

MISSOURI STATE BOARD OF EDUCATION AGENDA ITEM:**July 20, 2016****CONSIDERATION OF APPROVAL OF CUT SCORES FOR MAP ASSESSMENTS****STATUTORY AUTHORITY:**

Sections 160.514 and 161.092, RSMo

Consent
ItemAction
ItemReport
Item**DEPARTMENT GOAL NO. 1:**

All Missouri students will graduate college and career ready.

SUMMARY:

On July 12-14, 2016, panels of Missouri educators were convened to establish achievement levels and validate cut scores for the Missouri Assessment Program (MAP) English language arts and mathematics grade-level assessments administered in grades 3 through 8 in spring 2016.

The results of the achievement level setting meeting comprise the presentation of this agenda item.

PRESENTERS:

Blaine Henningsen, Assistant Commissioner, and Lisa Sireno, Standards and Assessment Administrator, Office of College and Career Readiness, will assist with the presentation and discussion of this agenda item.

RECOMMENDATION:

The Department recommends that the State Board of Education approve the cut scores and achievement levels as presented.

Missouri Assessment Program (MAP) Cut Point Validation: Development of Cut Point Recommendations for the Grade-Level Assessments

Ricardo Mercado, Sara Kendall, and Joanna Tomkowicz

Data Recognition Corporation

July 6, 2016

On July 12–14, 2016, the Missouri Department of Elementary and Secondary Education (DESE) and Data Recognition Corporation (DRC) will conduct the Missouri Assessment Program (MAP) Cut Point Validation for grades 3–8 in English Language Arts (ELA) and Mathematics. The purpose of this workshop is to develop achievement standards for the Grade-Level Assessments in ELA and Mathematics, including the development of *cut points* which divide students into four achievement levels: *Below Basic*, *Basic*, *Proficient*, and *Advanced*.

A committee of approximately 90 Missouri educators will participate in the cut point validation. Participants will be divided into 12 groups of approximately 7–8 participants each, and each group will focus on a single grade and content area combination (e.g., Grade 3 Mathematics, Grade 4 ELA). Participants will work individually and in concert to consider the test items and student data from the Spring 2016 administration of the MAP, the Missouri Learning Standards, and information from Missouri students' performance on current and previous administrations of the MAP. Over the course of three days, committee members will:

- Be welcomed by DESE and DRC to the cut point validation as part of an opening training session
- Study the Missouri Learning Standards and achievement level descriptors (ALDs) to determine the content-based expectations for students in each of the four achievement levels
- Experience the online student test to become familiar with the item types, tools, and supports
- Study the test items in detail, as presented in an *ordered item booklet*, to consider the knowledge, skills, and abilities needed to answer each item correctly
- Make content-based judgments about the test items that measure content of which students in each achievement level will show command
- Consider policy-based information that shows how Missouri students have performed on the MAP in 2015, and compare this information with their own content-based judgments
- Discuss their cut point recommendations with colleagues in their groups, as well as colleagues working on other grade levels within their own content area, engaging in additional *rounds* of discussion and judgments
- Review the system recommended cut points for *articulation* and, as needed, recommend adjustments to promote a cohesive, consistent system of achievement standards for the MAP

Throughout this process, Missouri educators will consider the expectations for students in each achievement level and then transform these expectations into numeric cut points using the Bookmark Standard Setting Procedure. The Bookmark Procedure is the most widely used standard setting

procedure in current use on large-scale educational assessments, and it was used in 2015 in Missouri to validate the achievement standards for the MAP Science assessments.

After the cut point validation, DRC will summarize the recommendations from the educators. A summary of the recommended cut points will be prepared that will include:

- The recommended cut points (in terms of scale score ranges)
- The associated impact data (showing the percent of Missouri students who would be expected to be classified in each achievement level, based on the Spring 2016 administration)
- Participants' level of satisfaction in their recommendations (taken from workshop evaluations)
- Descriptions of adjustments made by participants to promote better articulation among their cut point recommendations (if any)

