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English Language Learners (ELLs) face unique challenges when it comes to comprehending and engaging with texts. As educators, it is essential to assess and analyze the complexity of texts to ensure appropriate material selection for ELLs. Text complexity plays a crucial role in the language learning process, as it can significantly impact ELLs' comprehension, engagement, and language development. This paper aims to analyze the text complexity of a chosen text and evaluate its suitability for ELLs based on factors such as vocabulary, syntax, text structure, and discourse patterns.

I chose to analyze the article *Caught on Camera: When a rainbow and a bolt of lightning meet* from newsela. When analyzing texts, there are tools we can use to figure out if it is an appropriate level or not. These tools are referred to as quantitative and qualitative factors. A quantitative factor is also known as the Lexile level, which is a piece of information to gauge a text's overall complexity. The text itself is not complex; it is what the student may be asked to do with the text. A text may seem more or less complex depending on the level of the reader, language familiarity, and background knowledge. When determining text complexity, we need to think about the "...qualitative and quantitative dimensions of text complexity, as well as the key relationship of reader and task when selecting appropriate texts for students to read and comprehend" (Hallmark 1). In order to fully determine the grade level complexity, qualitative factors must also be considered. These include purpose, knowledge, language and structure. This article is suggested for a range of students between upper elementary and high school. There are 691 words in this article and it was determined to be a text level 4 with a Lexile of 720. The purpose of this article is to teach students about meteorological events. I would probably recommend this article for English learners in grades 7 or 8 because some of the vocabulary can be challenging. This article highlights how seeing a rainbow and lightning occur

at the same time is unusual. It aids in helping students learn how light and color work to produce a rainbow. The weather conditions must be perfect for both meteorological events to occur at the same place at the same time. However, the vocabulary level must be considered when providing this text to ELLs.

One crucial aspect of text complexity for ELLs is the vocabulary used within the text. The analysis should focus on the presence of unfamiliar words, specialized terms, idiomatic expressions, and cognates. By identifying these linguistic features, educators can gauge the level of challenge that ELLs may encounter and determine if the text requires pre-teaching of vocabulary or additional support. According to Echevarría, Vogt., & Short (2017), “Vocabulary development, critical for English learners, is strongly related to academic achievement.” It is nearly impossible to teach every single vocabulary word students must know. Therefore, the SIOP lesson plan model focuses on purposely choosing words “that are critical for understanding texts and content concepts, and provide a variety of ways for students to learn, remember and use those words” (Echevarría et al., 2017). According to Fisher and Frye (2011), “research suggests that students need explicit instruction in word meanings, repeated exposure to words, opportunities for wide reading, and experiences using the words in the presence of peers.” When choosing words that are worthy of teaching, it is common to use the brick and mortar method. Brick terms are content specific vocabulary words and mortar terms are transitional words because they are the “glue” that holds together academic ideas. In this text, some of the brick terms are rainbow, meteorology, lightning, and wavelength. The mortar words include occur, together, through, difficult, some, separated, and unlike. To further support ELLs reading this text, I would have them scan the article before reading and highlight any words that they do not know the meaning of. Then as a class we would share these words and create definitions for

them that would be posted on the white board. While reading, students would have the ability to refer to these definitions if they are struggling with comprehending the text because of challenging vocabulary.

The syntactic complexity of a text significantly impacts ELLs' comprehension. Complex sentence structures, passive voice, and convoluted syntax can hinder understanding. Analyzing the text for sentence length, subordination, coordination, and sentence complexity provides insights into potential comprehension difficulties for ELLs. By simplifying or modifying sentences, educators can enhance accessibility and ensure the text is more comprehensible for ELLs. The sentence structure in this article is appropriate for the grade level. The sentences are relatively short and straightforward. When teaching sentence structure, it is effective to start simple, go step by step, and go over individual parts of a sentence. According to INK, one way to simplify a sentence is to identify a subject (who or what the sentence is about) and then a verb (what happens to that subject). This can be modified for English language learners by utilizing photos of people or objects and images of actions. Then they can be mixed and matched to resemble what is happening in the sentence.

The organization and structure of a text play a vital role in facilitating comprehension for ELLs. Analyzing the text for clear headings, subheadings, and logical progression helps identify if the text provides explicit cues for understanding the main ideas and supporting details. Additionally, determining the presence of graphic organizers, tables, or diagrams aids in visualizing complex concepts and enhances comprehension for ELLs. There is an eye capturing photo of a rainbow and a lightning bolt at the top of the article. Including a picture at the beginning of the article will help ELLs predict what the article will be about even if they cannot

successfully read the title. In addition to the images, the headings for each paragraph are clear, concise, and bolded.

Texts that incorporate culturally relevant topics and references are more likely to engage ELLs. Analyzing the text for cultural sensitivity, inclusivity, and relatability enables educators to select texts that resonate with diverse learners. Moreover, cultural familiarity and context can contribute to a deeper understanding and connection with the text, promoting active engagement and critical thinking among ELLs. Before reading this article, I would like to gauge how much my students know about the topic. In an effort to include family in their academics, I would assign a brief homework assignment the day before reading the article. This homework assignment would require students to think about a time when they saw lightning or a rainbow and what were the weather conditions at that time. Next, the students would ask two relatives the same question. They should record their responses on paper and this activity would be used as a do now/motivation for the next day.

