

To: Robert Van Rennes, Big Ten Academic Alliance
From: Graham L. Pierce, MSU Usability/Accessibility Research and Consulting
Subject: SAGE Journals High-Level Accessibility Evaluation
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MSU Usability/Accessibility Research and Consulting (MSU UARC) conducted a high-level accessibility evaluation of SAGE Journals to evaluate its conformance with WCAG 2.0 AA Criteria. This evaluation did not include all functionality or content of the site or all WCAG 2.0 AA Criteria.

During this evaluation, a number of issues were found that will make the site and its content difficult or impossible to use for some individuals with disabilities.

Keyboard users, including screen reader users and users with dexterity impairments, will have difficulties when attempting to use the site. Most importantly, some content cannot be reached or operated via keyboard. In addition, many interactive elements lack a sufficiently visible focus indicator, making it difficult or impossible for many keyboard-only users to effectively use them, as they cannot determine when they have reached the correct element. Focus order is also incorrect in places, further increasing the difficulty of using the site with a keyboard.

Individuals with visual impairments that rely on screen readers will have additional problems. Custom elements do not correctly announce themselves or provide appropriate feedback to screen readers, making them difficult to understand and use. Some form inputs are not appropriately labeled, making them difficult or impossible to use for those that rely on screen readers. Images throughout the site (including all Figures in articles) have missing or incorrect alternative text and images of text are used in place of formatted text, further impacting users with visual impairments. Some content that is grouped together visually is not labeled or grouped programmatically, making it difficult or impossible for screen reader users to understand the relationships between those pieces of content. Some structural information, including headings, lists, and tables on pages and in PDFs, is also not appropriately conveyed to screen reader users, making it difficult to understand content organization.

A number of other issues were found that will make it difficult for users with a variety of disabilities to effectively use the system, including broken "Skip to Main" links, lack of error identification, insufficient link context, use of color alone to distinguish content, insufficient color contrast, missing PDF titles, and missing PDF language identification.

To improve access for users with disabilities, UARC recommends a full WCAG 2.0 AA evaluation and that the problems discovered be remediated.

Note: For the purposes of this high-level review, "Citizens', Scientists', and Policy Advisors' Beliefs about Global Warming" was used as an example of an Article page and PDF.

High-Level Findings

Document Structure

- PDFs are not tagged for accessibility (e.g., headings and tables are not tagged, and are therefore unavailable to assistive technologies). [[WCAG 2.0 SC 1.3.1](#)]

- PDFs are not titled (file is set to show file name instead of document title as window title). [[WCAG 2.0 SC 2.4.2](#)]
- The human language (e.g., English) of PDFs is not set. [[WCAG 2.0 SC 3.1.1](#)]
- Headings are not correctly used to organize content. [[WCAG 2.0 SC 1.3.1](#)]
 - On the Home page, "Authors", "Librarians", "Editors", and "Societies" should not be headings.
 - On the Article page, "Keywords" and "Note:" should be headings.
 - On the Article page, "Figures & Tables", "Article Metrics", "Cite", "Permissions", etc. should not be headings.
- Lists are not correctly used to organize content. [[WCAG 2.0 SC 1.3.1](#)]
 - Footer lists (e.g., items under "SAGE Journals") are not coded into programmatic lists.
 - On the Home page, bulleted items under "My SAGE Journals" should be a single four-item programmatic list, instead of two separate two-item lists.
 - On the Home page, multiple embedded lists are incorrectly used under "Most Read".
- The "Feedback" tab/button is incorrectly read out as "Usabilla Feedback" instead of "Feedback". [[WCAG 2.0 SC 1.3.2](#)]

