Accessiblü

Managed Digital Accessibility Ops

Accessibility Evaluation Report:

JoVE Journal of Visualized Experiments

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Conducted by: Accessiblü, LLC

For: Library Accessibility Alliance (LAA)

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Summary of Accessibility Findings

Accessiblü conducted a high-level accessibility evaluation of the JoVE (Journal of Visualized Experiments) Science Education platform, accessed via the University of Washington's library portal, to assess its usability for individuals with disabilities. The review was conducted using the JAWS 2025 screen reader on Windows 11 with Google Chrome, keyboard-only navigation, and manual inspection, supplemented by automated scanning with axe DevTools, for conformance with select WCAG 2.2 AA success criteria.

JoVE is a peer-reviewed scientific video journal and educational platform offering science education content across subjects including biology, chemistry, clinical skills, and engineering. The evaluation covered four key page types: the Science Education landing page, a lab technique search results page, a filtered product search view, and an individual video content page.

JoVE demonstrates a number of thoughtful design choices that support accessibility, including the presence of skip-to-content functionality through an accessibility overlay, meaningful landmark regions (banner, navigation, main, contentinfo), a functional transcript section on video pages, and a well-structured footer with organized link groupings. These features provide a good foundation on which to build further improvements.

That said, the evaluation identified several opportunity areas across all four pages that may create challenges for users relying on screen readers, keyboard navigation, and other assistive technologies. The most significant barriers center on keyboard interaction patterns, focus management after dynamic content updates, and ARIA implementation in the navigation and filter components. Addressing these areas would meaningfully improve the experience for students, researchers, and library patrons who rely on assistive technologies to access JoVE's video science content.

Key Findings

Across all four pages tested, screen reader users encountered a consistent pattern: interactive elements - particularly navigation menus, filter controls, and video player buttons - frequently lacked the programmatic state information that assistive technologies depend on. When menus opened or content updated, JAWS was not notified, leaving users without context about what changed or where to navigate next. Keyboard-only users encountered partial traps in the navigation menus and search autocomplete that required non-obvious escape sequences to exit.

These challenges, while addressable, do create meaningful friction for users with disabilities. A researcher using a screen reader, for instance, would need significantly more effort to refine a search using date range filters, apply product type filters, or control video playback than a sighted mouse user performing the same task.

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Top 3 Issues Identified

1. **Navigation Keyboard Traps and Focus Management**

   a. **The main navigation menus** (Research, Education, Business) expand via arrow keys without user intent, creating partial keyboard traps.

   b. **Impact**: Users must press Escape to exit, but the menu re-expands as soon as focus moves back. After closing the user menu, focus is also lost to the top of the page. This pattern affects every page on the platform.

   c. **WCAG Success Criteria**: 2.1.2 No Keyboard Trap (A), 2.4.3 Focus Order (AA)

2. **Missing Status Messages for Dynamic Content Updates**

   a. **When search results update** (after filtering, sorting, or running a new search), JAWS receives no programmatic notification.

   b. **Impact**: Focus returns to the top of the page rather than to the first result, and no live region announces the update. The AI chat feature similarly provides no indication when a response is being generated or when it is ready.

   c. **WCAG Success Criteria**: 4.1.3 Status Messages (AA), 2.4.3 Focus Order (AA)

3. **Filter Controls Lack Accessible Names and State**

   a. **The search filter panel contains multiple unlabeled or miscoded controls**

   b. **Impact**: Expand/collapse buttons announce only as generic 'button' with no state, date range sliders have no accessible names, icon graphics preceding filter section headings are exposed to screen readers as unnamed graphics, and the All/With Video and Content/Products toggle pairs function as radio groups but are coded as plain buttons without selected state.

   c. **WCAG success Criteria**: 4.1.2 Name, Role, Value (A), 1.3.1 Info and Relationships (A), 1.3.5 Identify Input Purpose (AA)

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Disabilities Impacted

Blind and Low-Vision Users

Issues: Screen reader users encounter keyboard traps in the main navigation menus, missing state announcements on filter controls and menus, focus loss after dynamic content updates, unlabeled buttons throughout the search and video pages, and ARIA implementation errors that cause menus to announce incorrectly or not at all.

Impact: These barriers create significant inefficiencies for blind users. Key tasks - searching for content, refining results with filters, adjusting video playback - require substantially more effort than for sighted users, and in some cases (like accessing the AI chat response or controlling a paused video) the content is effectively inaccessible.

Users with Motor Disabilities

Issues: Navigation menus that expand on arrow key press create unintended activation for keyboard users. Video player controls become inaccessible when the video is paused. Multiple unlabeled buttons require users to activate them to discover their function.

Impact: Users who rely on keyboard-only navigation will find the navigation menus challenging to bypass and may inadvertently expand menus while attempting to reach main content. The video player's inaccessible-when-paused control set is particularly limiting for users who pause frequently to process content.

Neurodiverse Users

Issues: The absence of status messages during search updates and AI response generation means users receive no feedback on whether their actions are working. Heading hierarchy anomalies on the landing page (H2 appearing before H1) create structural confusion. Multiple buttons labeled identically or unlabeled add cognitive load when navigating by element.

Impact: Users with cognitive disabilities, attention differences, or those who rely on predictable page structure may find the inconsistent feedback and navigation patterns disorienting. Clear status messages and consistent heading hierarchy are particularly valuable for users who benefit from explicit confirmation that actions have been registered.

Users with Hearing Impairments

Issues: Video content lacks audio description tracks, though transcripts are available. The language selection button for caption tracks has insufficient color contrast (foreground #ffffff on background #137cec yields a ratio of approximately 4.09:1, below the 4.5:1 minimum).