“One of the biggest challenges facing reading teachers is how to reach reading comprehension skills and not just assess comprehension” (Grabe). An effective way to teach comprehension skills is using discourse patterns. Discourse patterns include analyzing discourse markers such as conjunctions and transitional phrases that indicate relationships between ideas, as well as mortar words that connect sentences and paragraphs. Being aware of basic structures and rhetorical patterns in texts facilitate comprehension, provide additional context, and make the text more engaging and accessible for ELLs. The article aforementioned, *Caught on Camera: When a rainbow and a bolt of lightning meet*, is structured in a way that promotes recall of previously learned information as well as new information. For example, most students will have basic prior knowledge on rainbows and lightning. However, they may not understand fully

why rainbows and lightning happen independently. The article explains that in order to understand rainbows we must understand how light and color work. As a result, aside from any prior knowledge all students reading this article will have a better understanding of how rainbows work.

As educators, it is crucial to consider the unique needs and challenges faced by ELLs to create an inclusive learning environment that supports their language acquisition journey. Selecting appropriate texts for English Language Learners requires a comprehensive analysis of text complexity. By evaluating vocabulary complexity, sentence structure and syntax, text structure and organization, cultural relevance, and the presence of textual supports, educators can make informed decisions regarding the suitability of a text for ELLs. This analysis ensures that the chosen texts foster comprehension, engagement, and language development among ELLs, ultimately promoting their academic success.

Resources

- Echevarría, J., Vogt, M., & Short, D. (2017). *Making content comprehensible for English learners: The SIOP model*. Pearson.
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- Grabe, B. (n.d.). *Using discourse patterns to improve reading comprehension*. Using Discourse Patterns to Improve Reading Comprehension. <https://jalt-publications.org/archive/proceedings/2002/009.pdf>
- Hallmark 1 of advanced literacies instruction: Engaging, content-rich texts. (n.d.). https://www.regents.nysed.gov/sites/default/files/nov-8-nys_brief-3-of-8_summer_2017_hallmark_1final_2.pdf-a.pdf
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- Teaching sentence structure to ESL students*. INK. (2023, April 5). <https://inkforall.com/copy-editing/esl/sentence-structure-to-esl-students/>
- Vocabulary: CSUDH College of Education*. Vocabulary | CSUDH College of Education. (n.d.). <http://www2.csudh.edu/tsr/vocabulary.html#:~:text=Another%20way%20of%20choosing%20words,that%20holds%20together%20academic%20ideas.>

Caught on Camera: When a rainbow and a bolt of lightning meet

By How Stuff Works, adapted by Newsela staff on 01.15.19

Word Count **691**

Level **720L**



A bolt of lightning hits the ground in front of a rainbow in a photograph by real estate agent Greg McCown on August 8, 2015, in Marana, Arizona. McCown caught the incredible scene after seven years of trying. The avid storm chaser used a lightning trigger attached to his camera to bag a once-in-a-lifetime moment. Photo by: Greg McCown/Barcroft USA via Getty Images

For seven years, he waited for the moment. It finally happened on August 8, 2015.

Greg McCown is a photographer from Tucson, Arizona. On that day, McCown took a now-famous picture. Titled "Lucky Strike," his photo shows a jagged bolt of lightning dance across a desert rainbow.

It's unusual to see those two meteorological events occur in the same place at the same time. And photographing them side-by-side is often extremely difficult. Lightning and rainbows can happen at the same time, but the weather conditions must be perfect. Here's how it works.

This article is available at 5 reading levels at <https://newsela.com>.

As the Muppet Kermit the Frog once sang, rainbows are only illusions. We see them, but they do not physically exist. To understand rainbows, we must understand how light and color work.

When we see white light on Earth, we actually are seeing a blend of all the different colors we can see. It just appears white to our eyes.

Each color is a wave, and each has its own length. Some bands of light are shorter than others. For example, in a rainbow, violet is the shortest length, and red is the longest.

Rainbow Rules

Each beam of light's path can change once it meets something else.

Light that's passed through the air bends when it enters water.

Rainbows only become visible to us while large amounts of water droplets fill the air. To see a rainbow, you need to stand with your back to the sun. However, if the sun is blocked by clouds, rain or snow, you won't get to see any colorful arches. In order for a rainbow to appear, the sky around the sun has to be nice and clear.

Once all those rules have been met, it's showtime. First, the sunlight glowing from behind you enters the water droplets. On their journey through a bead of water, the light's wavelengths all bend at different angles. They get separated. Next they'll hit the back of our droplet. Bouncing off of this, the wavelengths travel back toward you. They bend a second time over while they exit the water.

Each droplet in the watery air will only send out one color. It's at just the right angle to meet your eyes. So, the colors of the rainbow become separated. Red is at the top and violet at the bottom.

A Rare Gift From Nature

Rainbows are only visible from a particular viewpoint and when the lighting is right.

This article is available at 5 reading levels at <https://newsela.com>.

That's why rainbows and lightning don't often appear together. When McCown shot "Lucky Strike," he was standing with his back to the sun. The sky around the setting star was clear, but storm clouds were still hanging ahead of him.

This specific situation is rare, but every so often it is caught on film.

From June to September, some of Arizona has scattered storms. They happen across this wide, open land. Here, you can watch a developing storm from 50 miles away. This is a gift to nature photographers in the area. Some of them, including McCown, have successfully caught lightning-rainbows during those months.

The experience is unforgettable. Nature is truly a wondrous thing.