National Math Panel Confirms *A+LS* Approach!!

How the recent findings of the National Mathematics Advisory Panel support use of the *A+nyWhere Learning System*® courseware

The long awaited document *Foundations of Success: The Final Report of the National Mathematics Advisory Panel* was released on March 13, 2008. The National Mathematics Advisory Panel (the Panel) was created by President George W. Bush in April of 2006. The purpose of the Panel was to assemble and review the best available scientific evidence on mathematics in order to facilitate its teaching and comprehension. The charge to the Panel was to approach mathematics instruction in the same way that the National Reading Panel (NRP) approached reading in its 2000 report *The Report of the National Reading Panel: Teaching Children to Read.*

This report has the potential to influence buying decisions in the same way as the National Reading Panel report. This is important! **The findings of the Panel substantiate the approaches taken in *A+LS* and confirm the overall strength of the design and implementation of the *A+LS* courseware.** The bulleted report summary below presents the findings that directly relate to the *A+LS* courseware and how *A+LS* meets the Panel's recommendations (in italics).

Big Picture Overview

- The first and perhaps most important message of the Panel is that Mathematics curriculum, PreK – 8, should be streamlined. This a comment about bloated state standards, curricula, and textbooks.

  A+LS is designed to focus on teaching essential content in depth, while excluding extraneous or irrelevant materials.

- The Panel found that a strong foundation in the early years is essential to success in upper level math courses that culminate with algebra. It identified three key areas that are necessary to build a strong math foundation: conceptual understanding, procedural fluency, and automatic recall of facts.

  A+LS mathematics instruction integrates these three areas through its study guide, practice test, and mastery test format. The study guide presents concepts and procedures essential for success with mathematics. The practice and mastery tests provide the opportunity to gain procedural fluency through repetition and documentation of mastery.

- The Panel emphasized that although students may display an innate ability in math, this factor is somewhat irrelevant and nothing can substitute for a concerted student effort.

  Immediate feedback in A+LS, with its recognition of achievement and progress, reinforces and rewards student effort and persistence in learning. Additionally, the reporting functions within A+LS reveal whether a real effort at understanding a lesson was attempted.

Curricular Content

- Fluency with Whole Numbers – The fast and efficient solving of basic fact combinations is an important part of gaining fluency with whole numbers. The Panel found that a grasp of basic mathematical operations that includes the use of commutative, associative, and distributive properties AND the application of the learned operations to problem solving are essential to student progress.

  A+LS is very focused on these skills and they are thoroughly covered and reviewed in the mathematics curriculum.

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- The Panel stresses Fluency with Fractions and Particular Aspects of Geometry and Measurement such as properties of triangles, perimeter, area, and volume.

  A+LS teaches fractions, geometry, and measurement in the manner, frequency, and sequence recommended by the panel.

- The Panel sees a need to increase curricular coherence by presenting fewer topics in greater depth.

  A+LS focuses on key topics in considerable depth. In fact, ***this was the guiding principle used when writing the A+LS mathematics titles****. Present the essential topics in depth!*

Using Formative Assessment

- The Panel found that the use of formative assessments is more effective when combined with teaching teachers how to use the assessment data to improve instruction.

  A+LS is based on teacher-friendly, extensive formative assessments and makes this process seamless. AEC also offers instruction for teachers, though manuals and hands-on training, to show how A+LS can provide teachers formative data to inform instruction.

- The Panel found that assessments with a random sampling of curriculum-based items that sample state standards are the only types of assessments that demonstrate positive research findings. The Panel communicated that effective formative assessments take two to eight minutes to administer, and are feasible for regular use.

  The Panel's recommendation is met in A+LS with the use of the A+LS Adaptive Assessment tool. This tool allows a teacher or administrator to select a few essential skills to address (based on state standards), test students quickly and modify instruction accordingly to meet the individual needs of the student. Individual lesson plans can be generated automatically.

- The Panel recommends that struggling students should be assessed frequently (weekly or bi-weekly) so that instruction can be adapted to their individual needs.

  A+LS contains the appropriate tools to meet this recommendation. A+LS assessments can be manually assigned or automated to a desired frequency.

- For concepts that require additional work for the whole class, the Panel stated that it is beneficial to deliver formative assessments via technology.

  Since A+LS is a computer-based courseware program, formative assessments are delivered in this recommended manner.

- The Panel also recognized that technology is useful in specifying activities needed by individual students.

  Again, since A+LS is a computer-based courseware program, activities can be delivered to meet individual student needs.

Teaching Low-Achieving Students and Students with Learning Disabilities

- Explicit instruction and the opportunity to ask and answer questions was found by the Panel to improve performance of students with learning difficulties.

  Explicit instruction is the foundation of the A+LS instructional methodology.

Computer Aided Instruction

- The Panel recommends that high-quality computer assisted drill and practice instruction, implemented with fidelity, be considered as a useful tool in developing students' automaticity.

  The Study Guides and Practice Tests in A+LS meet this recommendation with unlimited access to study materials and randomly sampled practice exercises.

Textbooks

- The Panel found that textbooks are too long and full of unrelated material. It recommended shortening textbooks.

  A+LS is highly focused on teaching specific, necessary skills, and is therefore brief in comparison to textbooks. A+LS avoids the distractions inherent in the textbooks that cause the excessive length identified by the Panel.