Impact: Deaf and hard-of-hearing users can access transcripts, which is a meaningful positive feature. However, the absence of audio descriptions means users with combined hearing and vision impairments cannot fully access the visual information in JoVE's science demonstrations.

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Page-Specific Findings and Impact Analysis

Science Education Landing Page

URL: https://app-jove-com.offcampus.lib.washington.edu/education/science-education

Opportunity Area	WCAG Success Criteria	Description	Example
Missing Bypass Block / Skip Navigation	**2.4.1** Bypass Blocks (A)	No skip navigation link is present to allow keyboard and screen reader users to bypass the main navigation menu and reach primary content directly. Users must tab through all navigation elements on every page load.	JAWS reads through the full navigation structure before reaching the 'Education Videos' heading. No 'Skip to main content' link appears at the top of the focus order.
Heading Hierarchy Out of Order	**1.3.1** Info and Relationships (A)	'Education Videos' is coded as an H2, while 'Science Education' (the primary page heading) is coded as H1. The first heading encountered should be H1, with H2 reserved for subordinate sections beneath it.	JAWS announces 'Education Videos Heading Level 2' followed by 'Science Education Heading Level 1.' The auditor confirmed: 'Education Videos should be Heading Level 1 and Science Education should be Heading Level 2.'
Navigation Menu Keyboard Trap	**2.1.2** No Keyboard Trap (A)	The Research, Education, and Business dropdown menus expand automatically when arrow keys are pressed on the button. Users cannot navigate past these buttons without triggering the dropdowns, and menu items are announced as static text rather than interactive links.	Arrow key press on the Research button immediately expands the menu. JAWS reads 'Behavior, All, Biochemistry' as static text. The only exit is Escape, after which the menu re-expands upon next arrow press.

Filter Category Links Should Be Buttons	**4.1.2** Name, Role, Value (A)	Subject filter items (Biology, Chemistry, Clinical, etc.) and product category items (Core, Science Education, Lab Manual) are coded as links but function as in-page filters that update content without navigating to a new URL. These controls should be buttons or toggle controls.	JAWS announces these as 'Link Biology, Link Chemistry' etc. The auditor confirmed these update page content without navigation: 'They should be buttons, not links.'
Footer Navigation Controls Miscoded	**4.1.2** Name, Role, Value (A)	Footer items including Contact Us, Recommend to Library, Preferences, and Follow Us on WeChat are coded as buttons but link to external pages or perform navigation. These should be coded as anchor links. The color contrast of these footer button labels is also insufficient (ratio 3.61:1; required 4.5:1).	Contact Us button in footer: color contrast of foreground #137cec on background #e7f2fd is 3.61:1 per axe DevTools scan. JAWS announces 'Contact Us button' rather than a link.

Impact Summary

Blind and screen reader users on the landing page encounter a disorienting heading structure and must navigate through expanding keyboard traps in the main menu just to reach content. Correcting the heading order and implementing proper bypass mechanisms and ARIA patterns for navigation menus would significantly reduce navigation overhead. Users with motor disabilities face the same menu trap. Neurodiverse users would benefit from a predictable and correctly structured heading hierarchy that clearly communicates page organization.

