WCAG 2.0 A and AA Requirements

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| **Name of Product** | **Elsevier Adaptive Quizzing (EAQ)** |
| **URL** |  |
| **Date Last Updated** | **19 July, 2018** |
| Completed by | Jay Nemchik (Digital Accessibility Team, Dayton) |
| **Document Description** | This document rates EAQ according to the W3C WCAG 2.0 A and AA requirements. |
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| **Testing Tools and Methods** | **Hands-on keyboard operation Firebug/Code inspection JAWS 17 on Mozilla Firefox 52 and MS IE 11 on Windows 7 NVDA screen reader Open Ajax Alliance (OAA) side bar ColorZilla Wave toolbar**  **Color Contrast Analyzer W3C WAI Pages**  [W3C Markup Validation Service](http://validator.w3.org)Elsevier Accessibility Checklist: <http://romeo.elsevier.com/accessibility_checklist/> |
| **Document Sections** | The review document below includes all WCAG 2 A and AA checkpoints and is organized into 6 logical sections:   * Visuals * Keyboard * Headings and Structure * Labeling * Multimedia * Usability |
| **Pages Covered** | **Navigation, Footer, Student Home, Create Quiz, Assignments, Quiz, Quiz Results, Student Performance, Achievements, Instructor Home, Instructor Performance** |
| **Note from W3C on Conformance** | <https://www.w3.org/TR/UNDERSTANDING-WCAG20/conformance.html> **“If there is no content to which a success criterion applies, the success criterion is satisfied.” This VPAT shows such criterion as: “Supports (N/A)”** |
| **Notes/Terminology** | **“AT” stands for Assistive Technology such as screen readers, voice input, etc.** |

| **WCAG 2.0 Success Criterion** | **Level** | **Evaluation** |
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| 1.1.1: Non-text Content | A | Supports with exceptions |
| 1.2.1: Audio-only and Video-only (Prerecorded) | A | Supports (N/A) |
| 1.2.2: Captions (Prerecorded) | A | Supports (N/A) |
| 1.2.3: Audio Description or Full Text Alternative | A | Supports (N/A) |
| 1.2.4: Captions (Live) | AA | Supports (N/A) |
| 1.2.5: Audio Description | AA | Supports (N/A) |
| 1.3.1: Info and Relationships | A | Supports with exceptions |
| 1.3.2: Meaningful Sequence | A | Supports with exceptions |
| 1.3.3: Sensory Characteristics | A | Supports |
| 1.4.1: Use of Color | A | Supports |
| 1.4.2: Audio Control | A | Supports (N/A) |
| 1.4.3: Contrast (Minimum) | AA | Supports with exceptions |
| 1.4.4: Resize text | AA | Supports |
| 1.4.5: Images of Text | AA | Supports with exceptions |
| 2.1.1: Keyboard | A | Supports |
| 2.1.2: No Keyboard Trap | A | Supports |
| 2.2.1: Timing Adjustable | A | Supports |
| 2.2.2: Pause, Stop, Hide | A | Supports (N/A) |
| 2.3.1: Three Flashes or Below Threshold | A | Supports (N/A) |
| 2.4.1: Bypass Blocks | A | Supports with exceptions |
| 2.4.2: Page Titled | A | Supports with exceptions |
| 2.4.3: Focus Order | A | Supports with exceptions |
| 2.4.4: Link Purpose (In Context) | A | Supports with exceptions |
| 2.4.5: Multiple Ways | AA | Supports |
| 2.4.6: Headings and Labels | AA | Supports |
| 2.4.7: Focus Visible | AA | Supports |
| 3.1.1: Language of Page | A | Supports |
| 3.1.2: Language of Parts | AA | Supports (N/A) |
| 3.2.1: On Focus | A | Supports |
| 3.2.2: On Input | A | Supports |
| 3.2.3: Consistent Navigation | AA | Supports |
| 3.2.4: Consistent Identification | AA | Supports |
| 3.3.1: Error Identification | A | Supports with exceptions |
| 3.3.2: Labels or Instructions | A | Supports with exceptions |
| 3.3.3: Error Suggestion | AA | Supports (N/A) |
| 3.3.4: Error Prevention (Legal, Financial, Data) | AA | Supports (N/A) |
| 4.1.1: Parsing | A | Supports with exceptions |
| 4.1.2: Name, Role, Value | A | Supports with exceptions |

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| **Visuals** | | |
| **WCAG 2.0**  **Checkpoint** | **Supporting Features** | **Remarks** |
| [1.1.1: Non-Text Content](http://www.w3.org/TR/WCAG20/#text-equiv-all) (A) Provide text alternatives for non-text content (e.g. images) | Supports  with exceptions | Most images and icons include text equivalents.  **Exceptions:**  Header: The hamburger button needs proper button text in mobile view (visually hidden text is not within the interactive element).  Student Homepage: The chameleon images in the cards need actual 'null' alt attributes (alt="").  Quiz: Rationale decorative graphics should just have alt="". The Incorrect/correct icons should be given alternative text of some kind (associated with the label of the input if possible). There is a visual indication of how far into a quiz a user is, but there is no alternative text for this info. Some questions rely on images with text; therefore, these images must have alt text that appropriately describes the image or fully contains the same text as the image. |
