Evaluation of the Houghton Mifflin Harcourt and Oregon Community Unit School District Partnership for Professional Development and Curricular Resources

YEAR 2: 2015-16 REPORT

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Executive Summary

"In education, research has shown that teaching quality and school leadership are the most important factors in raising student achievement. For teachers and school district leaders to be as effective as possible, they continually expand their knowledge and skills to implement the best educational practices. Educators learn to help students learn at the highest levels."
-- Mizell, 2010[1]

In order to ensure that students have equal access to the level of knowledge needed to excel in both continuing education and the global workforce, Oregon Community Unit School District (Oregon CUSD) made a commitment to provide their teachers with tools and resources focused on meaningful curriculum development and aligned to the Common Core State Standards (CCSS). Beginning in the fall of 2012, the district partnered with Houghton Mifflin Harcourt (HMH) to provide an all-inclusive program consisting of curricula and related professional development activities.

In Summer 2013, teachers were offered training on the Common Core State Standards (e.g., design, organizational features, and content) from the International Center for Leadership in Education. In Fall of the 2013-14 school year, reading and math HMH curricula and associated professional development were made available across grades K-12, with the exception of elementary math which was not made available until the 2014-15 school year. During the 2013-14 school year, a select group of teachers and other staff were provided with intensive training in Rigorous Curriculum Design (RCD), which was followed by district-wide training in Summer 2014. Summer 2015 consisted of training on the use of "data teams," including review and ongoing utilization of data. HMH has continued to offer ongoing support and professional development around data teams and RCD as of the 2015-2016 school year through the present report.

In order to examine the extent to which the HMH curricula and professional development services implemented in Oregon CUSD are positively associated with teacher and student outcomes, Houghton Mifflin Harcourt contracted with PRES Associates, Inc., an independent evaluation and research firm with over 20 years of experience conducting educational research. The study utilizes assessment data collected by the district, as well as additional survey and qualitative data collected as part of the evaluation, to determine the extent to which HMH programs and professional development implemented has influenced teacher knowledge, instructional practices and student learning. The following presents a summary of results, organized by Year 2 evaluation questions.

[1] Mizell, H. (2010). Why Professional Development Matters. Oxford, OH: Learning Forward. Retrieved from: http://learningforward.org/docs/pdf/why_pd_matters_web.pdf?sfvrsn=0

- ***To what extent has the International Center for Leadership in Education's professional development influenced teacher knowledge, skills, and preparation?***

  In Year 2, virtually all teachers (98%) demonstrate a fair degree of commitment to implementing CCSS in their classrooms. The majority of teachers (71%) report that they have the requisite knowledge needed to provide instruction aligned to CCSS -- with higher attendance to HMH trainings being positively associated with increased knowledge and preparation to implement the CCSS. That said, nearly 1/3 of teachers felt like they do not yet have sufficient resources to fully implement CCSS in their classrooms.

- ***To what extent has the International Center for Leadership in Education's professional development influenced teacher practices and classroom activities?***

  Teacher practices and classroom activities have shown positive change and alignment to the CCSS since the 2013-14 school year. Educators report that, since the CCSS initiative implementation began in 2013, a variety of changes have occurred across teacher practices, student outcomes, and workplace practices. The types of changes reported include increases in: a) the variety of assessment practices used; b) alignment of classroom instruction with CCSS: c) student academic preparation; d) the frequency of discussions about data and student progress; e) documentation of students attaining standards; horizontal alignment and vertical alignment (although to a lesser extent), and standardization of end-of-year expectations for students. Educators reported that instructional practices now include more differentiation and collaboration and that assessment practices more often motivated students, incorporated peer feedback, and used authentic contexts as compared to prior years.

  Progress has continued in creating RCD units. The majority of teachers reported substantial progress in creating a horizontally aligned pacing calendar and developing RCD units for the classroom. Although substantial progress in development of RCD units aligned to CCSS has been demonstrated, such activities continue to be a work in progress. More than half of teachers (58%) report feeling satisfied with the RCD units that have already been developed and 60% reported that the approval criteria for RCD units remains unclear.

- ***To what extent are teachers implementing the HMH curricula in their classrooms? Are they implementing these with fidelity?***

  Implementation of the HMH curricula has increased steadily since it was made available. However, teachers differ in the extent to which they use it as a primary or supplementary source of material. In Year 2, all of the math teachers and all of the ELA teachers in grades 6-12 reported using the HMH curricula while 75% of the ELA teachers in grades K-5 reported using HMH curricula. Teachers reported completing a greater percentage of the curricula during the 2015-16 school year than the 2014-15 school year across language arts and math at all levels,

except for the ELA teachers in grades K-5, who reported using more supplemental materials than the HMH curriculum in 2015-16. This pattern of use coincides with greater completion of RCD units which draw on all available materials from every ELA teacher and so creates units comprised of both HMH curricular resources and other resources.

- ***Is there a relationship between implementation of the HMH professional development and ELA and Math curricula, and student literacy and math achievement?***

  Changes in student achievement are generally expected to manifest after changes in teacher knowledge and skills and actual implementation of instructional units aligned to CCSS has occurred in the classroom. This past year teachers have reported significant increases in CCSS-related classroom activities and assessment practices and an increased but incomplete adoption of the HMH curricula. Though still preliminary, overall assessment trends are starting to show an increase in basic literacy and math skills scores in some areas (as measured by the AIMSweb) and students demonstrated accelerated growth in CCSS-related skills (as measured by the MAP) during the year. Year-end state assessment scores, using the new PARCC assessment that was recently released, do not yet show any strong discernible patterns of increasing or decreasing. These findings are consistent with typically observed patterns where assessment scores begin low following the adoption of a test aligned to new standards and increase over three to four years[2]. If the current momentum of CCSS integration across grades in Oregon CUSD continue as reported in Year 2, one might expect to observe greater changes in state assessment results on PARCC over time, as longer-term outcomes resulting from this initiative start to show up.

- ***Does the relationship between HMH professional development and curricula and student outcomes vary as a function of student or teacher characteristics (e.g., different types of students, different grades or ability levels, or at different levels of implementation)?***

  Initial trends suggest that females more often Met or Exceeded standards than males, and non-White students as well as those from a low income family or with an IEP less often Met or Exceeded standards than the district average. Additional data from future years will allow for year-to-year growth comparisons within these groups.

- ***What did participants think about the professional development and curricula provided by HMH?***

  The focus of this years' teacher survey shifted from evaluations of the material to teachers' instructional activities in the classroom and perceptions of the progress and effects of district-wide CCSS implementation initiatives. Few teachers rated the HMH curricula, and of those who did, the majority perceived favorable outcomes from HMH math but not reading

[2] Oakland Unified School District (2015). About SBAC and the Common Core State Standards. Retrieved from: www.ousd.org/Page/13493

curricula. As noted, the very small number of respondents make it difficult to determine whether these opinions are representative of all teachers using the curricula, especially as the ratings in the 2015 Educator Survey were much higher. Data from a site visit conducted in Spring 2016 suggested, overall, training(s) provided by HMH were generally highly rated and trainers were perceived as being very experienced and knowledgeable. The one exception was the more recent "data teams" training conducted in Summer 2015 which was not viewed quite as positively – primarily due to teachers feeling a bit "pressed" with the other initiatives, such as RCD, that were already underway.

In conclusion, the second year of the evaluation demonstrates that numerous positive effects have been observed thus far as a result of the Oregon CUSD districtwide professional development and training initiatives. These include substantial changes in teacher commitment and preparation to implement CCSS; substantial changes in pedagogical practices being employed in the classrooms, including increased alignment to CCSS and assessment practices; and initial increases in student assessment outcomes are starting to emerge.

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Project Background

Oregon Community Unit School District (Oregon CUSD) is a small district in Oregon, IL, a rural town located in Northern Illinois, which boasts "a safe viable environment to raise a family or to start a business."[3] Approximately 12% of men and women in the labor force are unemployed, which is higher than state and national averages (6.69% and 5.94% respectively). Most of the civilian workforce population is employed in white-collar jobs, such as service, sales and office, while 30% of the population is employed by blue-collar jobs, such as production, transportation, construction and maintenance.[4]

The district itself consists of three schools, one elementary serving grades K-6 with a total of 790 students, one junior high serving grades 7 & 8 with 196 students, and one high school serving grades 9-12 with a total of 443 students. The total district population is 1,429 students, with approximately 96 teachers.

The student population at each school is predominantly white[5]:

- 86.2% White, not Hispanic
- 9.2% Hispanic
- 1.0% Asian/Pacific Islander
- 0.6% Black, not Hispanic
- 0.3% American Indian/Alaskan Native
- 2.6% Two or more races

During the 2015-2016 school year approximately 45% of the students were low income, which is up 5% from 2012.

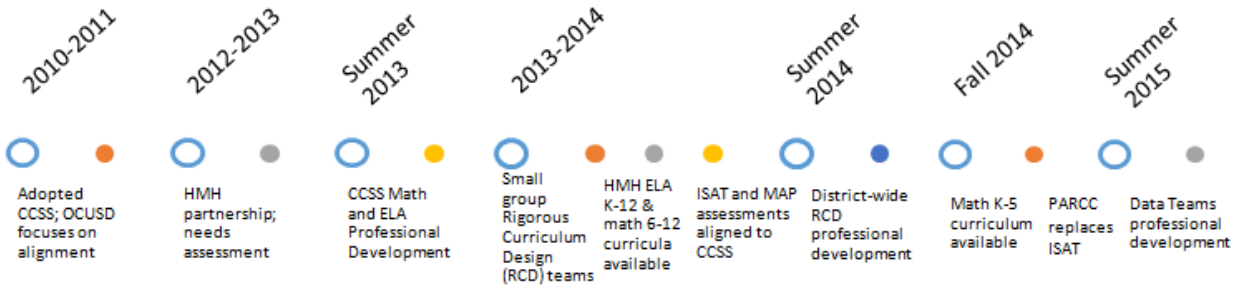
In order to ensure that students nationwide have equal access to the level of knowledge needed to excel in both continuing education and the global workforce, districts across the nation are focused on meaningful curriculum development aimed at alignment with the Common Core State Standards (CCSS). The Oregon Community Unit School District decided to begin an initiative, in collaboration with teachers, school administrators, and other content experts, to develop their K-12 curriculum so that both teachers and students would have access to clear and consistent curriculum that would support academic excellence on all levels (see Figure 1 for a timeline).

[3] http://www.ccsso.org/Documents/2012/CCSSO_State%20Spotlight%20Document_August%202012_%20PDF%20online%20version.pdf

[4] CLRChoice, Inc. (2012). "Oregon Employment, Occupation and Industry." Retrieved from: http://www.clrsearch.com/Oregon-Demographics/IL/Employment-Occupation-and-Industry

[5] Illinois State Board of Education (2016). "OREGON CUSD 220." Retrieved from: http://www.illinoisreportcard.com/District.aspx?DistrictID=47071220026

Figure 1. Timeline of Events for Oregon CUSD and HMH CCSS Implementation Initiatives



After determining that there was very little alignment to the Common Core State Standards, and that there was a lack of related, meaningful, professional development opportunities for educators[6], Oregon CUSD began to plan district-wide alignment to the Common Core State Standards. Tasks included curriculum and standards mapping, gathering input from key stakeholders, and creating an alignment plan. Beginning in the fall of 2012, the district partnered with Houghton Mifflin Harcourt to provide an all-inclusive program consisting of curricula and related professional development activities.

The International Center for Leadership in Education identified the following key priorities:

- Establish Consistent and Clear Communication on Product Expectations;
- Prioritize the Common Core State Standards;
- Create Parent Curriculum Guides and Teacher Pacing Guides;
- Focus on Professional Development and Early Release Days;
- Monitor Curriculum Development; and
- Provide Feedback.

Beginning in Summer 2013, Oregon CUSD in conjunction with HMH, offered a number of professional development opportunities for teachers on *Rigorous Curriculum Design* and the *Common Core State Standards.* They also instituted a range of curricula designed by HMH. The overarching aim of these trainings and curricula was to facilitate increased alignment with the Common Core State Standards (CCSS) and to promote quality instruction and assessment practices.

In order to examine the extent to which the HMH curricula and professional development services implemented in Oregon Community Unit School District has positively impacted teacher and student outcomes, Houghton Mifflin Harcourt (HMH) contracted with PRES Associates, Inc., an independent evaluation and research firm with over 20 years of experience conducting educational research. As a joint partnership between the district and multiple divisions of HMH,

[6]Source: IL Oregon CUSD Curriculum Review Report (International Center for Leadership in Education, June 3, 2013)

the study utilizes ongoing assessment data collected by the district, as well as additional survey and qualitative data collected as part of this study, to assess if the HMH programs and professional development implemented by the district has influenced teacher knowledge, instructional practices and student learning.