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Landing Page Screenshot

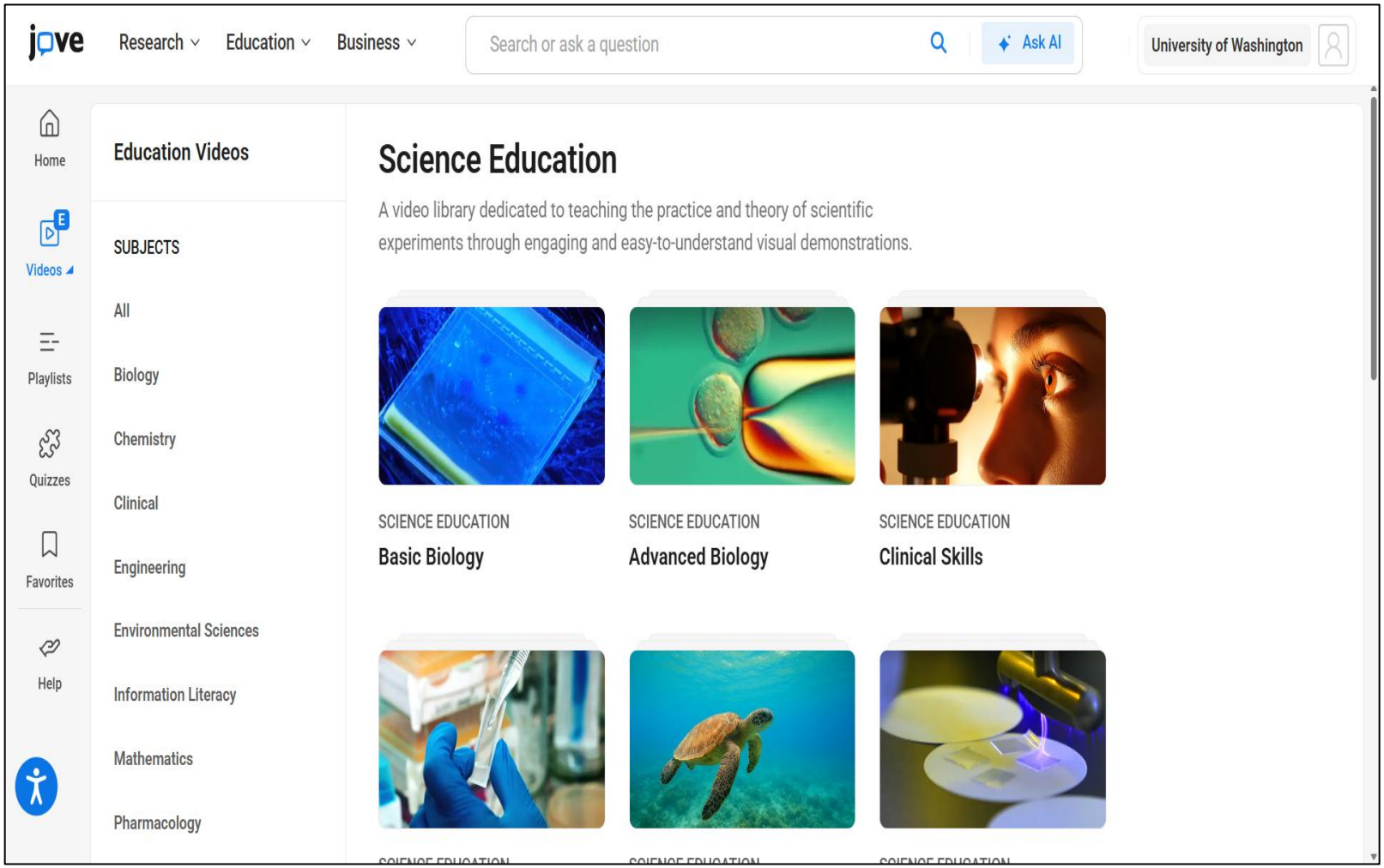

Figure 1: JoVE Science Education landing page showing subject navigation, search bar, and video category grid.

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Search Results Page

URL: https://app-jove-com.offcampus.lib.washington.edu/search?query=lab+technique

Opportunity Area	WCAG Success Criteria	Description	Example
Search Result Images Lack Descriptive Alt Text	**1.1.1** Non-text Content (A)	Article and video thumbnail images on search result cards are exposed to screen readers but contain only generic descriptions or no alt text. These images provide visual context about content type and subject matter that is not conveyed through text alone.	JAWS announces 'Graphic Article Underline Image' for search result thumbnails, providing no meaningful content information. Axe DevTools confirms multiple search result card images lack discernible alt text.
Focus Not Managed After Search Submission	**2.4.3** Focus Order (AA)	After submitting a search query, keyboard focus returns to the top of the page rather than moving to the first search result or a status announcement. Users must manually navigate the entire page structure to reach search results.	After pressing Enter on the search field, JAWS returned to the JoVE page title. The auditor noted: 'My focus is at the top of the page. There should be a status message telling me what's going on. My focus should be placed at the beginning of search results.'
Search Autocomplete Partial Keyboard Trap	**2.1.2** No Keyboard Trap (A)	When the search field contains text, tabbing away from the field moves focus into the search autocomplete suggestion list rather than past the search component. Users must tab twice to fully exit the search area, and this behavior is not announced to screen reader users.	After returning to the search page via JAWS navigation shortcuts, attempting to tab away placed focus on 'Lab Technique Concepts button' (an autocomplete suggestion). The auditor confirmed: 'You're trapped in the search box right now... After tabbing twice you were able to get out.'

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Filter Controls Missing Accessible Names and State	**4.1.2** Name, Role, Value (A) | **1.3.1** Info and Relationships (A)	Filter section expand/collapse buttons announce as generic 'button' without labels or expanded/collapsed state. The All/With Video and Content/Products toggle pairs are coded as plain buttons rather than radio groups. Date range filter sliders and their associated input fields have no accessible names. Institution and Author search fields all share the same 'search' label.	Axe DevTools: date range slider thumbs have no aria-label (aria-input-field-name violation, serious). Date range numeric inputs have no label (label violation, critical). Show Articles and Type section expand buttons announce without state or associated label.
No Status Announcement When Filters Update Results	**4.1.3** Status Messages (AA)	Selecting a filter (checkbox, date range, sort order) immediately updates the search results, but no status message announces the change to screen reader users. Focus also moves to the top of the page upon each filter interaction rather than remaining at the filter.	After selecting JoVE Science Education checkbox, JAWS received no announcement. The auditor confirmed: 'The results on the page have updated live, but there's no status message telling us that. You also got sent back to the top of the page.'

Impact Summary

The search experience presents the most significant usability barriers for screen reader and keyboard users. From the moment a search is submitted to the point of refining results with filters, users encounter missing focus management, partial keyboard traps, and a near-total absence of status announcements. A screen reader user attempting to filter results by product type and date range must navigate back through the full-page structure multiple times, receiving no confirmation that their filter selections are registering. Resolving focus management and implementing ARIA live regions for status messages would dramatically improve the utility of this page for all users relying on assistive technology.

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Search Results Page Screenshot

