

APPENDIX C

Table of Special Education Elements and Results

Table 1: Website Design

Element	Possibilities	Rate
Mouseclicks Identifies the average number of mouseclicks required to reach lessons from the homepage.	Ave	4 clicks
	Min	1 click
	Max	7 clicks
Design Consistency Identifies whether the Web design of the course appears to be consistent through the entire course.	Yes	100%
	Somewhat	0%
	No	0%
White Space Identifies whether the design of the third lesson includes white space.	Yes	100%
	No	0%
Background Identifies whether the background allows easy reading of the text	Acceptable	100%
	Difficult	0%
Font Identifies the primary font type in the third lesson	Serif	32%
	Sans serif	64%
	Script	0%
	Novelty	0%
	Symbol	0%
	Multiple	0%
Font Size Identifies the primary font size of the normal text in the third lesson.	Ave	13 point
	Min	12 point
	Max	19 point
Font Style Identifies the primary font style of the normal text used in the third lesson.	Normal	91%
	Bold	32%
	Italic	5%
	Underline	0%
	Other	0%
Font Color Identifies whether there is more than one font color in the third lesson	Black	91%
	Not Black	0%
	Mixed	9%
Course Image Type	Diagram	55%

Identifies whether unique images exist within this lesson and the types of the images.	Symbol	45%
	Map	27%
	Table	50%
	Graph	0%
	Focus Point	73%
	Photograph	95%
	Clipart	86%
	Animation	27%
	Video	4%5
	None	0%
Image Type (Lesson Level) Identifies whether unique images exist within this lesson and the types of the images.	Diagram	23%
	Symbol	6%
	Map	8%
	Table	30%
	Graph	5%
	Focus Point	21%
	Photograph	58%
	Clipart	48%
	Animation	12%
	Video	11%
None	17%	

Table 2: Focus on Disabilities

Element	Field Value	Frequency
Vision Accommodations Identifies whether the design of the lesson allows efficient use of devices to help visually impaired individuals.	Unclear Fonts	0%
	Titles Unclear	0%
	Frames	2%
	Pop-Ups	14%
	Color Coding	6%
	No Text Equivalentents	23%
	No Table Headers	0%
	Table Summaries	0%
	Blinks	0%
	Moving Content	12%
	Adjacent Links	2%
	Timing	2%
	Directions for Forms	6%
None	59%	
Hearing Accommodations	Volume Reset	0%

Identifies whether the design of the lesson allows efficient use of devices to help hearing-impaired viewers.	Hearing Alternative	0%
	Natural Language Change	3%
	Abbreviation Expansion	0%
	Text Alerts	0%
	Text Transcripts	3%
	Timing	2%
	None	95%
Bias Identifies whether bias exists within the lesson.	Topical	0%
	Cultural	0%
	Gender	2%
	Racial	2%
	Disability	0%
	None	97%

Table 3: Technologies Used

Element	Field Value	Frequency
Types of Required Materials Identifies which materials are required.	Textbook	27%
	Book	0%
	Lab Kit	14%
	CD	0%
	Video Cassette	14%
	Video Camera	0%
	Software	14%
	Still Camera	0%
	Fax	0%
	Phone	9%
	PDA	0%
	DVD	0%
	Calculator	9%
	Tape Recorder	0%
	Audiocassette	5%
Microphone	9%	
Speakers	9%	
None	41%	
Types of Optional Materials Identifies which materials are optional.	Textbook	18%
	Book	0%
	Lab Kit	0%
	CD	0%
	Video Cassette	0%

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	Video Camera	0%
	Software	9%
	Still Camera	0%
	Fax	0%
	Phone	0%
	PDA	0%
	DVD	0%
	Calculator	0%
	Tape Recorder	0%
	Audiocassette	0%
	Microphone	0%
	Speakers	0%
	None	68%
Course Technologies Identifies technologies required for the front pages	Links	23%
	Email	5%
	Chat	0%
	Mailing List	5%
	Video	20%
	Audio	27%
	Voice Boards	5%
	Threaded Discussion	36%
	Fax	0%
	US Mail	0%
	Telephone	0%
	Desktop Video	0%
	Download	36%
	Applications	9%
	Shared Apps	0%
	Audiographics	0%
	Collaboration Software	0%
	Simulations	0%
	CD	5%
	CD-R	0%
	VCR	0%
	DVD	0%
	DVD-R	0%
	Haptics	0%
	Web Forms	27%
	Image Map	36%
	Pop-up	27%
	Animation	23%
	Scanner	0%
	Assistive	0%