| [1.3.3: Sensory Characteristics](http://www.w3.org/TR/WCAG20/#content-structure-separation-understanding) (A) Do not rely on sensory characteristics of components such as shape, size, visual location, orientation, or sound | Supports | Content does not rely on sensory characteristics. |
| [1.4.1: Use of Color](http://www.w3.org/TR/WCAG20/#visual-audio-contrast-without-color) (A) Color is not used as the only visual means of conveying info | Supports | Color is not used as the only means of conveying information. |
| [1.4.3: Color Contrast (Minimum)](http://www.w3.org/TR/WCAG20/#visual-audio-contrast-contrast) (AA) Text has enough contrast with the background (4.5:1 for small text and 3:1 for large text) | Supports  with exceptions | Most text has enough contrast with its corresponding background.  **Exceptions**:  Student Homepage: The light gray "questions answered correctly" text in the cards does not have enough contrast at 2.96:1.  Student Performance: The light gray "questions answered correctly" text in the cards does not have enough contrast at 2.96:1.  Instructor Homepage: The "Today" text in the cards does not have enough contrast at 2.81:1. |
| [1.4.4: Resize Text](http://www.w3.org/TR/WCAG20/#visual-audio-contrast-scale) (AA)  Text can be enlarged up to 200% without loss of functionality. | Supports | Text can be enlarged to 200% and content remains functional. |
| [1.4.5: Images of Text](http://www.w3.org/TR/WCAG20/#visual-audio-contrast-text-presentation) (AA) Text is used rather than images of text, except where the presentation of text is essential, such as logos | Supports  with exceptions | Almost no images of text are used other than for Logos or essential presentation.  **Exceptions:**  Quiz: There are certain questions that have images of text. |
| [2.3.1: Three Flashes or Below Threshold](http://www.w3.org/TR/WCAG20/#seizure-does-not-violate) (A) No more than three flashes in a 1-second period, or the flashes are below the defined thresholds | Supports (N/A) | No flashing content exists. |
| **Keyboard** | | |
| **WCAG 2.0**  **Checkpoint** | **Supporting Features** | **Remarks** |
| [1.3.2: Meaningful Sequence](http://www.w3.org/TR/WCAG20/#content-structure-separation-sequence) (A)  The correct reading sequence can be programmatically determined | Supports  with exceptions | The correct reading sequence is usually logical with the DOM order matching the visual order in most cases.  **Exceptions:**  Instructor Performance: The students within each table should be hidden from screen reader view unless they are physically visible. |
| [2.1.1: Keyboard](http://www.w3.org/TR/WCAG20/#keyboard-operation-keyboard-operable) (A)  All functionality is available from a keyboard, except for tasks such as drawing | Supports | All content is keyboard operable. |
| [2.1.2: No Keyboard Trap](http://www.w3.org/TR/WCAG20/#keyboard-operation-trapping) (A)  The user can use the keyboard to move through page elements and is not trapped on a particular element | Supports | No pages have a keyboard trap. |
| [2.4.3: Focus Order](http://www.w3.org/TR/WCAG20/#navigation-mechanisms-focus-order) (A)  Users can tab through the elements of a page in a logical order | Supports  with exceptions | Tab order is logical on the site for the most part.  **Exceptions**:  Quiz: Focus should be placed on the question text when moving to a new question (currently, users must shift-tab backwards to reach the new question).    Instructor Homepage: If certain links have been disabled, they should not receive keyboard focus (e.g. 0 of 23 students completed). |
| [2.4.7: Focus Visible](http://www.w3.org/TR/WCAG20/#navigation-mechanisms-focus-visible) (AA)  The page element with the current keyboard focus has a visible focus indicator | Supports | Elements use a very good visible focus.  Note: The buttons to see more students within each card in the Instructor Performance page should be given a custom visible focus. |
| [3.2.1: On Focus](http://www.w3.org/TR/WCAG20/#consistent-behavior-receive-focus) (A)  When a UI component receives focus, this does not trigger unexpected actions. | Supports | Focusable elements do not cause unexpected actions when receiving focus. |
| **Headers and Structure** | | |
| **WCAG 2.0**  **Checkpoint** | **Supporting Features** | **Remarks** |