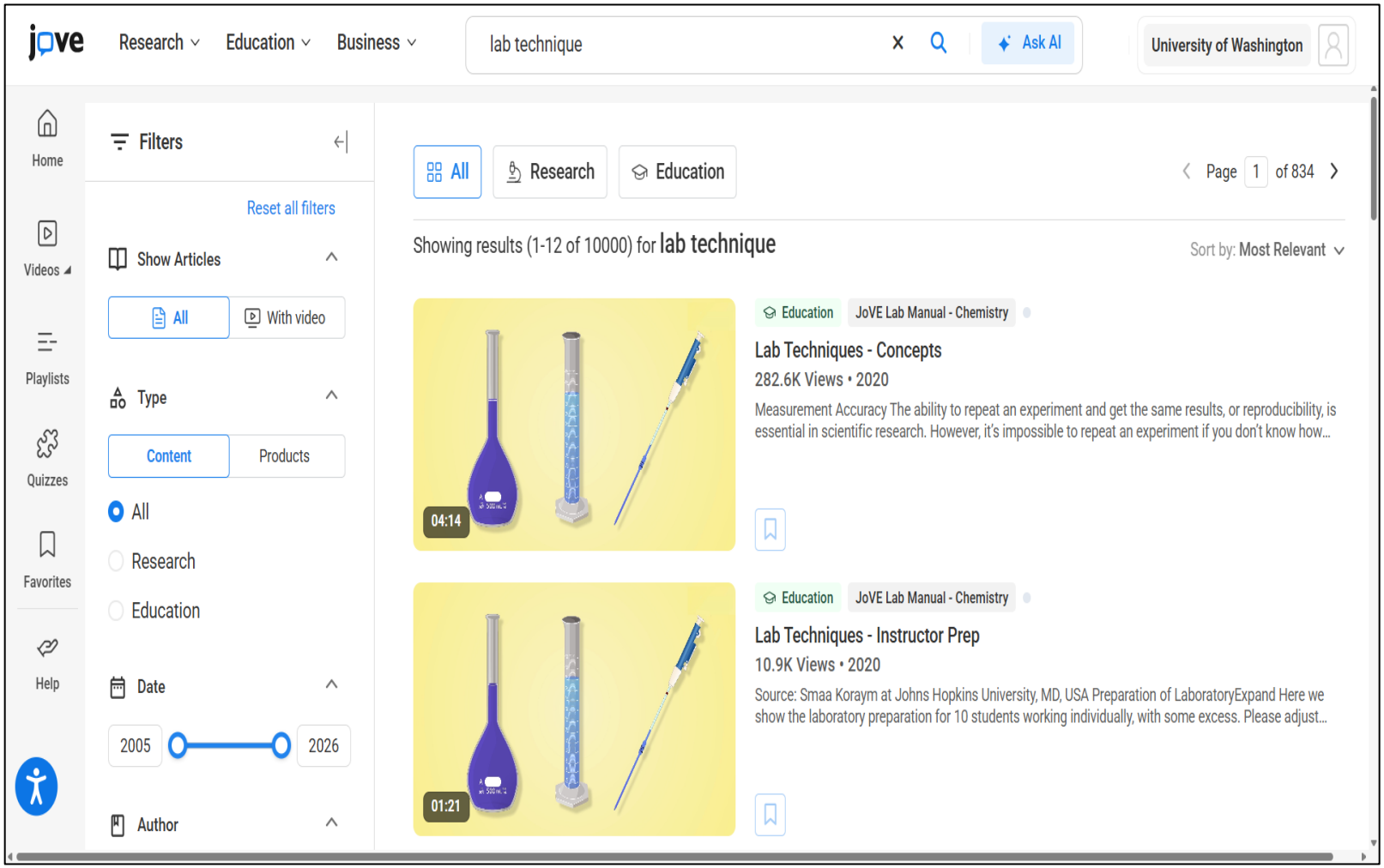

Figure 2: JoVE search results page for query 'lab technique' showing filter panel and result cards.

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Filtered Search Page (Products View)

URL: https://app-jove-com.offcampus.lib.washington.edu/search?query=lab+technique (with Products filter applied)

Opportunity Area	WCAG Success Criteria	Description	Example
Filter Panel Icon Graphics Exposed to Screen Readers	**1.1.1** Non-text Content (A)	Icon graphics preceding filter section headings (Show Articles, Type, Date, Author, Institution) are exposed to screen readers as unnamed graphic elements rather than being marked as decorative. This creates redundant announcements that add noise without providing information.	JAWS announces 'Show Articles Graphic' then 'Show articles' (static text) then 'button' as three separate elements. The auditor clarified: 'These icons either need to be decorative or have proper alt text, as they are cluttering the screen reader experience.'
Product Checkboxes: No Announcement When Results Update	**4.1.3** Status Messages (AA)	Selecting a product type checkbox (JoVE Journal, JoVE Science Education, etc.) dynamically updates the results panel, but no status region announces the change. Focus is also lost to the top of the page, requiring navigation back through the full page structure.	After checking JoVE Science Education, JAWS returned to the top of the page and read the page title. No 'Results updated' or similar message was announced. The filtered results showing 133 items were not surfaced to the user.
Sort Dropdown Menu Items Announced as Static Text	**4.1.2** Name, Role, Value (A)	The Sort by dropdown (Most Relevant / Most Recent / Most Viewed) does not announce as expanded when opened, and the three options within it are read as static text rather than selectable items. Users cannot determine which option is currently selected.	After activating the Sort by menu, JAWS said '1 of 3' for the first option but did not announce 'expanded.' The options 'Most Recent' and 'Most Viewed' were announced without interactive role or selection state.
Insufficient Color Contrast on Filter Controls	**1.4.3** Contrast (Minimum) (AA)	Multiple filter interface elements have insufficient color contrast. The 'Reset all filters' button and the All/Content/Products toggle labels use blue text (#2183ed) on white (#ffffff) at a ratio of approximately 3.79:1. The 'Sort by: Most Relevant' label uses gray (#969696) on white at 2.95:1, both below the 4.5:1 minimum for normal text.	Axe scan: 'Reset all filters' button color-contrast violation - foreground #2183ed, background #ffffff, ratio 3.79:1. 'Sort by: Most Relevant' label - foreground #969696, background #ffffff, ratio 2.95:1.

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Unlabeled Bookmark Buttons on Search Result Cards	**4.1.2** Name, Role, Value (A)	Each search result card contains a bookmark icon button that has no accessible name. Screen reader users cannot determine the function of these buttons without activating them. Axe DevTools identified multiple instances of this pattern across the result set.	Axe scan: '<button type="button" class="chakra-button css-1lde985"></button>' - no inner text, no aria-label, no aria-labelledby, no title. Identified as button-name critical violation on multiple result cards.