The report which follows summarizes findings from Year 2 (2015-16) of this three-year evaluation. Specifically, the remainder of this report includes: 1) a description of the HMH professional development and curricula that has been provided to date; 2) a description of the design and methodology employed; 3) results of Year 2 of the evaluation; and 4) conclusions. In addition, Appendix A contains detailed statistical results of analyses conducted.

Houghton Mifflin Harcourt Professional Development and Curricula

Since the Summer of 2013, the Oregon CUSD has offered a number of professional development opportunities and a range of HMH language arts and math curricula to teachers. The following section provides a summary of such resources delivered to better align instruction and assessment practices to the Common Core State Standards (CCSS).

PROFESSIONAL DEVELOPMENT

Table 1. Professional Development implemented in Oregon CUSD, 2013-2016

Programs	Description	Timing
Common Core State Standards (CCSS) training – Math & ELA	Gain a deeper understanding of the design, organizational features, and content of the Common Core State Standards	June 2013
Rigorous Curriculum Design (RCD)	Four-part, comprehensive do-it-yourself model for creating curricula in any area. Meant to align to supplement CCSS	Small group 2013-2014; district-wide summer 2014
Curriculum Training	In-depth training on the use of HMH math or ELA curriculum	2013-2014
Data Teams	Training on using teams for ongoing review and utilization of assessment data	Summer 2015
Ongoing follow-up and coaching	Ongoing follow-up and coaching related to RCD and Data Teams.	2015-2016 school year

Common Core Standards Training – English Language Arts & Math (June 2013): The first set of trainings that Oregon CUSD offered consisted of two, three-day sessions focused on CCSS. The aims of the trainings were to help teachers gain a deeper understanding of the design, organizational features, and content of the CCSS. Consultants from the Leadership and Learning Center led the trainings, and focused on aligning classroom instruction and assessment to the Common Core. Additionally, the seminars were used to underscore the instructional shifts that teachers can expect when implementing CCSS, and to prepare them for upcoming Rigorous Curriculum Design (RCD) training. The first three-day PD session consisted of Modules 1-9 on English Language Arts; they provided an overview of the ELA CCSS, and emphasized application questions, assessment, and collaboration. The second three-day PD session, which took place a week later, focused on Modules 1-8 of Math. The Math trainings provided an overview of Math CCSS, and highlighted learning progressions, the resources and materials that support the CCSS, and aligning assessment and instruction.

Curriculum Training (2013-14): HMH offered training and coaching on the use of each specific curriculum available to Oregon CUSD (Journeys, Math Expressions, etc.), including accessing materials and using assessments and special features.

Rigorous Curriculum Design (2013-14; Summer 2015; ongoing support 2015-2016): Rigorous Curriculum Design (RCD) is a comprehensive model for creating CCSS-aligned curricula, the broad aim of which is to build a framework for teachers to implement the CCSS with clarity and consistency. More specifically, the RCD process allows teachers to create rigorous, CCSS-aligned curricula in any content area. The RCD model consists of four parts: big picture connections, building the foundation, implementing the units, and designing the units of study. By helping teachers prioritize which standards to focus on, RCD provides teachers with a roadmap and delivery system for ensuring that students attain grade- or course-specific standards within any content area.

The initial trainings in 2013-2014 included the RCD Team – a support team made up of 2 staff members from each grade level (with the exception of grade 4), and department representatives from grades 6-12. The goal of this team training was to provide intensive professional development to a select group of teachers so that they could serve as in-house trainers (models) and leaders for RCD implementation within their school buildings. Staff were also asked during the training to draft a long-term, district-wide RCD implementation plan.

District-wide RCD training took place in June 2014 over the course of five days, and included approximately 55 teachers. Topics covered included an overview of RCD, and a step-by-step, participatory rollout of the process. Teachers were tasked with choosing a unit of study to design; designing a post assessment; designing a pre-assessment; and designing performance assessment. Moreover, teachers received training on key RCD concepts like instructional strategies, progress monitoring, and weekly lesson planning.

Data Teams (Summer 2015): Data Teams 4 Learning is a two-day workshop designed to create a collaborative process of using student assessment data to support student learning. In June and August 2015 K-12 grade teachers and administrators learned about the basic processes of data teams, how to use assessments to inform instructional choices, and the best practices of data team implementation. Leadership at all levels attended a one-day training on the role of leadership in successful implementation, how to troubleshoot common issues, and how to monitor progress, and then they created an implementation plan. After school data teams were created, HMH scheduled in-person meetings with data teams at the Elementary and Junior High schools in October 2015 to discuss implementation progress; at that time the High School had not yet created data teams so further meetings were scheduled in February 2016.

Further plans include continued training and support on implementing RCD and data teams as the International Center for Leadership in Education notes that the process usually spans multiple

years. Such ongoing support for RCD and data teams continued through the 2015-2016 school year to present.

CURRICULA

Table 2. Curricula Implemented in Oregon CUSD, 2013-2016

Programs	Description	Timing
Journeys (K-5)	CCSS-aligned reading program; includes reading, vocabulary, intervention for struggling readers	Fall 2013
Holt Literature (6-12)	CCSS-aligned ELA program; digitally interactive; focus on critical reading, writing, research, language and media skills	Fall 2013
Write Sources Online (6-12)	Writing program organized around 7 forms of writing; many activities, based largely online	Fall 2013
Math Expressions (K-5)	CCSS-aligned math program; aimed at in-depth understanding of major math concepts	Fall 2014
Big Ideas Math (6-8)	Balanced approach to learning math; focus on student discovery for conceptual understanding	Fall 2013
Larson, Algebra, Geo, Algebra 2 (9-12)	CCSS-aligned math program; focus on math beyond classroom and preparing students for STEM careers	Fall 2013

Journeys (grades K-5; available Fall 2013): By integrating the CCSS into every lesson, the Journeys Common Core reading program helps educators plan, engage, teach and assess students effectively and efficiently. Designed to meet the diverse needs of all K-6 students, the Journeys Common Core program includes more rigorous content and non-fiction text as well as leading-edge digital tools and scaffolding supports. The unique close reading routine also helps build better readers while providing intervention for struggling students. The Journeys program in grades 2-5 includes weekly interactive lessons, Leveled Readers by Irene Fountas, Vocabulary Readers and intervention support for struggling readers, all aligned to the CCSS.

For students, the Journeys Common Core student edition includes strong vocabulary instruction that takes students through key steps in acquiring, practicing and applying a rich vocabulary. Every lesson allows the student to develop comprehension and fluency focusing on a target skill and target strategy in a relevant short story and non-fiction story companion. For teachers, Journeys Common Core offers easy organization with Teacher's Editions that make navigation of whole and small group instruction easy and a focus wall that provides a blueprint for weekly instruction. The Grab-and-Go kit included in the program keeps classroom resources, such as worksheets and transparencies, all in one manageable location. The Leveled Readers, Vocabulary readers and ELL support texts are all accompanied by a Leveled Reader Teaching Plan designed to support these readers in a small-group setting.

Holt McDougal Literature (grades 6-12; available Fall 2013): A secondary ELA program, Holt McDougal Literature provides a research-based, digitally interactive learning environment for students. Holt McDougal Literature is designed to help students meet rigorous CCSS standards and to excel on next-generation assessments. Additionally, Holt McDougal Literature is unique in that it provides workshops for students on a range of skills, including reading, analyzing, and comparing text; it also provides resources in three ways – print, online, and electronic – that are meant to engage students regardless of their media preference. A final characteristic of Holt McDougal Literature is that it has built-in scaffolding – that is, regardless of whether a student is on-level, below-level, or an English language learner, support is provided.

Write Source Online (grades 6-12; available Fall 2013): Write Source Online is a Common Core-aligned writing program. The program offers print and digital options for students, including the ability to collaborate with peers online, and participate in interactive, online multimedia grammar activities. Write Source is organized by seven forms of writing: Descriptive Writing, Narrative Writing, Expository Writing, Persuasive Writing, Response to Literature, Creative Writing, and Research Writing. In terms of instruction, each form of writing is associated with a Unit within the Teacher's Edition; each Unit includes a suggested weekly plan for writing instruction. Several components are core to Write Source Online, each of which is organized by writing unit, including interactive lessons, interactive online assessments, and an online portfolio. Similar to other CCSS-aligned curricula implemented in Oregon CUSD, Write Source Online is focused on preparing students with CCSS test-taking strategies.

Math Expressions (grades K-5; available Fall 2014): Math Expressions is organized according to CCSS, with a focus on priority core concepts at each grade level. Based on 10 years of research, Math Expressions is focused on increasing student problem-solving and reasoning skills through the use of hands-on practice and inquiry. The program is divided into four core areas: math sense-making, which emphasizes precision; math structure, which emphasizes generalization; math drawings, which focuses on building models and tools; and math explaining, which focuses on reasoning and questioning. Additionally, Math Expressions includes numerous digital resources, such as an eTeacher's Edition, eStudent Activity Book, and a variety of digital games for students.

Big Ideas Math (grades 6-8; available Fall 2013): Big Ideas Math uses a balanced instructional approach, meaning it balances conceptual and procedural approaches, seeking fluency in both. This research-based approach begins each section with an activity designed to encourage students to explore, question, explain, and persevere – all of which are aimed at conceptual understanding. Following this focus on the conceptual, students have an opportunity to build their procedural knowledge by engaging in a Direct Instruction lesson. Put another way, each lesson in Big Ideas Math begins with a full day of student-directed discovery, followed by more directed, teacher-led instruction. Big Ideas Math offers students multiple ways of learning, including dynamic technology that is designed to enhance the core curriculum. Big Ideas Math is also designed to prepare students for high-stakes assessments; the end of each section includes numerous

question types, including those that ask students to apply their knowledge in a variety of ways. The program ends with a cumulative assessment that is designed to prepare students for standardized assessments.

Larson Algebra 1, Geometry, and Algebra 2 (grades 9-12; available Fall 2013): Larson Math is designed to give students a deep understanding of math – one that goes beyond the classroom, and prepares them for STEM careers. To maximize student usage, Larson Math is offered in text, as an online textbook, or as an eTextbook that is available on any mobile device. This program is unique in that CCSS is explicitly integrated throughout, including wording aimed at clarifying expectations to parents. Features of Larson Math include a wide range of conceptual, performance, and collaborative activities that are designed to create deep understanding of math. Further, Larson Math includes the On Core ExamView Assessment Suite that includes assessment questions for a wide range of ability levels, all of which are aligned to national math exams.

SUMMARY

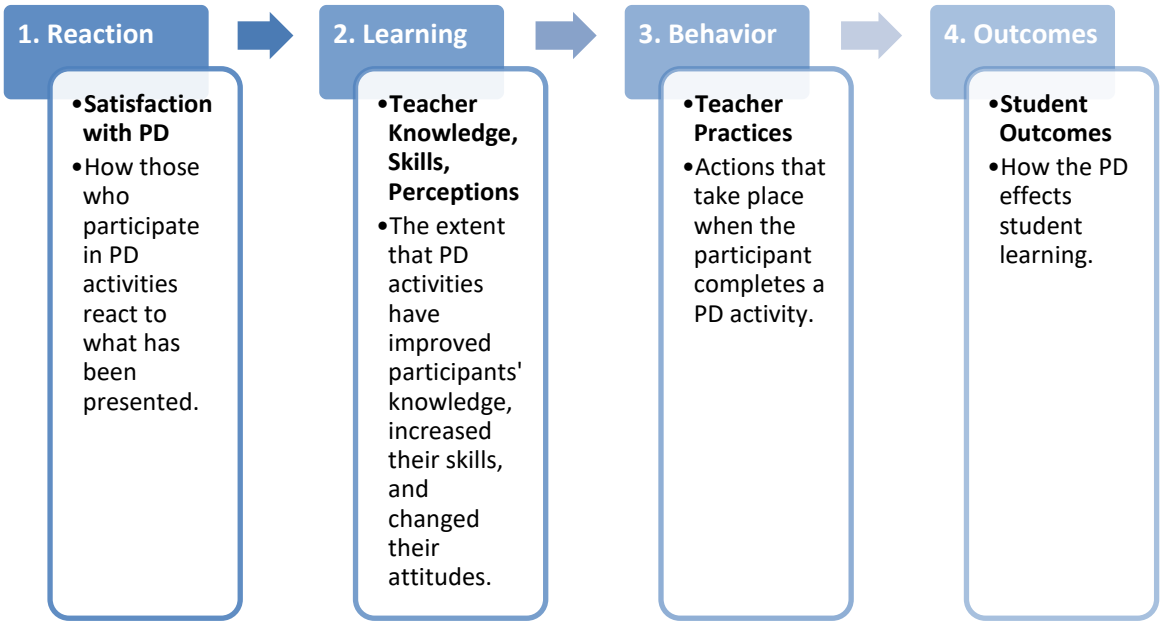
The 2014-15 school year marked the beginning of substantial HMH curricula implementation and the application of professional development knowledge and skills through district-wide Rigorous Curriculum Design training. In the 2015-16 school year, RCD implementation progressed and HMH curricula were more fully utilized as teachers continued receiving training and support in CCSS alignment. Continued focus moving forward will be on expanding, refining existing efforts pertaining to development, revision and approval of RCD Units being developed by teachers, as well as ongoing support to promote the implementation of data teams – both of which are initiatives that typically span several years.

