

Using Embedded Universal Tools to Support Students' Test-taking Experience



Introduction

At WIDA, we want to ensure that all students have a fair and equitable test-taking experience. To this end, WIDA online assessments (ACCESS for ELLs and WIDA Screener) have built-in accessibility features that are available to all test takers. These online accessibility features (also known as universal tools) include color adjustments to improve visibility, highlighters, magnifiers, and line guides, among other items. WIDA provides test preparation resources to help educators learn about these tools and to help students understand how to use them. At the end of this bulletin, you can find links to these materials.

We are also interested in learning *which* universal tools students find most helpful. Knowing this information can shape tool design and availability, as well as improve WIDA's test preparation resources. Therefore, WIDA researchers recently conducted two studies to gain a better understanding of educators' and students' perceptions of our embedded universal tools.

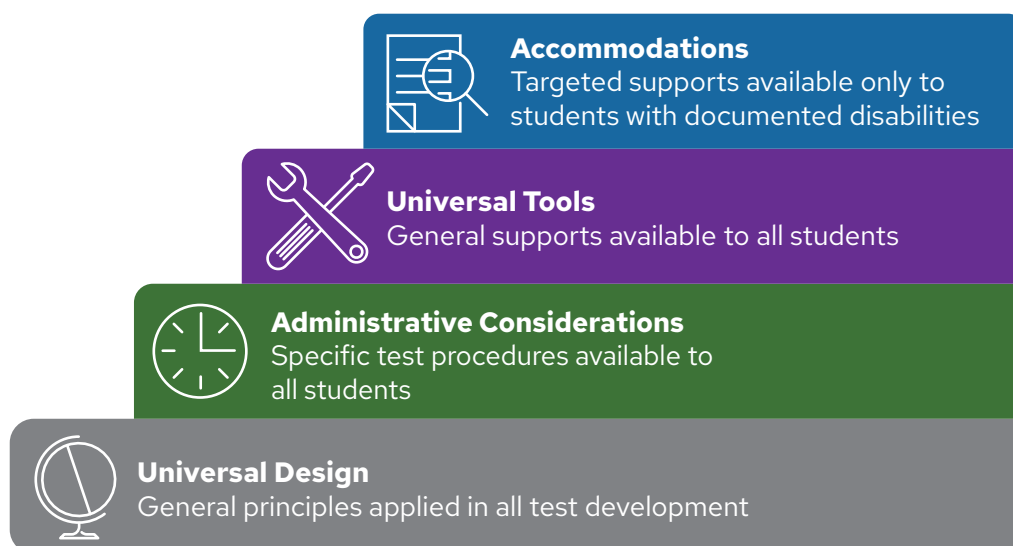
As part of this research, we examined students' tool activation (turning on a tool) and reported tool use (the tools students recall using). This exploration of the universal tools included multilingual learners with disabilities who are often not considered in studies of large-scale assessments of English language proficiency (ELP).

In this Focus Bulletin, we provide an overview of the research findings and implications for both educators and students. We highlight WIDA resources (e.g., Test Demo, Test Practice) that educators can share with their students to help them be prepared to understand and use the universal tools embedded in our online assessments. And we preview the new look and feel of the embedded universal tools in DRC INSIGHT, the online testing platform.

What are Universal Tools?

Before diving into the research, let's take a moment to provide definitions for some important accessibility and accommodations terms featured in Figure 1.

Figure 1. Key Terms



The development of our assessments is grounded in Universal Design, which is an approach to test design that seeks to improve accessibility and validity from the onset of design for *all* students, regardless of factors such as age, disability, or linguistic or cultural background. The gray bottom level in the diagram above illustrates the grounding nature of Universal Design. The next level in Figure 1 is Administrative Considerations (green in the illustration). These considerations allow test administrators to provide an appropriate test-taking experience that doesn't compromise test validity. Some examples of Administrative Considerations are the clarification of test directions or individual test administration.

