

FET8610- Creating Educational Web Environments

Assignment 2

Paper: Creating Accessible Web Text for ESL Learners (2154 words)

By James Caldwell

ID: 0050091420

Part A- Creating Accessible Web Text for ESL Learners

By James Caldwell

Current trends towards constructivist learning, combined with the myriad of easy to integrate technologies, means teacher-designers are able to create eye-catching Computer Assisted Language Learning (CALL) web environments. It is widely published that CALL web environments have the capabilities to hold English as Second Language (ESL) learner's attention longer and engage them in meaningful Second Language Acquisition (SLA) tasks (Bush, 1997; Peterson, 2004; Son, 2004).

In contrast to these positive findings, I have discovered that flashy web pages tend to create an accessibility barrier pertaining to my ESL learners' ability to read web based text and retrieve information. As Murray and McPherson (2006, p.139) suggest, while there is much published research on web page design, many CALL web environments that could be used to support ESL curriculums do not employ readable design.

Recently, I have begun a journey towards developing a web environment where incorporating accessible and readable information will be paramount. The objective of the web environment is to develop my Korean, 5th Grade ESL learners' own writing techniques and styles. The environment will present information regarding creative writing techniques, such as personification, similes and metaphors. Additionally, learners will be provided with exemplar compositions that utilise these writing techniques. Such a web environment will rely on accessible and readable text to convey information.

This paper is an account of this journey to develop accessible and readable text. First, I will draw upon two relevant studies to address my first question:

- *What are the barriers that hinder my Korean ESL learners from accessing text based information in CALL web environments?*

Through this journey I have assumed the role of a practically minded teacher-designer. Therefore, the second portion of this paper will describe workable measures that I should integrate into my web text design. In this I seek to answer the following question:

- *How can I create text which enhances my ESL learners' access to webpage information?*

It is the objective of this paper to re-establish the importance of providing accessible information through readable, well organised webpage text. This accessibility issue is often overlooked by designers whose primary focus is on creating flashy, interactive websites. However, in my ESL setting, where my learners have lower literacy levels, the concept of designing readable text is even more crucial (Nielsen, 2005).

What are the barriers that hinder my Korean ESL learners from accessing text based information in CALL web environments?

79% of proficient English learners scan web text in a non-linear fashion (Morke & Nielsen, 1997). For these learners, obtaining information is a non-static task, in which they utilise the autonomy that hypertext provides to navigate from page to page. However, the difficulty for my Korean ESL learners is that they approach reading web text quite differently. Often they will open a webpage and approach the text in the same way as they would traditional text; word-by-word in a linear fashion. After a time of persevering through one or two paragraphs, learners will quickly scroll to the bottom of the page and move on. This approach is reflected in Nielsen's (2005) study that reveals how low literacy readers, tend to 'plow' text word-by-word and line-by-line, often taking time to comprehend unfamiliar multi-syllabic words.

I have recognised an interesting connection between Nielsen's (2005) findings and a study by Tseng (2008), which reveals the difficulties ESL learners have by employing this arduous approach to reading screen text. Tseng found 36% of learners in his ESL group encountered eyestrain and blurred vision after reading the screen for extended

amounts of time. Tseng (2008) reveals that bright background colours and small font size had a major effect on ESL students' ability to focus on the screen. Both the above studies reveal that, as a consequence to these difficulties, ESL learners will skip over portions of important text if they don't understand it or if it becomes a strain on their eyes to read.

The above understandings are of fundamental importance to me, if I am to provide my ESL learners with access to information in the form of readable, well organised webpage text. A close examination of articles specifically pertaining to ESL website design reveals that many design guidelines applied to mainstream website text also apply to writing for ESL website audiences (Kelly, 2000; Leverett & Kelly, 2000, Nielsen, 2005). These guidelines are all in agreement in one key concept; Good design is structured, functional, not dazzling or fancy; it's inclusive, not exclusive.

How can I create text which enhances my ESL learners' access to webpage information?

As a teacher-designer I prefer practical guidelines that I can apply to my website designs to create text that is readable for my ESL learners. All the guidelines defined below are the results of a thorough literature search. The guidelines pertain specifically to the visual and structural features of page content text, distinguishing it from assistive text such as site menus. The guidelines are collated in to four checkpoints; *presentation*, *voice*, *structure*, and *hypertexts*.

Checkpoint 1: Structure

Structure refers to the organisation of main ideas, developing logical sequences of information, labelling chunks of information and highlighting connections. A prominent study by Seghayer (2005) revealed that ESL learners preferred and were able to utilise well structured information over less structured. This indicates the need for my website to employ traditional schema (Gibbs & Krause, 2006), a linear text structure that will allow my Korean learners to make assumptions and predictions, to assist in effectively locating and comprehending information.

