Why Disability Services LOVES WeBWorK…it’s all about Cost and Control!

Quick notes from Kaela Parks, Disability Services Director at Portland Community College

Shared within the WeBWorK Code Camp held at PCC August 3rd through 7th prior to MathFest 2014

## The Issue

* Math students are often presented with online learning materials and activities that are unusable
  + 1 in 5 Americans have a disability –1 in 10 College Students
    - Barriers are found in both the “content” and the “container”
  + Guidelines have been established for web accessibility, which help to reduce barriers
    - Online homework and exam sites do not always align
  + Students who rely on AT are often unable to get in, or to make full use of these online resources
* College personnel may not realize they have adopted unusable learning offerings until it is too late
  + Procurement or adoption processes can allow inaccessible technology to become required
  + This puts institutions at risk - we cannot always accommodate our way out
  + Recent guidance has clarified responsibility – see “A Clear Standard for Access to Instruction”
* Not enough pressure is felt by vendors to shift the balance and lead to more accessible offerings
* WeBWorK is awesome because it provides an alternative that we can make both affordable & accessible

## Cost

* Individuals who live with disability often do so in poverty
  + If educational funding is in play the risk of failing can be higher – loss of support
  + Expenses for AT, Personal Care, Transportation, etc. are in addition to tuition, books, fees
  + Rates of unemployment are higher – so repaying debt typically takes longer
* Making college more affordable is a concern of many institutions
  + Saving students money requires strategic investment
  + You can’t get something for nothing – but you can make choices that benefit students
* Math courses are required of most students so the magnitude of potential cost savings is large
  + Many math books offered by commercial publishers are often very expensive
  + Only new purchases come with free access to the online engagement points
* WeBWorK gives institutions the option of developing instructional materials at NO COST to the student
  + Instructors can use the online problem sets in conjunction with other open accessible resources
  + Playlists of captioned videos can be made available through accessible video players
  + Companion books can be created with accessible formats prior to deployment in courses

## Control

* Create targeted materials that align resources with institutional goals
  + CTE programs with problem sets tailored tied to local industry needs
  + Interdisciplinary Synergy – High School Transitions – Other Institution specific projects
* Ensure alignment with accessibility standards and best practices
  + Browser/AT interoperability is not static
  + Publishers are making progress but approach has not been responsive enough for our students
  + With WeBWorK we can do our own end user testing to document barriers and work collaboratively to ensure we are actually able to change the issues that caused those barriers

## Reference Information

Almost 57 million individuals in the U.S. experience disability (19%)

Compared to the general population:

* 6.2% (14.9 million) have a visual, hearing, or speech related disability
* 20.8% (50.5 million) have a mobility related disability
* 6.3% (15.1 million) have a cognitive and/or mental disability

*Source: Brault, Matthew W.,* "*Americans With Disabilities: 2010," Current Population Reports*, P70-131, U.S. Census Bureau, Washington, DC, 2012.

A little over 2 million undergraduate college students experience disability (11%)

Compared to all college students:

* 1% (194,000) have a visual, hearing, or speech related disability
* 1.6% (300,000) have a mobility related disability
* 5.4% (1,040,000) have a cognitive and/or mental disability

*Source: U.S. Department of Education, National Center for Education Statistics, 2007-2008 National Postsecondary Student Aid Study*

## Selected Resources

Web Content Accessibility Guidelines – <http://www.w3.org/WAI/intro/wcag>

Web Accessibility in Mind - <http://webaim.org/>

Article on Web Accessibility in Higher Ed - <http://itd.athenpro.org/volume13/number1/thompson.html>

PCC Math Resources page – <http://www.pcc.edu/resources/instructional-support/access/math.html>

Clear Standard for Access to Instruction - <http://www.ahead.org/DOJ_Louisiana_Tech_Settlement>

## Selected Quotes

Requiring use of an emerging technology in a classroom environment when the technology is inaccessible to an entire population of individuals with disabilities – individuals with visual disabilities – is discrimination prohibited by the Americans with Disabilities Act of 1990 (ADA) and Section 504 of the Rehabilitation Act of 1973 (Section 504) unless those individuals are provided accommodations or modifications that permit them to receive all the educational benefits provided by the technology in an equally effective and equally integrated manner.

From the June 29, 2010 Dear Colleague Letter

*"Accessible" means a person with a disability is afforded the opportunity to acquire the same information, engage in the same interactions, and enjoy the same services as a person without a disability in an equally effective and equally integrated manner, with substantially equivalent ease of use. The person with a disability must be able to obtain the information as fully, equally and independently as a person without a disability. Although this might not result in identical ease of use compared to that of persons without disabilities, it still must ensure equal opportunity to the educational benefits and opportunities afforded by the technology and equal treatment in the use of such technology.*

Source-Resolution Agreement South Carolina Technical College System OCR Compliance Review No. 11-11-6002