	None	18%
Lesson Technologies Identifies needed technologies for this lesson	Links	35%
	Email	0%
	Chat	0%
	Mailing List	0%
	Video	11%
	Audio	9%
	Voice Boards	2%
	Threaded Discussion	26%
	Fax	0%
	US Mail	12%
	Telephone	2%
	Desktop Video	0%
	Download	35%
	Applications	9%
	Shared Apps	0%
	Audiographics	0%
	Collaboration Software	0%
	Simulations	2%
	CD	0%
	CD-R	0%
	VCR	2%
	DVD	0%
	DVD-R	0%
	Haptics	0%
	Web Forms	39%
	Image Map	0%
	PDA	0%
	Textbook	9%
	Book	3%
	Lab Kit	11%
	Video Cassette	0%
	Video Camera	0%
	Still Camera	0%
Calculator	5%	
Pop-up	15%	
Animation	9%	
Scanner	0%	
Assistive	0%	
None	8%	
Number of Audios Identifies the number of distinct audio clips that occur within the lesson	Ave	.3 videos
	Min	0 videos

clips that occur within the lesson.	Max	9 videos
All Audio Identifies whether text-to-speech occurs for all text within the lesson.	Yes	0
	No	100
Average Audio Length (Lesson) – in seconds Identifies the average length of video clips in the lesson.	Ave	55 seconds
	Min	1 second
	Max	193 seconds
Audio Style Identifies the purpose or style of the audios within the lesson.	Pronunciation	6
	Text-to-Speech	3
	Authenticity	2
	Non-Text Speech	0
	Not App	91
Voice Identifies if the voice in audios and videos is difficult to hear or understand.	Clear	17
	Unclear	3
	Accent	0
	Not App	0
Number of Videos Identifies the number of distinct video clips that occur within the lesson.	Ave	.4 videos
	Min	0 videos
	Max	6 videos
Average Video Length – in seconds Identifies the average length of video clips in the lesson.	Ave	102 seconds
	Min	2 seconds
	Max	277 seconds
Video Style Identifies the style of the video images.	Lecture	3
	Animated Graphics	8
	Graphic Stills	0
	Photo Stills	0
	Recorded Video	0
	Live Video	0
	Not App	88

Table 4: Instructional Methodologies:

Element	Field Value	Frequency
Reading Ease	Ave	62.5

Identifies the reading level of selected text using the Flesch Reading Ease score	Min	43.3
	Max	77
Reading Level – in grade level Identifies the reading level of selected text using the Flesch-Kincaid Grade Level score.	Ave	Grade 8.4
	Min	Grade 5.7
	Max	Grade 12
Spelling Identifies whether any spelling errors exist within the course	None	50%
	1-5 errors	45%
	Many	5%
Grammar Identifies whether any grammatical errors exist within the course	None	45%
	1-5 errors	50%
	Many	5%
Timed Identifies whether the assessment is timed.	Yes	10%
	No	90%
	Unknown	0%
Summaries Identifies whether concluding summaries exist at the end of the lesson	Yes	14%
	No	85%
Student Options (Course) Identifies whether students have control over or input into which units or lessons they must complete.	Yes	9%
	No	91%
Student Options (Lesson) Identifies whether students have control over or input into which parts of the lesson or which assessments within this lesson they must complete.	Yes	18%
	No	82%
Student Options (Assessment) (N = 64) Identifies whether students have control over or input into which parts of the assessment they must complete.	Yes	16%
	No	84%
Instructional Activities Identifies instructional activities within the lesson.	Lecture	55%
	Viewing	12%
	Listening	8%
	Demonstration	8%
	Drill and Practice	24%
	Tutorial	12%
	Group Discussion	24%
	Debate	3%

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	Lab	8%
	Presentation	2%
	WebQuest	0%
	Role Playing	18%
	Brainstorming	5%
	Project-Based Learning	14%
	Virtual Simulation	2%
	Question/Answer	32%
	Reflection	18%
	Research	15%
	Game	0%
	Web Reading	27%
	Other Reading	11%
Peer Interaction Determines whether students have opportunities to work in groups.	Pairs	2%
	Small Groups	0%
	Class	26%
	Optional	2%
	Alone	98%
Assessment Types Identifies assessment method.	Student Choice	1%
	Communication	10%
	True/False	11%
	Multiple Choice	27%
	Fill in the Blank	15%
	Matching	4%
	Short Answer	26%
	Essay	17%
	Visual	7%
	Audio	0%
	Physical	1%
	Portfolio	0%
	Project	8%
	Critique/Edit	5%
	Interview	0%
	Presentation	1%
	Standardize	0%
	Comparaison Chart	2%
	Paraphrase	1%
	Outline	1%
	Role Play	1%
	Order	5%
	Calculate	12%
	Game	0%