| [1.3.1: Information and Relationships](http://www.w3.org/TR/WCAG20/#content-structure-separation-programmatic) (A)  Info, structure, and relationships can be programmatically determined | Supports  with exceptions | Good use of heading in some places to help distinguish content. Lists are typically used to group related links or text. Landmarks are sometimes used in good places.  **Exceptions:**  The <main> element should encompass just the "main" part of the page, not everything on the page (i.e. don't include the banner, navigation, or footer in the main). Roles are not required on HTML5 elements such as <main> or <header>, and the aria-labelledby attribute on the <header> is unnecessary. The "Elsevier Adaptive Quizzing" heading should be an h2 instead of h1.  Navigation: The links in the navigation should be grouped into an unordered list.  Student Homepage: There should be some text on the page designating this as the "Student Homepage" or similar, and be made into an h1.  Achievements: Recommend there be text such as "Unearned" underneath the unearned achievements, so the adjacent achievement text can be better understood.  Create A Quiz: The "Create a Quiz" text should be an h1 on this page.  Quiz Results: "Performance" should be an h1. "# out of # question answered correctly" text should not be a heading. The <li> elements that contain the accordion menus should not have role="heading".  Instructor Performance: The list of students' checkboxes should be in an unordered list. The Question Set and Topic Organization labels should not be headings. |
| [2.4.1: Bypass Blocks](http://www.w3.org/TR/WCAG20/#navigation-mechanisms-skip) (A)  Users can bypass repeated blocks of content. | Supports  with exceptions | Some headings and landmarks exist, which allow users using Assistive Technology to jump to the different areas of content quickly. A "skip" link is used, but it cannot be used by those with screen readers. |
| [2.4.6: Headings and Labels](http://www.w3.org/TR/WCAG20/#navigation-mechanisms-descriptive) (AA)  Headings and labels are clear and consistent. | Supports | Headings and labels used are clear and descriptive. |
| [3.1.1: Language of Page](http://www.w3.org/TR/WCAG20/#meaning-doc-lang-id) (A)  The language of the page is specified | Supports | The language is defined as lang="en-us". |
| [3.1.2: Language of Parts](http://www.w3.org/TR/WCAG20/#meaning-other-lang-id) (AA)  Specify the language of text passages that are in a different language than the default language of the page. | Supports (N/A) | There are no passages of text which are in a different language. |
| [4.1.1: Parsing](http://www.w3.org/TR/WCAG20/#ensure-compat-parses) (A)  Use valid, error-free HTML | Supports  with exceptions | HTML and CSS passes concerning these 4 specific criteria:  (i) elements have complete start and end tags,  (ii) elements are nested according to their specifications  (iii) elements do not contain duplicate attributes (iv) any IDs are unique, except where the specifications allow these features.  Note: There are other general HTML validation errors outside the scope of this criterion.  **Exceptions:**  Student Homepage: The cards in the Weakest Areas and Up Next categories share the same IDs. |
| **Labeling** | | |
| **WCAG 2.0**  **Checkpoint** | **Supporting Features** | **Notes** |
| [2.4.2: Page Titled](http://www.w3.org/TR/WCAG20/#navigation-mechanisms-title) (A)  The page has a title describing its topic or purpose | Supports  with exceptions | The title is dynamic and changes to be descriptive of the current page in almost all cases.  **Exceptions:**  Instructor Homepage: When editing an assignment, the title should indicate the difference between editing an assignment and changing its due date. |
| [2.4.4: Link Purpose (In Context)](http://www.w3.org/TR/WCAG20/#navigation-mechanisms-refs) (A)  The purpose of each link can be determined from the link text or surrounding context. | Supports  with exceptions | Most links used have an identifiable purpose from the link text or surrounding context.  **Exceptions:**  Student/Instructor Performance: The content within the "What are mastery levels" accordion should not be within the focusable content. The Sort By button should include information on Ascending or Descending. |
| [3.2.4: Consistent Identification](http://www.w3.org/TR/WCAG20/#consistent-behavior-consistent-functionality) (AA)  UI components used across the web site are identified consistently on every page. | Supports | UI components are consistent across the site. |
| [3.3.1: Error Identification](http://www.w3.org/TR/WCAG20/#minimize-error-identified) (A)  Input errors are clearly marked and described to the user. | Supports  with exceptions | Error identification happens and is presented well visually.  **Exceptions:**  Quiz: Question feedback is given visually, but the feedback needs to be announced properly to screen readers. The correct/incorrect icon needs to have alternative text and be associated with the proper input.  Quiz Results: The correct/incorrect icons need to have alternative text and be associated with the proper input. |