Is the main idea clearly communicated?

It is important to ensure that the ESL readers comprehend the main idea being presented to them. To achieve this, the familiar rule applies; tell the reader what you are going to tell them, tell them, and then tell them what you have told them (WebAim, 2009c).

Is the most important information near the top of the page?

The inverted pyramid approach to structuring information is promoted as the most effective way of organizing information (Cambell, 2003; Lynch & Horton, 2009). The inverted pyramid approach locates the most important information in the top third of the page, and then sequentially breaks down the main ideas into detailed points down the page. This approach will lend itself well to presenting information regarding creative writing techniques.

Is the text presented in logical 'chunks' of ideas?

Organising 'chunks' of information into comprehensive segments will ensure that the ESL learners can gain the information they need directly, without having to follow links to gain full comprehension (Campbell, 2003; Leavitt, 2006; Lynch & Horton, 2009). Rather than using continuous lists in text, bulleted lists should be used to assist the ESL learners in comprehending related items easier (Bernard, 2003; Campbell, 2003).

Are chunks of information clearly labelled?

Placing clear and discrete headings, located close to their corresponding 'chunk' will assist the ESL readers in locating specific information quickly. Using a bold 14pt for headings will ensure that they stand out from paragraph text (Leavitt, 2006; Lynch & Horton, 2009).

Is there adequate white space around chunks of information?

White space around chunks of information will make text appear less cluttered and easier to read, while also providing clues to the organisation of information (Campbell, 2003). As suggested by WebAIM (2009b), it is beneficial to use ample white space on the left and right margins of paragraphs.

Checkpoint 2: Voice

Voice is the way words sound on the page and combine to carry meaning. To be effective in this aspect of web design I must first know my audience and establish a purpose for writing (Kemper, Nathan, Elsholz & Sebranek, 2002). From there, I can select suitable language to communicate relevant and appropriate information.

Is the writing succinct and full?

As discussed (Nielsen, 2005), low literacy readers spend longer processing text in a word-by-word manner. To assist the ESL learners in gaining comprehension, web text will be clear and to the point (Nielsen, 2005). In this, the traditional rule of writing stands; assume that the reader is intelligent, but do not assume they know as much as you (WebAim, 2009c).

Is the language used appropriate for 5th Grade ESL learners?

The language used must allow for the ESL readers to understand what is being communicated. Consideration must be given to optimal word length, eliminating complex sentences and ambiguous terms (Campbell, 2003). According to WebAim (2009c), in the case of low literacy readers the following should be avoided;

- Slang or jargon
- abbreviations or acronyms without clear explanations
- the passive voice
- multiple negatives.

Checkpoint 3: Presentation

Presentation refers to the visual features of text, as an individual element and in relation to other elements on the screen. As demonstrated in Tseng's (2008) research, the presentation of text will determine my ESL learners' ability to effectively read webpage information for sustained periods of time.

Is the font size and type readable to 5th Grade ESL learners?

Dillon, Kleinman, Choi, and Bias, (2006) found that reading and scanning speeds are increased by applying ClearType fonts (Microsoft, 2007). Bernard and Mills (2001, as cited in Bernard, 2003) found that the preferred font for younger learners is 14pt Arial or 12pt ComicSans MS. Leavitt (2006) advises against using fonts lower than 9pt.

Is the font colour contrastive to the background colour?

To increase text legibility, dark text on a light non-patterned background is recommended (Bernard, 2003; Williams, 2000). However, Tseng (2008) found that black text on a white background causes eye-strain amongst ESL learners. Therefore, a dark green text on a soft yellow background seems more appropriate, as it has been proven to increase text readability (Hill & Scharff, 1997).

Are font characteristics used purposefully?

Joseph, Knott and Grier (2002) recommend changing the font characteristics only to emphasize the importance of a word or short phrase, such as applying bold text to draw the reader's attention to a specific piece of information. In all cases, apply static text, which is considered easier to read and less distractive than animated text (WebAim, 2009b).

Are line lengths of an optimal width?

Results of eye-tracking studies by Beymer, Russell & Orton (2007) demonstrate that narrower line lengths increase reader retention of information. It is advisable to keep line lengths between 40 and 50 characters, presented in a single column (Williams, 2000).

Is text supplemented with relevant non-text elements?

In my experience non-text elements can enhance the meaning of text for my ESL learners. Illustrations that specifically pertain to written text will clarify and simplify ideas, resulting in reader comprehension and retention of information (WebAim, 2009c; Yang & Moore, 1996 as cited in Campbell, 2003). Additionally, I have found that

supplementing screen text with MP3 audio support increases information accessibility for ESL learners.

