

Artificial Intelligence and Its Cultural Implications

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In recent years, artificial intelligence (AI) has become a hot topic across many sectors. As teachers, we are compelled to identify the affordances of AI, good or bad, and weigh our options on how to properly integrate it into the classroom. While AI has proven to be fast and “intelligent” in many ways, such as writing summaries, problem-solving, and generating images, in this article, we seek to dive deeper into some current limitations of AI in terms of representing cultural ideas, and how we may leverage such shortcomings as learning points for the students. Specifically, we designed an activity for an intermediate English reading class in any English as a foreign language (EFL) setting. The ages of the learners are between 14 and 20. The overarching goal is to have students critically think about how their cultures may be misrepresented in AI and the general media, and how they can compare and contrast the output produced by AI against their knowledge of different cultures. The objectives of this activity, as represented through Bloom’s Taxonomy, are (1) *Understand*: explain how cultural biases can influence AI algorithms; (2) *Apply*: interpret the impact of AI-generated narratives on cultural perceptions (3) *Analyze*: analyze the implications of cultural misrepresentation in AI-generated content and break down AI-generated narratives to identify cultural stereotypes and biases; (4) *Evaluate*: apply critical thinking skills to evaluate the accuracy of AI-generated cultural narratives and utilize previous knowledge to critique AI-generated representations of students’ culture; evaluate the ethical considerations around AI’s generation of diverse cultures and judge the effectiveness of AI in accurately representing cultural diversity; and (5) *Create*: create different narratives that accurately represent their culture.

Classroom Activity

For this activity, either the teacher or the students will pull up an AI system such as ChatGPT, Gemini, or Claude. The teacher will provide this prompt, and the students will choose to fill in the blanks based on a holiday from their culture:

“Create a cultural reading passage for English language learners who are at the intermediate level on the (holiday choice) in (country), how and when people celebrate, its significance, food and traditions that go with it, and who celebrates it.”



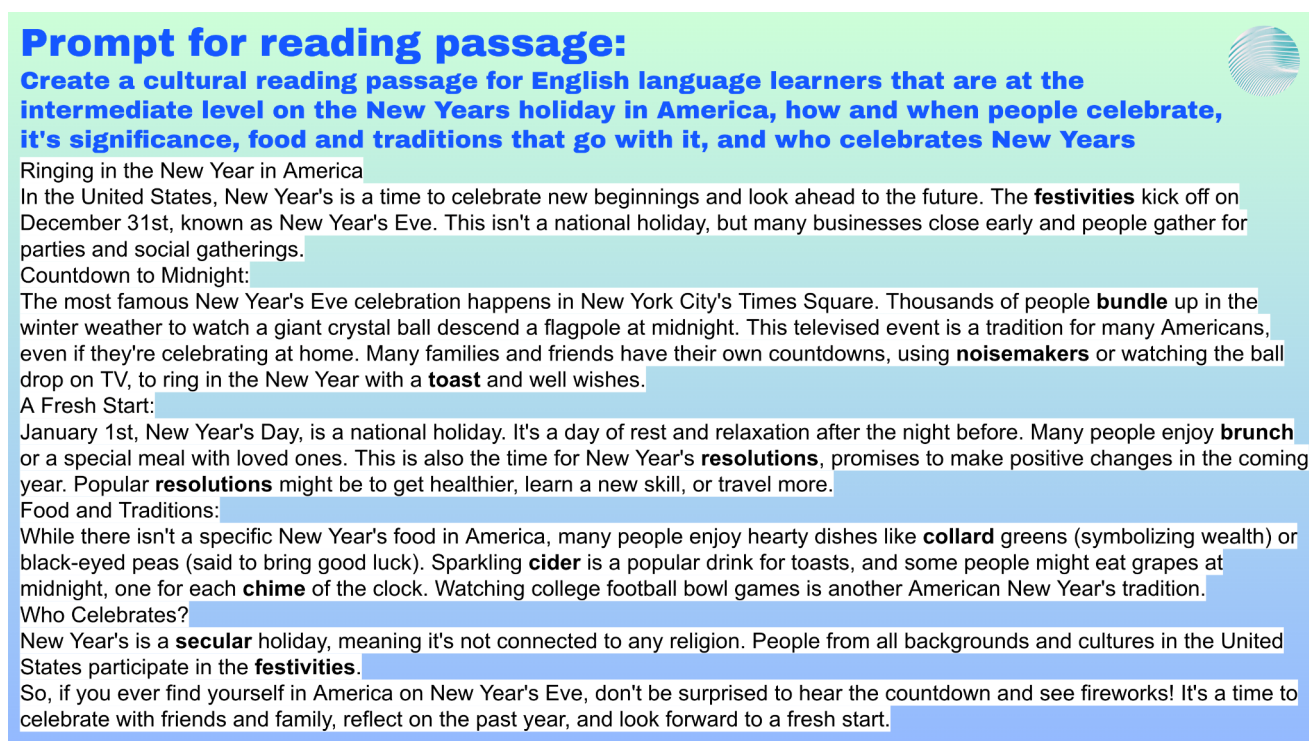
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Once the AI generates the passage, the students will read through the passage and critically evaluate the factual information presented in the output by cross-referencing their personal experiences. Students will focus on finding flaws in what the AI presents about the holiday, such as whether there is evidence of misinformation, bias, or hallucinations.