Impact Summary

The product-filtered search view compounds the issues found on the general search page. Screen reader users have very limited ability to effectively use the filter panel: icons clutter the reading order, filter state changes are invisible to assistive technology, and the Sort By control is partially broken from a programmatic standpoint. Low-vision users also face challenges with the insufficient contrast on multiple filter elements. Adding ARIA live regions, correcting button roles and labels, and improving color contrast would transform this page from one that is frustrating to use into one that supports efficient, independent research.

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Filtered Search Page Screenshot

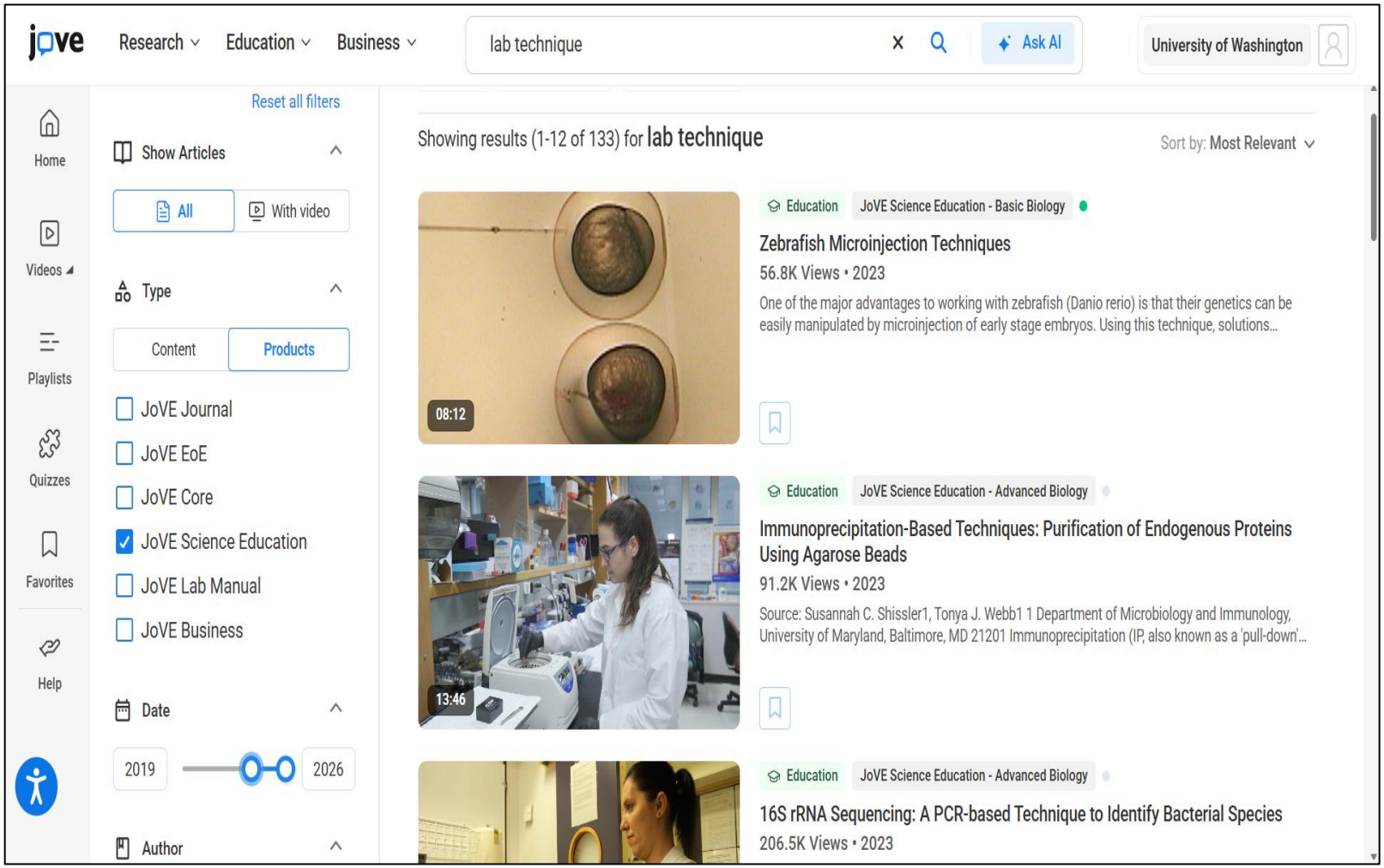

Figure 3: JoVE search results filtered to Products type, showing JoVE Science Education checkbox selected with 133 results.

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Video Content Page

URL: https://app-jove-com.offcampus.lib.washington.edu/v/5019/centrifuge-principle-instrumentation-and-applications

Opportunity Area	WCAG Success Criteria	Description	Example
Video Autoplays on Page Load	**1.4.2** Audio Control (A) | **2.2.2** Pause, Stop, Hide (A)	The video begins playing with audio immediately when the page loads, without user interaction. This creates an audio conflict for screen reader users (JAWS reads the page while the video audio plays simultaneously) and removes user control over when content begins.	Auditor confirmed: 'It started autoplaying as soon as it was loaded.' The video was an introduction to centrifuges and began playing upbeat music over the JAWS screen reader output immediately on page load.
Video Player Controls Inaccessible When Video Is Paused	**2.1.1** Keyboard (A)	When the video is paused, the volume slider, caption settings, speed controls, and other player controls are inaccessible to keyboard users. The controls appear visually but cannot be reached via Tab key when the video is in a paused state.	Auditor Aubrey Flores confirmed: 'Whenever the video is paused, I do not have access to any of the controls. If I have the video paused, I can't access the volume slider, the captions, the expanding - any of that if the video is paused.'
Unlabeled Video Player Buttons	**4.1.2** Name, Role, Value (A)	Multiple video player buttons have no accessible names: the subtitle/closed caption toggle button, the next/previous video navigation buttons (when in a playlist context), and the expand/collapse button for the Ask JoVE panel. One button is announced as 'Unlabeled zero button.'	Axe scan: video-subtitle-voiceover-toggle-button has no aria-label, no inner text. education-video-navigation-next-button has no accessible name. JAWS announced 'Unlabeled zero button' during navigation. The close button for the AI panel also lacks a name.