Missouri Assessment Program Cut Point Recommendations

for English Language Arts and Mathematics Grade-Level Assessments

Missouri State Board of Education

July 20, 2016

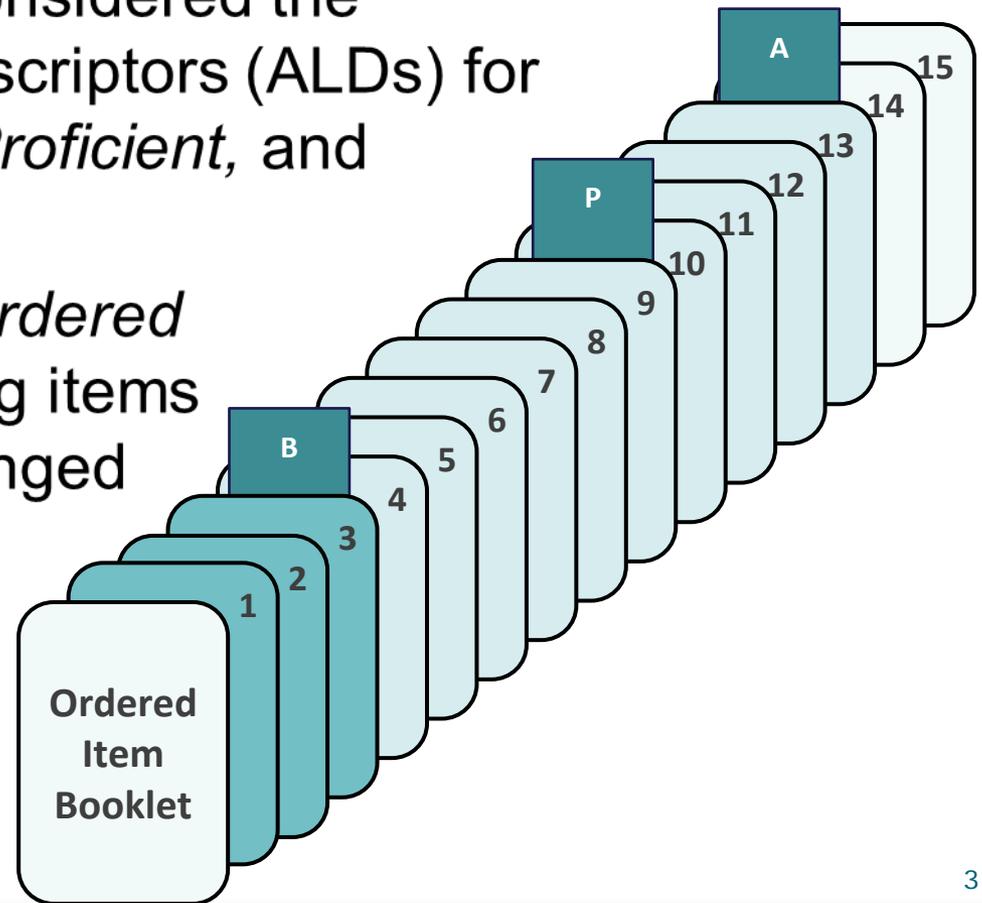


Cut Point Validation Workshop (1)

- Panelists examined assessment content and the Missouri Learning Standards to determine threshold scores (cut points) for each achievement level.
 - July 12 – 14, 2016
 - 12 panels of Missouri educators
 - 7 – 8 panelists per group
- Panelists represented the diversity present in Missouri schools.
- Panelists had relevant grade- and content-specific experience.

Cut Point Validation Workshop (2)

- Missouri educators considered the achievement level descriptors (ALDs) for *Below Basic*, *Basic*, *Proficient*, and *Advanced*.
- Participants studied *ordered item booklets*, showing items and score points arranged from least to most difficult based on Missouri student performance.



Cut Point Validation Workshop (3)

- Each panelist set three rounds of *bookmarks* symbolizing their cut point recommendations.
 - Discussion occurred before and after each round, but bookmarks were set individually.
- Panelists reviewed impact data after each round.
 - Missouri student performance in 2015 and impact data associated with first round recommendations
 - Articulation of the cut points across all grades within a content area
- Table leaders convened to consider the *articulation* of the cut points across grades.

Cut Point Validation Workshop (4)

- Panelists were asked to use content to review their recommendations.
 - The knowledge, skills, and abilities expected of students in each achievement level are consistent with state expectations.
 - The impact data form a reasonable, explainable pattern across grades.
- Panelists' bookmark recommendations were then converted into cut points on the MAP vertical scale.