Keyboard Support

- Cannot open menu dropdowns (e.g., "Resources" and "My Tools" on all pages and "Browse" and "About" on Article page) via keyboard when screen reader is in use; cannot activate menu dropdown items via keyboard when screen reader is not in use. [[WCAG 2.0 SC 2.1.1](#)]
- Cannot reach "Specific feedback" button in Feedback lightbox via keyboard. [[WCAG 2.0 SC 2.1.1](#)]
- On the Search Results and Article pages, cannot activate author information lightboxes via keyboard. [[WCAG 2.0 SC 2.1.1](#)]
- On the Search Results page, cannot expand Previews via keyboard unless screen reader is in use. [[WCAG 2.0 SC 2.1.1](#)]
- On the Search Results page, cannot reach sidebar headings (e.g., "Article Type", "Publication Date", etc.) via keyboard to expand/collapse them. [[WCAG 2.0 SC 2.1.1](#)]
- On the Search Results page, cannot reach "Select all" checkbox via keyboard. [[WCAG 2.0 SC 2.1.1](#)]
- On the Advanced Search page, cannot remove/change selected journal in Citation Search via keyboard. [[WCAG 2.0 SC 2.1.1](#)]
- In the Share lightbox on the Article page, the more/+ social media button cannot be reached via keyboard. [[WCAG 2.0 SC 2.1.1](#)]
- Cannot open Feedback tab/button via keyboard in Chrome when screen reader is in use. [[WCAG 2.0 SC 2.1.1](#)]
- Focus is not sufficiently visible on a variety of content. [[WCAG 2.0 SC 2.4.7](#)]
 - Selected items in Search autocomplete dropdowns.
 - Sort dropdown on Search Results page.
 - Dropdowns on Browse and Advanced Search pages (especially in Chrome).
 - Image links on on Article page (e.g., American Academy of Political and Social Science logo and "Purchase single volumes of The Annals, Find out more").
 - +/- button next to "Full text" on Article page.

- Close button and text links in SAGE Recommends sidebar on Article page.
- On the Search Results page, users must move through all results with the keyboard to reach result filters. [[WCAG 2.0 SC 2.4.3](#)]
- On the Article page, users must go through all links in the body of the article to reach article navigation/functions (e.g., "Table of Contents" button, "Figures & Tables" links, "Cite" link, etc.). [[WCAG 2.0 SC 2.4.3](#)]
- On the Article page, focus incorrectly goes to the "Feedback" tab/button after all page content (instead of after the adjacent "SAGE Recommends" tab), and focus is not restricted to the Cite, Permissions, or Share lightboxes or the SAGE Recommends sidebar when they are open. [[WCAG 2.0 SC 2.4.3](#)]
- On the Article page, focus doesn't immediately go to Figure Viewer lightbox when it is opened, and focus is not restricted to lightbox. [[WCAG 2.0 SC 2.4.3](#)]
- In the Share lightbox on the Article page, focus reaches the close button only after the social media buttons. [[WCAG 2.0 SC 2.4.3](#)]
- On Search Results page, changing the Sort dropdown with the arrow keys and then moving focus out of the field does not update sort order (and no button to do so is provided). [[WCAG 2.0 SC 2.4.3](#)]
- In the Refine Search section of the Search Results page, tabbing past the last item in the Refine Search tab unexpectedly switches to next tab. [[WCAG 2.0 SC 3.2.2](#)]
- Multiple invisible objects receive focus in footer before the "Feedback" button. [[WCAG 2.0 SC 2.4.3](#)]

Navigation

- "Skip to main content" links do not work. [[WCAG 2.0 SC 2.4.1](#)]
- On the Search Results and Browse pages, insufficient context is provided to screen reader users for page number links. [[WCAG 2.0 SC 2.4.4](#)]

