UDL. In the Individuals With Disabilities Education Improvement Act, UDL is defined as follows:

- a concept or philosophy for designing and delivering products, and services that are usable by people with the widest possible range of functional capabilities, which include products and services that are directly usable (without requiring assistive technologies) and products and services that are made usable with assistive technologies. (pp 8–9)

In light of these legal mandates, there is an expectation that teachers will plan instruction that incorporates low and high tech strategies to remove barriers that prevent students with disabilities from accessing and interacting with the general education curriculum.
UDL is based on three major principles to reduce barriers to learning: (a) providing multiple means of representation, (b) providing multiple means of action and expression, and (c) providing multiple means of engagement (Center for Applied Special Technology, 2008). The associated UDL guidelines focus on using instructional methods, materials, and technologies that make the curriculum accessible for all learners (Center for Applied Special Technology, 2011). The UDL principles, guidelines, and associated instructional strategies that may be provided for curriculum accessibility are outlined in Table 1. The first UDL principle, providing multiple means of representation, incorporates providing options for perception, language, mathematical expressions, symbols, and comprehension. This UDL principle helps to ensure that alternatives are included in curriculum planning that increase accessibility, clarity, and comprehensibility across learners. The second UDL principle, providing multiple means of action and expression, incorporates providing options for physical action, expressive skills, fluency, and executive functions (i.e., planning, monitoring). This UDL principle helps to ensure that alternatives are included in curriculum and lesson planning that increase all student’s ability to express what they know and to engage in strategy use, practice, and organization of information to facilitate learning. The third UDL principle, providing multiple means of engagement, incorporates providing options for recruiting interest, sustaining effort, persistence, and self-regulation. The National Center for Universal Design for Learning website¹ has a wealth of multi-media resources available to further increase understanding of UDL

¹www.udlcenter.org
<table>
<thead>
<tr>
<th>Principle</th>
<th>Associated guidelines and instructional strategies</th>
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<tr>
<td><strong>Principle 1. Multiple means of representation</strong></td>
<td>Perception</td>
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<td>• Customizing text display</td>
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<tr>
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<td>• Providing visual alternatives for information presented aurally</td>
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<td><strong>Principle 2. Multiple means of action and expression</strong></td>
<td>Physical action</td>
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<td>• Providing alternative means for response and navigating through information</td>
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<td>• Providing assistive technology tools and the support to use them</td>
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<td><strong>Principle 3. Multiple means of engagement</strong></td>
<td>Recruiting Interest</td>
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<td></td>
<td>• Optimizing individual choice and autonomy</td>
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<td>• Providing options that optimize relevance, value, and authenticity for each learner</td>
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<td>• Creating a safe place where threats and negative distractions are minimized</td>
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principles and implementation skills. For a list of additional internet resources for implementing UDL see Table 2.

Making UDL a mandate does not provide teachers with the skills and knowledge required to actualize the concepts; therefore, an example of how the UDL principles, guidelines, and associated instructional strategies may be incorporated into the evidence-based reading comprehension instructional strategy of story mapping is provided.

### Applying UDL Principles to Story-Mapping Instruction

Reading instruction must be intentionally designed to align student’s identified needs with validated instructional practices and appropriate technology selected to achieve the desired lesson objectives (Meo, 2008). This begins by identifying the skill levels and needs of all students in a classroom and determining what is required for each of them to successfully achieve the desired outcome of the lesson. Thoughtful analysis of student needs and lesson goals and objectives provides the platform for lesson design and decision making on the instructional strategies, materials, and technology to be incorporated into the lesson (Center for Applied Special Technology, 2008, 2011; Kennedy & Deshler, 2010).

Lesson goals and objectives should be aligned with national and state educational standards. The specific State Common Core Standard (2010) addressed in a story-mapping lesson is Reading Standards for Literature K–5, Key Ideas and Details, Grade 1, “3. Describe characters, settings, and major events in a story, using key details” (p. 11). In addition, the related International Reading Association/National Council for Teacher Education standard (1996) addressed:

Standard 3. Students apply wide range of strategies to comprehend, interpret, evaluate, and appreciate texts. They draw on their prior experience, their interactions with other readers and writers, their knowledge of word meaning and of other texts, their word identification strategies, and their understanding of textual features (e.g., sound-letter correspondence, sentence structure, context, graphics). (para. 2)