In the next level you can see Universal Tools, the topic of this Focus Bulletin, which are defined in our test design documents as “selectable embedded features or hand-held instruments used to carry out a particular purpose” (Shafer Willner & Monroe, 2016, p. 3). These kinds of tools (e.g., highlighters, line guides) are available to all students based on personal need or preference. Per the U.S. Department of Education (2018), all state assessments must include universal tools that enhance accessibility for all students. It is important to note that universal tools for ELP assessments like WIDA Screener and ACCESS for ELLs tend to support the test-taking experience rather than providing explicit linguistic support, as these tests are designed to measure language.

The final category in Figure 1 is Accommodations, which are only available for students with a documented disability. Adjustments such as manual control of audio and extended testing time allow students with disabilities “to participate meaningfully and appropriately” (Shafer Willner & Monroe, 2016, p. 3) in ELP assessments.

Asking Educators About Universal Tools

For the research project, we wanted to know what educators thought about the different universal tools available to their students when taking WIDA assessments. We also explored which tools educators incorporated into their instructional practices. (Data collection for this study occurred before the COVID-19 pandemic, so it is possible that educators’ beliefs and practices have changed in response to the pandemic and its impact on technology in schools.) A total of 377 educators in the WIDA Consortium responded to an online survey, and nine educators participated in individual follow-up interviews via a phone or video conference call.



Table 1 summarizes the tools that we examined in this study. The first five entries in the table are available during all domain tests, while the last five are only available to students during the Writing test.

Table 1. Study 1: Universal Tools Examined

Online Accessibility Features	Listening	Reading	Speaking	Writing
Color Overlays change the background color that appears behind text, graphics, and response areas. Five colors are available: pink, yellow, blue, green, and orange.	Yes	Yes	Yes	Yes
Color Contrast lets you choose from a variety of background/text color combinations.	Yes	Yes	Yes	Yes
Highlighter highlights parts of the screen.	Yes	Yes	Yes	Yes
Line Guide helps follow words on the screen.	Yes	Yes	Yes	Yes
Magnifier makes things bigger.	Yes	Yes	Yes	Yes
Sticky Notes can be used to organize ideas and plan writing.	N/A	N/A	N/A	Yes
Cut removes words.	N/A	N/A	N/A	Yes
Copy copies words.	N/A	N/A	N/A	Yes
Paste puts cut or copied words in a different place.	N/A	N/A	N/A	Yes
Underline underlines words.	N/A	N/A	N/A	Yes

Survey Results

The results of the survey indicated that educators believed the highlighter and line guide were the two most important universal tools for supporting students' test-taking experience. Findings from the follow-up interviews echoed observations from the survey, as educators ranked the highlighter, line guide, and magnifier as the three most important tools for students. One interviewee shared the following when asked about the importance of the universal tools on ACCESS:

In my opinion, the line guide and highlighter are the most helpful for students. Those are things that our students regularly [use]. The other ones, if needed, but especially highlighters and line guides to keep their place.

When asked about the tools that are only available on the Writing test, most of the educator interviewees indicated that the copy and paste features mattered the most. For example, one educator believed:

For the Writing test, definitely the cut, copy, paste is the most important. Those are things that we directly use in the classroom when they do word processing on the computers, so they're familiar with those as they use them in the classroom and on the test.

When asked if they teach students how to use universal tools like those embedded in WIDA assessments, about 40% of the survey respondents reported that they do so "sometimes." During the interviews, educators shared that their students use physical highlighters (or markers) extensively in class, along with other physical supports such as line guides and sticky notes. Five of the nine interviewees said that they teach students how to use at least one specific universal tool. Meanwhile, two educators noted that their students don't use computers often, and therefore they aren't exposed to accessibility features frequently outside of the ACCESS practice tests. One educator commented:

Only when we set aside time to prepare for the testing and we allow them to do the practice tests available online. That's really the only experience they have with those kinds of features. Our devices don't offer anything like that. Electronically, they're not getting any experience outside of the explicit practice that we do before testing.

Eight of the interviewees stated that they make sure students become familiar with the universal tools during practice test sessions.

Inferences from the Study

Our interviews made clear that educators prioritized instructional time focused on content (e.g., how to write a high-quality paragraph or how to carefully read a paragraph) instead of learning about the universal tools, as they perceived the functionality of the embedded tools to be clear.