| [3.3.2: Labels and Instructions](http://www.w3.org/TR/WCAG20/#minimize-error-cues) (A)  Items requiring user input are clearly labeled or have clear instructions. | Supports  with exceptions | Some input areas have clear labels which are programmatically assigned. Some inputs have plain text next to them, but are not marked properly as labels.  **Exceptions:**  Quiz: The <legend> should not include HTML syntax (it includes <p> and </p>).  Quiz Results: The <legend> should not include HTML syntax. |
| [3.3.3: Error Suggestion](http://www.w3.org/TR/WCAG20/#minimize-error-suggestions) (AA)  When the user makes an input error, give suggestions for valid input. | Supports (N/A) | There are no forms on the site that would give error suggestions. |
| [4.1.2: Name, Role, Value](http://www.w3.org/TR/WCAG20/#ensure-compat-rsv) (A)  For all UI components, the name, value, and role can be programmatically determined. | Supports  with exceptions | Some UI components communicate their state programmatically.  **Exceptions:**  Create A Quiz: The radio buttons need 'name' attributes to be considered part of the same grouping, which will also allow them to be navigated correctly with arrow keys.  Instructor Homepage: The radio buttons in the Edit Assignment screen need 'name' attributes to be considered part of the same grouping, which will also allow them to be navigated correctly with arrow keys. |
| **Multimedia** | | |
| **WCAG 2.0**  **Checkpoint** | **Supporting Features** | **Remarks** |
| [1.2.1: Audio-only or Video-only (Prerecorded)](http://www.w3.org/TR/WCAG20/#media-equiv-av-only-alt) (A)  Provide alternatives for pre-recorded audio-only or video-only content. | Supports (N/A) | There is no pre-recorded audio-only or video-only content. |
| [1.2.2: Captions (Prerecorded)](http://www.w3.org/TR/WCAG20/#media-equiv-captions) (A)  Provide captions for pre-recorded audio | Supports (N/A) | There is no audio content on the site. |
| [1.2.3: Audio Description or Media Alternative (Prerecorded)](http://www.w3.org/TR/WCAG20/#media-equiv-audio-desc) (A)  Provide alternatives for pre-recorded synchronized audio/video | Supports (N/A) | There is no video content on the site. |
| [1.2.4: Captions (Live)](http://www.w3.org/TR/WCAG20/#media-equiv-real-time-captions) (AA)  Provide captions for live audio in synchronized audio/video. | Supports (N/A) | There is no live audio in synchronized audio/video. |
| [1.2.5: Audio Description (Prerecorded)](http://www.w3.org/TR/WCAG20/#media-equiv-audio-desc-only) (AA)  Provide an audio description of pre-recorded video. | Supports (N/A) | There is no video content on the site. |
| [1.4.2: Audio Control](http://www.w3.org/TR/WCAG20/#visual-audio-contrast-dis-audio) (A)  Audio can be paused and stopped, or the audio volume can be changed. | Supports (N/A) | There is no audio content on the site. |
| [2.2.2: Pause, Stop, Hide](http://www.w3.org/TR/WCAG20/#time-limits-pause) (A)  Users can stop, pause, or hide moving, blinking, scrolling, or auto-updating information. | Supports (N/A) | There is no moving, scrolling, or auto-updating information. |
| **Usability** | | |
| **WCAG 2.0**  **Checkpoint** | **Supporting Features** | **Remarks** |
| [2.2.1: Timing Adjustable](http://www.w3.org/TR/WCAG20/#time-limits-required-behaviors) (A)  Users are warned of time limits shorter than 20 hours and time limits can be turned off or extended | Supports | There is a session timeout that occurs after 15-30 minutes. A popup message appears and warns the user that their session will end soon, an option is given to extend. |
| [2.4.5: Multiple Ways](http://www.w3.org/TR/WCAG20/#navigation-mechanisms-mult-loc) (AA)  More than one way is available to navigate to other web pages. | Supports | Users can reach all pages in the system using the global navigation. Other systems are accessed through a series of processes. |
| [3.2.2: On Input](http://www.w3.org/TR/WCAG20/#consistent-behavior-unpredictable-change) (A)  Changing the setting of a checkbox, radio button, or other UI component does not trigger unexpected changes in context. | Supports | User inputs do not cause unexpected actions. |
| [3.2.3: Consistent Navigation](http://www.w3.org/TR/WCAG20/#consistent-behavior-consistent-locations) (AA)  Navigation menus are in the same location and order on every web page. | Supports | Navigation menus are consistently in the same place and in same order. |
| [3.3.4: Error Prevention (Legal, Financial, Data)](http://www.w3.org/TR/WCAG20/#minimize-error-reversible) (AA)  For web pages with legal or financial commitments, input can be reviewed and corrected before final submission, and submissions can be reverted. | Supports (N/A) | There are no submissions which require legal or financial commitments. |