Evaluation Design and Methodology

The relationship between professional development and improvements in student learning is complex, involving too many intervening variables to permit simple causal inferences to be made (Guskey, 1997), especially with the simultaneous implementation of multiple innovations. Teasing out the effects of a single program or activity under such conditions is not practical or possible, therefore, the present evaluation focuses on gathering information and indicators that may suggest there is a cumulative impact of professional development and curricula-related activities on teacher attitudes, knowledge, practices, and ultimately, student learning. With this in mind, two overarching goals of the present evaluation include: (1) to promote continuous program improvement through monitoring the impact(s) of activities as well as emergent challenges to be addressed through ongoing planning and efforts; and (2) to examine the degree to which there is evidence regarding the effectiveness of the HMH-provided professional development and curricula.

The following figure illustrates the four stages of evaluation for training programs (Kirkpatrick, 1994), which align to the four progressive stages (the later stage depending on the prior stage) in which one can expect to see changes as a result of professional development. These consist of: (1) reaction, (2) learning, (3) behavior and actions, and (4) outcomes. The present evaluation follows this evaluation framework and while measuring all stages, it should be made clear that the longer-term effects on student outcomes are still preliminary at this time, especially given recent changes in state assessments.

Figure 2. Evaluation Framework



The evaluation is also being guided by a series of research questions aligned to the evaluation framework above. Specifically, in order to examine the changes that may occur as a result of the HMH-Oregon CUSD Partnership, a longitudinal evaluation study was designed to address the following questions:

- What did participants think about the professional development and curricula provided by HMH? [REACTION]
- To what extent has the International Center for Leadership in Education's professional development influenced teacher knowledge, skills, and preparation? [LEARNING] Do they have sufficient resources and support to implement changes?
- To what extent has the International Center for Leadership in Education's professional development influenced teacher practices and classroom activities? [BEHAVIOR]
- To what extent are teachers implementing the HMH curricula in their classrooms? Are they implementing these with fidelity? [BEHAVIOR]
- Is there a relationship between implementation of the HMH professional development and Language Arts and Math curricula, and student literacy and math achievement? [OUTCOMES]
    - Does this relationship between HMH professional develop and curricula, and student outcomes vary as a function of different student or teacher characteristics (e.g., across different types of students, at different grade or ability levels, and at differing levels of implementation)? [Year 2-3: OUTCOMES]
    - What is the long-term effect of the HMH partnership in Oregon CUSD on student achievement relative to the Common Core State Standards? [Year 3: OUTCOMES]

Implementing change in a school setting is "persistently slow"[7] compared to other settings. The timeline for influencing student outcomes is dependent on many things including the scope (e.g., classroom-wide, school-wide, district-wide) of the changes implemented, the amount of dedicated personnel and resources, and the complexity of the initiative[8]. Recent polls of school leaders and longitudinal studies examining curriculum development and implementation suggest that changing teacher knowledge and attitudes [LEARNING] may

[7] Evans, R. (2000). Why a school doesn't run — or change — like a business. Accessed from: http://www.nais.org/Magazines-Newsletters/ISMagazine/Pages/Why-a-School-Doesn%27t-Run-or-Change-Like-a-Business.aspx

[8] Hewitt, T. W. (2006). Understanding and Shaping Curriculum: What we Teach and Why we Teach. Sage Publications.

take two years[9], and changing teacher instructional practices[10], assessment practices[11] and use of data[9] [BEHAVIOR] may take two to three years following attitude change. Changes in student outcomes will accompany changes in teacher behavior, however, because grade level standards build on prior year learning, students' end-of-year assessment scores are impacted by their length of exposure to CCSS-aligned instructional practices and so cumulative changes will be more evident over time[12]. In general, then, changes in student test scores [OUTCOMES] may be expected five to eight years following curriculum implementation, with more rapid changes possible in the younger grades.

Of note, the focus of the evaluation evolves each year as professional development opportunities vary and to capture changes that take time to manifest. For the 2014-15 evaluation year, the focus was on examining teacher attitudes and knowledge, as well as baseline information on pedagogical practices related to CCSS and to obtain feedback on PD and curricula provided. Baseline student assessment performance was also analyzed – although changes in student assessments are not expected to manifest itself until farther into the initiative. For the 2015-16 evaluation year, the focus also included CCSS-related pedagogical practices along with RCD implementation, this included looking at changes in classroom practices and the instructional experiences of students over time. While state assessment performance data was also gathered and analyzed to identify initial trends, such results should still be considered preliminary at this stage given recent changes in state assessments and that these are longer-term outcomes.

Given the questions of interest and the longitudinal nature of the study, the evaluation was designed to be flexible to changing conditions. Specifically, the design and methodology being implemented as part of this evaluation includes the following:

- The study consists of a treatment only longitudinal study to examine changes over time. Specifically, data is being collected from educators and students each year (and in prior years to the extent such data is available) to determine whether there are significant changes in key constructs such as teacher practices, knowledge, skills and student learning outcomes.
- Data from existing assessments currently in place across grades K-12 will be analyzed for trends. Such data include AimsWeb and MAP tests, given 2-3 times annually, as well as state assessment data (ISAT in 2011-2014 and PARCC starting in

[9] Ontario Ministry of Education (2012). Closing the Achievement Gap. Accessed from: http://www.edu.gov.on.ca/eng/policyfunding/leadership/pdfs/ClosingTheGap.pdf

[10] Jorgenson, O. (2006). Why Curriculum Change Is Difficult and Necessary. Accessed from: http://www.nais.org/Magazines-Newsletters/ISMagazine/Pages/Why-Curriculum-Change-Is-Difficult-and-Necessary.aspx

[11] Wiliam, D., Lee, C., Harrison, C., & Black, P. (2004). Teachers developing assessment for learning: Impact on student achievement. Assessment in Education: Principles, Policy & Practice, *11*, 1.

[12] Darling-Hammond, L., Haertel, E., Pellegrino, J., & Bae., S. (2015). Making good use of new assessments: Interpreting and using scores from the Smarter Balanced Assessment Consortium. Retrieved from http://education.vermont.gov/white-papers/whitepaper-making-good-use-of-new-assessments

Spring 2015). Researchers will compare growth during the baseline period (prior to HMH implementation) to growth following HMH implementation. Student assessment data is also supplemented with demographic information in order to determine whether there is differential growth by student characteristics (e.g., gender, ethnicity, etc.) and to determine if such differential growth rates change over time.

- Annual teacher surveys are being used to gather details on teacher attitudes and practices, and to determine if changes have occurred on important constructs (e.g., preparation to teach specific topics, changes in pedagogical practices). Information is also being collected on how the HMH curricula and professional development are being implemented in practice.

MEASURES

A range of data is being collected as part of this study, including descriptive information, program implementation data, and student assessment data. Data from multiple sources were triangulated to identify patterns. Table 3 provides a summary of the types of data collected during Years 1 and 2 of the study; additional details are elaborated upon in the following narrative.

Table 3. Data Collection and Measures

Data source	Constructs Assessed	Timing
HMH Needs Assessment Survey	Teacher attitudes/opinions, classroom practices	May 2013
Educator Professional Development Survey	Current classroom practices; preparation to engage in RCD activities/CCSS; perceived effects of PD on classroom practices/curriculum development	Spring 2015 & 2016
Site Visit	A site visit was conducted in February 2016 to gather qualitative data that would assist in the interpretation of quantitative results and help inform needs moving forward	Spring 2016
Curricula Survey	Teacher implementation of HMH curricula; perceived impacts of curricula on student engagement and preparedness; feedback on program	Spring 2015 & 2016
ISAT	Student reading, math, science (only 4 & 7) abilities	2011-2014, 3rd – 8th, 11th
PARCC	Student reading, math	2015-2016, 3rd – 8th, 11th

AIMSweb	Student math, reading, language arts	2011- 2016, 1st – 8th
MAP	Student language usage, math, reading	2011- 2016, 1st – 8th

SURVEYS

To obtain evidence on the impact of these programs on affective outcomes, (e.g., teacher preparedness and comfort to teach CCSS, etc.), custom teacher surveys were developed. The educator survey contained two sections, taken separately or together; one focused on the impact of professional development and the second focused on HMH curricula.

1) **Educator Professional Development Survey:** This survey was administered in April 2015 via online administration and in April 2016 in both online and paper/pencil formats (41% and 52% response rates, respectively). The survey measures current teacher practices as it relates to Common Core State Standards and RCD-related activities, assessment use, assessment literacy, preparation to adapt curriculum and provide standards-based instruction, perceived collegiality and support for PD, and perceived impact(s) of PD. Of note, some items were added or modified in Year 2 in response to Year 1 findings and a site visit conducted in Spring, 2016.

2) **Curricula Survey:** This survey was administered in late May/June 2015 in a paper/pencil format during an in-service day and in April 2016 in both online and paper/pencil formats (72% and 52% response rates, respectively). This survey measures implementation of the HMH curricula, perceived effects of the curricula on student engagement, student preparedness for CCSS, 21st century skills and tests, student academic skills, and perceived effects on teacher planning time. The survey also measures teacher feedback on both the curricula and PD (in 2015 only).

In developing these surveys, some items were obtained from existing scales, while others were developed for the study[13]. High scores represent a very positive attitude or strong agreement (scales are from 1 to 5).

It should be noted that the International Center for Leadership in Education also administered a survey in Spring 2013. The focus of this survey was to gather information on the status of curriculum development and implementation of key RCD components,

[13]Items in this survey were developed by PRES Associates and modified from the *Surveys of Enacted Curriculum (Wisconsin Center for Education Research), CCSS Curriculum Survey for Teachers and Counselors (Charleston County School District), SEC Survey as part of Study of Effects of MSP Professional Development, New Tools for Analyzing Teaching, Curriculum and Standards in Mathematics and Science Surveys*, as well as research from Black and William (1998).

commitment to standards-based instruction, support from colleagues and administrators, and challenges/successes in curriculum development. This serves as a baseline measure given that the survey was administered prior to HMH-provided PD. Relevant items were also asked on the Educator PD Survey to determine what, if any, changes have been observed in implementation of RCD-related activities.

STUDENT ASSESSMENTS

The district employs an assessment program that includes regular assessment (2-3 times per year) to measure student progress in the areas of reading/language arts and math, as well as administration of the annual state assessment. Moreover, with the exception of the state assessment, the progress monitoring tests of AIMSweb and MAP have been administered for multiple years (since at least 2011), allowing for examination of annual trends which can later be compared to "post" HMH trends. The following provides available data on the reliability and validating of these measures.

- **AIMSweb** is a web-based benchmark and progress monitoring system based on direct, frequent and continuous student assessment, designed to detect students in need of intervention. Administered in grades 1-8 in Fall, Winter, and Spring at Oregon CUSD, these Curriculum-Based Measures (CBM) of reading and math performance includes assessments in the areas of Early Literacy, Reading, and Mathematics dependent on grade level. According to the developer, they're compatible with any curriculum or set of standards (including Common Core State Standards) as they measure progress in attaining the basic skills necessary for growth in literacy and mathematics. A brief description of each subtest is provided below:

  Early Literacy

  Test of Early Literacy measures are used to identify students at risk for reading difficulties and monitor the progress of all students in Kindergarten and early Grade 1 as they move on the pathway to good reading. Phoneme Segmentation Fluency, Letter Sound Fluency, and Letter Naming Fluency are administered in Fall, and Nonsense Word Fluency **(NWF)** has been administered from Fall to Spring at 1st grade only from 2010-2016. Because of this, only the latter is used in analyses.

