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EDUC 639 AI in Education

<center>Design An Unjumble Game by ChatGPT and DeepSeek</center>

Background

I am interested in game-based learning, and I plan to utilize chatbots to assist in designing a

website game that can be used in class. I have been using ChatGPT to help me modify grammar

and provide ideas for study and work. Since 2023, the emergence of DeepSeek has made me

curious about this new AI tool. Through this project, I will utilize both ChatGPT and DeepSeek

simultaneously to assist me in completing the game web design, and then examine their

similarities and differences.

Why ChatGPT and DeepSeek?

ChatGPT and DeepSeek are both Artificial intelligence (AI) Chatbots. As Wu and Yu

mentioned, "There have been noticeable differences between traditional chatbots and AI

chatbots" (p.11). "AI chatbots could not only save user inputs but also, more importantly, learn

from previous user inputs and enable improved interaction" (Wu & Yu, p.11). Meanwhile,

Williams also pointed out, "Chatbots can leverage natural language processing (NLP), an AI

subfield that enables machines to understand, respond to, and generate human language" (p.2).

Compared with traditional chatbots, I prefer using AI chatbots to help me design a website.

What's more, I can use short requests to let AI chatbots generate code for me. I have no

experience in coding, but AI chatbots can still meet my expectations and generate the game webpage I want, only with my word expression.

Process

Before using the chatbots, I had a preliminary expectation of my game website page. As a website developer, I should have design thinking before I start using AI chatbots. As Chen mentioned, "Design thinking refers to the strategy and process of using the designer's way to solve the problem (Chen, p.2). Then I wrote my expectations into clear paragraphs, including short requests. Then I sent these paragraphs to both ChatGPT and DeepSeek.

ChatGPT answered the question quickly, with only a few seconds of waiting. It generated a string of code for me right after my requests. I previewed my output, and I found that the layout and appearance of this web page have basically met my expectations. Every word box can be moved, but it cannot move to the position I want, so I cannot complete the game smoothly. Moreover, the decorations of butterflies and flowers are not shown, but only [flower] and [butterfly].

I used DeepSeek's Deep Think, which takes about 40 seconds to run, and it takes longer than ChatGPT. It shows the entire thinking process and then shows a string of code as well. The web page designed by DeepSeek is beyond my expectations. Its page design is beautiful. And it can move words well to the right position and smoothly complete the entire game. In the first attempt, although DeepSeek's results were much slower than ChatGPT's, the final result was better.

Based on the first attempt, I discovered some problems and quickly modified some requests. "Another limitation is the chatbot's inability to understand multiple sentences at once, which is unlike human-human interaction in a real language learning context" (Huang, p.238). I wrote my needs more clearly, but I still used short words to describe my needs. I think chatting with robots does not require too much emotional support but just stating the needs. Because, as Malik said, "The chatbot is prepared on a rule-based approach. Therefore, it cannot solve text-based complex queries given by the user" (p.11).

After many modifications, adjustments, and beautifications, ChatGPT and DeepSeek both generated the web pages I wanted.

Reflection

Issues	ChatGPT	DeepSeek
1st Attempt	• Cannot drag and drop the word boxes. • Decorations show [flower].	• Word boxes can drag and drop to the right positions. • Too many vibrations.
Modification: • Add a rectangular frame, which is good for dragging boxes into the frame. • Add "word boxes can be dragged".		
2nd Attempt	• Decorations show [flower].	• Word boxes can be dragged but

|		cannot be dropped.
Modification: Sentence changed to "word boxes can be dragged and dropped".		
3rd Attempt	● Once the word boxes are dragged in the frame, these boxes cannot be dragged back again.	● Once the word boxes are dragged in the frame, these boxes cannot be dragged back again.
Modification: ● Add sentence: "Click the word box, it will return back to the original place."		
4th Attempt	● The word boxes would be duplicated in the shuffled original place.	● If moving boxes back many times, these boxes cannot be dragged again anymore.
Modification: ● Add "without repeating" after the 3rd attempt modification sentence. ● Add sentence: "Boxes can still be dragged to complete the sentence."		
5th Attempt	Success!	Success!

However, the decorations of the final version of ChatGPT are still [butterfly] and [flower].

DeepSeek's decorations not only meet my expectations but are even dynamic. ChatGPT and

DeepSeek generate different styles, but the final results are similar. Although DeepSeek is a new

AI tool, its results are always surprising. This time, I prefer the webpage generated by DeepSeek.

My final webpage may still have problems and loopholes, but it is a fun experience to chat with AI chatbots to achieve the project expectations I want. Each result they generate helps me think independently about how to make the next test more successful. Similar to what Omran said, "Integrating AI not only amplifies students' creative prowess but also hones their critical thinking and problem-solving abilities" (p.285).
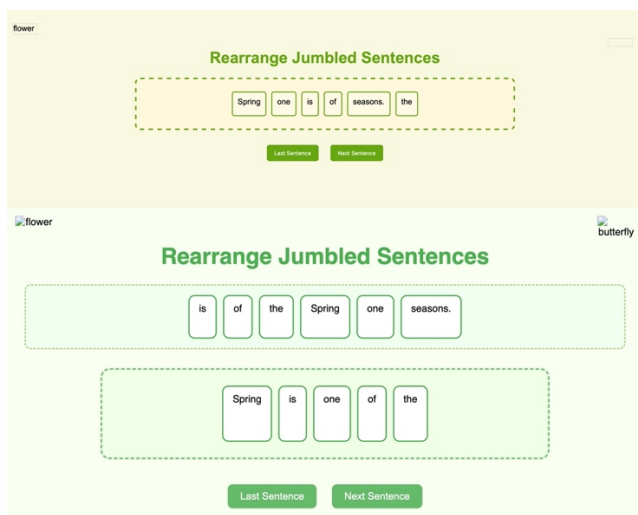
ChatGPT - 1st Attempt & Final Attempt
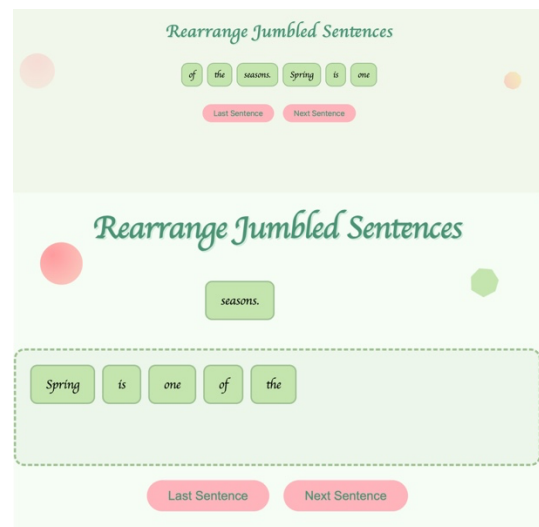
DeepSeek - 1st Attempt & Final Attempt

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