

## **Evaluating Research Survey Websites in Kinesiology: A Case Study Using An Accessibility Rating Form**

YI SHENG WU, JAFRĀ D. THOMAS, REGINA F. HOCKERT, JASMINE C. WONG, & SAMANTHA M. ROSS

Lab of Dr. Jafrā D. Thomas; Department of Kinesiology and Public Health; California Polytechnic State University—San Luis Obispo; San Luis Obispo, CA

---

*Category: Undergraduate*

*Advisor / Mentor: Thomas, Jafra (jthoma84@calpoly.edu)*

### **ABSTRACT**

Advancing equity in the research and educational practice of kinesiology requires intentional efforts to ensure access divides do not widen nor persist (Ross et al., in press, *JOPERD*). **PURPOSE:** Given knowledge of suitability assessment of materials (SAM) principles supports the equitable design of lay print and online material, we evaluated the extent they would also support developing a research survey website consistent with accessibility guidelines for digital technology. **METHODS:** The study website was adapted from the Canvas learning management system. A cross-sectional formative assessment was performed. Using their knowledge of SAM principles (eg, clear layout, text  $\leq$  8<sup>th</sup> grade reading level), the second and third author (JDT, RFH) constructed the website webpages (eg, site welcome page, online questionnaire; Jun.-Jul. 2022). The first author (YSW), using guidelines from two reputable sources (ie, a Canvas tutorial and W3C website), developed a 14-item accessibility rating form to critically appraise the website's 10 webpages (ie, 1 = *Not Accessible*, 2 = *Somewhat Accessible*, 3 = *Accessible*; Wallace et al., 2010, *JPAH*). Authors 1-4 then performed a formative assessment of the adapted Canvas websites' accessibility independently (Jul.-Aug. 2022). Form reliability was assessed using the intraclass correlation coefficient and its interpretive cut-points for average absolute-rater agreement (Cicchetti, 1994, *Psych Assess*; Landers, 2015, *Winnower*). **RESULTS:** Average rater agreement was excellent per webpage ( $M = .91$ ,  $LL = .82$ ,  $UL = .94$ ). Mean webpage score ranged between 2.55 ( $\pm 0.78$ ) to 2.77 ( $\pm 0.58$ ). Informational pages (eg, welcome page) had greater accessibility than interactive pages (eg, forms). Five discrepant items were systematic, resulting in redundant rater differences (eg, keyboard navigation was hard to notice). All discrepancies were resolved with 100% consensus. **CONCLUSION:** The findings of the present study suggest knowledge of SAM principles ensures developers can design lay friendly and accessible research survey websites. They further suggest rating forms inclusive of digital accessibility guidelines should be used as a supplement to further meet accessibility and equity goals. We will share our form, then discuss our results using the universal design for learning framework.

# Accessibility Rating Form for Websites and Other Online Platforms

By Yi Sheng (Ethan) Wu<sup>1</sup>, Jafra D. Thomas<sup>1</sup>, Regina F. Hockert<sup>1</sup>, Jasmine C. Wong<sup>1</sup>, & Samantha M. Ross<sup>2</sup>

<sup>1</sup>California Polytechnic State University, San Luis Obispo

<sup>2</sup>West Virginia University

July 2022

Revised February 14, 2024, to explain post-presentation cut-point range change.

## Description

**Background.** This file provides a coding form developed to judge how accessible websites and other online platforms are to users. Accessibility may be defined as the ease to which a person can perceive content and navigate material ([Ross & Ross, 2021](#)). Users are encouraged to adapt this form for their use.

**Purpose.** The rating form can be used to judge the pages of online media, using 14 criteria under two areas: Accessible Media and Accessible Design. One of three grades could be assigned to each criterion: Not Accessible (0 point), Somewhat Accessible (1 point), Accessible (2 points), adapted from published research [by Wallace et al. \(2010\)](#). Initially, this form was developed to rate the website created using the Learning Management System platform, [Canvas](#) (Instructure, n.d.), which was adapted as a research survey website.

**Form validity and reliability.** This form was based on guidelines for accessible websites, provided from the [World Wide Web Consortium](#) (Zahra, 2019). This form was found to have excellent rater agreement within a preliminary study, which was presented at the 2022 Southwest Chapter Conference Meeting of the American College of Sports Medicine (October 28-29, Costa Mesa, California). The intraclass coefficient statistic was used (four raters,  $M = .91$ ,  $LL = .82$ ,  $UL = .94$ ; [Landers, 2015](#)). Results were interpreted using [Cicchetti's \(1994\)](#) interpretive cut-points. Further detail is reported in the published abstract to the study's presentation ([Wu et al., 2022](#)). Note: after the conference presentation (November 2022), the rating form cut-point range (i.e., 1-3) was adjusted to match the range seen in other instruments used to measure the suitability of communication materials (i.e., 0-2; [Thomas et al., 2022](#)).