  Reading

  - The Reading CBM **(R-CBM)** is conducted by listening to a child read graded passages aloud for 1 minute and calculating the number of words read correct per minute. According to the publisher, this provides a highly reliable and valid measure of general reading achievement, including comprehension, for most students. At Oregon CUSD, this test has been administered from 2009-2016 to all

1st (Winter to Spring) and 2nd graders (Fall to Spring), and to subsets of students struggling with reading at later grades.

- Maze reading (**Maze-CBM**) is used as a corroborative or supplemental measure to provide a more complete picture of students' reading skills. Maze is a multiple-choice cloze task that students complete while reading silently. This test has been administered to all students in grades 3rd to 8th from 2010-2016.

Early Numeracy

- Missing Number Measurement (**MNM**) – 1st grade only from 2010-2016
- Number Identification Measurement (**NIM**) – 1st grade only from 2010-2016
- Oral Counting Measurement (**OCM**) – 1st grade only from 2010-2016
- Quantity Discrimination Measurement (**QDM**) – 1st grade only from 2010-2016

Mathematics

- Mathematics Concepts and Applications (**M-CAP**) is a test of short duration (8-10 minutes) that assesses the general mathematics problem-solving skills expected in Grades 2-8 (administered to all students in grades 3-8th from 2010 to 2016).
- Math Computation **(M-COMP)** is a recently revised collection of math computation probes that is consistent with the M-CAP assessment but focuses on student computational skills. This test is administered to all 2nd graders at Oregon CUSD and data is available from 2011-2016.

Two scores were available for analysis: 1) rate of improvement (ROI) and 2) growth percentile. The ROI, expressed as raw points per week, is an index that reflects how rapidly scores increase during a given school year. Student growth percentiles are percentile norms that indicate the percentage of students in national norm group who had ROIs equal to or smaller than a particular ROI. Information on the psychometric properties of these assessments show that they are reliable (e.g., $r > .93$) and valid[14].

- **Measures of Academic Progress (MAP)** is a computer adaptive interim assessment that measures reading, language usage, and mathematics. This assessment is administered in grades 1-8 in Fall and Spring at Oregon CUSD. Developed by the Northwest Evaluation Association, the primary score produced is the RIT (**R**asch Un**it**) scale, which is a stable equal-interval vertical scale. This grade-independent RIT score indicates the level of question difficulty a given student is capable of answering correctly about 50% of the time[15]. Percentile ranks for the MAP are also provided.

- **Illinois Standards Achievement Test (ISAT)** was designed to measure state standards in reading, mathematics, and science. Starting with the Spring 2006 ISAT administration,

[14] http://www.aimsweb.com/wp-content/uploads/aimsweb-Technical-Manual.pdf
[15] Additional psychometric data is unavailable for this assessment.

reading, mathematics, and science tests included a combination of multiple-choice items from the Stanford Achievement Test, Tenth Edition (SAT 10) and items written by Illinois educators. The reading and mathematics tests also contained open-ended questions that require a written response from students. In 2013, the ISAT cut scores for reading and mathematics content areas were replaced by a newly adopted set of cuts. These cuts represent higher expectations for Illinois students and they were devised to track students' college and career readiness across the ISAT grade span. Compared to the previous cut scores, the new cut scores raise expectations for the proficient benchmark about 13-17 scale score points in reading and 21-30 scale score points in mathematics. Another noteworthy change occurred in 2014 when the ISAT tests no longer contained items from the Stanford Achievement Test, Tenth Edition (SAT 10), as in previous test administrations. Instead, the SAT 10 portion of the ISAT tests was replaced with sets of census items from the ISAT item bank that aligned to the Illinois Assessment Framework for science, and the Common Core State Standards for mathematics and English Language Arts. As a result, the 2014 test administration reports students' test performance relative to the Illinois Learning Standards. The ISAT was discontinued by the state following the Spring 2014 administration (see PARCC below). For Oregon CUSD, ISAT data is available from 2011 to 2014.

ISAT scores were expressed on a vertical, continuous scale across grades 3 through 8 in reading and mathematics, and in grades 4 and 7 in science (range is 120-400+). As a result of scaling and equating, this range is consistent from year to year, allowing for examination of longitudinal growth. This scoring system shows the performance of students in all grades on the same scale. In addition, performance levels were also provided, however due to the change in standards (and cutoffs) in 2013 and 2014, these are not used in the present analyses as they represent different levels of rigor as compared to 2011-12. Extensive testing shows that this assessment was a reliable and valid measure[16].

- **Partnership for Assessment of Readiness for College and Careers (PARCC)** was designed to measure progress in achieving the newly adopted Common Core State Standards. The PARCC assessment was developed by a consortium of states to create standardized assessments for grades 3-11 that would allow for state-to-state comparison of progress beginning in Spring 2015. The PARCC assessment is computer-based and interactive, measuring fundamental English language arts/literacy and mathematics skills as well as critical thinking and problem solving. Tests include grade level reading and math for K-8 as well as Algebra 1, Algebra 2, Geometry, and Integrated Mathematics 1, 11, and 111 (range is 650-850). In addition to the students' scale scores, student performance levels are also available (from Level 1: Does not Meet Expectations to Level 5: Exceeds Expectations). The PARCC is a valid and reliable measure of student progress in achieving the skills needed for college and career readiness[17].

[16]http://www.isbe.state.il.us/assessment/htmls/isat.htm
[17] http://www.parcconline.org/about

Results

Prior to discussing the results thus far, it is important to understand that changes observed as a result of the cumulative activities undertaken to align instruction to CCSS should be viewed along a continuum. For example, shorter-term effects would include changes in teacher understanding and awareness of the content of CCSS, as well as knowledge of RCD and assessment/data-driven practices. Intermediate effects that would be expected after short-term changes in attitudes and knowledge have occurred, include actual changes in classroom practices and the extent to which instruction is aligned to CCSS. Longer-term effects would be realized after classroom practices have altered in terms of the content and instruction that students' are being exposed to, and would consist of changes in student performance over time. As noted in this Year 2 of the evaluation, most teachers started really implementing the HMH curricula and RCD as of the 2014-2015 school year with increased implementation occurring during the 2015-2016 school year. It is expected however, that it will take time for changes in classroom practices to manifest in terms of student performance, especially given that a new state assessment (PARCC) has recently been introduced in 2015. It will be interesting to see the degree to which there are changes in student performance on the PARCC assessment as of the next 2016-2017 school year – once implementation of changes in instructional practices and alignment to CCSS have had further time to manifest themselves in terms of student knowledge and skill attainment.

What follows is a summary of findings observed as of Year 2 of the evaluation, with results organized by pertinent evaluation questions.

TO WHAT EXTENT HAS THE INTERNATIONAL CENTER FOR LEADERSHIP (ICLE) IN EDUCATION'S PROFESSIONAL DEVELOPMENT INFLUENCED TEACHER KNOWLEDGE, SKILLS, AND PREPARATION?

To get an idea of the extent to which the ICLE Common Core English Language Arts and Mathematics training influenced teacher classroom practices, data from two sources were used to make several comparisons. As can be seen in Table 1, an HMH needs assessment survey from 2013 provided a pre-training baseline measure. Some of the same questions were again used in the 2015 and 2016 Educator PD Surveys. Thus, pre-post comparisons were made on these recurring questions.

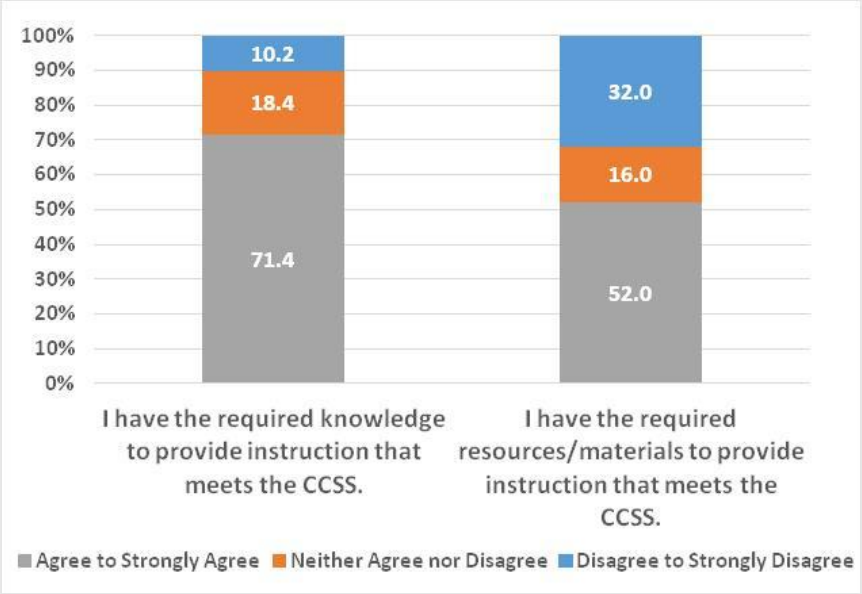
In addition, when applicable, responses to the 2016 survey were broken into two naturally occurring groups – those teachers who attended the HMH-provided CCSS trainings (N = 29) and those who did not attend the CCSS trainings (N = 19).

The 2016 Educator PD Survey included several broad questions that assessed the extent to which teachers had knowledge and understanding of CCSS, and how prepared they felt to provide instruction that met CCSS. Additionally, the survey asked teachers about more specific, CCSS-aligned classroom practices. Thus, while the Year 1 report focused on changes in attitudes and perceptions of readiness for change, this Year 2 report focuses more on concrete behaviors and perceptions of current CCSS implementation and alignment.

TEACHER KNOWLEDGE AND PREPARATION

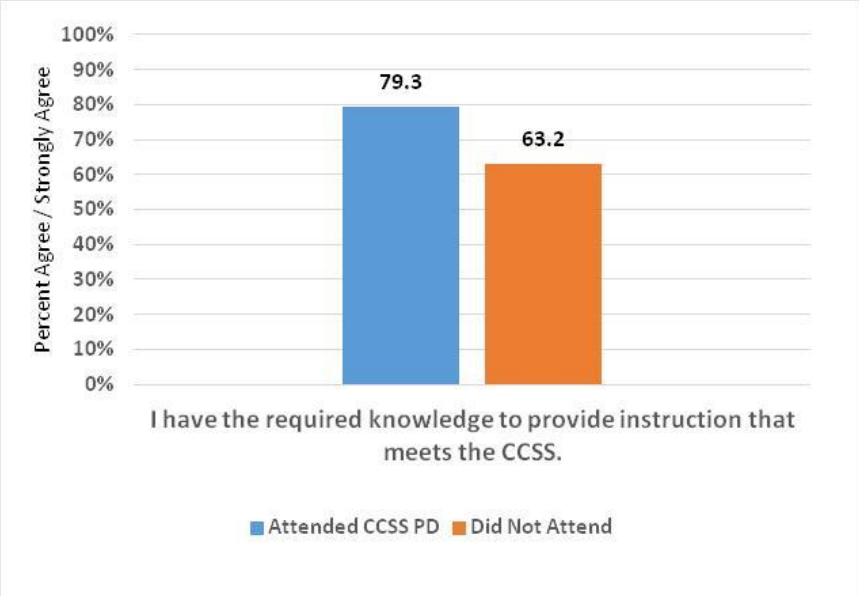
Teachers were asked about the extent to which they have the required knowledge to provide instruction that meets the CCSS. In Year 1, the majority of teachers (80%) who attended training reported that the HMH training increased their knowledge and understanding of CCSS. In Year 2, the majority of teachers (71%) surveyed reported that they *now have the required knowledge to provide instruction that meets the CCSS*, however, a smaller proportion (52%)agree that they have the required resources and materials to provide instruction that meets the CCSS, although this represents a 5% increase from Year 1. This corresponds to findings from the site visits in which teachers cited time constraints associated with fully developing all the required RCD units for CCSS implementation.

Figure 3. Knowledge and Resources Required to Provide Instruction that meets CCSS



Two years have passed and nearly all teachers have subsequently attended RCD training, approximately 80% of teachers who attended the CCSS training reported feeling *very prepared* or *prepared* to offer instruction that meets CCSS as compared to 63% of teachers who did not attend (see Figure 4).

