
Publisher's Response to EdReports Evaluation of *Core-Plus Mathematics* ©2015

McGraw-Hill Education (MHE) values the opportunity to respond to the EdReports evaluation of *Core-Plus Mathematics* ©2015. The *Core-Plus Mathematics* series is a problem-based, inquiry-oriented, technology-rich, four-year college-preparatory program that embodies the vision of high school mathematics portrayed in the mathematical practices and content expectations of the Common Core State Standards (CCSS).

In the evaluation of *Core-Plus Mathematics* ©2015, reviewers identified several key strengths of the program.

- “Students engage in investigations throughout each unit that ground the standards in real-world contexts appropriate for high school use.”
- “The materials meet the expectation for fostering coherence through meaningful connections in a single course and throughout the series.”
- “The materials integrate technology, manipulatives, and dynamic software in ways that engage all students in the MPs.”

MHE supports EdReports’ intention to offer educators information to aid in the selection of instructional materials aligned with the Common Core Standards for Mathematics. While the review of *Core-Plus Mathematics* was positive, we do want to emphasize that the analysis of the series appears to be focused primarily on the print student editions with minimal consideration of the digital components and limited understanding of the pedagogical model and goals of the series. This point has also been raised by the National Council of Teachers of Mathematics and National Council of Supervisors of Mathematics who have noted the following in an open letter:

“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.”

In the following report, MHE and the *Core-Plus Mathematics* author team have included additional insight, rationale, and examples for each indicator provided by EdReports. We believe that the *Core-Plus Mathematics* series meets the following indicators and have identified the location of those activities and opportunities that the reviewers may have overlooked.

EdReports Indicator: The materials explicitly identify and build on knowledge from Grades 6-8 to the High School Standards.

MHE Response: We acknowledge the importance of building upon prior knowledge from grades 6-8 to the high school standards. The *Core-Plus Mathematics* instructional materials do not explicitly identify grades 6-8 standards as students' middle school backgrounds can vary widely and the depth of standard coverage in addition to environmental variables often impact prior knowledge. We believe that educators understand their students' needs best and thus recommended cross-collaboration between middle and high school mathematics departments be scheduled in order to form an instructional bridge to best to build upon prior knowledge.

EdReports Indicator: The materials support the intentional development of overarching, mathematical practices (MPs 1 and 6), in connection to the high school content standards, as required by the mathematical practice standards.

MHE Response: The reviewers indicated that imprecise mathematical language in regard to MP1 and MP6 is present within the *Core-Plus Mathematics* programs. We want to emphasize that the use of informal language is used specifically for the purpose of ensuring that teachers have the opportunity to introduce more formal language when students are ready for it. A hallmark characteristic of *Core-Plus Mathematics* is a design that makes mathematics accessible to a majority of students.

EdReports Indicator: Materials provide strategies for gathering information about students' prior knowledge within and across grade levels/ courses.

MHE Response: The reviewers indicate partially meeting this expectation for gathering students' prior knowledge within and across grade levels/courses. By design, *Core-Plus Mathematics* has been carefully developed to ensure that information about students' prior knowledge is gained through both the materials and the curriculum-inspired pedagogy through which the materials are enacted. This occurs by the teacher eliciting and probing students' thinking and prior knowledge during the Launch (Think about this Situation) of *each* Lesson; through observing, listening to, and probing students' thinking as they collaboratively work on the problems in the Investigations, and through the analysis of students' responses to the "Just-in-Time" Review tasks strategically assigned before the prior knowledge needs to be recalled or accessed by students. The development and placement of these Just-in Time tasks were informed through extensive piloting and field testing of the materials and incorporating a wide range of student backgrounds and prior knowledge. Additional practice problems are provided within ConnectED in eAssessment, a dynamic assessment generator which enables teachers to create their own tests, quizzes, and worksheets.

EdReports Indicator: Materials provide support for ongoing review and practice, with feedback, for students in learning both concepts and skills.

MHE Response: The reviewer indicates a partially met rating for the *Core-Plus Mathematics* program for ongoing review and practice. *Core-Plus Mathematics* provides ongoing review within the Summarize the Mathematics tasks, On Your Own practice problems, and in Looking Back Lessons, but the reviewer overlooked the structure of the Investigations which provide opportunities not only for development of new concepts, strategies, and skills, but also provide ongoing review and practice as students draw on prior knowledge to solve new problems. Each lesson includes a review set that provides distributed practice with previously learned concepts and skills. Additional opportunities for review and practice are presented with the Practicing for Standardized Test Masters and eAssessment found in ConnectED.

EdReports Indicator: Assessments clearly denote which standards are being emphasized.

MHE Response: One of the goals of *Core-Plus Mathematics* is for students to have the disposition, content understanding, and skills to confidently approach new problems without prompts as to the mathematics that is expected to be used. This is an important part of building toward college and career readiness. As problems are confronted in the real world they are not labeled with the mathematics that might be used to provide a solution. Teachers are, of course, explicitly aware of the standards being emphasized.

EdReports Indicator: Materials provide teachers with strategies for meeting the needs of a range of learners.

MHE Response: The reviewer indicated a partially met rating for this indicator, but did not consider the inherent pedagogical structure of *Core-Plus Mathematics* as a student-centered, problem-based, inquiry-oriented program intended to support student learning in heterogeneous teams. This carefully planned and researched instructional design opens opportunities for all students including those from different racial, ethnic, and linguistic groups.

The scaffolding in the program is based on differing needs of students as exhibited in classroom trials of the materials and refined across extensive national field trials involving diverse student populations. The reviewers should also note that the resulting carefully thought-out scaffolding is enhanced by Just-in-Time review tasks of key prerequisites for an Investigation and is supported by the design of the materials that promote learning in small heterogeneous teams. This enables students on occasion to help one another with accessing the necessary prerequisite knowledge or clarifying mathematical vocabulary. This classroom dynamic approach to differentiation is further bolstered by the teacher as they observe, listen to, and work with

individual groups and/or students as an investigation progresses.

Reviewers should examine the Implementing Core-Plus Mathematics guide (pp. 52-53) for Practices that Promote Equity which are differentiation techniques. It elaborates as to how the instructional design opens up opportunities for all students and for teachers to provide language differentiation as needed for their students. Teachers provide scaffolding during class time for a specific group (rather than the whole class) when there is evidence of the need for additional scaffolding. Also elaborated is how students assist each other during collaborative work.

EdReports Indicator: Materials provide support, accommodations, and modifications for English Language Learners and other special populations that will support their regular and active participation in learning mathematics (e.g., modifying vocabulary words within word problems).

MHE Response: The strategies as outlined in the indicator for meeting the needs of all learners would also apply to English Language Learners. Additionally, a Spanish glossary within ConnectED is provided to ensure translation of key mathematical terms is available to both the teacher and the student.

In Closing

When considering Common Core Standards alignment, it is important to consider a holistic view that includes focus on the content standards, the standards for mathematical practice, and the fundamental pedagogical approach to instruction. The *Core-Plus Mathematics* series not only focuses on the CCSSM, but also provides flexible materials for educators to meet the specific needs of their students—and supporting student success will always be our primary goal. We appreciate the opportunity to share the full *Core-Plus Mathematics* solution in our response and will continue to partner with our customers to create impactful, research-based solutions for high school mathematics instruction.