STUDENT VOICES from AP CSP

Addressing Challenges Related to Reading

About Our Student Partners

Over the 2016-2017 school year, **13 student research partners** enrolled in AP Computer Science Principles (CSP) at Wolcott School shared their successes and challenges in the course during every-other-week interviews with the Outlier research team.

Keep in mind that while our student partners were enrolled in an AP CSP course using the Code.org curriculum, the challenges they identified could occur in *any* high school CS course and for *any* student, not just those with diagnosed learning and attention disorders.

164 total student interviews

STUDENTS:
- were in 10th – 12th grade.
- had varying levels of prior experience with computer science.
- had at least one diagnosed learning or attention disorder.
  62% ADHD/Executive Function, 54% Writing, 46% Reading, 31% Math, 15% Language.

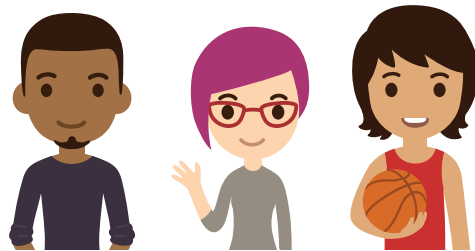## What We Heard: Common Challenges Related to Reading

The instructions were not that clear so I had a lot of trouble figuring out what to do.

Students noted that the activity instructions were very long and often contained unfamiliar words.

Even after reading the instructions, many students were still not clear about what they were supposed to do.

Reading instructions is really hard ...because they're telling you a bunch at a time.

It was hard for students to understand exactly what the AP CSP exam and practice exam questions were asking.

Some students had trouble making sense of the information that they read online.

Reading was a challenge for 8 of the 13 students in the AP CSP course.

How to Help

Addressing Reading Challenges in CS Classrooms

The following recommendations are informed by research-based practices for supporting students who learn differently, combined with the practical expertise of our team learning specialists and study findings.

Read questions aloud as a group and **clarify new vocabulary** by rephrasing information and referring students to a running glossary (that you create for the class or that students create at the beginning of the school year).

Provide sufficient examples of work process and products to ensure students understand required work steps to move projects forward (e.g., share an exemplar, demonstrate additional examples, and suggest ways to break down work into smaller steps).

Prior to lessons that require online research and reading, **identify websites/sources for students** to use based on clarity, simplicity, and readability. As necessary, guide students to sites that match their skill levels.

outl:er
RESEARCH & EVALUATION
UCHICAGO STEM EDUCATION | UNIVERSITY OF CHICAGO

WOLCOTT SCHOOL