ADHD:

Computer Assisted Instruction (CAI)

Rena Little

Computer Assisted Instruction:

What is it?

- The use of computer programs to supplement or support classroom instruction.
- Programs align with the curriculum.

Purpose:

- To provide additional independent curriculum review, practice, and/or instruction.

Advantages:

- Can be used at the high school level.
- Can be fun and engaging.
- Motivating, particularly for boys.
- Does not require extensive writing, which is beneficial for students with ADHD.
- Provides immediate affirmation or corrective feedback.

Types of CAI:

- Drill and Practice:
  - Activities that reinforce concepts or skills already taught in the classroom.
  - Immediate corrective feedback is provided for each response.
  - May be more motivating than worksheets.
- Tutorials:
  - Provide some information or clarification of certain concepts or skills taught in the classroom.
  - Provide practice material for these concepts or skills.
  - Computer can take over some of the instructional process, in order to support individualization of programming and individual ability levels.
- Dialogue:
  - Students get to actively interact with the computer.
  - Student gives instructions, in computer language format, in order to structure his/her own curriculum.
  - The computer then provides appropriate information, activities, and corresponding feedback.
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Computer Assisted Instructional Software:

- **Kurzweil** - [www.kurzweiledu.com](http://www.kurzweiledu.com) (Must be purchased)
  - Assistive technology
  - Text-to-speech
  - Software literacy programs
  - Complete reading, study skills, and writing support for students’ grades 3 to college.
  - For students with academic challenges and/or visually impaired
  - Provides supportive functions for regular classroom students
  - Supports the independence of students within the inclusive classroom environment
  - Kurzweil 3000 Version 12 Web license – provides schools with the ability to assign coursework, receive student responses, and track results

- **Clicker Software** – [www.cricksoft.com](http://www.cricksoft.com) (Must be purchased)
  - ClosePro v2 – assessment tool - build a cloze activity in seconds from any text – effective for standardized test preparation and alternate assessment
  - WriteOnline – word processor with integrated writing supports; accessible online with optional CD installation; text-to-speech with clear voice for writing review; Wordflow - accurate word prediction, suggesting words that fit within the context; Wordbar – instant point-and-click access to specific words and phrases; WorkSpace – graphic organizer tool; analysis tool – time spent on document, sections of pasted text, analysis of spelling errors; Moodle integration

- **Fast Forward to Reading Program** – [www.scilearn.com](http://www.scilearn.com) (Must be purchased)
  - Reading intervention program
  - Designed for use with K-12
  - Specific to students struggling with below grade level reading success
  - Meant to strengthen and further develop the cognitive skills needed for successful reading intervention: memory, attention, rate of processing, and sequencing
  - In turn, critical language skills are improved: phonological awareness, phonemic awareness, fluency, vocabulary, comprehension, decoding, working memory, syntax, grammar, etc.
  - Includes: Language and Literacy Series (Elementary and Secondary) and Reading Series (all levels)
  - Provides diagnostic and progress reports.
  - Developers recommend this program for students with ADHD.
Lexia Learning – www.lexialearning.com (Must be purchased)
- Reading software
- Instruction and real-time assessment
- Pre-K to Grade 12
- Accelerates reading acquisition
- Supports on-level and advanced readers

Word Q – www.wordq.com (Must be purchased, trial available)
- Provides spelling, grammar, and punctuation support
- Word prediction and text-to-speech feedback
- All ages

Tutorsystems Online Software – www.tutorsystems.com (Must be purchased)
- 7th grade to adult students
- Master basic skills in reading, grammar, and mathematics
- Tests students to determine basic skill deficiencies; provides lessons to remediate these weaknesses; teaches the students the missing basic skills; re-tests to determine level of mastery
- Home version is also available

New Century Education – www.ncecorp.com (Must be purchased)
- Assessment – diagnostic assessment; interim assessments; summative assessments
- Instruction – comprehensive curricula from K-12 – language arts and math – aural instruction with visual support, immediate feedback with supportive explanations and instructions – software adjusts lesson path to support remediation with scaffolding instruction; research supported
- Data management – SQL server based (holds large quantities of student data, learning management system with multiple ways to import and export); analysis of student performance; use data to independently measure relative performance of different sub-groups; assessment results can be exported electronically
- Support Services – set-up, site support, hotline, and e-mail support

Mathletics – www.mathletics.com (Subscription purchase)
- K-12
- Fun and challenging basic math skills site
- Students get to compete against other students from around the world
- Highly engaging; encourages mental math skills
- Available for individual subscription from home
- Full curriculum section and Live Mathematics
- Support centre in each activity demonstrates how to solve a particular problem
- Printable certificates
- ADHD students will find this motivating and rewarding; far better than pencil paper tasks
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- **MCH Multimedia** – [www.mchmultimedia.com](http://www.mchmultimedia.com) (Must be purchased)
  - Tutorial software with simulations, animations, colourful graphics, and narration to help the student understand basic and challenging topics; designed to let the student work at his/her own pace; quizzes included
  - Introductory Chemistry
  - General Physics Non-Calculus
  - MCH High School Science Bundle
  - Physical Chemistry (eEdition)
  - Thermodynamics Module (chapters 1 to 6)
  - Electrochemistry Module (chapters 1, 7, and 8)
  - Kinetics Module (chapters 1, 9, and 10)
  - Quantum & Spectroscopy Module (chapters 1, 11, 14)
  - Statistical Mechanics (chapters 1, 15)
  - Solid, Liquids, Transport Module (chapters 1 and 16-19)

- **Bagatrix** – [www.bagatrix.com](http://www.bagatrix.com) (Must be purchased)
  - Interactive math tutorials – put in the math problem and the program will provide the steps to find the solution
  - Algebra 1 Solved! – grades 8 to 12
  - Geometry Solved! - grades 9 to 12
  - Algebra 2 Solved! - grades 9 to 12
  - Trigonometry Solved! – grades 9 to 12
  - Pre-calculus Solved! – grades 10 to 12
  - Calculus Solved! – grades 11 and 12
  - Statistics Solved! – grades 10 to 12
  - Graphing Solved! – grades 6 to 12
  - Free online tools – Algebra Tutorials, Online Solvers, Math Glossary, Online Conversions, Arithmetic Quiz

  - Mathematical modeling software for secondary school geometry and numeracy
  - Link shapes, numbers, equations, and graphs to create a model