

## **Technology Tips for Resource and Content Mastery**

Copyright © 2004 by John Rice

Content mastery and resource teachers hold unique positions in schools. Students go to the content mastery room for help, receiving attention their regular teachers cannot give them. Often the students are classified special ed. or “504.” Students showing up in the content mastery room may have learning or physical disabilities. The content mastery teacher must keep track of required modifications in tests and study material, as well as other facets of students’ Individual Education Plans (IEPs). Resource teachers typically focus on students classified as special ed., who for one reason or another cannot function successfully within core curriculum classes. Some districts call content mastery classrooms resource rooms, so there may be some interchangeability of terms depending on the school.

Technology plays an increasing role in both resource and content mastery classrooms. Resource and content mastery teachers often have to juggle hardware and software dedicated to disabled students as well as the usual computing demands of regular students. Often, they are under mandates to integrate technology into their classrooms, although sometimes it is not made clear how to do so.

This article will focus on twelve specific technology tips for content mastery and resource teachers. Some of the tips require tweaking settings in Windows or Office programs. Others require downloading specific software, while still others point to resources on the Web. In light of the fact that budgets are always tight, the tips point mostly to free resources. If a resource incurs an expense, it is so indicated, however, expensive suggestions have been limited. Finally, while this article was written with content mastery and resource teachers in mind, the tips can be generalized to all teachers working with disabled students.

### **Tips for Visually Impaired Students**

#### *1. Use Windows Magnifier*

A common need for teachers working with visually impaired students on computers is to magnify a portion of the screen. Fortunately, there is no need to purchase a separate program to accomplish this task, as the Windows Magnifier is a built-in visibility enhancer.

To get to it, click Start, Programs, Accessories, Accessibility, and click Magnifier. The top half of the screen will be magnified at two times normal while the bottom half remains the same. You can adjust the portion of the screen to be magnified and the desired level of magnification.

For more help on this topic, including a list of other low vision accessibility techniques, visit [www.magnifiers.org](http://www.magnifiers.org) on the Web.

## *2. Change Text Size in IE and Word*

One of the easiest adjustments you can make for low vision students using Internet Explorer or Microsoft Word is to increase the text size. To accomplish this in Internet Explorer, go to View, Text Size, and bump it up from the default “Medium” to “Largest.” Note that not all sites will change their text size. Some are coded so the text stays one size regardless of how you set up your browser. Still, most sites will allow the text to be resized, making this a valuable tip for visibly-enhanced Web surfing.

In Word, font sizes can simply be increased for the sake of visibility. Sometimes the student will want to type a paper in a specific font size, such as the standard 12 points, but will want to see the text better. To increase the view of the text rather than simply enlarging the font, click View, Zoom, then choose a desired percentage. Choosing 200%, for instance, will double the size of text shown on the screen.

Increasing font sizes, regardless of the application, is the single best way to improve computing experiences for many students with low vision.

## **Tips for Reading Impaired Students**

### *3. Use Speech Programs*

Many helpful speech programs are essentially free now, and any student with reading difficulties can benefit from having text read aloud to them by the computer. ReadPlease, available at [www.readplease.com](http://www.readplease.com), remains my favorite. Simply paste or type the desired text in the ReadPlease window and the program reads it to the student. The latest version, ReadPlease 2003, is still available for free. In addition, a more advanced version that costs money is available for a free 30 day trial.

Some other interesting speech programs available for free out there include several from a company called Code-it.com. Their Web Talkster v3.9 speaks the text on Web pages and is purported to be one of the more widely downloaded talking Web browsers.

### *4. Change Contrast and Background in Word*

Sometimes students with reading difficulties can have their word processing experiences enhanced when teachers alter the traditional white screen and black text. This change in contrast may also assist students with visual acuity problems.

The easiest way to change Word’s background color is to click Format, Background and choose a fill color other than white. Turquoise, for instance, provides a nice background color that is not as harsh on the eyes as white. Glare also appears to be reduced. Additionally, you can direct Windows to always open programs like Word in colors other than white by modifying the display properties in Windows, but that is a less desirable method in my opinion, since you may find yourself constantly changing the display properties for different students. It is easier to train

students to change the background fill in Word on their own rather than tinkering with the system settings.

Changing font colors in Word can be performed by highlighting the text and clicking Format, Font... and under Font Color choosing something other than black. The Font Color button can be made visible in Word's Formatting toolbar for easier access. I think most of the time you will find maximum benefit derived from just changing Word's background color, but some students may benefit from complete contrast changes, such as a dark background and light text.

If you work with students with different visual acuity needs, consider creating templates in Word for them so that they do not have to alter the documents each time they wish to write.