Additional survey and interview questions underscored multilingual learners' limited use of computers during regular classroom instruction. This, of course, means that students don't use universal tools like those on ACCESS often. This lack of experience with computers was more pronounced for younger students, as everyday classroom activities like writing are completed as paper-and-pencil assignments. One educator shared the following:

I think my older, as well as my more proficient students, tend to use the accessibility features more often. I think they're more comfortable with computers. The ones that are not as proficient or are younger are still learning. They may not understand how to highlight a section and cut it and paste it somewhere else.

Some educators also noted that computers are not readily available for all students, as not all districts have transitioned to a one-to-one model. Moreover, educators pointed out that even when computers are available, some of the universal tools available during ACCESS testing (e.g., sticky notes) don't exist in word processing software like Microsoft Word. As such, the students who might have more experience with computers aren't automatically familiar with the tools embedded in the ACCESS testing platform.

The results of this study are a good reminder that students with limited experiences using technology in classrooms might need additional guidance that introduces them to the various universal tools embedded in WIDA assessments.

Asking Students About Universal Tools

For our second study, we were interested in which universal tools students activated while taking ACCESS for ELLs. Additionally, we wanted to know why students did or did not use the universal tools available to them. (Data collection for this project began before the pandemic and concluded in March 2022.) An important aspect of this research is that it included multilingual learners with and without disabilities. Students identified as English learners make up about 10% of the K-12 public school population, and about 15% of these students are identified as having a disability.

In the first phase, we examined the telemetry data (record of keystrokes and clicks) of 1.25 million Grades 1-12 students who took ACCESS for ELLs during the 2016-17 school year. We analyzed

patterns of universal tool activation. (In this context, “activation” refers to turning on a tool.) The telemetry data didn’t provide insight into students’ intentions, so in the second phase we interviewed 55 Grades 4-12 students via video conference calls in Spring 2022 to uncover their rationales for (not) activating the various tools after completing ACCESS. As there was a gap between the data collection phases, we want to acknowledge that students’ interactions and perceptions of the universal tools could have changed during this time. In this study, we asked about all the universal tools listed in Table 1, and in addition, we asked about the use of the Help tools that provide students with tool-specific explanations.



Phase 1: Which Tools Did Students Use?

Overall, the rate of tool activation for all students was low across the four domain tests—it was generally below 15%. The most frequently activated tools are shown below.

- Overall: magnifier, highlighter, line guide
- Listening Test: magnifier (9.3%), line guide (8.7%)
- Reading Test: highlighter (11.1%), magnifier (9.3%)
- Speaking Test: magnifier (5%), line guide (4.5%)
- Writing Test: highlighter (5.3%), magnifier (4.9%)

Among students with disabilities, the tool activation rate was higher. The most common primary disability type of the test-taker population was specific learning disability (18%, e.g., dyslexia, developmental aphasia), followed by speech or language impairment (6.5%). The least-common-disability types were deaf-blindness (0.01%) and visual impairments (0.05%). Even though students identified as having a visual impairment or deaf-blindness were part of the least-common-disability student group, these multilingual learners activated universal tools quite often. For example, students with a visual impairment had relatively high rates of activation of the magnifier. The activation of this tool was most prominent during the Listening (42%), Reading (51.2%), and Writing (51%) tests. Furthermore, the most activated universal tools for deaf-blind students were:

- Listening Test: magnifier (19%)
- Reading Test: highlighter (22%)
- Speaking Test: color overlay, line guide (9.1% each)
- Writing Test: line guide (22.2%)

The observed tool activation by students with the least-common-disability types suggests that the universal tools are supporting their test-taking experience. As such, these students might benefit from a detailed introduction to the tools before taking an online WIDA assessment.

Phase 2: How Did Students Use the Tools?

The second half of this study confirmed findings from the first half. The conversations with students all took place after they took ACCESS, so students shared what they were able to recall. We're keeping this in mind by referring to students' tool "use" in this section. Overall, the highlighter (49.1%), magnifier (38.2%), and line guide (14.5%) were the three most used universal tools by the 55 students we interviewed. In line with the telemetry data from the first study, the highlighter was the most frequently used tool in the Reading and Writing tests. Also, as observed in Phase 1, there were no meaningful differences in tool use between multilingual learners with and without disabilities.

