

| Committee for Mathematics Achievement Review of <i>SmartHelp</i> by Apangea Learning |   |  |   |  | Comments  |
|--|---|--|---|--|---|
| <b>Theoretical/ Research Basis</b>   | Program based on solid theories of learning <b>and</b> teaching mathematics conceptually.             | Program based on solid theories of learning <b>or</b> teaching that focus on mathematics conceptual development. | Program based on theories of learning and teaching that focus primarily on skill mastery. | Program is not based on any theory of learning or teaching.                | Program is based on US Air Force Research Laboratory 7 Step Problem Solving Process.  |
| <b>Effects on Student Achievement</b>  | Randomized trial experimental research indicates program's effect on student achievement.             | Quasi-experimental design research indicates program's effect on student achievement                             | Non-experimental or anecdotal evidence indicates program's effect on student achievement. | No evidence of program's effect on student achievement is available.       | Studies used control groups to show improvement in student achievement for several school districts.  |
| <b>Mathematics Content</b>   | Program's mathematics content aligns highly with Core Content 4.1 (90%)                               | Program's mathematics content aligns moderately with Core Content 4.1 (75%)                                      | Program's mathematics content aligns minimally with Core Content 4.1 (50%)                | Program's mathematics content alignment with Core Content 4.1 not evident. | <i>Apangea</i> provides <i>Learning Pathways</i> that are aligned to topics and subtopics of Core Content. The company states it is "refining the appropriate Learning Pathways that will address your..." [POS and DOK.] |
| <b>Depth of Knowledge</b>  | Program focuses on Webb's Depth of Knowledge Levels 1, 2, and 3.                                      | Program focuses on Webb's Depth of Knowledge Levels 1 and 2 only.  | Program focuses on Webb's Depth of Knowledge Level 1 only.                                | Program's focus on Depth of Knowledge is not evident.                      | The program uses questions to lead students through procedural steps to solve word problems. Program asks conceptual questions.   |
| <b>Instructional Strategies</b>  | Program employs multiple and appropriate instructional strategies to develop all DOK levels.          | Program employs limited but appropriate instructional strategies to develop most DOK levels.                     | Program employs limited instructional strategies to develop some DOK levels               | Instructional strategies employed by the program are not clear.            | The program utilizes an appropriate instructional strategy, but it employs one strategy rather than a variety of strategies.  |
| <b>Assessment Strategies</b>   | Program utilizes formative and summative assessments focused on all DOK levels.                       | Program utilizes formative and summative assessments focused on DOK levels 1 & 2.                                | Program utilizes summative assessments focused on all DOK levels.                         | Program utilizes summative assessments focused on DOK level 1 and 2.       | The program includes both formative and summative assessments at DOK levels 1 and 2.  |
| <b>Remediation Strategies</b>  | Program provides specific remediation strategies for common misconceptions.                           | Program provides general remediation strategies for common misconceptions.                                       | Program's remediation strategies focus on specific factual/computation errors.            | Program's remediation strategies do not have a focus.                      | Virtual tutors ask leading questions; next step is mini-lesson or live tutor available on-line.   |
| <b>Reporting System</b>  | Reporting system includes individual and composite data for teachers, parents and students.           | Reporting system includes individual or composite data for teachers, parents and students.                       | Reporting system includes individual or composite data for teachers.                      | Program does not include a reporting system.                               | Teachers may request reports from <i>Apangea</i> .  |
| <b>Professional Development</b>  | Program offers PD that assists teachers in diagnosis and remediation.                                 | Program offers PD that assists teachers in limited diagnosis or remediation.                                     | Program offers PD that assists teachers in technical aspects of program.                  | Program does not offer PD for teachers.                                    | Professional development requires teachers to complete modules either in school or online   |
| <b>Teacher Materials/ Technology</b>   | Teacher materials/technology provide substantial assistance to teachers in diagnosis and remediation. | Teacher materials/technology provide some assistance to teachers in diagnosis and remediation                    | Teacher materials/technology provides minimal support to teachers.                        | No materials or technology are available to teachers.                      | Students work online individually. Teacher materials are limited to online tracking reports.  |

| <b>Committee for Mathematics Achievement Review of <i>SmartHelp</i> by Apangea Learning (Continued)</b> |  |  |   |  | <b>Comments</b>  |
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| <b>Student Materials/Technology</b>   | Student materials/technology are user friendly and developmentally appropriate.  | Student materials/technology are user friendly or developmentally appropriate.   | Student materials/technology provide minimal support for students.                              | No materials or technology are available for students. | Online programs are attractive to students; however, some students might get frustrated because they are required to complete all steps for every problem. Sometimes it is difficult to understand what the computer is asking. In some instances, such as “restate the problem,” the computer accepts nonsense answers. |
| <b>Diverse Learners</b>   | Program allows students to progress individually at an appropriate pace AND addresses the needs of diverse learners.   | Program allows for student to progress individually at an appropriate pace OR addresses the needs of diverse learners. | Program has some individualized components and/or addresses the needs of some diverse learners. | Program is essentially the same for all students.      | Program utilizes translations for 8 languages and orally reads statements for students with reading difficulties. Students can all work on different lessons within the same classroom. All students must go through all 7 steps regardless of ability level.  |
| <b>Program Purpose and Use</b>  | Program is designed as a web-based intervention to assist students who perform below grade level. The automated instruction includes access to live tutors through the web. Virtual coaches ask leading questions or provide hints. The program can be used as a second mathematics class, evening tutoring, or for ESL students.                          |  |   |  |  |
| <b>Costs</b>  | Company has indicated that Smarthelp costs \$50 per student per year. This cost includes the virtual and live tutors, web-based teacher training, customer support, implementation, program updates, teacher resource guide, and virtual teacher coach. Additional services are available at an additional cost depending on a particular district’s need. |  |   |  |  |
| <b>Time</b>   | Three one-hour sessions per week are recommended for most students.  |  |   |  |  |