Verbosity and Screen Reader Basics for Screen Reader Users

This guide is intended to provide navigation and settings tips to screen reader users who want to enhance their experience working with certain types of content.

What is a Screen Reader?

A screen reader is a piece of software that provides a user interface for a user who is blind or has low vision. The output of the screen reader can be speech (the computer talks to the user) or braille (the user has a device connected to the computer that displays text in tactually-read braille dots.)

Common examples of screen readers include:

- JAWS (Windows)
- NVDA (Windows)
- Narrator (Windows)
- VoiceOver (Mac)

Difference Between Text-to-Speech Assistive Technology and Screen Readers

Screen readers provide an alternative interface for a user who cannot see the screen.

Separately, there are many tools available that allow users to select text with their mouse and have the text read aloud. These products are called Text-to-Speech (TTS) tools and often

require the reader to know where the text is on the screen before it will read aloud. Text-to-Speech tools are not screen readers and are not the type of product discussed in this article.

Unique Interfaces

In general, the way you'll move around in your courses and texts will be the same way you navigate everywhere else. Buttons, radio buttons, and text will generally behave as you expect, but sometimes you'll have an activity or a tool that is designed for a special purpose and will have its own set of commands. If you have such a tool in your course, you'll find useful commands in two places. First, near the top of the activity, there will be a short explanation of how to use the tool or what it is. If you'd like to be more efficient with the tool, look for a button that opens additional keyboard commands.

Examples of special Macmillan Learning tools that include keyboard commands:

- Writing Tools editor: This tool includes a toolbar for things such as fonts, creating lists in your document, etc. You can reference that list anytime on the page with the editor for your Writing assignment. The button will be labeled "Keyboard Shortcuts."
- Lab Simulations: This tool allows you to simulate lab experiments by putting items together on the workbench. When you come to the top of the activity, the short version of the instructions is given to you, but there is much more you can do. A button labeled “Keyboard Controls” will provide a list of options for navigating the simulation using your keyboard.

Depending on your course, you may not be required to interact with either of these tools.

Controlling Verbosity with your Screen Reader

Each screen reader includes settings for verbosity that determine how much information is read from the page and at what speed.

Speech Rate

JAWS - Adjusting Speech Rate

Using JAWS you can increase and decrease the speech rate using keyboard commands or in the speech rate in settings. From the JAWS Toolbar (use Insert + J to switch to the JAWS Toolbar), go to Options, then Voices, then Voice Adjustment, and tab down to Rate.

If you want to change your speech settings more efficiently, you can utilize these commands:

- Temporarily Increase Speed - Ctrl+Alt+Page Up
- Temporarily Decrease Speed - Ctrl+Alt+Page Down
- Permanently Increase Speed - Windows+Ctrl+Alt+Page Up
- Permanently Decrease Speed - Windows+Ctrl+Alt+Page Down
- Activate Say All (allows JAWS user to temporarily adjust the speech rate with one click) - Insert+Down Arrow
- Temporarily Increase Speed with Say All - Page Up
- Temporarily Decrease Speed with Say All - Page Down

NVDA - Adjusting Speech Rate

With NVDA running, press your NVDA key+N (or Insert+N by default) to open the NVDA menu. Choose Preferences, Voice Settings. When the Voice Settings window opens, select your preferred voice from the Voice menu. Use the sliders to adjust the speaking rate, pitch, and volume.

If you want to change your speech settings more efficiently, you can utilize these commands:

- Decrease Speech Rate - Control+Insert+Down Arrow
- Increase Speech Rate - Control+Insert+Up Arrow
- Change Voice Settings (inflection, pitch, etc.) - Control+Insert+Left or Right Arrow

VoiceOver - Adjusting Speech Rate

Navigate to your Mac settings, click Accessibility followed by Spoken Content. This screen will allow you to adjust the Voice, Speaking Rate, and Volume. To adjust the rate of speech, use the slider next to Speaking Rate.