Cut Points in Missouri

- Prior to 2015, MAP cut points were tied to the National Assessment of Educational Progress (NAEP) cut points per state statute.
- In 2015, Smarter Balanced Assessment Consortium (SBAC) assessments were administered per state statute.
 - SBAC cut points, approved by Missouri SBOE
- In 2016, state law required administration of Missouri-developed assessments.
 - Measure the same content standards as in 2015
 - Similar to 2015
 - State law no longer requires link to NAEP

Cut Point Validation Workshop Review

Missouri's Technical Advisory Committee (TAC) observed and reviewed the workshop.

- When examining the resulting cuts, the TAC considered various information.
 - Impact data
 - Articulation of cut scores from grade to grade
 - Composition of the panels
 - Panelist survey responses

Cut Point Adjustments

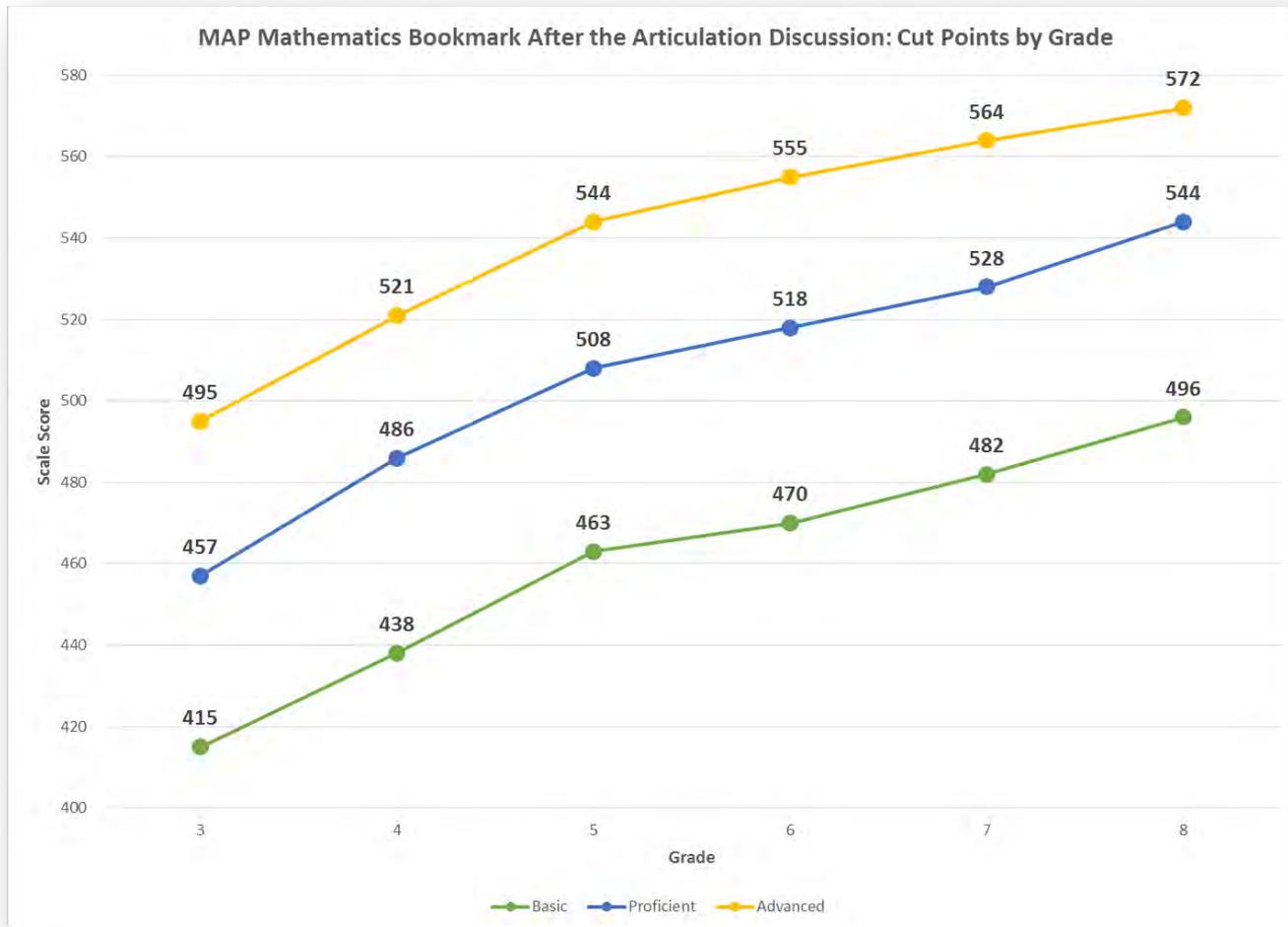
- Adjustments were made using statistical standard error of measurement (SEM)
- All adjustments were less than 1 SEM
- Mathematics
 - Grade 3 advanced
 - Grade 6 basic and proficient
- English Language Arts
 - Grades 3 – 8 basic, proficient and advanced

