

Response to EdReports Eureka Math HS

According to the latest EdReports for Eureka Math High School (2013-2014), Eureka Math meets the expectation of “Gateway 1: Focus & Coherence”, with a score of 15. For “Gateway 2: Rigor & Mathematical Practices”, Eureka Math scored a 12, which is categorized as “partially meets expectations.” For “Gateway 3: Usability”, Eureka Math is not scored.

The following is taken directly from the EdReport for Eureka Math, High School:

Indicator 2E

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.

Indicator Rating Details

The materials reviewed for this series partially meet the expectations for supporting the intentional development of overarching mathematical practices (MPs 1 and 6), in connection to the high school content standards, as required by the MPs. The materials do engage students in MP1 and MP6 throughout the materials, and there are not any instances where these two MPs are treated separately from the content standards. Overall, however, there are instances when the materials do not sufficiently support the intentional development of MP1 and MP6 by not accurately attending to the intent of these two MPs and by not fully supporting the instructional implementation of the MPs.

BASSE’s Response

BASSE plans to supplement Eureka Math with videos, additional math exercises and problem solving, and a skill called Intellectual Preparation (Intellectual Prep or IP). Through the practice of IP (which will occur at the independent-level, grade-level, and content-level) teachers will think through, with Content Leaders, and the Dean of Academic Excellence, not only what skills the students need to know and be able to exhibit for each task or objective, but also how to prepare a lesson through its weaknesses, including but not limited to understanding what the end goal is and how each part of the lesson fits together, what activities to work through to get students there, where to scaffold and how to have students show their work.

During IP, teachers will walk through each lesson, working backwards to understand what students need to know at the end of the lesson while working to fill in the gaps of the lesson. Because no curriculum is perfect and every student is different, there will always be gaps that educators need to identify to ensure proper learning of the material being taught.

BASSE will supplement the lessons exemplified below with additional practice or instructional videos and through the use of IP while preparing the lesson, all gaps will be addressed.

The following are examples that do not meet the intent of MP1 and MP6 or are not connected to content:

- Throughout the series, portions of lessons cite MP1, but often what is labeled is a place where students are asked to solve a problem but have been given a prescribed formula or steps to solve the problem in a previous example. The directions will even tell the teacher/student to use the steps already given.
 - An example is **Geometry module 2, topic A, lesson 3, Example 1**. Use of the following [video](#) will assist the teacher in teaching the material, with different content. The following [practice](#) will give the teacher additional material to have the students show their knowledge of the skill being taught. The video coupled with the additional practice will ensure MP1 is met. The context changes very little, and the main difference in the problems are numbers.
- For MP1, in **Algebra II module 3 lesson 9 on page 132** of the teacher's edition, students are asked to figure out why social security numbers are 9 digits and how many digits long do phone numbers need to be to meet demand. In the previous example, students are shown how to use logarithms to figure out how many digits for ID numbers of a certain length. While the context changed, the work needed to be done is exactly the same just with larger numbers.
 - Use of the following videos, both the [advanced practice video](#) and the [properties of logarithms video](#) will assist the teacher in teaching the material, with different content.
- For MP6, in **Algebra I module 2, topic D, lesson 16**, students work with residual graphs. However, the materials walk students through the graph and do not require them to attend to precision. Although the materials themselves attend to precision, there is no work for the students to develop this Standard for Mathematical Practice.
 - The following [practice](#) will give the teacher additional material to have the students show their knowledge of the skill being taught.

The following are ways in which the materials do not fully support the instructional implementation of the MP1 and MP6 and how BASSE will raise the rigor:

- **At the lesson level**, MPs are identified in three ways in the teacher materials across the series: in Lesson Notes, within the lesson itself, and with a blue box in the margin of the lesson. Across the series, the MPs are usually identified with a blue box in the margin of the lesson, and when the blue box is used, there is little description or guidance as to how the identified portion of the lesson exemplifies the noted MP. Examples of blue MP boxes include the following:
 - For MP1, the blue box found on **page 54 of Algebra I module 4 lesson 4 states**, “This question is open-ended with multiple correct answers. Students may question how to begin and should persevere in solving.” There is no other guidance for teachers on integrating MP1 or description of how the question exemplifies MP1.
 - **To raise the rigor:** MP1 is exemplified here by way of students understanding that their way of solving the problem may not be the way that was taught in this particular lesson or the way other students may solve the problem, however, solving the problem correctly, showing your work, and being able to explain how you solved the problem, with proof, is the way in which MP1 is exemplified here.
 - For MP1, the blue box found on **page 219 of Algebra II module 1 lesson 20** is drawn around four questions that teachers can ask students during a whole-class problem, but there is no guidance for teachers on when to ask the questions or if all or only some of the questions should be asked.
 - **To raise the rigor:** Guidance for asking the questions, understanding that they are meant to scaffold, is to ask the questions in the order that they are written, with the goal being for the students to fit polynomial functions to data values by the end of the lesson [during the problem set, students will have to, at minimum, understand that there are infinite polynomials that pass through a given point as well as having to verify their work].
 - For MP6, the blue box on **page 377 of Geometry module 2 lesson 24** states, “Ask students to summarize the steps of the proof in writing or with a partner.” There is no other guidance for teachers on integrating MP6 or description of how the proof exemplifies MP6.

precise with both their numbers when graphing and the actual plotting of the numbers when graphing.

References:

<https://www.edreports.org/reports/overview/eureka-math-2013-2014>