Figure 4. Knowledge Required to Provide Instruction that meets CCSS by PD Attendance

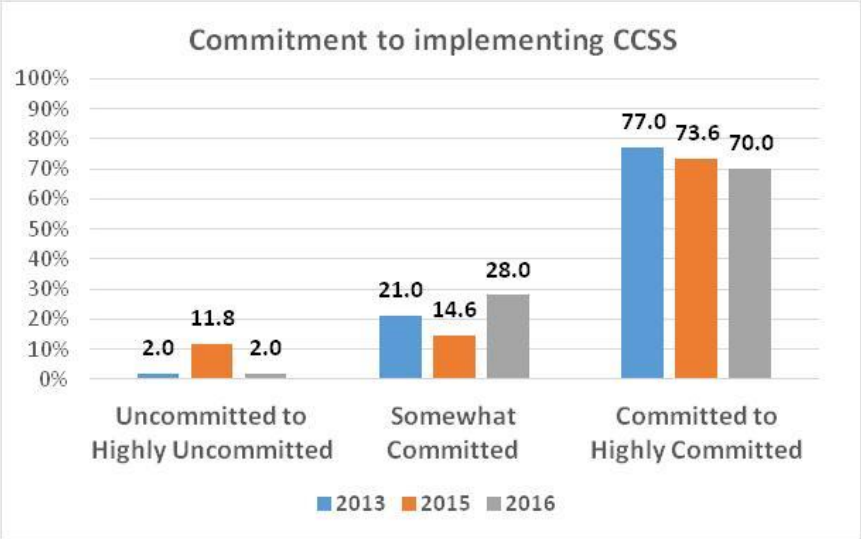


COMMITMENT TO CCSS IMPLEMENTATION

Longitudinal analyses of teacher level of commitment to implement CCSS show that, as of the 2015-2016 school year, virtually all teachers (98%) are somewhat or highly committed to implementing CCSS in their classrooms. While qualitative data collected during site visits show that there have been some challenges in implementing CCSS and RCD units in the classrooms, as is expected when implementing a large-scale initiative of this nature with multiple demands on teacher time, the *high level of commitment to implementing CCSS is a major accomplishment* as of this point in time. In fact, the "implementation dip,"[18] where decreased enthusiasm and confidence in an initiative often follows the first year of implementation, was not seen in Oregon CUSD.

[18] Fullan, M. (2001). Implementing Change at the Building Level. Accessed from: http://michaelfullan.ca/wp-content/uploads/2016/06/13396045300.pdf

Figure 5. Teachers' Level of Commitment to Implementing CCSS by Year

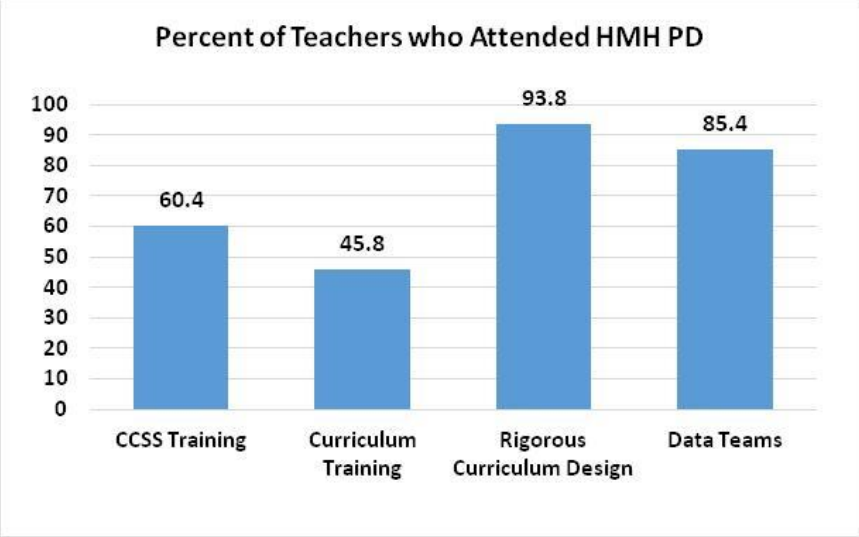


Short-term effects are clearly being manifested in terms of changes in teacher knowledge, perceived capacity and level of commitment to implementing CCSS in their classrooms. Virtually all teachers (98%) demonstrate a fair degree of commitment to implementing CCSS in their classrooms and most (71%) feel like they now have the required knowledge to provide instruction aligned to CCSS in their classrooms – with higher attendance to HMH trainings being positively associated with increased knowledge and preparation to implement the CCSS. That said, nearly 1/3 of teachers (32%) feel like they do not have sufficient resources as yet to fully implement CCSS in their classrooms.

TO WHAT EXTENT HAS THE INTERNATIONAL CENTER FOR LEADERSHIP IN EDUCATION'S PROFESSIONAL DEVELOPMENT INFLUENCED TEACHER PRACTICES AND CLASSROOM ACTIVITIES?

As noted previously, there is a relationship between attending trainings and perceived knowledge and preparation amongst teachers associated with the different topics covered. All educators surveyed reported attending at least one HMH Professional Development session, with nearly all teachers (93.8%) attending training on RCD, followed by 85.4% attending trainings on Data Teams, 60% attended training on CCSS, and 46% attended Curriculum Training.

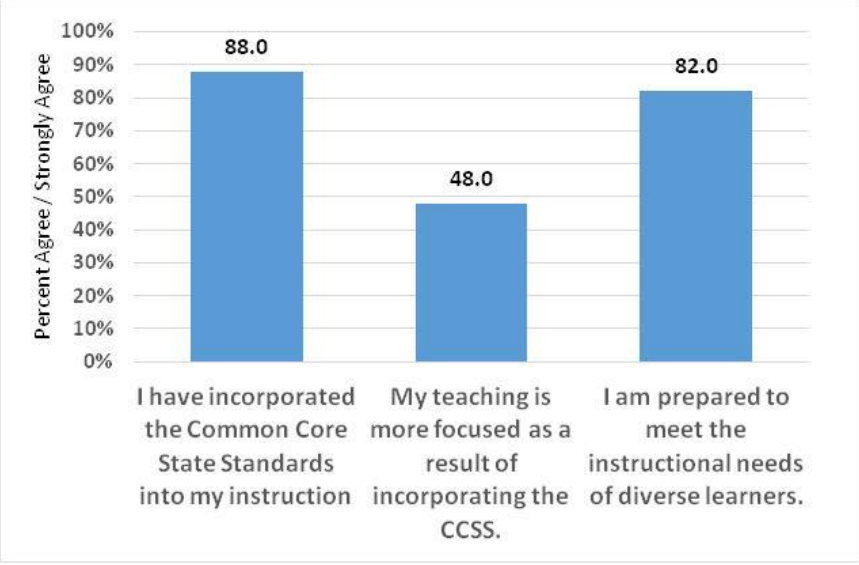
Figure 6. Percent of Educators Who Attended Each HMH Professional Development



TEACHER PERCEPTIONS OF CHANGES

Figure 7 shows that, as of the end of the 2015-16 school year, 86% of teachers report that they have incorporated the CCSS into instruction and 82% feel prepared to meet the instructional needs of diverse learners. Another 48% of teachers feel that incorporating the CCSS into instruction has made teaching more focused, an observed outcome also mentioned during the Spring 2016 site visit.

Figure 7. Teacher Perceptions of CCSS-Related Practices



Teachers were asked about the impact of the implementation of Common Core State Standards, curriculum alignment, and sequencing initiatives undertaken by staff and administration since 2013. As shown in Figure 8, nearly 80% of teachers felt there has been an increase in classroom alignment to CCSS and 75% in the variety of assessment practices used. Given that intermediate outcomes, in terms of changes to classroom practices, appear to be manifesting themselves as of Year 2 of the evaluation, it will be interesting to examine how such changes in classroom practices are eventually reflected in longer term outcomes, such as student performance on state assessments.

It should be noted that a lesser proportion of teachers (nearly 40%) felt that there was a substantial increase in integration across the content areas. Qualitative data collected during a site visit conducted in Spring 2016 confirms this, and suggests that such integration is occurring more at the elementary school level, which is not surprising given that the elementary school level is less departmentalized as compared to the middle and high school grade levels.

Figure 8. Teacher Perceptions of Impact of Initiative Implementation on Teacher Practices

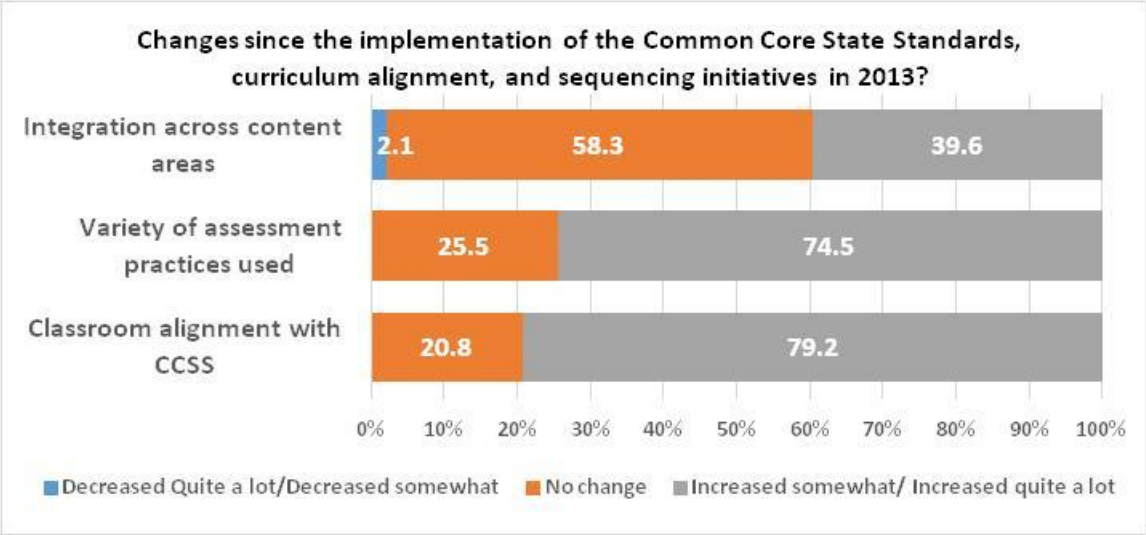


Figure 9 shows that nearly 58% of teachers feel like there has been an increase in student academic preparation as a result of implementing the CCSS and curriculum alignment activities begun as of 2013. This is a noteworthy finding and, as noted earlier, it will be interesting to see how this manifests itself in student performance trends over time as measured by the new PARCC assessment being utilized in Illinois. Notably, a lesser proportion of teachers feel like there has been an increase in student engagement as a result of CCSS implementation – this theme also came out during site visits as some teachers felt that their flexibility in integrating engaging/interesting activities has become somewhat constrained due to the increased focus on CCSS.

Figure 9. Teacher Perceptions of Impact of Initiative Implementation on Student Outcomes