## **Tips for Mobility Impaired Students**

### *5. Use the Microsoft EasyBall Mouse*

In the mid-1990s, Microsoft came out with something called the EasyBall Mouse. This was a giant trackball designed for toddlers who had yet to develop good hand-eye coordination. It won a series of design awards, including the Gold 1996 IDEA award, awards from the Smithsonian's National Design Museum, Industrial Design Magazine, and others.

Teachers and parents of older students with low motor coordination skills soon discovered the mouse was most excellent for their children's needs when interfacing with computer programs. As a bonus, the product was considerably cheaper than most dedicated input mechanisms specifically designed for special needs.

Unfortunately, almost a decade after its introduction, the EasyBall is hard to find. However, a recent search on eBay turned up half a dozen models in good condition at reasonable prices. The EasyBall mouse is definitely a worthy addition to classrooms working with mobility impaired students.

### *6. Use the Windows On-Screen Keyboard*

Students with fine motor difficulties may have trouble with computer keyboards. Teachers might experiment having them use a mouse to click an onscreen keyboard in order to input text. In Windows, the built-in onscreen keyboard can be accessed by clicking Start, Programs, Accessories, Accessibility, On-Screen Keyboard. The keyboard will show up in a small, separate window that stays "on top" other windows. When the mouse pointer is clicked over a letter, the letter will be inputted into Word or whatever program is running "underneath" the onscreen keyboard.

Typing this way will be slower than what an enabled person can perform with a keyboard, but for someone who cannot use a keyboard it may provide some needed accessibility.

### *7. Use XP Speech Recognition*

Students who cannot use a keyboard or mouse may still be able to work in Windows through included speech recognition. Older versions of Windows will require an add-on product, but Windows XP has speech recognition built in. Speech functions are available under the Tools menu in any Office XP or higher product.

For complete details on setting up and using speech recognition in Windows XP, visit Microsoft's site and do a search on "speech recognition."

## **Tips for Modifying Assignments**

### *8. Use Autosummarize in Word*

Content mastery teachers often end up engaging in text modifications for their students. A handy tip for reducing text down to its significant details is the Autosummarize function in Word. Open the desired document and click Tools, Autosummarize. You will be given a choice to have Autosummarize highlight key points in the document, insert an abstract at the top of the document, create a new document containing the summary, or hide everything in the document except the summary. The other major variable you can adjust is the percentage of the original document to include in the summary.

Autosummarize is a quick and easy way to distill a Word document to its essentials, and should be useful to any teacher who does modifications.

### *9. Use Word's Highlighting Feature*

Another way to help students in content mastery when working with Word documents is to use the highlighting feature to emphasize key words or sentences. This works just like paper highlighting, and you can use yellow or another color. Different concepts can be highlighted in different colors if you think it will help students grasp contrasting details.

Word's highlighting feature can be activated through the highlighting button, available on the Formatting toolbar. Double click the desired words in the text to highlight them, then click the highlight button and choose a color.

## **Tips for Integrating the Web**

### *10. Try SparkNotes Book Summaries*

SparkNotes offers free book summaries of selected texts that many high school and junior high students read, including Shakespearean dramas, American literature, and several others. Content mastery teachers may be able to find free summaries of the books their students are reading and

direct students to the site for continued study and explanation of key points. Free book summaries on the site are located at [www.sparknotes.com/guides/](http://www.sparknotes.com/guides/).

SparkNotes is a division of Barnes and Noble, and books not available on the free portion of the site may be downloaded for a small fee.

### *11. Search Inside Books at A9.com*

Sometimes information a student needs can only be found inside a printed book, not the Web. Fortunately, Amazon.com has scanned in most of the more commonly purchased books in print. Amazon allows Web users to search inside these books and view pages on either side of the “hit” page within a book. Students can search inside all of Amazon’s scanned books and the Web simultaneously through their search site, [www.a9.com](http://www.a9.com).

The site can show book results and Web results side-by-side. If the search query results in a hit from within a book, students can click on a link going directly to the page in question. For copyright protection, users can only look at the two adjoining pages of any hit page. Students can always see the covers, table of contents, and index in any book that Amazon has scanned.

Using Amazon’s search inside the book feature is a great way to find published information not available on the Web, and may help students in pinpointing books they need from the school library to help complete assignments.

### *12. Use Wikipedia for Quick Reference*

Wikipedia is a giant, dynamic, online encyclopedia. It is a completely free resource on all the world’s knowledge. It works by allowing anyone to contribute entries, or edit existing entries. Users can update, correct, and add to the entries as needed. Think of it as an open source encyclopedia, like Linux is an open source operating system. The goal of the site is simple: “...to create a reliable and free encyclopedia—indeed, the largest encyclopedia in history, in both breadth and depth.”

This is a great free resource for students starting their research on any imaginable topic. The English edition is available at <http://en.wikipedia.org/>.

*John Rice serves as a program/project coordinator with the Texas Center for Educational Technology. He can be reached by e-mail at [j7r7@hotmail.com](mailto:j7r7@hotmail.com).*