Evaluation of ChatGPT-4 for generated alt-text and accessibility in undergraduate and graduate nursing courses

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Keywords

Accessibility; Artificial Intelligence; Generative AI; Alt-text; ChatGPT

Abstract

Background: The Accessibility Resource Center at OHSU includes alt-text images as one of the important steps for having accessible lectures and online content. However, it is often a tedious task for instructors and course designers to create accessible online courses in multiple formats. As an example, complicated imagery requires alternative text (alt-text) for various learner needs. Meanwhile, writing alt-text can be difficult and time-consuming, especially when the image is complex. Generative AI offers a solution for this because these tools can now describe imagery (including tables and graphs) in a matter of seconds.

Research Question:

To what extent does ChatGPT-4 generate accurate, meaningful, and quality alt-text for digital images in online nursing courses?

Methods

This will be a quantitative study that uses a Likert-style survey with select faculty in undergraduate and graduate nursing courses. To be specific, we will reach out to faculty who use non-decorative digital images in their online course from the RNBS and MNE programs and use said images for the study. After consent is obtained, the selected images will be uploaded to ChatGPT-4 for the generation of alt-text. Faculty will be asked to evaluate the accuracy, meaningfulness, and quality of alt-text generated by ChatGPT-4, using a 5-point Likert scale (Strongly Agree, Agree, Neutral, Disagree, and Strongly Disagree) to rate the following statements:

- The alt-text generated for this digital image is accurate.
- The alt-text description generated for this digital image is meaningful for student learning.
- The alt-text description generated for this image meets the quality required for my course.

Impact

The study seeks to raise awareness among nurse educators about the capabilities of generative AI tools in creating accessible educational content.

Findings

TBD (in progress: we will be collecting the data over the next few months)

DEI

The use of alt-text aligns with the Universal Design for Learning (The UDL guidelines, n.d.) and makes courses more inclusive and accessible for all learners. Alt text allows for the consumption of educational content in multiple modalities. Using generative AI can make this process more attainable for faculty, instead of writing alt-text from scratch.

Possible applications

This study has the potential to empower faculty to use ChatGPT-4 (and possibly other generative AI tools). Additionally, using ChatGPT-4 may increase efficiency for generating alt-text for digital images in their courses (Wu et al., 2024). Moreover, this study can provide more understanding and contribute to the growing body of knowledge on ChatGpt-4 and its alt-text capabilities.

References

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