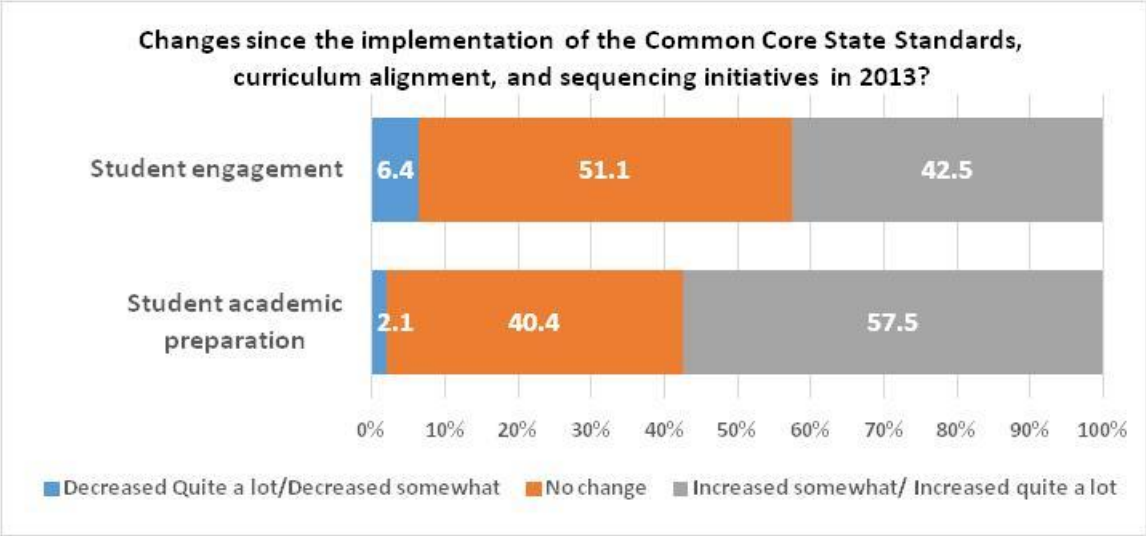
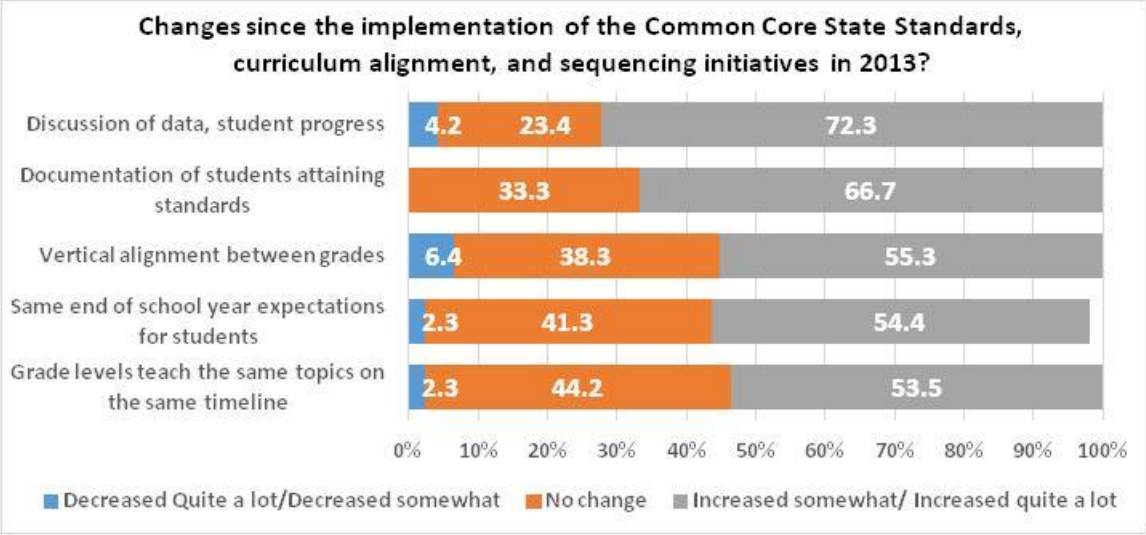


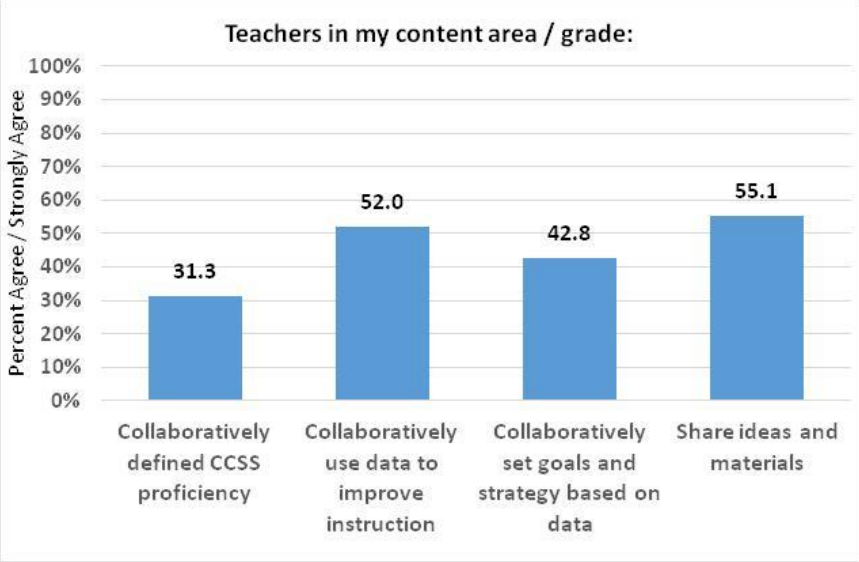
Figure 10 shows noteworthy positive changes in terms of increased teacher practices across several areas, including: a) discussion of data and student progress; b) documentation of student attainment of standards; c) vertical alignment between grades; d) clear expectations for student performance attainment; and e) coordination within grade levels on teaching of topics and associated sequencing. This shows a substantial impact of the initiatives undertaken by Oregon CUSD in conjunction with HMH as of Year 2 of this evaluation.

Figure 10. Teacher Perceptions of Impact of Initiative Implementation on Organization



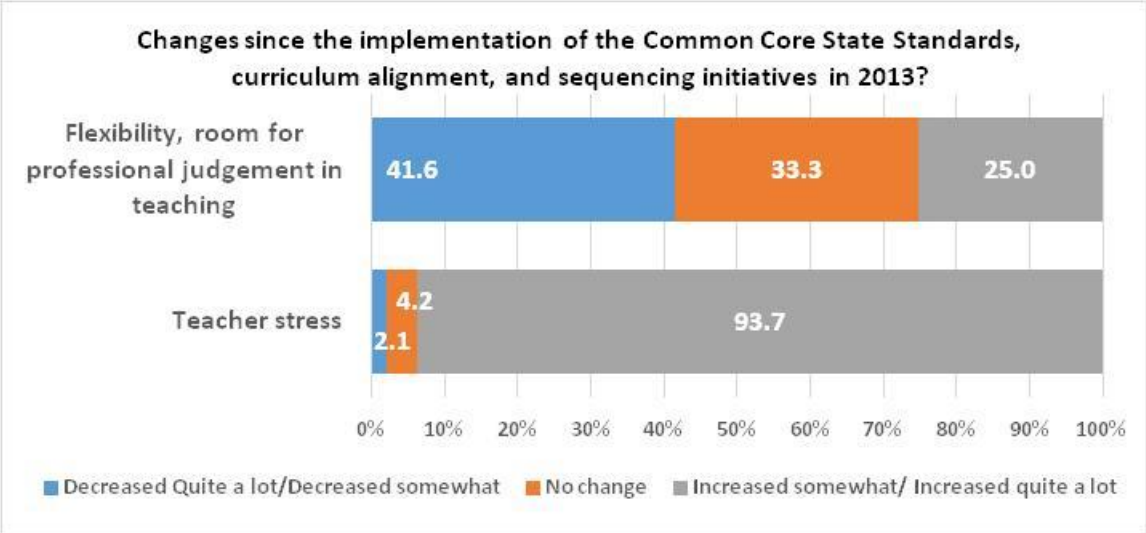
The processes of creating RCD units and using Data Teams work best with strong collaboration between colleagues. In this first year of implementing Data Teams, Figure 11 demonstrates that teachers are experiencing some collaboration sharing materials (55%) and defining CCSS proficiency (31%) and using data to improve instruction (52%) and to set goals and strategies (43%). These results show early progress in collaborative efforts.

Figure 11. Teacher Perceptions of Colleague Collaboration



The prior figures clearly show that there have rapid changes in teacher knowledge and practices as they pertain to CCSS over a relatively short period of time (2 years+). Such changes have also been associated with a fair degree of stress for teachers, as shown in Figure 12 below. Nearly 94% of teachers reported experiencing an increase in stress, this was also a prevalent theme that emerged during a site visit conducted in February 2016. It is unsurprising that teachers are feeling less flexibility in terms of what to include in their teaching (see Figure 12), as a goal of this initiative was to promote more continuity and vertical/horizontal alignment across grade levels in terms of content taught so as to ensure alignment to CCSS.

Figure 12. Teacher Perceptions of Impact of Initiative Implementation on Work Environment

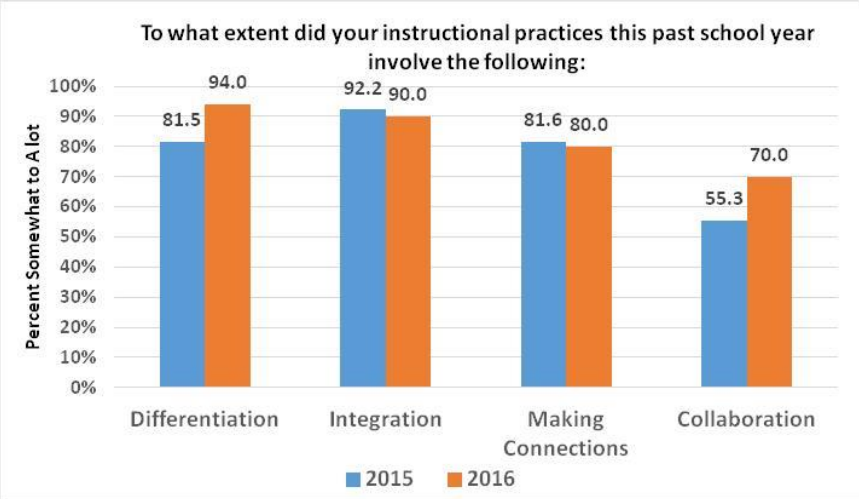


In sum, there has been a substantial degree of change in classroom practices as reported by teachers on the Educator Survey. The majority of teachers are reporting increased instructional alignment with the CCSS, increases in the variety of assessment activities being undertaken, the extent to which student attainment of standards is being documented, and increased consistency within grade levels on student expectations as well as what is being taught and when. A relatively large proportion of teachers (42%) also perceive that they have less flexibility in their teaching as compared to before CCSS implementation efforts began – this is unsurprising as a major goal of some of the activities undertaken was to get teachers "on the same page" in terms of what they were teaching and when. The large degree of changes that have occurred over a relatively short period of time though has been associated with an increase in teacher stress levels.

CCSS-RELATED PRACTICES AND ACTIVITIES

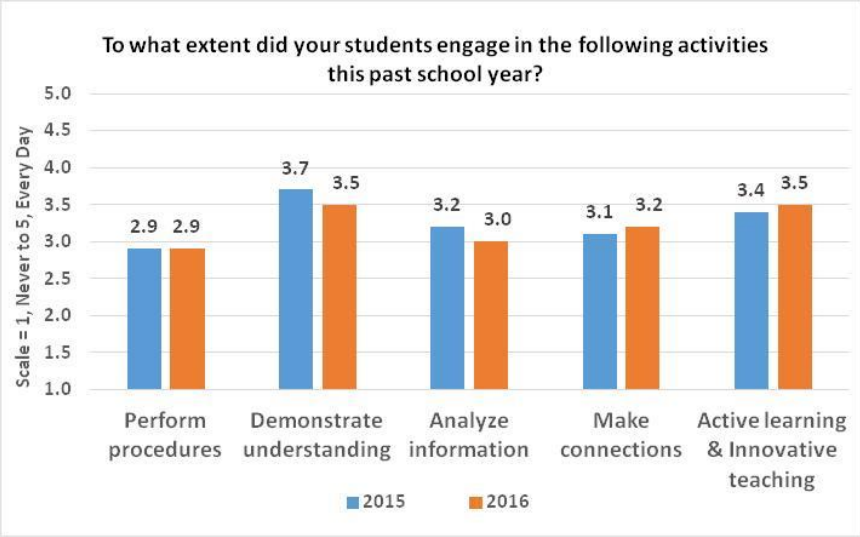
Teachers responded to four questions on the 2015 and 2016 Educator PD Survey assessing the extent to which their current instruction involved four specific CCSS techniques: *differentiation, integration, making connections,* and *collaboration.* Figure 13 shows that there has been a significant increase in differentiation in that the vast majority of teachers (94%) reported that their instructional practices involved differentiation for students as compared to 82% in 2015 *(F(86,87) = 3.77, p = .055)*. In addition, collaboration increased significantly from the 2014-2015 school year to the 2015-2016 school year, with 70% of teachers reporting they are collaborating on what they are teaching, compared to 54% in the prior year *(F(86,87) = 4.41, p = .04)*. The degree to which teachers reported their instructional practices involved integration and making connections remained relatively unchanged (at a high level of approximately 90% and 80%, respectively), across the past two years *(F(86,87) = 1.52, p = .22; F(86,87) =0.14, p = .71).*

Figure 13. Percent Implementing CCSS Activities/Strategies



In addition to classroom practices, teachers were asked about the extent to which their students engaged in a range of CCSS-aligned activities. Broadly, these activities fall into five categories: *performing procedures* (e.g., practice skills, measuring objects, etc.), *demonstrating understanding* (e.g., presenting to others, explaining reasoning, etc.), *analyzing information* (e.g., making predictions, drawing conclusions, etc.), *making connections* (e.g., comprehend and connect information, apply concepts to real-world problems), and *active learning and innovative strategies* (e.g., hands-on materials, portfolios, etc.). Scale scores were created from individual items measuring these dimensions, using a scale of 1 = never to 5 = every day or nearly every day. Figure 14 shows that no specific patterns in terms of specific activities engaged in by students can yet be discerned.