Figure 1

An Example of AI-Generated Output About New Year Holiday (OpenAI, 2024)



Prompt for reading passage:
Create a cultural reading passage for English language learners that are at the intermediate level on the New Years holiday in America, how and when people celebrate, it's significance, food and traditions that go with it, and who celebrates New Years

Ringing in the New Year in America
 In the United States, New Year's is a time to celebrate new beginnings and look ahead to the future. The **festivities** kick off on December 31st, known as New Year's Eve. This isn't a national holiday, but many businesses close early and people gather for parties and social gatherings.

Countdown to Midnight:
 The most famous New Year's Eve celebration happens in New York City's Times Square. Thousands of people **bundle** up in the winter weather to watch a giant crystal ball descend a flagpole at midnight. This televised event is a tradition for many Americans, even if they're celebrating at home. Many families and friends have their own countdowns, using **noisemakers** or watching the ball drop on TV, to ring in the New Year with a **toast** and well wishes.

A Fresh Start:
 January 1st, New Year's Day, is a national holiday. It's a day of rest and relaxation after the night before. Many people enjoy **brunch** or a special meal with loved ones. This is also the time for New Year's **resolutions**, promises to make positive changes in the coming year. Popular **resolutions** might be to get healthier, learn a new skill, or travel more.

Food and Traditions:
 While there isn't a specific New Year's food in America, many people enjoy hearty dishes like **collard** greens (symbolizing wealth) or black-eyed peas (said to bring good luck). Sparkling **cider** is a popular drink for toasts, and some people might eat grapes at midnight, one for each **chime** of the clock. Watching college football bowl games is another American New Year's tradition.

Who Celebrates?
 New Year's is a **secular** holiday, meaning it's not connected to any religion. People from all backgrounds and cultures in the United States participate in the **festivities**.

So, if you ever find yourself in America on New Year's Eve, don't be surprised to hear the countdown and see fireworks! It's a time to celebrate with friends and family, reflect on the past year, and look forward to a fresh start.

Students can discuss with each other what they found and make comparisons to how they celebrate the holiday. The teachers can turn this into a writing assignment by having the students rewrite the passage to match how they celebrate the holiday and address any stereotypes that the AI has added that may be incorrect. It could also be turned into a presentation so the students can share their findings with the class. This activity will allow students to share more about their culture and learn from other students about different holidays around the world.

When the AI receives the prompt from above, the AI gives an informational passage. For younger students, the prompt could be adjusted to make the passage a different genre or style of writing. Teachers can change the prompt to read, "Change the type of reading passage to a fiction story about a (holiday) celebration in (country)." By making the passage a fictional story, the AI can add characters and elements that will engage the students and capture their attention more than an informational passage. You could also introduce other styles of writing like poetry or make the story a different genre such as mystery or fantasy. There is an abundance of elements that you can change in this activity to meet the needs of your students' level or interests. The main goal is to have students notice the inaccuracy, potential biases, or hallucinations that AI can produce and tweak the passage to become more accurate based on what learners know about their culture and the holidays they

celebrate. We want students to be able to use their critical thinking skills to notice these inaccuracies so they can be aware that AI technology can provide wrong or biased answers. This will teach students to fact-check items provided by AI and do their research before trusting answers. This will also point out to students that although there are things that pertain to certain holidays, people can have their own individual ways of celebrating or traditions that can differ from how a majority of a culture celebrates.