### Story-Mapping Lesson Formats

There are two lesson formats (i.e., expanded direct instruction, mini-lesson) available for planning and delivering a story-mapping lesson. Both lesson formats can be used in general or special education classrooms and both can be used for large group, small group or one-on-one instruction. The expanded lesson format is derived from the direct instruction lesson plan developed by Hunter (1994) to aid teachers in designing explicit, sequential instruction. The expanded direct instruction lesson format may be used to provide instruction on each individual story grammar element before completing a story map. The other format used in general and special education classrooms to foster comprehension of narrative text is a mini-lesson (Atwell, 1987; Calkins, 1986; Robb, 1999). Mini-lessons are brief, no longer than 20 min, and were originally designed for general education instruction. Mini-lessons are similar to expanded direct instruction lesson plans as they involve the teacher modeling while providing guided practice to ensure students’ appropriate engagement (Jasmine & Weiner, 2007). Modeling the story-mapping strategy using a mini-lesson serves to demonstrate the visual representation of story grammar (Boulineau et al., 2004).

The expanded direct instruction lesson may be scripted and typically takes 30 to 60 min to implement. The lesson format designed by Hunter (1994) serves as a framework for planning and incorporates various elements: (a) anticipatory set where the teacher gains the attention of the students by focusing on the importance of the task and activates the students’ prior knowledge, (b) input (i.e., teaches the main concepts or skills), (c) modeling (i.e., shows and explains), (d) guided practice (i.e., students practice with other students and with the guidance of the teacher), (e) independent practice (i.e., students practice
the new skill without teacher supervision), and (f) closure. These elements help the teacher develop and organize the content they are going to teach.

Mini-lessons include three elements: (a) before reading, (b) during reading, and (c) after reading instruction. Before reading instruction in a mini-lesson is equivalent to the anticipatory set in an expanded direct instruction lesson and includes initial lesson preparation. During reading instruction in a mini-lesson incorporates input, modeling, and guided practice elements. After reading instruction in a mini-lesson encompasses independent practice and closure as in the expanded direct instruction lesson format.

**Story-Mapping Lesson Example**

A narrative description of the planning and delivery of a story-mapping lesson for a classroom containing students with LD follows. The book *A Bird and His Worm*, by James Kaczman (2002) is used in this story-mapping lesson example. The UDL principles and instructional strategies that are possible options for representation of materials, student's action and expression, and student engagement are identified within each component of the lesson.

**Initial Lesson Planning**

Learning characteristics and needs of the students in the class are identified to facilitate decision making on the specific UDL instructional strategies that are required for all students in the classroom to access the content. Based on this understanding of the students learning characteristics, the supporting lesson materials (e.g., story-map graphic organizers) and equipment (e.g., LCD projector, word processors) can be prepared and assembled. Then, the instructional goals and standards to be addressed in the lesson are identified along with the evaluation measures to be used to analyze student performance.

The teacher now needs to choose a narrative book to read to the class and ensure that the book selection contains the desired story-mapping elements. To recruit student interest in the lesson (UDL Principle 3. Engagement), students’ interests and abilities should be considered in the selection of the narrative text. While teaching students the story-mapping strategy, books should be selected that are easier than the students' instructional level to facilitate their ability to engage with the text successfully. UDL Principle 1. Representation is addressed during lesson planning through the identification of key vocabulary to be reviewed before reading based on the current reading levels of students.

**Before Reading**

The teacher begins the lesson incorporating UDL Principle 1. Representation instructional strategies. First, the key vocabulary is introduced and students are provided the meaning of the words using words and visual aids.

Class, today we are going to read a story; but first, we need to learn two new vocabulary words that are in the story. Our new vocabulary words are journey and devour. Can anyone tell us what journey or devour means? Let’s look at two pictures on the board.

[Teacher points to a picture of a common vacation destination]

Has anyone taken a trip before? Where did you go on your trip? Another word for trip is journey. Let's open the book and see if we can find the word journey.

Next, the teacher shows the students the book cover and asks the students to predict what the story is about just from looking at the title and cover of the book. Then, the teacher has them analyze the words in the title. The teacher continues to question the students, activating their prior knowledge. The teacher asks the students if they can identify a relationship between the characters just from the title of the story.

An option for UDL Principle 1. Representation for classrooms with projection equipment, such as an Elmo or an interactive whiteboard, is to project the cover of the book during this discussion. In addition, some students may require an individual copy of the book at their desk or photocopies of the book could be provided to all students. While highlighting the character’s names and pictures on the board, the teacher then asks the students if they know any additional information about the characters. For example, if the characters are animals, see if the students know anything about the animals and write their ideas on the board. Next, see if the students can identify where and when the story took place. For example, see if the students can identify if the story takes place in any particular season or time of day (e.g., summer, winter, morning, nighttime) and writes these details on the board.