Recommended Cut Points Adjusted to Balance Content- and Policy-Based Information

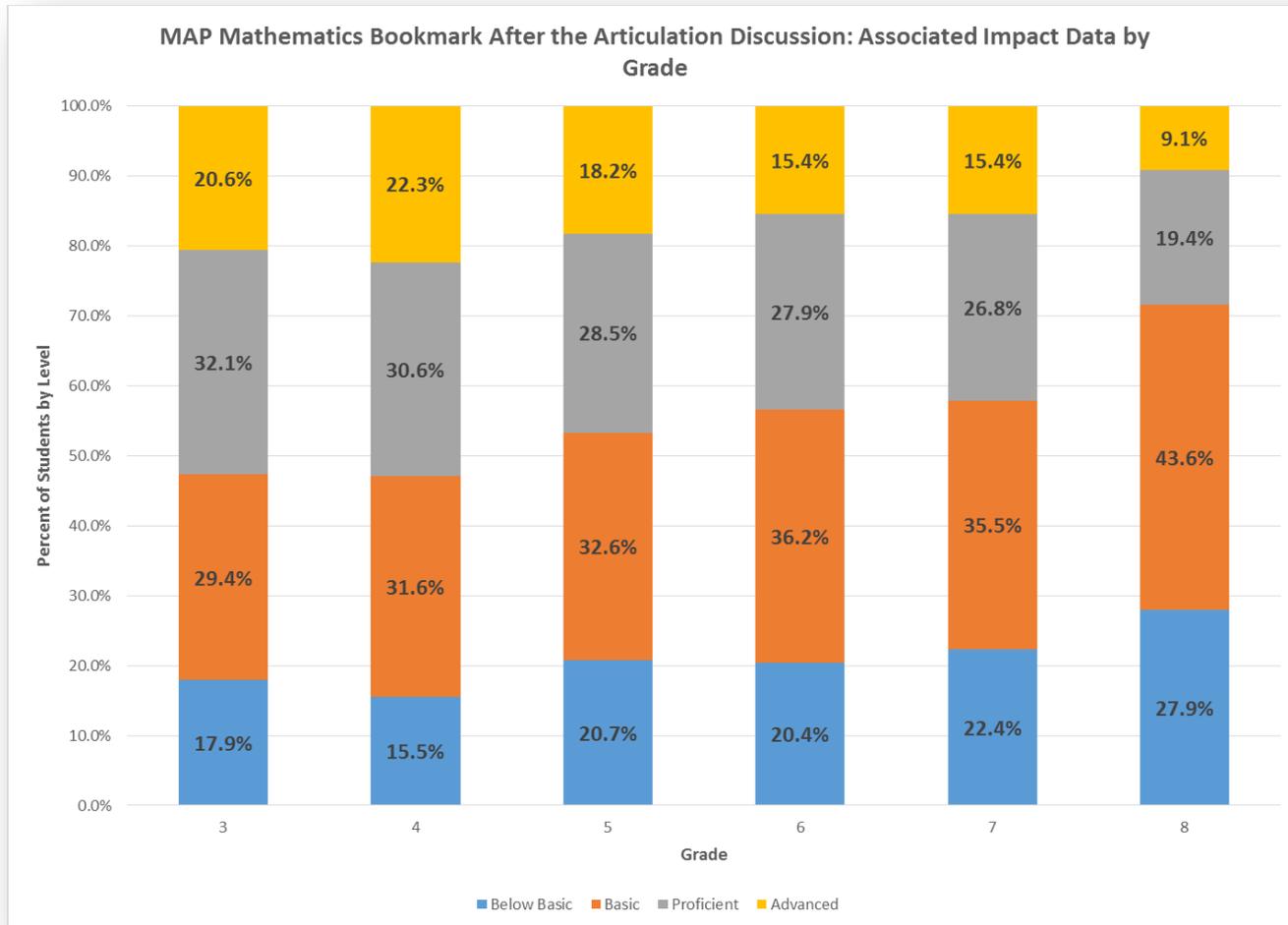
Recommended Mathematics Cut Points

Mathematics			
Grade	Basic	Proficient	Advanced
3	415	457	495
4	438	486	521
5	463	508	544
6	470	518	555
7	482	528	564
8	496	544	572

