

Software Synopsis

By Earl Oremus & Madonna Wheeler

Software Synopsis is a column devoted to reviewing the potential of computer programs to assist in teaching children with learning difficulties.

AMATH

Students whose math struggles stemmed from lack of mastery of elementary concepts and operations provoked math professor Ward Woodruff to write the AMATH Program. In so doing, he created a powerful tool for middle/high school teachers and tutors who need a systematic and time efficient way to assess command of earlier material and to individualize the remediation of skill and concept deficits. The inclusion of a comprehensive test module which mimics Ohio's state mandated 10th grade math proficiency exam provides a measure of each student's progress toward broad state and national performance standards. We judge the program to be appropriate for students aged 10 or 11 and up.

The program contains 103 developmentally sequenced "study modules" beginning with arithmetic math facts and progressing through measurement, algebra, geometry, and data analysis. Modules present the problems one at a time, and correct answer initiates the next problem. Following incorrect answers, students can access the useful "Show Me" feature to see the correct procedure.

Measurement of student mastery is built around an unusual "streak" concept. To progress to the next module, a student must attain an unbroken streak of correct answers within one session on the computer. The length of the required streak varies from 2 to 25 according to the operation, and our experience shows that even the longest streaks are attainable in one class period if students have mastered that sub skill.

This new column is written by: Earl Oremus, Ed. M., is Headmaster of Marburn Academy, a school for dyslexic children in Columbus, Ohio. Madonna Wheeler, an Orton-Gillingham trained language teacher, is the coordinator of math instruction at Marburn, and the test pilot of AMATH in the summer and winter instructional programs.

Attractive, but devoid of "game-y" frills, the onscreen presentation is clear, plain, and businesslike. Yet, even students with substantial math deficits have been engaged and motivated by the challenge of the streaks and the sense of accomplishment in completing the modules. It was not uncommon for our summer students to request permission to stay after class to finish a streak that was nearing completion when the bell rang.

The automatic record keeping feature employs an easy to read spreadsheet printout which charts the student's performance on each module by time invested, number of sessions, streaks, and number of problems worked. The report also provides a clear cumulative record of a student's progress across all sessions and modules, and it can generate a whole class record as well.

The beauty of this program is that it is not designed to replace the teacher but rather to maximize the teacher's availability for instruction. It provides students with carefully segmented, developmentally sequenced, self-paced, individualized practice sessions (and progress assessments), while freeing the teacher from the drudgery of producing and maintaining such a program.

During AMATH sessions, the teacher works individually with the students who aren't getting correct answers while the others work on their streaks. Thus she spends her time doing what she does best – teaching.

The program is sold in school site bundles with pricing ranging from \$10 - \$30 per student depending on the size of the order, or it can be obtained in a \$100 home version suitable for tutorial work. It proved stable and easy to learn, and it ran without problem on both 386 Windows 3.1 systems and on I-Mac's running Virtual PC.

On the negative side, we worry that the reading level of the written instructions introducing each module may be too high for many LD students and will require adult assistance. We also wish the program addressed the non-intuitive learner's retention problems with recursive practice in the form of periodic review modules after every four or five lessons.

Those relatively minor complaints notwithstanding, we rate this program very highly for its: 1) pedagogical soundness, 2) focus on a comprehensive set of individual sub skills arrayed in developmental sequence, 3) student motivation supplied by the streak concept, 4) excellent individual and class record keeping, 5) ease of use, 6) ready availability of free telephone support, 7) low cost per student in site bundles, and most importantly, 8) results we have seen with our students.

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