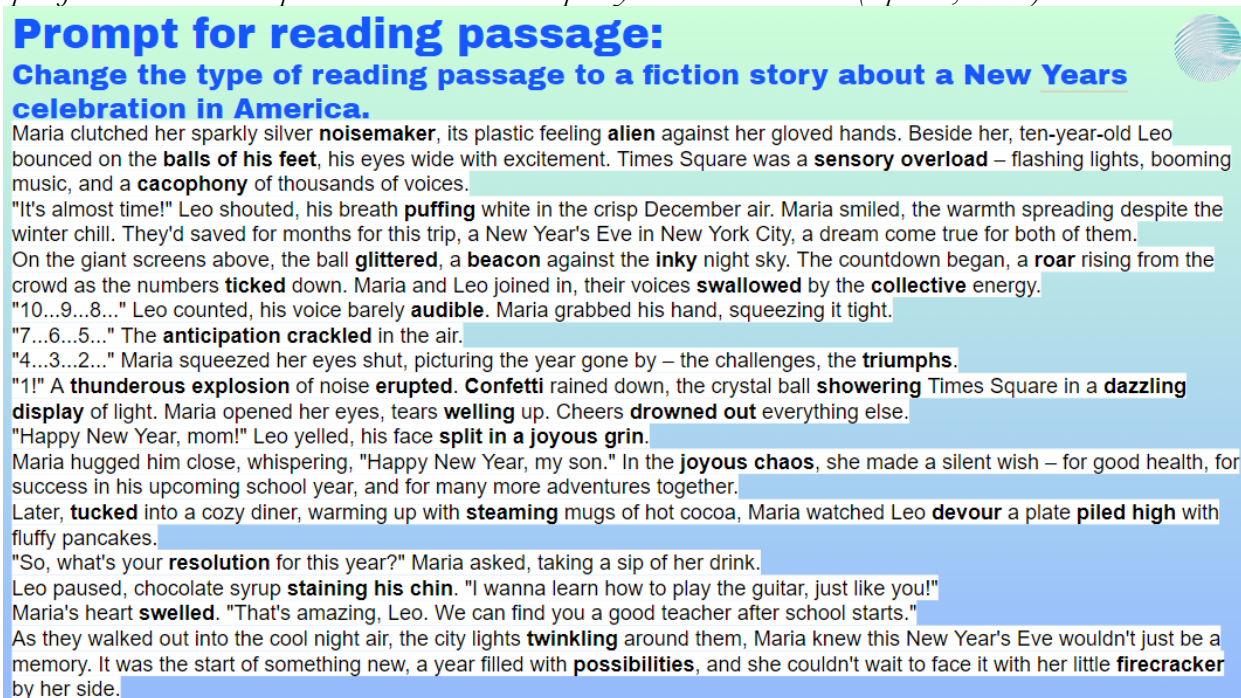
Strengths and Weaknesses of Using AI as a Source of Cultural Knowledge

Within the activity, one of the advantages of AI is that it can produce general texts, which can serve as a valuable resource for students to see commonly held perceptions about holidays or cultural events within their own cultures. AI can also change the text produced based on the type of reading you are looking for as a teacher. This provides a wide range of opportunities for different types of reading for students to interact with such as narrative, persuasive, descriptive, and expository reading. AI is flexible when adjusting to the learners' level and age, and it will define new vocabulary within the text or simplify the vocabulary based on the input. The flexibility of some AI can enhance the accessibility of content and facilitate a personalized lesson for different classes.