Checkpoint 4: Hypertext

Because my focus is on text to enhance access to information, this checkpoint will solely focus on embedded hypertext. As Ferney and Waller (2001) warn, the learner autonomy offered by hypertext has the potential to jeopardise a logical information structure. This is particularly true for my ESL learners, who are more accustomed to information presented in a linear structure with lower levels of learner autonomy. With this in mind, I will only use hypertext to help support a well designed organisational structure and provide links to assistive reference materials.

Are standard colours applied to hypertexts?

Experimenting with colours to make hypertext stand out is unadvisable (Lynch & Horton, 2009; WebAIM, 2009a). Instead, use standard hypertext colours. This means standard blue for non-visited hypertext, purple for visited hypertext, and red for active hypertext (Bernard, 2003; Farkas & Farkas, 2000).

Are the hypertext links useful?

It is important to employ hypertext to provide supplemental information like definitions of terms and abbreviations, and reference information. Studies have shown that when this is done purposefully, ESL learners will actively utilise hypertext and perceive it as helpful to their learning (Son, 2003).

Is hypertext informative?

Links should be specific and informative towards their purpose. It is advised to place the link on the descriptive phrase of the embedded hypertext and avoid using meaningless terms, such as 'click here' (Lynch & Horton, 2009; WebAIM, 2009a). Hypertext should be long enough to be informative but short enough to avoid text wrapping from one line to the next (WebAIM, 2009a).

My New Understandings

As the World Wide Web Consortium 1.0 (1999) confirms:

Using clear and simple language promotes effective communication. Access to written information can be difficult for people who have cognitive or learning disabilities. Using clear and simple language also benefits people, whose first language differs from your own...

(Guideline 14, 1999)

Through this journey, I have developed a clearer understanding of how my ESL learners read web page text. This has highlighted my obligation, as a teacher-designer, to create a web environment that provides accessible creative writing information. By applying the checkpoints above, I am confident that my 5th Grade, ESL learners' online experience will be enhanced through well structured, readable text.

References

- Bernard, M. (2003). *Optimal Web Design*. Software Usability Research Laboratory, Department of Psychology, Wichita State University. Retrieved December 10, 2008, from <http://hcomtech.com/documents/index.php?docid=5>
- Beymer, D., Russell, D. M., Orton, P. Z., (2007, July). *An eye tracking study of how font size, font type, and pictures influence online reading*. A paper presented to INTERACT 2007, Belo Horizonte, Brazil. Retrieved April 11, 2009 from dmrussell.googlepages.com/FontSizeTypePictures-long-Beymer-Rus.pdf
- Bush, M., (1997). Implementing technology for language learning. In Bush, M., & Terry, R. (Eds.) *Technology-Enhanced Language Learning*. Lincolnwood: National Textbook Co.
- Campbell, K. (2003). *E-Effective writing for E-learning environments*. London: Information Science Publishing.
- Dillon, A., Kleinman, L., G.O., Choi, and Bias, R. (2006). *Visual search and reading tasks using ClearType and regular displays: Two experiments*. Paper presented at the Conference on Human Factors in Computing Systems. Montreal, Quebec, Canada. Retrieved March 31, 2009 from <http://portal.acm.org/toc.cfm?id=1124772&coll=GUIDE&dl=GUIDE&type=proceeding&idx=SERIES260&part=series&WantType=Proceedings&title=CHI&CFID=29838445&CFTOKEN=25774141>
- Farkas, D. K. and Farkas, J. B. (2000, August). Guidelines for Designing Web Navigation. *Technical Communication* 4, 341-358. Retrieved December 10, 2008, from <http://www.hcde.washington.edu/navpeople/faculty/farkas>