Most students used the tools in ways that mirrored the tools' intended purposes as detailed in the WIDA (2023) Accessibility and Accommodations Manual. However, some students reported that they used the tools accidentally or out of curiosity. Once they learned what the universal tools could do, they then used them while taking ACCESS. Additionally, younger students tended to be unaware of the universal tools' purpose or functionality. For example, a fourth-grade student with an individual education plan (IEP) didn't use any universal tools during the Listening and Reading tests because she didn't know what they were.

I didn't know what they were, so I didn't touch them. I just left them there.

However, by the time she began the last test (Speaking), the student had learned what the universal tools could do, and she confirmed that she had used the magnifier.

The highlighter was the most popular tool. According to 21 students, the primary reason for using it was to highlight key words of information on the screen. When asked about her use of the highlighter, a grade 11 student shared:

... it points out what I need to focus on instead of looking at the screen that has a lot of words on it... I don't have to focus on things that do not matter.

Student interviewees reported using the magnifier most often during the Reading test to increase the size of the text and graphics on the screen. For example, a grade 6 student with an IEP stated:

...because the words are small, so I couldn't see them. I needed to make them bigger.

During the interviews, we learned that students were least likely to use the universal tools during the Speaking test. Students also didn't use the tools often during the Listening and Writing tests. Students expressed that their primary reasons for not using universal tools were that they didn't need them (71 reported non-uses) and that they didn't know about them (16 reported non-uses). A fourth grader didn't need the universal tools on the Listening or Reading tests because:

I listened to what they (the characters) were saying.... I could just read... and I didn't have to use the buttons (tools).

Common Themes

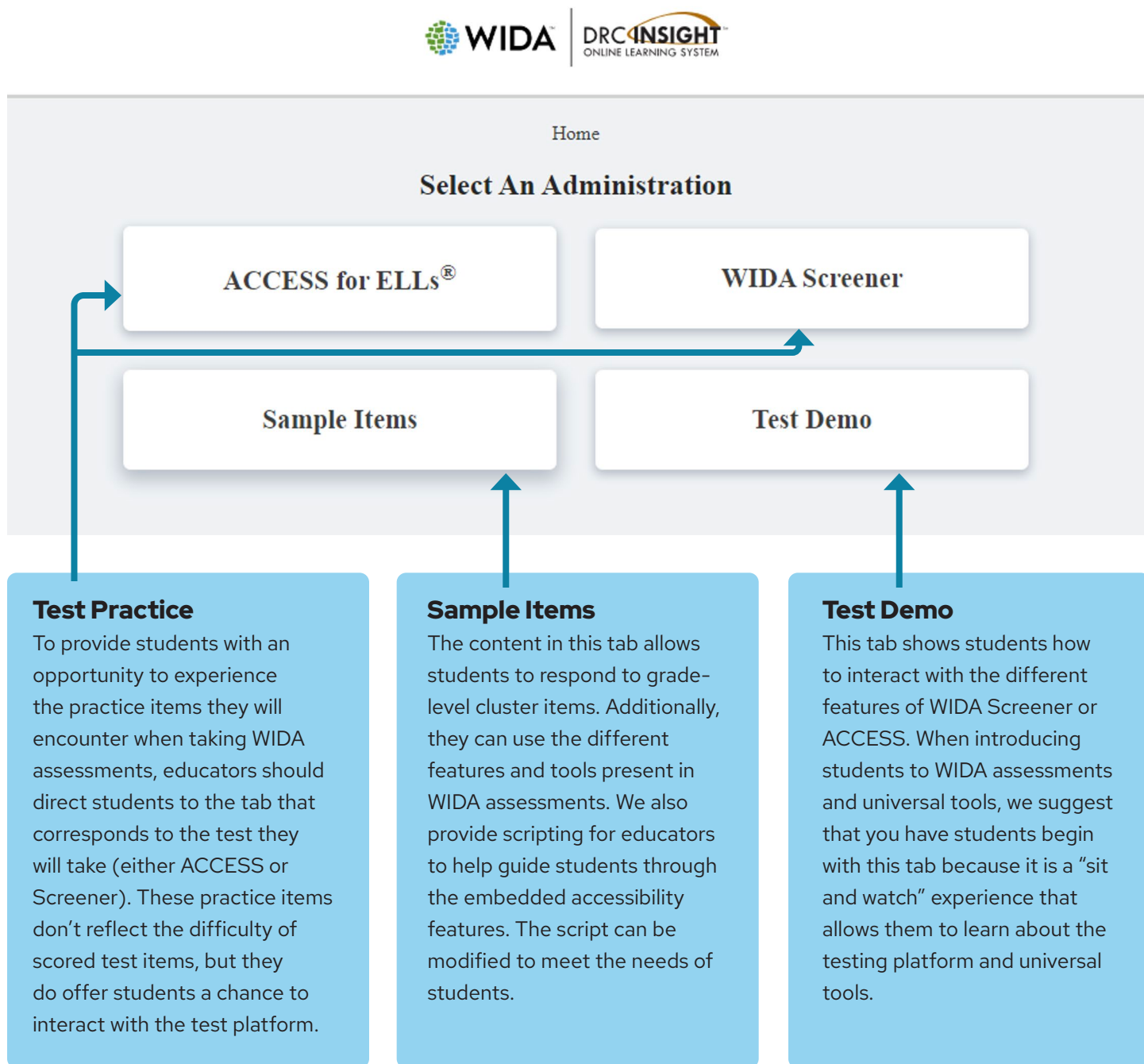
Two themes emerged when we asked students to explain some ways in which we could improve the universal tools: enhance existing tools and create new tools. Some of the potential enhancements included 1) clicking to highlight a word instead of dragging the highlighter across a word, 2) more zoom ratio options, and 3) automatic screen magnification. Suggestions for new tools were 1) an underline tool that could replace the "distracting" highlighter, 2) an embedded dictionary/translator, and 3) a word pronunciation tool. Some of the students' suggestions, such as an embedded translator, can't be incorporated into ACCESS, as this kind of tool would undermine the test construct (English language proficiency) ACCESS seeks to measure.