Though there are advantages to using AI when it comes to foreign language instructions, there are also some disadvantages and challenges which this activity aims to highlight for students. One challenge for teachers is that AI can be too wordy and the vocabulary can still be out of the learners' level of comprehension even when the input asks it for lower level vocabulary. It may also produce some English phrases that are unknown to learners as they may need to be put into context, which can cause learners to have comprehension issues.

Figure 2

An Example of AI-Generated Output with Bolded Low-Frequency Words and Phrases (OpenAI, 2024)



Prompt for reading passage:
Change the type of reading passage to a fiction story about a New Years celebration in America.

Maria clutched her sparkly silver **noisemaker**, its plastic feeling **alien** against her gloved hands. Beside her, ten-year-old Leo bounced on the **balls of his feet**, his eyes wide with excitement. Times Square was a **sensory overload** – flashing lights, booming music, and a **cacophony** of thousands of voices.

"It's almost time!" Leo shouted, his breath **puffing** white in the crisp December air. Maria smiled, the warmth spreading despite the winter chill. They'd saved for months for this trip, a New Year's Eve in New York City, a dream come true for both of them.

On the giant screens above, the ball **glittered**, a **beacon** against the **inky** night sky. The countdown began, a **roar** rising from the crowd as the numbers **ticked** down. Maria and Leo joined in, their voices **swallowed** by the **collective** energy.

"10...9...8..." Leo counted, his voice barely **audible**. Maria grabbed his hand, squeezing it tight.

"7...6...5..." The **anticipation crackled** in the air.

"4...3...2..." Maria squeezed her eyes shut, picturing the year gone by – the challenges, the **triumphs**.

"1!" A **thunderous explosion** of noise **erupted**. **Confetti** rained down, the crystal ball **showering** Times Square in a **dazzling display** of light. Maria opened her eyes, tears **welling** up. Cheers **drowned out** everything else.

"Happy New Year, mom!" Leo yelled, his face **split in a joyous grin**.

Maria hugged him close, whispering, "Happy New Year, my son." In the **joyous chaos**, she made a silent wish – for good health, for success in his upcoming school year, and for many more adventures together.

Later, **tucked** into a cozy diner, warming up with **steaming** mugs of hot cocoa, Maria watched Leo **devour** a plate **piled high** with fluffy pancakes.

"So, what's your **resolution** for this year?" Maria asked, taking a sip of her drink.

Leo paused, chocolate syrup **staining his chin**. "I wanna learn how to play the guitar, just like you!"

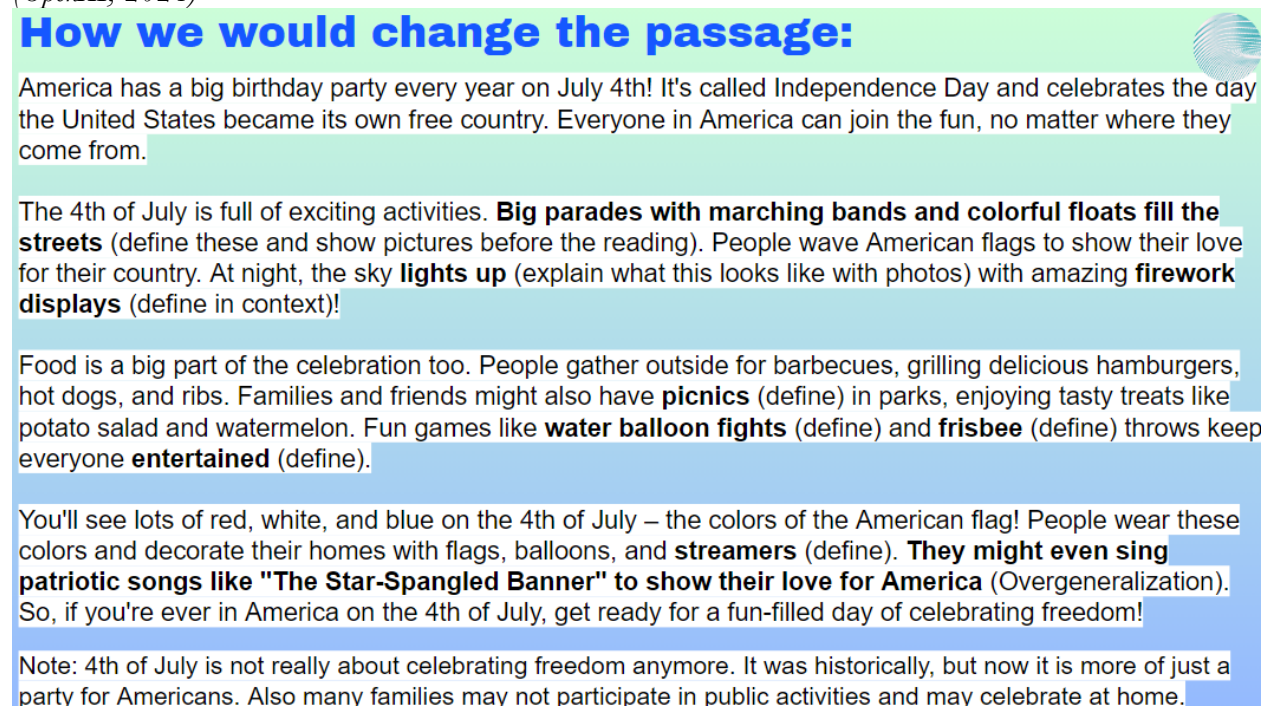
Maria's heart **swelled**. "That's amazing, Leo. We can find you a good teacher after school starts."