- Ferney, D., & Waller, S. (2001, April). Reflections on Multimedia Design Criteria for the International Language Learning Community. *Computer Assisted Language Learning*, 14(2), 145. Retrieved April 30, 2009, from <http://web.ebscohost.com.ezproxy.usq.edu.au/ehost/detail?vid=6&hid=117&sid=a4662d01-0ae2-4426-9786-240a3adedca7%40sessionmgr108&bdata=JnNpdGU9ZWwhvc3QtbGl2ZQ%3d%3d#db=aph&AN=4557073>
- Gibbs, D. & Krause, K. (2006). *Cyberlines 2.0: languages and cultures of the Internet*. South Melbourne: James Nicholas Publishers.
- Hill, A., & Scharff, L. V. (1997). Readability of screen displays with various foreground/background color combinations, font styles, and font types. *Proceedings of the Eleventh National Conference on Undergraduate Research*, (2), 742-746. Retrieved April 11, 2009 from <http://www.laurenscharff.com/research/AHNCUR.html>
- Joseph, K.M., Knott, B.A. and Grier, R.A. (2002). The effects of bold text on visual search of form fields, *Proceedings of the Human Factors and Ergonomics Society 46th Annual Meeting*, 583-587. Retrieved April 10, 2009 from www.aptime.com/publications/2002_Joseph_Knott_Grier.pdf
- Kelly, C. (2000, March). Guidelines for designing a good web site for ESL students. *The Internet TESOL Journal* 6(3). Retrieved April 10, 2009 from <http://iteslj.org/Articles/Kelly-Guidelines.html>
- Kemper, D., Sebranek, P., Nathan, R., & Krenzke, C. (2000). *Writer's express*. Wilmington: Great Source Education Group Inc.
- Leavitt, F. (2006). *Research-Based Web Design & Usability Guidelines*. Washington: U.S. Dept. of Health and Human Services. Retrieved April 11, 2009 from <http://www.hhs.gov/usability/pdfs/guidelines.html>

- Leverett, T., & Kelly, C. (2000, July). [Effective webpage design](#). *Newsletter of the TESOL Computer-Assisted Language Learning Interest Section of (CALL-IS)*, (19) 1. Retrieved April 9, 2009 from <http://www.siu.edu/~cesl/teachers/pd/prdr1.html>
- Lynch, P., & Horton, S. (2009). *Web Style Guide: Basic Design Principles for Creating Web Sites, 3rd Edition*. New Haven: Yale University Press. Retrieved April 10, 2009, from <http://www.webstyleguide.com>
- Microsoft (2007) *Microsoft typography: ClearType information*. From <http://www.microsoft.com/typography/clearTypeInfo.msp>
- Morkes, J. & Nielsen, J. (1997). *Concise, SCANNABLE, and objective: How to write for the web*. [Electronic version]. Retrieved April 11, 2009 from <http://www.useit.com/papers/webwriting/writing.html>
- Murray, D. & McPherson, P. (2006). Scaffolding instruction for reading the Web , *Language Teaching Research*, (10)2 (131-156). Retrieved April 11, 2009 from <http://ltr.sagepub.com/cgi/content/abstract/10/2/131>
- Nielsen, J. (2005). Low literacy readers. *Alertbox*. Retrieved April 10, 2009 from <http://www.useit.com/alertbox/20050314.html>
- Peterson, M. (2004). MOO virtual worlds in CMC-based CALL: Defining an agenda for future research. In Son, J.-B. (Ed.). *Computer-Assisted Language Learning*. United States: iUniverse, Inc.

- Seghayer, K. (2005) ESL Readers' Perceptions of reading in well structured and less structured hypertext environment. *CALICO Journal*, 22 (2), 191-212.
Retrieved April 11, 2009 from <https://www.calico.org/a-164-ESL%20Readers%20Perceptions%20of%20Reading%20in%20Well%20Structured%20and%20Less%20Structured%20Hypertext%20Environment.html>
- Son, J.-B., (2003). A text approach to foreign language reading: Student attitudes and perceptions. *Australian Review of Applied Linguistics*, Series S No. 17: Asian Languages and Computers, 91-110. Retrieved April 11, 2009 from www.usq.edu.au/users/sonjb/papers/aral03.htm
- Son, J.-B. (Ed.) (2004). *Computer-Assisted Language Learning*. United States: iUniverse, Inc.
- Tseng, M. (2008). The Difficulties That EFL learners have with reading text on the web. *The Internet TESOL Journal* 14(2). Retrieved April 10, 2009 from <http://iteslj.org/Articles/Tseng-TextOnTheWeb.html>
- W3C (1999) *Web content accessibility guidelines 1.0*. Retrieved December 10, 2008 from <http://www.w3.org/TR/WAI-WEBCONTENT/>
- WebAIM (2009a) *Links and hypertext*. Retrieved April 10, 2009 from http://www.webaim.org/techniques/hypertext/link_text.php
- WebAIM (2009b) *Text/typographical layout*. Retrieved April 10, 2009 from <http://www.webaim.org/techniques/textlayout/>
- WebAIM (2009c) *Writing clearly and simply*. Retrieved April 10, 2009 from <http://www.webaim.org/techniques/writing/>

Williams, T.R. (2000) Guidelines for designing and evaluating the display of information on the web. *Technical Communication*, 47(3), 383-397 Retrieved December 10, 2008, from <http://ezproxy.usq.edu.au/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=aph&AN=3457746&site=ehost-live>