## Acknowledgments

This project was supported by the William and Linda Frost Fund (College of Science & Math, Cal Poly, San Luis Obispo), in the form of a Frost Undergraduate Student Research Award to the first, third, and fourth author (YSW, RFH, JCW). Additionally, the first four authors received a Frost Research Travel Award to present this work. The authors are also grateful to the Southwest Chapter of the American College of Sports Medicine, who awarded the third and fourth authors (RFH, JCW) a Student Travel Grant to present this form at their 2022 Chapter Conference Meeting, October 28<sup>th</sup> to 29<sup>th</sup> (Costa Mesa, California).

## Rating Form

Last Name:

First Name:

Date of Completion:

**Page Number:**

<p><b>Not Accessible (0) –</b> The following page fails to reach the inclusion criteria as it fails to include aspects of any sort of accessibility.</p>	<p><b>Somewhat Accessible (1) –</b> The following page has some aspects of the inclusion criteria, but it is only applied to a section and not the whole, or the function does not work properly.</p>	<p><b>Accessible (2) –</b> The following page succeeds the criteria listed in the boxes below and is not missing in any proportion.</p>
--	---	---

### Accessible Media

	0	1	2
Is all of the text large enough to be easily read? - Make sure text size is at least font 14.			
Are there any errors in terms of grammar, punctuation, or spelling?			
Are there media alternatives for images? Images should have alternative text describing the image, and audio descriptors available.			
Is there a perceptible function to play audio for large groups of text and does the audio function work?			
Is there another indicator besides color for images? (e.g. drawings but not only colors)			
Are images on the page an appropriate size for viewing described content?			
Is the content checked to be not potentially harmful for individuals? - Flashing GIFs may harm individuals with epilepsy Uncomfortable topics can be harmful for individuals with sensitivity in said topic. Make sure there is a <b>warning</b> before proceeding with these topics.			
Is the usage of words correct for the type of audience that you are gathering? - Is this for children, adults, scientists, or other? Are you following plain language principles?			

### Accessible Design

Does the website work just as well on Mobile as on Desktop?			
Is the website easily navigable and clear on where to find items?			
Does content appear in predictable ways? - For example, will a website selling clothes with a hoodie sub-section have only hoodies in that section, or will there be other types of clothing that may be misleading?			
Is there a part in the website for support and FAQ?			
If any part of the website is timed, is there enough time allotted to finish the said task?			
Is the content navigable with only one form of internet navigation? - Mouse - Keyboard - Touchscreen			

### Canvas

Did you run the Canvas accessibility checker? (Circle)	Yes	No
Please list Canvas Accessibility Checker suggestions:		

## References

- Cicchetti, D. V. (1994). Guidelines, criteria, and rules of thumb for evaluating normed and standardized assessment instruments in psychology. *Psychological Assessment*, 6(4), 284–290.  
<https://doi.org/10.1037/1040-3590.6.4.284>
- Instructure. (n.d.). *What is Canvas?* <https://community.canvaslms.com/t5/Canvas-Basics-Guide/What-is-Canvas/ta-p/45>
- Landers, R. (2015). Computing intraclass correlations (ICC) as estimates of interrater reliability in SPSS. *The Winnower*, 2, Article e143518.81744. <https://doi.org/10.15200/winn.143518.81744>
- Ross, S.M., & Ross, A.S. (2021, April 13-17). *Equitable student access to curriculum: App accessibility & inclusion features* [PowerPoint slideshow conference presentation]. Society of Health and Physical Education of America (SHAPE) 2021 Conference and Expo, virtual, recording available from [https://www.youtube.com/watch?v=SroKxQ3vn\\_0](https://www.youtube.com/watch?v=SroKxQ3vn_0)
- Thomas, J. D., Tse, E. N., Longoria, S. A., Christopher, C. N., & Cardinal, B. J. (2022). Suitability: A longitudinal study of adult-focused physical activity promotion web articles. *Journal of Kinesiology and Wellness*, 11(1), 94-106. <https://doi.org/10.56980/jkw.v11i.114>
- Wallace, L. S., Bielak, K., Linn, B. (2010). Are English-language pedometer instructions readable? *Journal of Physical Activity and Health*, 7, 375-380. <https://doi.org/10.1123/jpah.7.3.375>
- Wu, Y-S., Thomas, J. D., Hockert, R. F., Wong, J. C., & Ross, S. M. (2022). Evaluating research survey websites in kinesiology: A case study using an accessibility rating form [Abstract]. Proceedings of the 2022 Conference of the Southwest Regional Chapter of the American College of Sports Medicine. *International Journal of Exercise Science: Conference Proceedings*, 14(2). Article 184. <https://digitalcommons.wku.edu/ijesab/vol14/iss2/184/>
- Zahra, S. A. (2019, May 10). *W3C Website Accessibility Initiative*. Web Accessibility Initiative (WAI). <https://www.w3.org/WAI/fundamentals/accessibility-principles/>