Carnegie Learning

Response to EdReports Evaluation

Carnegie Learning® Middle School Math Series (Courses 1-3)

Math Curricula Created for the Common Core State Standards for Mathematics

Carnegie Learning Middle School Math Series is a comprehensive set of instructional materials written specifically for math students, teachers, and classrooms implementing the Common Core State Standards for Mathematics (CCSSM), including the Standards for Mathematical Practice (SMP).

In the planning process of the Carnegie Learning Middle School Math Series, the authors, development and research teams reviewed the new Standards, the Critical Areas highlighted at each grade level, and the SMP as outlined in the CCSSM documentation. The authors sequenced the key mathematical concepts to support students as they build their understanding and make connections both from previous years and within the different mathematical clusters of each grade level. During the development and design phase, the materials were strongly influenced by research into how students learn mathematics and how to best motivate them to succeed academically. Each chapter was written to accommodate a variety of learners. Each lesson is comprised of several problems to provide opportunities for students to think, reason, and communicate their mathematical understanding.

The Carnegie Learning Middle School Math Series has a 2011 copyright and was developed after the release of the final CCSSM draft but before the release of the assessment frameworks and progressions documents. The guidelines around what defines major work of each grade-level had yet to be established. In light of the clarifications of the mathematics standards through the aforementioned documents and the new expectations for assessments across the country, we are actively revising our middle school instructional materials; this revision will be available in 2017.

In our current version and plans for any revisions, Carnegie Learning holds to the notion and shares the beliefs described in the National Council of Teachers of Mathematics (NCTM, 2014) publication Principles to Action, Executive Summary.

> "… standards do not teach; teachers teach. … effective teaching is the nonnegotiable core that ensures that all students learn mathematics at high levels and that such teaching requires a range of actions at the state or provincial, district, school, and classroom levels." (p. 4)

Beyond the supports found in the Teacher's Implementation Guide and the Carnegie Learning Online Resource Center, Carnegie Learning offers extensive professional development to support the fidelity of implementation and teacher content knowledge. This robust professional development supports teachers as they make sound instructional decisions around meeting the major work required at each grade-level. The range of professional development includes initial implementation training, ongoing in-classroom support, Teacher Content Academies, and administration and technical training.

EdReports Evaluation Provides Inaccurate and Incomplete Representation of Alignment to CCSSM

Carnegie Learning firmly disagrees with the EdReports evaluation for the Middle School Math Series. Upon review of the EdReport evaluation of the Carnegie Learning Middle School Math Series, we do not believe the review is a fair measure of the program's alignment to the Common Core State Standards and the types of activities that students would experience to promote deep mathematical understanding.

Carnegie Learning agrees with the NCTM statement, "The EdReports methodology, including its evaluation tool and process, has produced reviews that fall short of providing useful and accurate information about many critical features of materials reviewed, such as how the materials address the Standards for Mathematical Practice and the quality of the instructional activities. As a result, the current ratings and reviews do not provide the types and quality of information needed to make informed choices about the extent to which particular materials support students' learning, or teachers' teaching, of CCSSM."

The EdReports evaluation does not account for all Carnegie Learning instructional materials available to support mathematics development at each grade level.

We believe that teachers have choices in how they want to organize instructional materials into a curriculum that meets the learning goals of their classes, including time on the major work of the grade. We provide training and resources to aid teachers in making these important decisions for their students. The EdReports review used counts of lessons to determine the amount of time spent on the major work of each grade. Such counts should not be used as an indicator of the amount of class time to be devoted to student mastery of the standards. Lessons are comprised of varying number of activities that engage students in developing deep conceptual mathematical understanding of the standards. Rather than focus on counts of lessons, the activities within the lessons need to be examined. Also, additional instructional materials provide students opportunities to build fluency through practice. This review fails to consider the content of the lessons counted nor does it take into account the available instructional resources to promote student conceptual understanding and procedural fluency.

EdReports would not review the Carnegie Learning Blended Program.

The Carnegie Learning Math Series is more than just a student text and an accompanying Teacher's Implementation Guide. The instructional design of the Carnegie Learning Blended Program includes MATHia® Software; however, EdReports would only review our print-based student components. The MATHia Software is not a supplement in our blended approach; it provides personalized instruction, practice, and assessment for critical mathematical concepts and skills. Carnegie Learning has been a leader in adaptive learning for over 20 years. We have a strong record of demonstrating that our instructional model is more effective than traditional instruction. Our use of adaptive learning extends value to include both instruction and assessment. We can provide both accountability for mastering mathematical concepts and formative information that can help guide instruction on a day-by-day basis. MATHia can be customized by teachers to focus specifically on the major work for each course.

To support schools that do not use our blended approach, we offer a Student Skills Practice workbook and Student Assignment workbook. These materials exist to support students' development of the understanding and fluencies required at each grade-level and provide teachers with the tools and flexibility to spend the appropriate amount of time needed by their students to master the major work of each grade. The EdReports evaluation committee received access to all of these components; however, these materials are not referenced in the evaluation. This incomplete evaluation provides an inaccurate representation of the amount of time focused on the major work in each grade level.

The EdReports evaluation process does not address critical features of the instructional materials.

The instructional design of the Carnegie Learning Middle School Math Series builds a solid conceptual understanding of key foundational topics such that each standard is not a new event. The lesson structure drives conceptual understanding by drawing on previous learning and requiring students to construct and interpret models, use multiple representations, compare and contrast concepts, and explain their reasoning. The goal of the instructional materials is for students to understand why algorithms work, as opposed to blindly memorizing procedures. The pedagogical approach of the instructional materials focuses on how students think, learn, and apply new knowledge in mathematics and empowers them to take ownership of their learning. This approach is consistent with the Standards for Mathematical Practice (SMP) and is clear in thorough review of the activities within the lessons.

The SMP describe varieties of expertise that mathematics educators at all levels should seek to develop in their students. Although the SMP are not explicitly marked, each lesson provides opportunities for students to think, to reason, and to communicate their mathematical understanding—all of which are critical in the SMP. Many of the ways in which the SMP are addressed (e.g., Who's Correct, Talk the Talk, Thumbs Up/Down), however, are explicitly called out as part of the instructional design. Carnegie Learning materials and professional development support teachers in developing their ability to recognize these opportunities and incorporate these practices into daily routines. Expertise is a long-term goal, and students must be encouraged to apply these practices to new content throughout their school career.

The EdReports evaluation process is extremely limited.

The three-step gateway review process provides a limited view of how the Carnegie Learning Middle School Math Series aligns to the CCSSM and Standards for Mathematical Practice and meets the needs of math educators and students. Since Course 1 and Course 2 did not meet the specific criteria in Focus & Coherence, they were not evaluated for Rigor & Mathematical Practices or Usability. Course 3 was evaluated on both Focus & Coherence as well as Rigor & Mathematical Practices, but was not evaluated on Usability. This limited evaluation is detrimental to educators looking to utilize this as a resource to guide their selection of mathematics curricula.

The Carnegie Learning Middle School Math Series provides instruction, activities, practice, and assessment tools that support educators in creating a learning environment that fosters deep conceptual understanding of mathematics, aligned to the CCSS and the Standards for Mathematical Practice. The curriculum has been thoroughly reviewed for content and attention to the SMP by school districts and state departments of education around the county and subsequently selected as their core instructional resource for meeting the CCSS and ultimately raising student achievement in mathematics.