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Speed Control Creates Keyboard Trap	**2.1.2** No Keyboard Trap (A)	When the video speed selector is opened, arrow keys do not allow selection of speed options. The user cannot make a selection using standard keyboard navigation patterns and must press Escape. Speed options are announced as static text rather than selectable radio options.	Auditor reported: 'Creating a partial trap. I'm using my up and down, left and right arrows, and I cannot make a selection.' Speed options 0.75X, 1X, 1.5X were announced as 'static text, not as radio buttons.' Pressing Escape was the only resolution.
Breadcrumb and UI Color Contrast Below Minimum	**1.4.3** Contrast (Minimum) (AA)	Breadcrumb navigation links (JoVE Science Education, Basic Biology, General Laboratory Techniques) have a contrast ratio of approximately 2.87:1 against the page background, significantly below the 4.5:1 minimum. The language selector button text ('English', white on JoVE blue) measures 4.09:1, also below minimum.	Axe scan: breadcrumb link foreground #4193f4 on background #f5f5f5 = 2.87:1. Language button: foreground #ffffff on background #137cec = 4.09:1. Related video chapter name text: #737373 on #d5e4f4 = 3.66:1.

Impact Summary

The video page is where JoVE delivers its core value proposition - scientific video content - and it is also where the most critical accessibility barriers for disabled users exist. Screen reader users face autoplay audio that immediately conflicts with their assistive technology. Once the video is paused to allow for navigation, the player controls become keyboard-inaccessible. The breadcrumb navigation, a key wayfinding feature on deep content pages, fails minimum contrast requirements. It is worth noting that JoVE has a meaningful positive here: the transcript section is correctly implemented as a labeled, expandable region with accessible content. Extending that same care to the player controls and breadcrumb design would substantially improve access for all disability groups.