Now, the story-map graphic is introduced and displayed for the students, which helps to make the structural relationships explicit (UDL Principle 1. Representation) and facilitates the students’ ability to manage the information related to the story (UDL Principle 2. Action and Expression). Last, the teacher asks the students if they can identify the main characters of the story. The students are then instructed to write down their prediction responses on the story-map template (i.e., worksheet) on the basis of this discussion.

Possible options for UDL Principle 2. Action and Expression instructional strategies that may be provided for students, who experience difficulty with writing their prediction responses on the story-map template are (a) use desktop word processors (i.e., Dreamwriter); (b) dictate their responses to the teacher, paraeducators, or peer partners; (c) draw their responses; or (d) the teacher could provide handouts for individual students to use to cut and paste their responses on the story-map template. For students whose engagement (UDL Principle 3. Engagement) are enhanced through the use of computers, graphic organizer software (i.e., Kidspiration, Inspiration) could be used on classroom computers. Another alternative that the teacher can consider to increase the students’ effort and persistence is to use a cooperative group structure during the lesson.

**During Reading**

The students read the story or the teacher reads the story to the students while they follow along in their copy of the text.
UDL Principle 1. Representation instructional strategies to increase accessibility and remove barriers that may be provided to students include the use of alternative forms of the text (i.e., e-books for electronic readers, video reading of book, audio book, Text-to-Speech, movie version, or leveled reading books) for students who experience difficulties in reading. Providing explicit teacher prompts and cues that assist students in identifying and locating each specific story element scaffolds their strategy use (UDL Principle 2. Action and Expression). An instructional example of character and setting development for students who are unable to identify the various story elements on their own follows. As the teacher reads the first couple of pages aloud, he or she models his or her thinking while displaying the blank story map. The story map may be displayed on chart paper or through the use of projection equipment (i.e., Elmo, interactive whiteboard) while providing cues and prompts that assist students in identifying and locating important information:

Okay, we’ve finished reading the first couple of pages of the story. What is the first question that we need to ask ourselves? It is a who question. Who are the main character animals in the story? As I look over the first couple of pages in the story and remember the title and cover of the book, I realize the main character animals are the bird and the worm. Oh, the bird and the worm are also in the title of the story. That is another clue that the bird and the worm are going to be main characters. Since I have an answer to my who question, I am now going to record it on my story-map worksheet.

The teacher will continue to provide scaffolding, as in the example above, modeling how to identify and locate each story element in the text to make story elements explicit and to highlight important ideas and relations (UDL Principle 1. Representation). This modeling process provides repetition and practice, as well as providing an option for increasing students’ capacity for executive functioning (UDL Principle 2. Action and Expression). After identifying the main characters and setting, this process is used to assist students in identifying (a) the major events of the story, (b) what problem occurred in the story, (c) how the character(s) solved the problem, and (d) whether it was difficult for them to solve the problem. UDL Principle 2. Action and Expression instructional strategies to provide to students as they are completing their story map are (a) use of desktop word processors (i.e., Dreamwriter); (b) dictating their responses to the teacher, paraeducators, or peer partners; (c) drawing their responses; (d) handouts for students to use to cut and paste their responses on the story-map template; or (e) copying the teachers’ completed story map onto their individual story map. To enhance student engagement (UDL Principle 3. Engagement), students may be given the option to work in pairs or in a cooperative learning group and/or be provided the option to use the Kidspiration software on the computer.

After Reading

Once the characters, setting, major events, problem/conflict, and solution for the problem are modeled by the teacher (UDL Principle 2. Action and Expression) and the students write their responses on the story map, or use other alternative UDL instructional strategies for writing (e.g., cutting and pasting, dragging and dropping choices, or drawing responses), the students and teacher discuss their thoughts about the story. The teacher asks the students what they enjoyed about the story and projects a graphic organizer that is used to record student responses (Principle 1. Representation). The class discusses the relation between the bird, worm, fox, and snake. They also discuss whether or not they agree with the end of the story or outcome of the story. The students who are taught with the expanded direct instruction lesson format are given a new story either read aloud by the teacher or read independently by the students.

To enhance student interest, the students may select the new story (UDL Principle 3. Engagement). Other instructional strategies that the teacher may use to enhance students’ executive functioning (UDL Principle 2. Action and Expression) include directing the students in their creation of their own story map by providing scaffolding: (a) who would they talk about, (b) where would the story take place, (c) what problem/conflict would the characters experience, and (d) how would the characters solve the problem? Students are encouraged to discuss their answers for the story grammar elements and predict where in the text their answers would be supported before, during, or after reading the story. An excerpt from a guided practice activity using a new story follows:

Now that you’ve selected a new story, let’s talk about what we need to do to complete our story map and understand the story. What is the first step before we even open the book? That’s right! We look at the cover and read the title. What are we looking for? Is there a picture or are there words in the title that may help you decide who the characters are or where the story takes place? Great, write those predictions under the Who and Where sections of your story map. Remember, we will be reading to see if these predictions are correct or if we need to change them.