Recommended Mathematics Cut Points



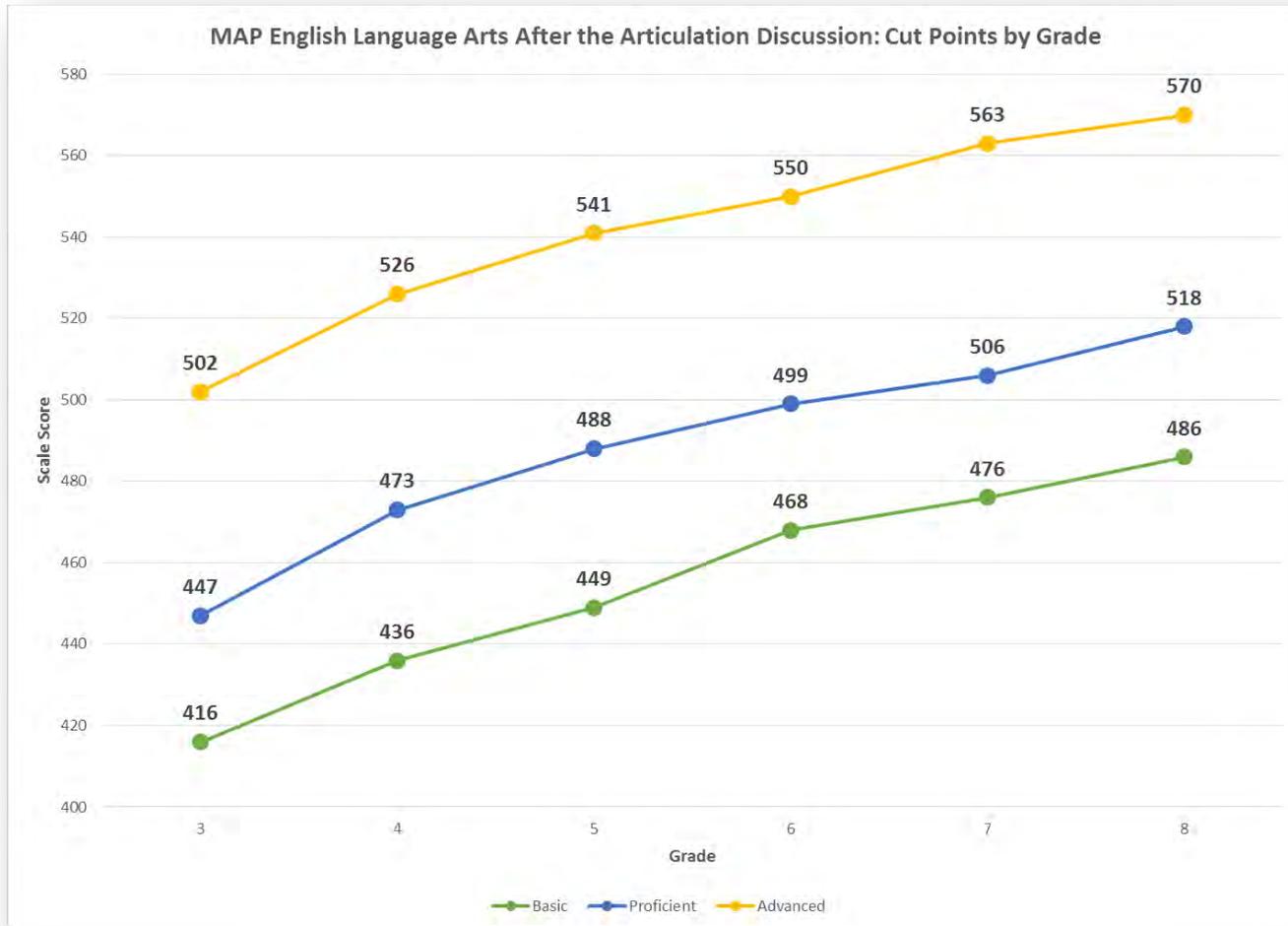
Mathematics Impact Data



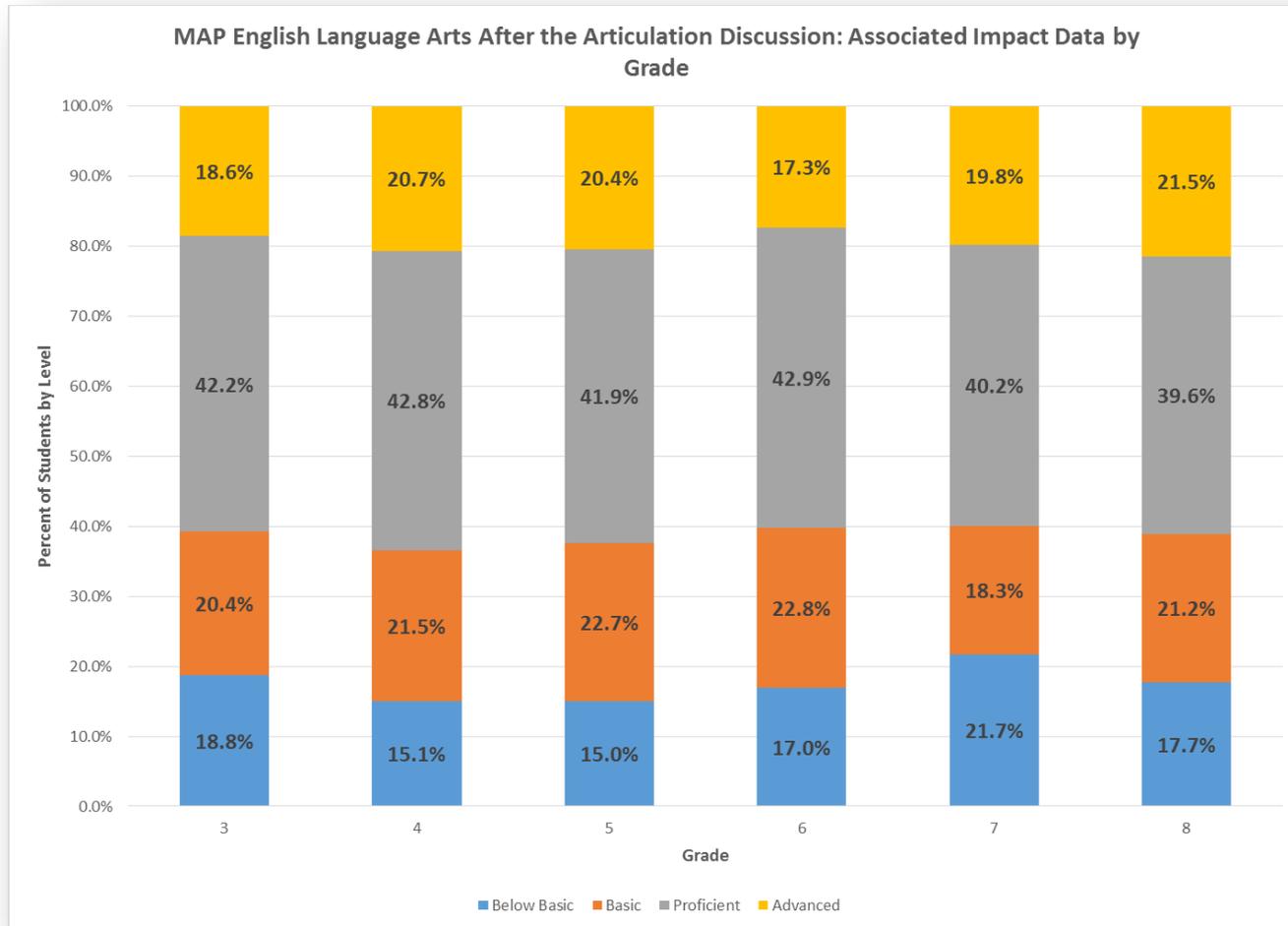
Recommended English Language Arts Cut Points

English Language Arts			
Grade	Basic	Proficient	Advanced
3	416	447	502
4	436	473	526
5	449	488	541
6	468	499	550
7	476	506	563
8	486	518	570

Recommended English Language Arts Cut Points



English Language Arts Impact Data



Action Requested

Approval of cut points and achievement levels for MAP
Grade-Level Assessments:

- Grades 3 – 8 English Language Arts
- Grades 3 – 8 Mathematics

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