As they walked out into the cool night air, the city lights **twinkling** around them, Maria knew this New Year's Eve wouldn't just be a memory. It was the start of something new, a year filled with **possibilities**, and she couldn't wait to face it with her little **firecracker** by her side.

Additionally, the AI may also be resistant to change when asked to simplify vocabulary but keep the length of the original text output. Even though AI may generate some insight into cultural concepts, there are risks as some of these ideas can be overgeneralized and give readers the wrong idea about a culture.

Figure 3

An Example of AI-Generated Output with Overgeneralization And Inaccurate Representations of a Holiday (OpenAI, 2024)



How we would change the passage:

America has a big birthday party every year on July 4th! It's called Independence Day and celebrates the day the United States became its own free country. Everyone in America can join the fun, no matter where they come from.

The 4th of July is full of exciting activities. **Big parades with marching bands and colorful floats fill the streets** (define these and show pictures before the reading). People wave American flags to show their love for their country. At night, the sky **lights up** (explain what this looks like with photos) with amazing **firework displays** (define in context)!

Food is a big part of the celebration too. People gather outside for barbecues, grilling delicious hamburgers, hot dogs, and ribs. Families and friends might also have **picnics** (define) in parks, enjoying tasty treats like potato salad and watermelon. Fun games like **water balloon fights** (define) and **frisbee** (define) throws keep everyone **entertained** (define).

You'll see lots of red, white, and blue on the 4th of July – the colors of the American flag! People wear these colors and decorate their homes with flags, balloons, and **streamers** (define). **They might even sing patriotic songs like "The Star-Spangled Banner" to show their love for America** (Overgeneralization). So, if you're ever in America on the 4th of July, get ready for a fun-filled day of celebrating freedom!

Note: 4th of July is not really about celebrating freedom anymore. It was historically, but now it is more of just a party for Americans. Also many families may not participate in public activities and may celebrate at home.

In summary, while AI presents promising opportunities for enhancing educational activities, its integration into foreign language teaching and learning environments requires careful consideration as it does have limitations and ethical implications. The activity presented above has demonstrated that AI may not always provide factual or culturally accurate information and therefore may not be reliable. By engaging with AI-generated texts, students will use critical thinking skills that are essential for navigating online resources responsibly and gain a greater understanding of the importance of seeking diverse perspectives in any language learning journey as with learning a language comes learning about the culture and gaining an appreciation for those cultures.

Reference

OpenAI. (2024). *ChatGPT* (2.0 version) [Large language model]. <https://chat.openai.com/chat>

About the Authors

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Camryn Potter is a BA TESOL student at Hawai'i Pacific University. She plans to teach English in Hawai'i, Japan, and around the world. She is most interested in working with students to disperse the harmful belief that there is a native English speaker 'standard' that they want to reach when in fact there is no such 'standard.'