Meanwhile, the students being taught using the mini-lesson are asked to discuss alternative endings for the story. Then using a blank story-map template, students are asked to generate their own story map with their alternative ending on their own or with a partner (UDL Principle 3. Engagement). Also, students may develop their story maps using computer graphic organizer software (i.e., Kidspiration, Inspiration) or word processors (i.e., Dreamwriter) that can then be projected using an LCD projector or interactive whiteboard. UDL Principle 2. Action and Expression instructional strategies to provide to students as they are completing their story map are (a) use of desktop word processors (i.e., Dreamwriter); (b) dictating their responses to the teacher, paraeducators, or peer partners; (c) drawing their responses; (d) handouts for students to use to cut and paste their responses on the story-map template; or (e) copying the teachers’ completed story map onto their individual story map. Projecting students’ completed story maps using an Elmo projector or displaying the teacher’s model story map on chart paper (Principle 1. Representation) provides support for student presentations and discussion.

Assessment of students’ ability to demonstrate what they know and can do relative to the lesson goals and objectives is the next step in instruction. Although assessment is the final
component of this lesson, planning for assessment should begin during initial lesson development. Using the knowledge, skills, and abilities inherent in the lesson goals and objectives, a rubric can be developed as a tool to assess students’ performance on their UDL enhanced story maps and presentations. Monitoring students’ progress in this way provides essential information for planning future instruction.

Summary

Although this article has provided an illustration of a UDL enhanced story-mapping lesson, the choice of instructional strategies used were written to address the learner characteristics that elementary students with LD who struggle with reading comprehension experience. It is essential that the UDL strategies incorporated into lesson design are there to proactively address the representation, action, and expression, and engagement challenges of the curricula and should be chosen to match the specific learning challenges of the students for whom the lesson is developed (Center for Applied Special Technology, 2008, 2011).

In addition, the instructional story example provided in this article only illustrated explicit strategy instruction for the character and setting elements of the story map. The teacher must also provide explicit strategy instruction for each of the story-map elements. The teacher should not assume that the student understands the strategy and how to use it successfully without this explicit scaffolding and modeling of how to use the story-map strategy appropriately (Idol, 1987; Idol & Croll, 1987; Pressley, 2002). Explicit instruction on each of the story-map elements and the number of elements introduced in a story at one time needs to be determined depending upon the students’ individual instructional needs.

Also, although technology is often used in UDL designed lessons, just using technology in the classroom during a story-mapping lesson does not equate to implementing UDL nor does the use of student’s individual assistive technologies (i.e., voice output communication devices) replace the potential need for UDL implementation. Assistive technologies may be necessary to provide specific students with a means to interact with the environment; however, they do not remove all challenges to access the curricula. Each classroom of learners is unique and may potentially have a unique set of barriers to accessing curricula. Implementation of UDL lesson design is based on teacher’s recognition of these important underlying principles.

Story mapping is an effective visual strategy to enhance comprehension of narrative text in students, with or without disabilities (Boulineau et al., 2004; Gardill & Jitendra, 1999; Gersten et al., 2001; Idol & Croll, 1987; Mathes et al., 1997; Montague, Maddux, & Dereshiwsky, 2001; Stagliano & Boon, 2009; Stetter & Hughes, 2010; Wade et al., 2010). As a proactive process, UDL enhanced story-map lesson design addresses the challenges of the curricula, enabling student interaction with the content and instructional requirements of the lesson at the point of initial instruction.

The success of this process depends on knowing the interests and learning characteristics of the students in the classroom and incorporating this knowledge into lesson design. Since students with LD experience a range of learning challenges that may interfere with their participation in a story-map lesson, a careful analysis of the students’ needs guides the decision making of the specific UDL strategies necessary to provide complete accessibility and increase student engagement and success in meeting the lesson objectives. With two lesson formats to select from (i.e., expanded direct instruction and mini-lesson), teachers have flexibility to plan a structured, evidence-based, UDL enhanced story-mapping reading comprehension lesson that fits into the classroom schedule in inclusive general education or special education classrooms.

Author notes

Drue E. Narkon is an associate professor at the University of Hawaii at Manoa, Department of Special Education. Her research interests include learning disabilities, reading, and teacher education.

Jenny C. Wells is an associate professor at the University of Hawaii at Manoa. Her research interests include reading, Autism spectrum disorders, and teacher education.

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UDL Enhanced Story Mapping


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