	Lab Results	7%
	Textbook Work	2%
	Unknown	0%

Table 5: Support Systems

Element	Field Value	Frequency
Support Systems Required Determines whether use of student support systems is an expectation	Not Mentioned	14%
	Required	41%
	Encouraged	0%
	If Needed	45%
	Not Needed	0%
Support Personnel People Identifies the types of people who act as required student supports.	Parent	0%
	Online Counselor	23%
	Home Counselor	41%
	Not Applicable	59%
Support Personnel Means Identifies the types of required student supports.	Phone	0%
	Email	0%
	Face-to-Face	23%
	Not Applicable	77%
Context Sensitive Help Identifies whether context sensitive content help is available	Yes	27%
	No	73%

APPENDIX D

Unrepresented Elements

Following each element is a citation to the literature addressing the element.

- Links allowing users with screen readers to jump directly to web page content, skipping over navigational menus, long lists of items, ASC II art, etc. (Architectural and Transportation Barriers Compliance Board, 2000, 2001; Bohman, 2002, 2004; Cook & Gladhart, 2002; Smith, 2004; World Wide Web Consortium, 2000)
- Ability to jump from link to link using the tab key (Bohman, 2002)
- Links serve for navigation rather than activating functions (Bohman, 2002)
- Screen readers can read the visual and coded text in its literal order (Architectural and Transportation Barriers Compliance Board, 2001; Bohman, 2002; World Wide Web Consortium, 2000)
- Use relative instead of absolute units for spacing (Bohman, 2002; World Wide Web Consortium, 2000)
- Provide synchronous alternatives for multimedia (Architectural and Transportation Barriers Compliance Board, 2000, 2001; Bohman, 2002, 2004; Burgstahler, 2004; World Wide Web Consortium, 2000, 2004)
- Enable all activities to be completed using the keyboard (Architectural and Transportation Barriers Compliance Board, 2000; Bohman, 2002; Burgstahler, 2004; World Wide Web Consortium, 2004)
- Provide multiple representations of and delivery of content (Architectural and Transportation Barriers Compliance Board, 2000; Bohman, 2002, 2004; Burgstahler, 2004, 2005; Kinash et al., 2004; Negroponte, 1995; Smith, 2004)
- Ensure users can view pages using their own styles and turn off color and images as needed (Architectural and Transportation Barriers Compliance Board, 2000; Rowland, 2004; World Wide Web Consortium, 2000)
- “On Mouse” commands offering large, clickable areas (Bohman, 2002; Burgstahler, 2004; Rowland, 2004)
- Use of breadcrumbs showing navigation paths (Rowland, 2004)
- Limit use of ALL CAPS (Bohman, 2004)
- Limit background sounds that distract the user (Bohman, 2004)
- Use sound to focus the user (Bohman, 2004)
- Highlight text as it’s being read aloud (or allow users to do this) (Bohman, 2004)
- Give feedback on user’s actions (e.g., confirm correct choices, alert users to errors or possible errors) (Bohman, 2004)
- Use short, multi-step forms instead of long, all-in-one forms and allow users to correct mistakes in forms (Bohman, 2004; World Wide Web Consortium, 2004)
- Statement included on all pages about how to access pages that are accessible (Burgstahler, 2004)
- Non-text equivalents available for visual content (Architectural and Transportation Barriers Compliance Board, 2000; Burgstahler, 2004; World Wide Web Consortium, 2000, 2004)

- Avoid use of plug-ins and provide links to the plug-in software when there are plug-ins (Architectural and Transportation Barriers Compliance Board, 2000, 2001; Bohman, 2002, 2004; Cook & Gladhart, 2002; Smith, 2004)
- Graphic organizers used to guide users through text (Cook & Gladhart, 2002)
- Long documents divided into shorter, hyperlinked pages (Cook & Gladhart, 2002)
- Table of contents or site map showing how information is organized (Cook & Gladhart, 2002)
- Use of advance organizers (Cook & Gladhart, 2002) [Note: This element does appear in the IODE, but we did not feel it warranted inclusion in the table of special education elements.]
- Use of client-side instead of server-side image maps or include redundant links (Architectural and Transportation Barriers Compliance Board, 2000, 2001; World Wide Web Consortium, 2000)
- Link to text-only pages (Architectural and Transportation Barriers Compliance Board, 2000, 2001)
- No auto-refreshing (World Wide Web Consortium, 2000)
- Include a site map or description of the site layout (World Wide Web Consortium, 2000, 2004)
- Labels on forms are clearly associated with the input fields (World Wide Web Consortium, 2004)
- Users can disable audio (World Wide Web Consortium, 2004)
- Multiple ways provided for students to demonstrate knowledge (Burgstahler, 2005)
- Links provide to accurate text only versions of pages (Cook & Gladhart, 2002)

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