Cognitive Aptitude Assessment System (CAAS)

The Cognitive Aptitude Assessment System (CAAS), a computer-assisted assessment system, is a unique component of the QuickSmart program. Developed by researchers from the Laboratory for the Assessment and Training of Academic Skills (LATAS) at the University of Massachusetts to obtain reliable assessments of student performance, the assessment tasks used are designed and sequenced in order to target and identify the exact nature of the literacy/numeracy problems a student is experiencing. The techniques developed have been successful with students who have specific reading and/or mathematics disabilities.

The CAAS system provides measures of how rapidly students complete tasks by speaking into a microphone once a word, a cloze sentence, or a number fact is displayed on the computer screen. An instructor scores each response for accuracy.

Students' assessment results are automatically averaged per item and made available in either a graph or report form that is easily interpretable by both students and teachers. Students record their results onto graphs that, over time, become powerful visual representations of their progress. Most QuickSmart lessons conclude with an assessment on the CAAS system. During these assessments, students aim to increase their accuracy and decrease response time as a means of demonstrating increased automaticity.

The CAAS system thus provides ongoing monitoring of students’ basic academic skills during lessons and supports the instructional focus of the QuickSmart intervention both throughout the duration of the program and when used for data collection at pre-test and post-test.
Overview of CAAS Numeracy Component

Tasks generally used to assess and instruct the *QuickSmart* mathematics group include:

- addition number facts;
- subtraction number facts;
- multiplication number facts;
- division number facts; and
- triple addition tasks (for example, $7 + 4 + 3$).

Overview of CAAS Literacy Component

Tasks used to assess and instruct the *QuickSmart* reading group include:

- simple word recognition;
- middle word recognition;
- simple close sentence comprehension;
- middle close sentence comprehension; and
- non-word reading tasks (non-word reading is recognized as a difficult task for students with learning disabilities).