Figure 14. Average Level of Student Engagement in CCSS-Aligned Activities by Year



RIGOROUS CURRICULUM DESIGN ACTIVITIES

Rigorous Curriculum Design is a sequential process and involves conducting specific activities in an order. In Year 1, at least 65% of respondents identified these earlier activities as Mostly Complete to Complete: 1) prioritizing the Common Core State Standards; 2) naming units of instruction; 3) incorporating rich tasks into instruction developed for Units of Instruction; and 4) including CCSS in each Unit of Instruction. Notably, when schools were examined separately, none of those activities were reported as complete by at least 65% of the respondents from Oregon High School, reflecting less RCD progress. Additionally, between 5% and 25% of respondents reported that they did not know the status of the RCD activities.

In Year 2, nearly 84% of teachers report that horizontal alignment of CCSS is occurring to some extent or greater as of the 2015-2016 school year. Vertical alignment is also progressing with 75%

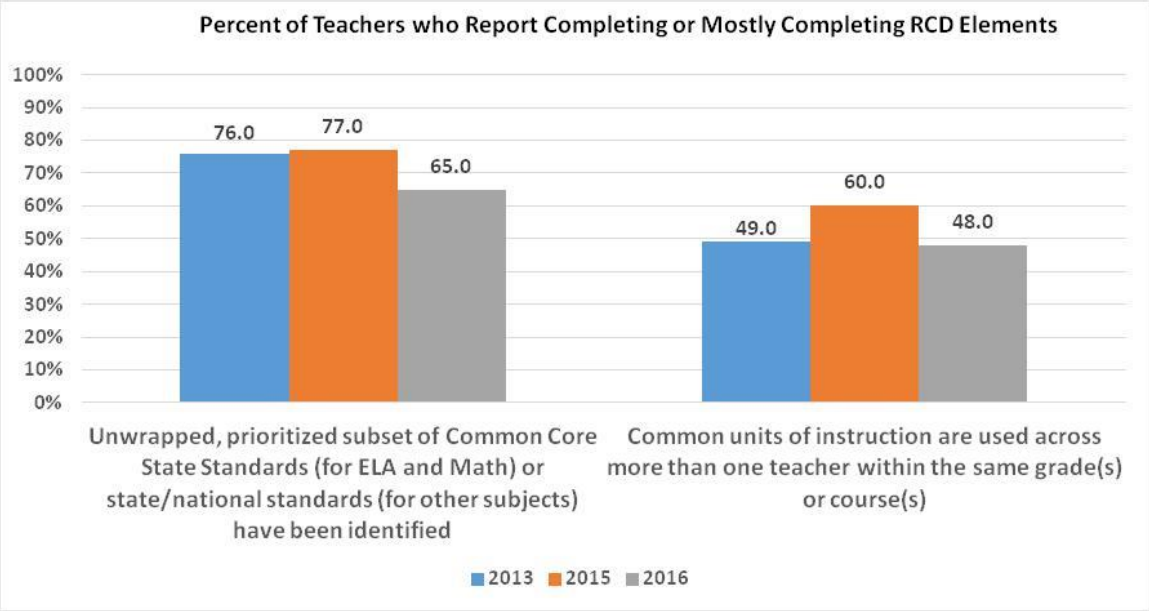
of teachers reporting this is occurring to some extent or more, although horizontal alignment is farther along thus far – this is to be expected in terms of the continuum and logical progression of change that is occurring. Nearly all teachers (94%) are reporting some to quite a bit of completion in terms of unwrapping priority standards for their instruction. There is more variability in the extent to which teachers are using common units of instruction within grade levels – that said, prior results suggest that horizontal alignment is occurring, although teachers may not all be using the same units to teach the priority standards they have identified.

Table 4. Percent Completion of RCD Activities

Rigorous Curriculum Design Elements	LEVEL OF COMPLETION		
	Not at All to A little (0-25%)	Some (26-50%)	Quite a bit to All Complete (51-100%)
A pacing calendar that provides horizontally aligned (within grades and courses) learning progressions	16.6%	14.6%	68.8%
A pacing calendar that provides vertically aligned (within grades and courses) learning progressions	25.0%	25.0%	50.0%
Unwrapped, prioritized subset of Common Core State Standards (for ELA and Math) or state/national standards (for other subjects) have been identified	6.3%	29.1%	64.6%
Common units of instruction are used across more than one teacher within the same grade(s) or course(s)	30.4%	21.8%	47.8%
RCD units have been developed for use in the classroom	12.7%	27.7%	59.6%

Some of the items were asked in 2013, 2015, and 2016. Comparisons were also made between the 2013 HMH needs assessment survey (prior to training) and data from the 2015 and 2016 Educator PD surveys. Figure 15 shows a decrease in the recent school year in terms of common units of instruction being utilized and unwrapping of priority standards. That said, PD provided in the 2015-2016 school year focused more on RCD unit development and Data Teams, while the prior year focused more on identifying priority standards.

Figure 15. Percent Completion of RCD Activities by Year



Comparisons were also made between schools (see Table 5). Of note, disaggregation of the data to the school level reduces the sample size to 9-26, depending on school. There is variability reported across schools in the extent to which RCD elements have been completed, that said, results from Table 5 should be interpreted with caution given the small sample size at the middle and high school levels. Additionally, sometimes perceived "level of implementation" is influenced by teachers having a greater understanding of what is required for full implementation. In particular, the site visit conducted during Year 2 suggested that implementation of RCD is farther along at the elementary level – which isn't quite reflected by the quantitative data reported in Table 5. Teachers, however, are quite aware of all that is involved in terms of "fully" implementing RCD in their settings.

Table 5. Percent of Teachers Completing or Mostly Completing RCD Activities by School

Rigorous Curriculum Design Elements	PERCENT REPORTING QUITE A BIT TO ALL COMPLETE		
	Oregon Elementary School (*N* = 26)	DLR Junior High School (*N* = 10)	Oregon High School (*N* = 9)
A pacing calendar that provides horizontally aligned (within grades and courses) learning progressions	65.4%	80.0%	77.7%
A pacing calendar that provides vertically aligned (within grades and courses) learning progressions	38.5%	80.0%	55.5%
Unwrapped, prioritized subset of Common Core State Standards (for ELA and Math) or state/national standards (for other subjects) have been identified	80.7%	50.0%	55.5%
Common units of instruction are used across more than one teacher within the same grade(s) or course(s)	61.6%	37.5%	33.3%
RCD units have been developed for use in the classroom	76.0%	40.0%	44.4%

Teachers were asked how many RCD Units they needed to complete and reported on the state of development of their RCD Units. On average, teachers reported needing to complete 7.8 RCD Units, varying by school. Elementary school teachers needed to complete 11.6 RCD Units, Junior High school teachers needed to complete 7.3 RCD units, and High school teachers needed to complete an average of 6.3 RCD units. As shown in figure 16, Elementary school teachers reported that 53.3% of the needed units had not yet been started and only 7.6% were complete. Junior High teachers reported that about 37.6% of the needed units had not yet been started and 15.6% were complete. High school teachers reported that 37.1% of the needed units had not yet been started and 21.9% were complete. As elementary school teachers reported a larger number of needed RCD units, their lower percentages of complete units still represent substantial progress.

Figure 16. Progress in Completing RCD Units

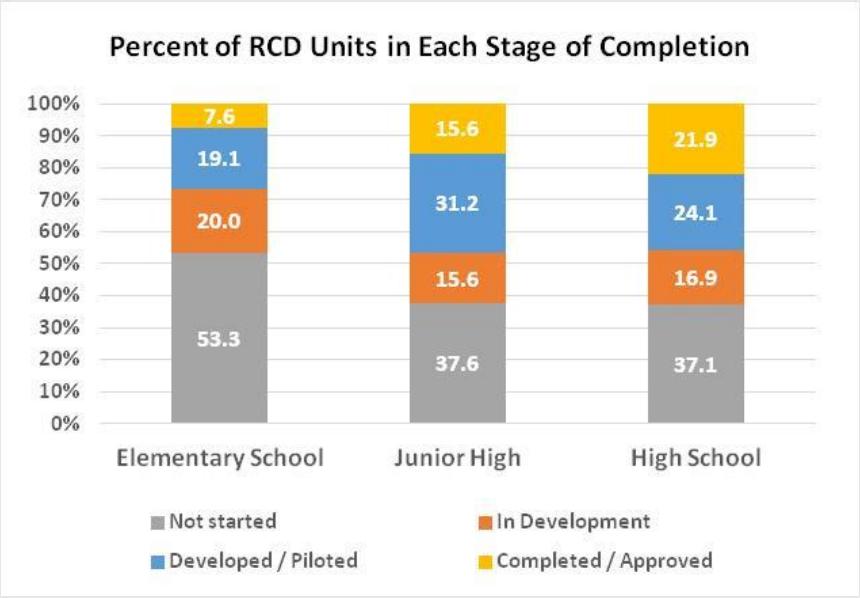
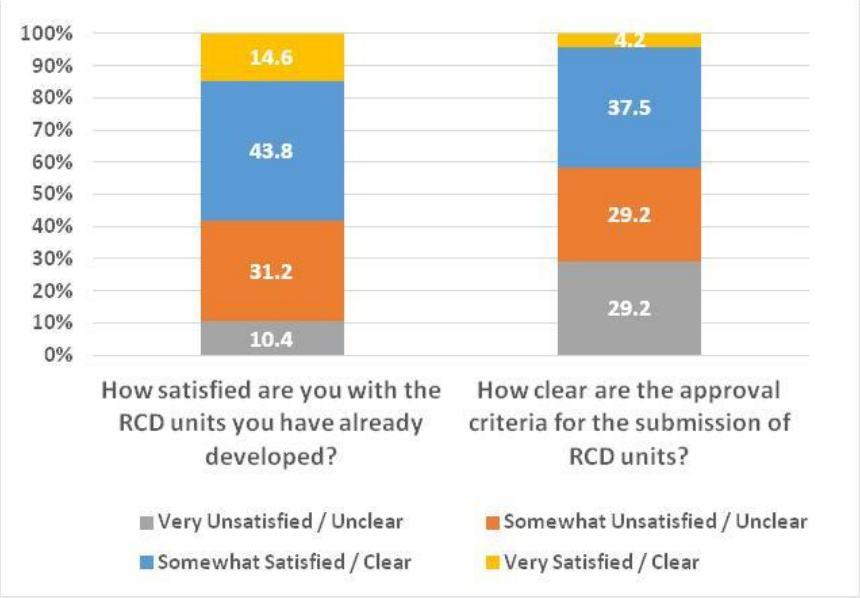


Figure 17 shows that a substantial amount of progress has been made in terms of developing RCD units thus far, although a fair amount of units still need to be developed. Figure 17 also shows that as teachers are implementing units, some are not yet satisfied (41.6%) with the units which suggests that further revision may be needed/desired by teachers. As noted in the Spring 2016 site visit and reported in Figure 17, over half of teachers (58%) feel like the criteria for approval of RCD units is not entirely clear.

Figure 17. Satisfaction with Completed RCD Units and Clarity of Approval Criteria



RCD implementation has progressed at a rapid rate in Oregon CUSD in a relatively short period of time, as changing curriculum is often a process of changing lessons one-at-a-time over a period of years[10]. Teachers across all grade levels have developed a substantial number of units, although many still need to be developed and teachers are not fully satisfied with the units that have already been developed and are somewhat unclear on the criteria for approval of RCD units.

ASSESSMENT PRACTICES

In addition to examining the impact of Professional Development on teachers' curriculum development and classroom practices, the Educator PD Survey had items related to assessment practices that teachers are engaging in. Figures 18 and 19 show a great deal of change in terms of assessment practices being used by teachers from the 2014-2015 school year, as compared to the more recent 2015-2016 school year. Specifically, teachers are utilizing systematic observation, performance tasks and demonstration/presentations more in the recent school year and are using multiple choice and short answer questions less.