Punctuation

Screen readers can read punctuation, special characters, and emojis. There are controls within the software to control the level of reading, so some users may elect to have more punctuation read than others. Screen readers respond to punctuation, pausing a bit for a comma and longer for a period. In the following sections you will learn how to adjust punctuation levels.

Braille users will have punctuation displayed as literary marks within the context of literary English (or other language).

What you think of as punctuation may not be exactly what your screen reader handles as punctuation. While the basics, such as periods (.), semicolons (;), and commas (,) are agreed upon, punctuation such as dashes and quotation marks can be handled in a variety of ways. In many contexts, authors may use special characters to represent punctuation marks. These are often not handled by screen readers as punctuation, but as special characters. These distinctions also affect braille users, so a generic symbol such as a full cell may appear on your

display instead of the character, indicating that the braille rules in use do not include this special character.

Adjusting Punctuation Levels

In many contexts, punctuation is used with special meaning. Materials on computer programming and chemistry are examples. You'll likely want to turn on the reading of punctuation marks in these situations if you're using a screen reader with speech.

You have quite a lot of control over the reading of punctuation with your screen reader. The first thing to note is that the synthesizer you are using, if you are using speech, will play a role in how punctuation is spoken. If you are in a course that uses special punctuation, or punctuation in special ways, be sure to use the synthesizer that articulates the characters you need.

Read on to learn how to adjust the announcement of punctuation within JAWS, NVDA, and VoiceOver.

JAWS - Adjusting Announcement of Punctuation

Using JAWS, you can quickly adjust the level of punctuation from the Quick Settings dialog, JAWS-Key+V (Insert+V by default). Once in the dialog, move to the list of settings (Tab once to get there quickly) and then arrow down to the setting you want, or type the first few characters (in this case, "pun"). It's in the section "Editing Options."

Use Spacebar to change the setting. This item will "rotor" among the choices, so as you hit Spacebar, you'll find choices "None, Some, Most, All." Once you have found the setting you prefer, Tab to the OK button and press Spacebar.

NVDA - Adjusting Announcement of Punctuation

NVDA users can quickly change the level of punctuation announced. Go to the NVDA menu with NVDA-Key+N (Insert+N by default) and choose preferences. There, choose “Settings.” In this dialog, select the category "Speech," then Tab to the option called "Punctuation/Symbol Level." In that drop-down, press up and down arrows to read and make selections. Choices are "None," "Some," "Most," and "All."

VoiceOver - Adjusting Announcement of Punctuation

In VoiceOver, use the verbosity rotor by pressing VO+V (Control+Option+V by default). Once there, left and right arrows will move among settings, and up and down arrows will change within the setting you select.

Arrow to the right until you land on Punctuation–you might land on that setting when you arrive, so no need to arrow to the right in that case.

Once on the punctuation option, use the up or down arrows to move among the choices. Options here are "None," "Some," and "All." Press VO+Spacebar on the one you prefer.

Emojis

By default, most screen readers read the text description of the emoji when the character is encountered. Since emojis are often used inline, this can be confusing.

In a text message, "Good morning Hot beverage" is conventional, and is probably clear.

If you'd like to be sure whether part of the text is a single character or a string of words, simply move to the part of the text in question, and read by character. If the coffee cup emoji was used, "hot beverage" will be a single character when you move across it character-by-character. If, instead, the text is separate words, you'll find "h o t b e..." and so on.

Try these two examples. One uses an emoji, and one uses words.

1. Welcome!😊
2. Welcome! (Smiley face)

In the above example, the first item used an emoji and the second used text in parentheses.

Capitalization

Screen reader users have several ways to determine the capitalization of a term within a reading. With most screen readers, navigating across a term letter-by-letter discloses its spelling and its capitalization, along with punctuation.

Users reading with braille will see the capitalization in the normal course of reading.

In some contexts, capitalization is used with special meaning. Math, chemistry, and genetics texts are examples.