Forms and Data Submission

- On the Search Results page, checkboxes are not programmatically labeled. [[WCAG 2.0 SC 3.3.2](#)]
- In the Refine Search section of the Search Results page and on the Advanced Search page, dropdowns (e.g., "Anywhere") are not programmatically labeled, the "Published In" text box is not correctly labeled (does not include "Published In"), and radio button labels are missing grouping text (e.g., "Publication Date"). Connected dropdowns, search terms, and "Remove this search term" buttons are not programmatically associated with each other, and consistent labeling is not used (e.g., "Enter search term 1", "Remove search term 1", etc.). [[WCAG 2.0 SC 3.3.2](#)]
- On the Browse page, dropdowns and "Go to page" text input are not programmatically labeled. [[WCAG 2.0 SC 3.3.2](#)]
- On Results page, errors (e.g., date inputs) are not announced by screen readers. [[WCAG 2.0 SC 3.3.1](#)]
- On the Advanced Search page, no error is identified when an invalid year is entered (e.g., entering year of "2" results in all years being displayed). [[WCAG 2.0 SC 3.3.1](#)]
- On the Browse page, no error is identified when an invalid page number is entered. [[WCAG 2.0 SC 3.3.1](#)]

Images

- On the Article page and PDF, all Figures and Tables lack appropriate alternative text. [[WCAG 2.0 SC 1.1.1](#)]

- On the Article page, images of text are used instead of styled text for Tables. [[WCAG 2.0 SC 1.4.5](#)]
- On the Home page, graphics for Authors, Librarians, Editors, and Societies are decorative, and should have null alternative text. [[WCAG 2.0 SC 1.1.1](#)]
- On the Article page, graphics for Cite, Permissions, and Share are decorative, and should have null alternative text. [[WCAG 2.0 SC 1.1.1](#)]

Color and Visual Characteristics

- On the Search Results page, color alone is used to highlight search terms in results and to indicate input errors. [[WCAG 2.0 SC 1.4.1](#)]
- Grey text on white background (e.g., "Search all SAGE Journals" placeholder text, numbers in sidebar of Search Results page) and red, green, purple, and yellow text on white ("SAGE Video", "SAGE Research Materials", "SAGE Stats", and "CQ Library", respectively) have insufficient contrast. [[WCAG 2.0 SC 1.4.3](#)]

Custom Elements and Dynamic Content

- Autocomplete text-input dropdowns don't work with screen readers (selected item names/values are not correctly read out). [[WCAG 2.0 SC 4.1.2](#)]
- Custom expanders (e.g., menus on all pages; Previews, "More", and "Less" links on Search Results page; Article Type, Publication Date, and Subject headings on Search Results page) do not have roles or values provided (i.e., screen reader users are not informed that they expand/collapse and whether they are expanded/collapsed). [[WCAG 2.0 SC 4.1.2](#)]
- In the Refine Search section of the Search Results page, unselected tab values are incorrectly identified as "Selected". [[WCAG 2.0 SC 4.1.2](#)]
- On the Search Results page, the specific names of buttons to remove filters (e.g., date range, article type) is not identified to screen reader users (e.g., "Since 2015", "Book Review"). [[WCAG 2.0 SC 4.1.2](#)]
- On the Search Results page, no name, role, or value is provided for Publication Date sliders. [[WCAG 2.0 SC 4.1.2](#)]
- On the Article page, no appropriate name, role, or value is provided for +/- icons next to "Full text". [[WCAG 2.0 SC 4.1.2](#)]
- No feedback is provided to screen reader users when content expands/collapses (e.g., Previews on Search Results page, SAGE Recommends sidebar on Article page). [[WCAG 2.0 SC 4.1.2](#)]
- No feedback is provided to screen reader users when the "Sign In"/"My Account" lightbox appears/disappears. [[WCAG 2.0 SC 4.1.2](#)]
- On the Search Results page, no feedback is provided to screen reader users when refining results (e.g., selecting "Book Review" as Article Type). [[WCAG 2.0 SC 4.1.2](#)]
- On the Home page, feedback provided to screen reader users when the "View More" and "View Less" buttons are used is unclear/confusing. [[WCAG 2.0 SC 4.1.2](#)]
- On the Home page, "Most Read" and "Most Cited" tabs are not identified as tabs. [[WCAG 2.0 SC 4.1.2](#)]
- "Sign in"/"My Account" is read out as a link, instead of a button. [[WCAG 2.0 SC 4.1.2](#)]

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