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Video Page Screenshot

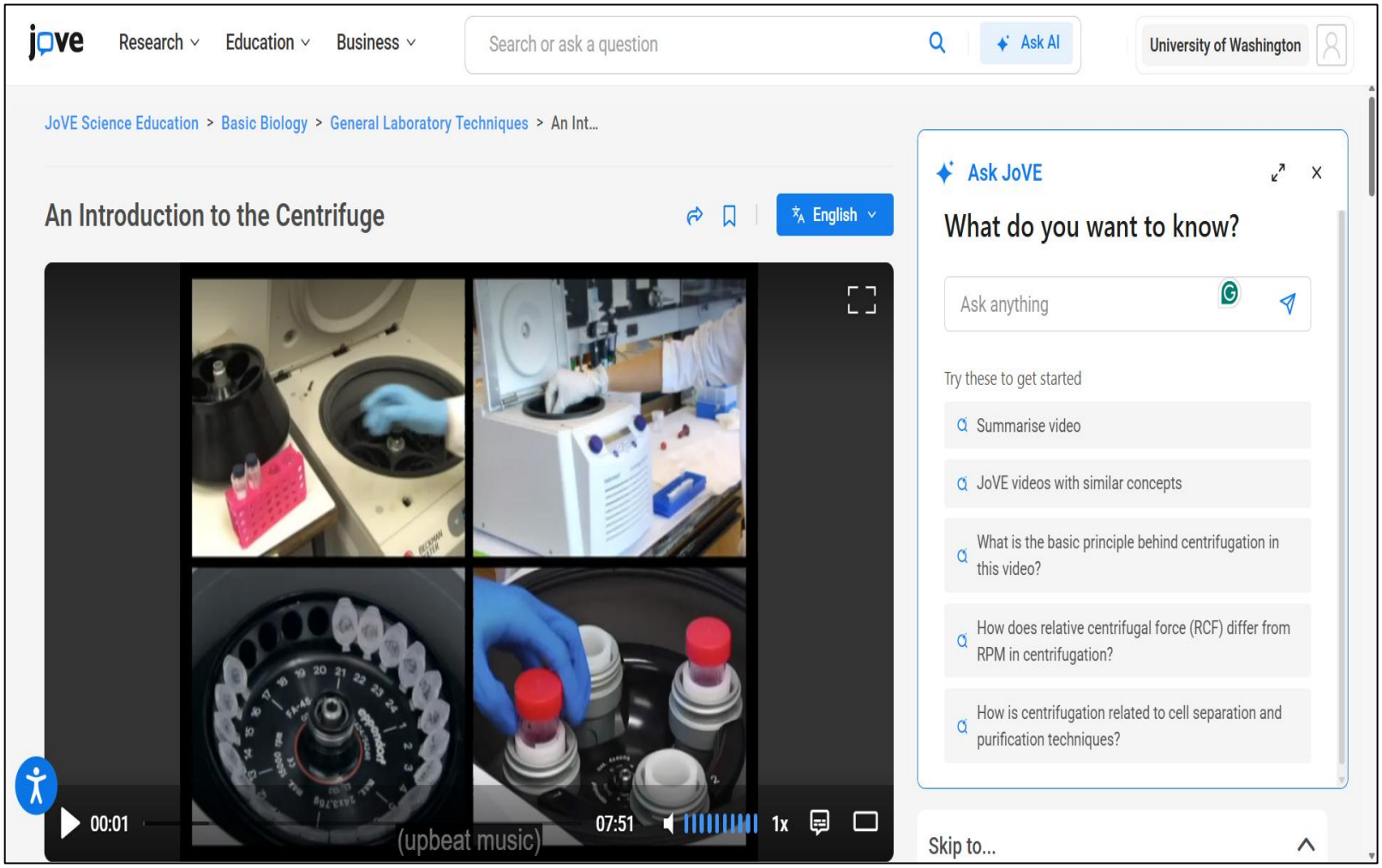

Figure 4: JoVE video page for 'An Introduction to the Centrifuge' showing video player and Ask JoVE AI panel.

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Code Recommendations and Technical Guidance

The following examples represent HTML-first solutions for five of the most impactful opportunity areas identified. These are starting points, not prescriptive implementations. Developers should test all changes with JAWS 2025, NVDA, and keyboard-only navigation before deployment, and may use alternative CSS or JavaScript approaches as long as the underlying accessibility outcomes are achieved.

1. Navigation Menu: Expand/Collapse with Proper ARIA State

WCAG Reference: 2.1.2 No Keyboard Trap (A) | 4.1.2 Name, Role, Value (A)

Current Implementation:

```
<!-- Current: div used for menu button, aria-controls references non-existent ID -->
<div data-atm="vector-menubutton" class="chakra-menu__menu-button vector-menubutton"
    id="menu-button-:r29:" aria-expanded="false" aria-haspopup="menu"
    aria-controls="menu-list-:r29:">
  <!-- no button role, aria-controls target does not exist -->
</div>
```

Recommended Implementation:

```
<!-- Recommended: semantic button with valid aria-controls and proper state -->
<button type="button" id="menu-button-research" aria-haspopup="true"
       aria-expanded="false" aria-controls="menu-list-research">
  Research
</button>
<ul id="menu-list-research" role="menu" hidden>
  <li role="menuitem"><a href="/research/biology">Biology</a></li>
```

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```
  <li role="menuitem"><a href="/research/chemistry">Chemistry</a></li>
</ul>
<!-- JS: toggle aria-expanded true/false and remove/add hidden attribute -->
<!-- Expand on Enter/Space; collapse on Escape; do NOT expand on arrow key -->
```

2. Search Results: Focus Management and Status Message

WCAG Reference: 2.4.3 Focus Order (AA) | 4.1.3 Status Messages (AA)

Current Implementation:

```
<!-- Current: no focus management or status message after search -->
<!-- After form submit, page refreshes, focus returns to browser top -->
```

Recommended Implementation:

```
<!-- Recommended: ARIA live region for status + programmatic focus -->
<div aria-live="polite" aria-atomic="true" class="visually-hidden" id="search-status">
  <!-- Populate via JS after results load: -->
  <!-- 'Showing 10,000 results for lab technique' -->
</div>

<!-- After results render, move focus to first result heading: -->
<script>
  document.addEventListener('searchResultsLoaded', () => {
    document.getElementById('search-status').textContent =
      'Showing ' + resultCount + ' results for ' + query;
```

```
    document.querySelector('.search-result-card:first-child h2').focus();
  });
</script>

.visually-hidden {
  position: absolute; width: 1px; height: 1px;
  margin: -1px; padding: 0; overflow: hidden;
  clip: rect(0,0,0,0); border: 0;
}
```

3. Filter Controls: Accessible Expand/Collapse with State

WCAG Reference: 4.1.2 Name, Role, Value (A) | 1.3.1 Info and Relationships (A)

Current Implementation:

```
<!-- Current: button has no label and no state -->
<button type="button" class="search-filter-section-toggle">
  <!-- icon SVG with no alt -->
</button>
<p class="search-filter-section-label">Show Articles</p>
```

Recommended Implementation:

```
<!-- Recommended: button linked to section label, with state -->
<button type="button"
        id="filter-toggle-articles"
```

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```
      aria-controls="filter-section-articles"
      aria-expanded="true"
      class="search-filter-section-toggle">
  <span class="filter-section-label">Show Articles</span>
  <svg aria-hidden="true" focusable="false"><!-- icon --></svg>
</button>
<div id="filter-section-articles" role="group"
    aria-labelledby="filter-toggle-articles">
  <!-- filter controls -->
</div>
```

4. Date Range Filter: Accessible Slider Labels

WCAG Reference: 4.1.2 Name, Role, Value (A) | 1.3.1 Info and Relationships (A)

Current Implementation:

```
<!-- Current: slider thumbs have no accessible name -->
<div class="chakra-slider__thumb" role="slider" tabindex="0"
    id="slider-thumb-:rt4:-0"
    aria-valuemin="2005" aria-valuemax="2026" aria-valuenow="2005"
    aria-orientation="horizontal">
</div>
```

Recommended Implementation:

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```
<!-- Recommended: add aria-label to each slider thumb -->
<div class="chakra-slider__thumb" role="slider" tabindex="0"
    id="slider-thumb-start-year"
    aria-label="Start year filter"
    aria-valuemin="2005" aria-valuemax="2026" aria-valuenow="2005"
    aria-valuetext="2005"
    aria-orientation="horizontal">
</div>
<div class="chakra-slider__thumb" role="slider" tabindex="0"
    id="slider-thumb-end-year"
    aria-label="End year filter"
    aria-valuemin="2005" aria-valuemax="2026" aria-valuenow="2026"
    aria-valuetext="2026"
    aria-orientation="horizontal">
</div>
<!-- Also add <label for="field-start">Start year</label> to numeric inputs -->
```

5. Video Player: Disable Autoplay and Label Player Buttons

WCAG Reference: 1.4.2 Audio Control (A) | 2.2.2 Pause Stop Hide (A) | 4.1.2 Name Role Value (A)

Current Implementation:

```
<!-- Current: video autoplays, caption button has no label -->
```

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```
<video src="..." autoplay>
</video>

<button type="button"
        class="chakra-button fp-cc video-subtitle-voiceover-toggle-button">
  <i class="css-13nww8h"></i>
</button>
```

Recommended Implementation:

```
<!-- Recommended: remove autoplay, add accessible button labels -->
<video src="..." preload="metadata">
  <!-- remove autoplay attribute entirely -->
</video>

<button type="button"
        class="chakra-button fp-cc video-subtitle-voiceover-toggle-button"
        aria-label="Toggle closed captions"
        aria-pressed="false">
  <i class="css-13nww8h" aria-hidden="true"></i>
</button>

<!-- Next/previous buttons: -->
<button type="button" class="education-video-navigation-next-button"
```

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```
      aria-label="Next video">

  <!-- icon -->

</button>
```

> *These code suggestions are recommendations and not guaranteed fixes. All changes should be thoroughly tested with assistive technology (screen readers, keyboard-only navigation) to confirm effectiveness before implementation. WCAG guidelines are designed to provide multiple paths to compliance. Developers may implement these improvements using alternative approaches with CSS and JavaScript, as long as the underlying accessibility principles are met.*

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Final Thoughts and Recommendations

JoVE has built a genuinely impressive scientific video library with features that matter for accessibility: meaningful landmark regions, a working transcript panel, and a reasonably organized page structure. The platform has a solid foundation. What it needs now is focused attention on the interaction layer - particularly how keyboard and screen reader users experience the parts of the platform that are meant to be interactive.

Most of the opportunity areas identified in this report trace back to a relatively small number of root causes: ARIA attributes that reference non-existent targets, menus coded as menus but not behaving like menus, dynamic content updates with no programmatic notification, and video player controls that lose keyboard accessibility in a paused state. These are the kinds of patterns that, once addressed systematically, will improve accessibility across the entire platform rather than just on the specific pages evaluated.

Recommended Fixes by Priority

Immediate Priority - Highest Impact

- Fix navigation menu keyboard trap: menus should expand only on Enter or Space, not on arrow keys, and should properly announce expanded/collapsed state.
- Disable video autoplay on page load. This is a one-attribute fix (remove autoplay from the video element) with immediate benefit for screen reader and motor disability users.
- Label unlabeled buttons across all pages: subtitle toggle, next/previous video navigation, playlist controls, and bookmark buttons on search result cards.

High Priority - Significant Impact

- Implement ARIA live regions (aria-live='polite') for search result updates, filter changes, and sort order changes. Include a meaningful count announcement ('Showing 133 results for lab technique with JoVE Science Education filter applied').
- Fix focus management after search submission and filter interactions. Focus should move to the first search result heading or the status message, not to the page title.
- Resolve color contrast for breadcrumb links (target minimum 4.5:1), language selector button, 'Sort by' label, and filter toggle labels.

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Important Priority - Enhanced Experience

- Correct heading hierarchy on the landing page so that H1 is used for the primary page heading and H2 for subheadings. This is a structural change that also improves SEO.
- Add accessible names and states to all filter section expand/collapse buttons, and code the All/With Video and Content/Products toggles as proper radio button groups.
- Add a visible, functional skip navigation link at the top of each page. This benefits keyboard users, screen reader users, and switch device users alike.
- Mark filter section icons as decorative (aria-hidden='true') to remove noise from the screen reader reading order.

Complimentary Consultation Included

As part of this evaluation, Accessiblü's partnership with the LAA includes one hour of complimentary consulting with the team that conducted this evaluation. This session can be used to discuss implementation priorities, review technical approaches, or address questions about specific recommendations. To schedule this consultation, contact Jeff Rodgers directly at jeff@Accessiblü.com.

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Disclaimer

Accessiblü prepared this report as a high-level accessibility evaluation of the JoVE Science Education platform, accessed via the University of Washington's institutional library portal. The evaluation utilized industry-standard testing methodologies, including screen reader testing (JAWS 2025) on Windows 11 with Google Chrome, keyboard-only navigation, and automated scanning with axe DevTools for select WCAG 2.2 AA success criteria.

This report does not represent a comprehensive WCAG compliance audit and should not be considered a certification of accessibility compliance. While significant accessibility opportunity areas and usability barriers have been identified, this evaluation was limited in scope and may not encompass all accessibility issues present on the platform or across all use cases, browsers, or assistive technology combinations.

No Legal Liability:

Accessiblü offers this report for informational purposes only and assumes no legal responsibility for accessibility barriers or compliance failures resulting from its use. Organizations seeking formal certification of compliance should conduct a comprehensive audit inclusive of user testing with people with disabilities.

Limitations of Testing:

This evaluation was conducted at a specific point in time (March 2026), and platform updates may have occurred after testing was completed. While automated tools and expert screen reader review were utilized, real-world users with disabilities determine the true measure of a platform's accessibility. User testing with participants who have a range of disabilities is recommended as a follow-up to this evaluation.

Pages were accessed through the University of Washington's institutional proxy (offcampus.lib.washington.edu). The proxy environment may affect certain dynamic behaviors and should be noted when comparing results to testing conducted in a direct-access environment.