There are several things you can do to improve reading when capitalization matters. Of course, you can always arrow across the term to find out what specific characters are used, and that's a great solution for the occasional term. With some screen readers, you can turn on the feature to announce capitalization as you are reading or navigating.

Read on to learn how to adjust the announcement of capitalization within JAWS, NVDA, and VoiceOver.

JAWS - Adjusting Announcement of Capitalization

There are two places where you can adjust the announcement of capitalization from within the Quick Settings Dialog. One affects the announcement while you are reading continuously, and the other is for general reading and navigating.

To turn on the capitalization announcement, Press JAWS+V for the quick settings (verbosity) dialog. Tab to the tree view.

Type the first few letters of the option you want, such as “cap” or just arrow down until you find it.

Note which section you are in. Options for reading capitalization are under "Say All" and under "Editing Options."

Once you are on the one you want to change, press the Spacebar until you land on the setting you like. For "Say All," choices are "Ignore" and "Indicate." Ignore means that JAWS will read without announcing case differences while you are using the Say All function. Choices for the editing feature include "Ignore" and increasing levels of frequency of the capitalization alert. Character is the default and means that JAWS announces the capitalization of the character when you read or type a single character, but not when you read the word, for example. Setting the option to Characters, Word, and Line gives the maximum amount of capitalization announcement with this feature.

NVDA - Adjusting Announcement of Capitalization

Using NVDA, go to the settings dialog by pressing NVDA-Key+N, selecting Preferences, then Settings.

In categories, select Speech, then tab to the option for Capitalization that you prefer-- "Say Cap Before Capitals" or “Beep for Capitals." You can turn on both of them if you like.

This feature announces the capitalization of a character as you encounter it, but does not announce capitalization as you read continuously or line by line.

VoiceOver - Adjusting Announcement of Capitalization

In VoiceOver, use the verbosity rotor to change the way capitalization is indicated quickly. Press VO+V, then arrow to the right until you locate "Capitals." From there, arrow down to the option you prefer.

This feature changes the way capitalization is indicated as you encounter it but does not announce capitalization as you read continuously or line by line.

Language Switching

Screen readers, when used with speech output, use the appropriate text-to-speech rules for the language of the text to be read. You can manually switch the language used by your software, but this is often a several-step process. Instead, you might prefer to have your screen reader switch languages automatically, especially if you know you'll be reading text in more than one language. With some screen readers, this is the default behavior.

You may have to install a synthesizer that speaks the language you want to read. If switching isn't happening automatically when you have the feature turned on, verify that there is an appropriate synthesizer available to your screen reader.

JAWS - Language Switching

To turn on or off language switching in JAWS, go to the Quick Settings dialog with JAWS-Key+V, Tab into the list of settings, and type "lang" or just arrow down. The option is called “Language Detect Change” and Spacebar will check or uncheck it. When you have the setting you like, Tab to the OK button and select it.

NVDA - Language Switching

To turn on or off language switching in NVDA, go to the NVDA menu with NVDA-Key+N (Insert+N by default), select preferences, then settings. In this dialog, under categories, choose “Speech.”

Tab to the options you want. There are checkboxes for “Automatic Language Switching” and “Automatic Dialect Switching.” Use Spacebar to change those settings, then Tab to the Apply button and select it.

VoiceOver - Language Detection

Language detection and switching are on by default in VoiceOver. You can add and remove languages in the VoiceOver Utility. Get there by pressing VO+F8 (Control+Option+F8 by default).

Once in the VoiceOver Utility, select the category "Voices," then move to the table of options for voices. The "Add" option lets you add voices and languages available for VoiceOver. "Remove" lets you remove the voices and languages that you have added.

Additional Resources

For more information about how to use your screen reader or how to navigate Achieve, check out these additional support articles:

- Using a Screen Reader
- Achieve > Tips and Tricks for Screen-Reader Users
- Using a screen reader in a LearningCurve Adaptive Quiz
- Using a screen reader in the VitalSource e-book