Implications and Recommendations

Educators play a valuable role in working with the resources WIDA provides for students in advance of taking our online assessments. We're asking for your support in helping students access and understand the resources created for them. We want students to know about the embedded universal tools so that they are able to take full advantage of the tools while taking WIDA assessments.

Setting aside time for students to become familiar with the universal tools embedded in online WIDA assessments could prove to be useful for all multilingual learners, and special attention should be given to younger students and learners with certain kinds of disabilities. For instance, the following resources offered on the DRC INSIGHT website can help students learn about the testing platform and universal tools available on WIDA assessments:

Figure 2. WIDA Assessment Resources



Redesigned DRC INSIGHT

DRC INSIGHT—the secure student browser used to take both WIDA Screener and ACCESS—has been redesigned for a more accessible student testing experience. The Closer Look, on page 11, shows the new look and feel of the universal tools as they appear in DRC INSIGHT as of June 30, 2023 for WIDA assessments. You can reproduce this page and use it with your students to introduce the redesigned tools, as part of your test preparation activities.

WIDA FOCUS BULLETIN >> CLOSER LOOK

Icon	Icon Name	Purpose/Function
	Help	Provides information on tool usage, test navigation, accommodations, and other topics.
	Options	Allows the student to access the Color Preferences options, which change the background and text colors.
	Highlighter	Allows the student to highlight a portion of the text or graphic.
	Notepad	Allows the student to create a small note in which they can type a short message for later reference. The Notepad is only available for Writing.
	Magnifier	Allows the student to access the magnifier options: x1.5, x2.0, x3.0, or x4.0. Once a magnification is activated, an “off” option will also appear when this icon is clicked.
	Line Guide	Allows the student to follow along with each line of text. The student can drag the line up or down the screen as an aid in reading an item or passage.

Additional Resources

For more information on accessibility, universal tools, and preparing students to take WIDA assessments, we recommend the following resources:

- <https://wida.wisc.edu/assess/accessibility>
- <https://wida.wisc.edu/assess/access/preparing-students>
- <https://wida.wisc.edu/assess/access/preparing-students/practice>

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