Figure 18. Assessment Use by Type

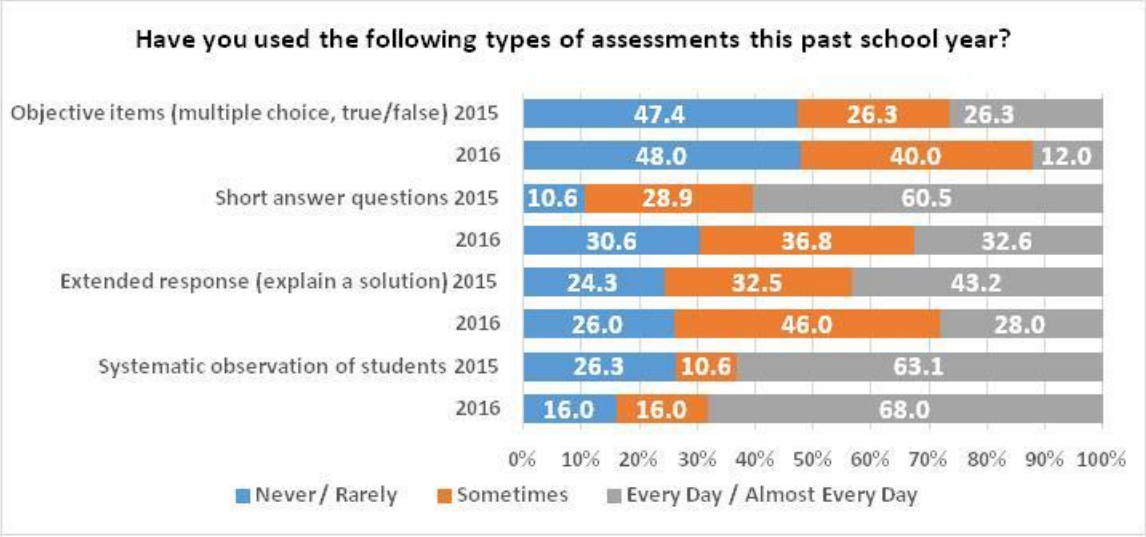
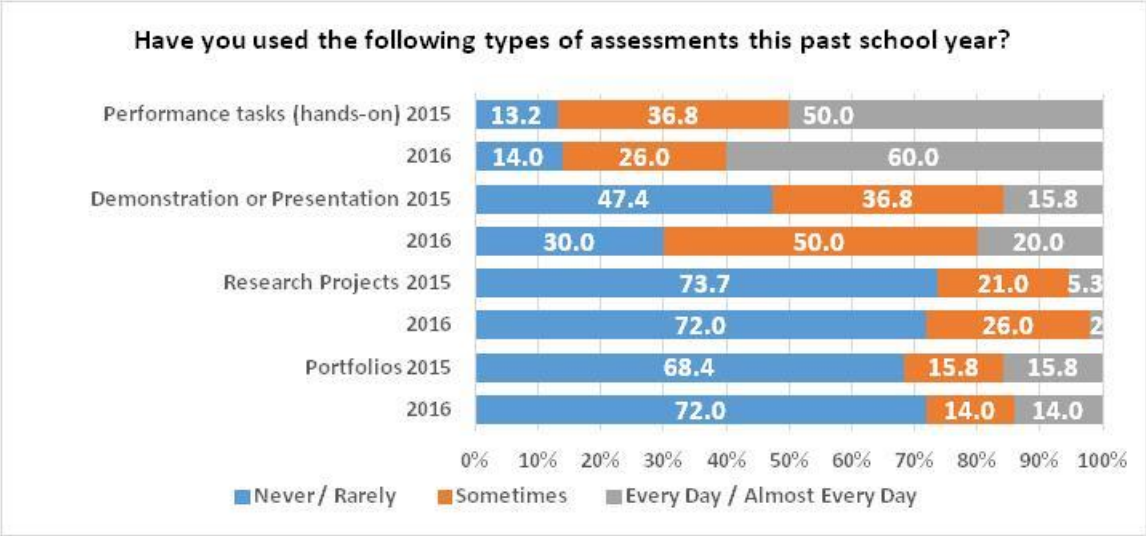
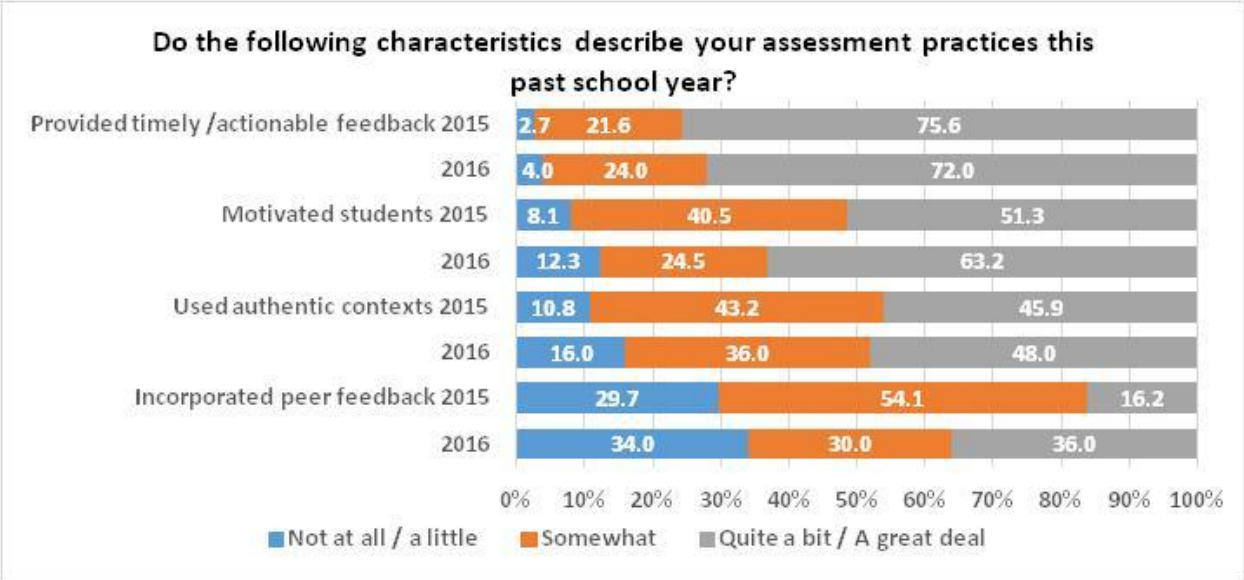


Figure 19. Complex Assessment Use by Type



Teachers were also asked the extent to which their assessment practices served various purposes, as shown in Figure 20. It appears that those teachers who are employing certain assessment practices are doing so relatively frequently (e.g., incorporating peer feedback), however, a larger percentage of teachers do not utilize this practice at all.

Figure 20. Teacher Assessment Practices

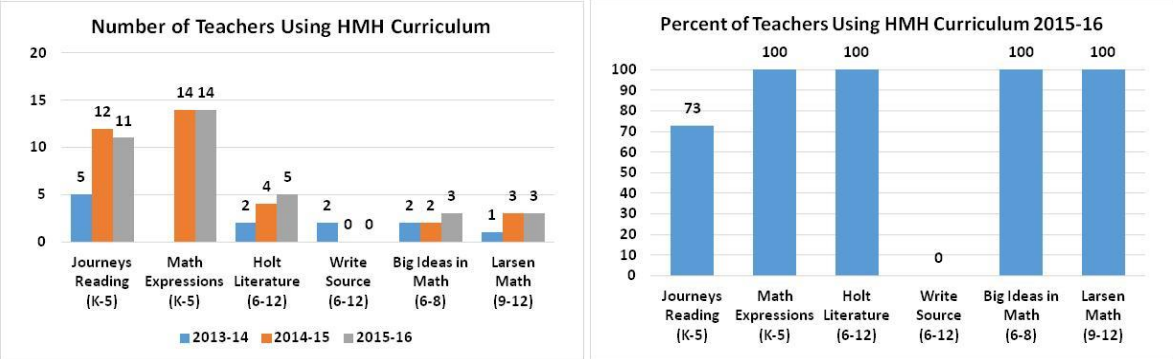


Teachers' assessment practices have changed in many ways since the 2014-15 school year. Teachers are incorporating more complex assessment techniques such as observation, demonstrations, and hands-on performance tasks. More teachers also report that assessments include peer feedback and serve to motivate student performance.

TO WHAT EXTENT ARE TEACHERS IMPLEMENTING THE HMH CURRICULA IN THEIR CLASSROOMS? ARE THEY IMPLEMENTING THESE WITH FIDELITY?

To get a better sense of whether the HMH Curricula is impacting student outcomes, it is necessary to examine the extent of curricula implementation. Full implementation of the RCD framework as well as important CCSS-related activities is expected to occur over multiple years, and evidence of progress is noted in classroom activities, RCD implementation, and assessment practices. With respect to the curricula, Figure 21 shows the number of teachers[19] that reported using the HMH curricula to some extent from 2013-14 to 2015-16 as measured by the Curricula Survey, and the percentage of the curricula completed during school year 2015-16. While few teachers implemented the HMH curricula in the 2013-14 school year, the majority of teachers began using the curricula in the 2014-15 school year, and nearly every teacher used the HMH curricula in the 2015-16 school year. Of those teachers who taught English Language Arts, 73% of those teaching K-5 grades used Journeys Reading while 100% of those teaching 6th-12 grades used Holt Literature, and no teachers used Write Source Online. Of those teachers who taught Math, 100% of those teaching K-5 grades used Math Expressions and 100% of those teaching 6th-8th and 9th-12th grades used Big Ideas Math and Larsen Math, respectively. While this slow implementation of curricula is not unexpected, it does indicate that change in student outcomes relative to curricula implementation may not manifest until future years.

Figure 21. Number and Percent of Teachers Using HMH Curricula

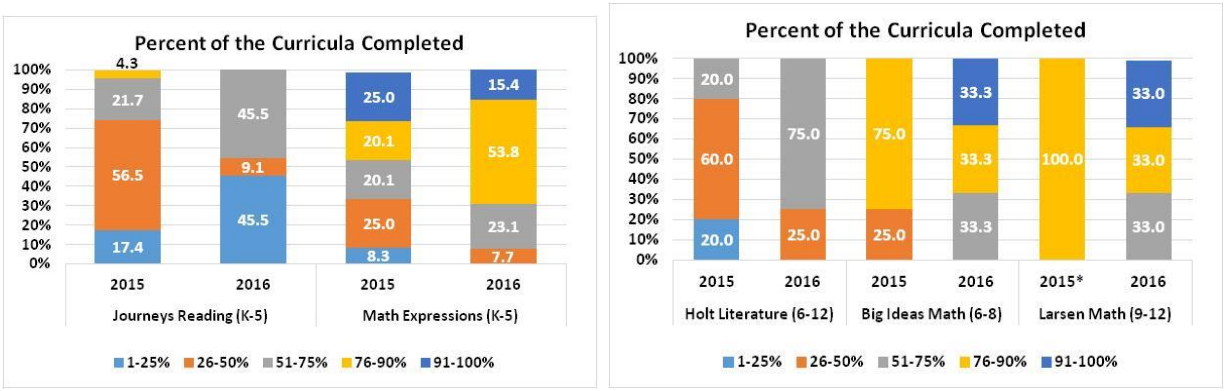


While the math teachers predominantly used the materials from the HMH curricula and covered the majority of the program, the English language arts teachers generally supplemented with other materials, especially in grades K-5, as seen in previous years. About half of the ELA teachers in grades k-5 reported completing 51-75% of the Journeys Reading program and about half reported completing only 1-25% of the program. Of the ELA teachers in grades 6-12, 75% reported completing 51-75% of the Holt Literature program and 25% reported completing 26-50% of the program. About 68% of the math teachers in grades k-5 reported completing more than 75% of

[19] Only teachers teaching the respective subject areas are included.

the Math Expressions program and 66% of the math teachers in grades 6-8 and 9-12 reported completing more than 75% of the Big Ideas Math and Larsen Math programs, respectively.

Figure 22. Percent of the HMH Curricula Completed in School Years 2014-15 and 2015-16



*N = 1

Overall, math teachers at all grade levels appear to be using the HMH curricula for the majority of their resources, ELA teachers in grades 6-12 appear to be using a large portion of the HMH curricula with some supplementation, and ELA teachers in grades K-5 appear to be using various amounts of the HMH curricula and extensively supplementing. The percentage of curricula usage has generally increased since 2014-15, except for Journeys Reading. As part of the RCD framework, teachers are supposed to create customized instructional units based, in part, on student needs. The patterns seen in these past years suggest that ELA teachers often use other resources instead of the HMH Curricula. As such, while causal conclusions cannot be made in either case, it is more likely that changes in math outcomes are attributable to HMH curricula than changes in reading outcomes at the lower grade levels. Additionally, as more implementation and usage of the HMH curricula has occurred each year, more influence on student outcomes may manifest in later years.

IS THERE A RELATIONSHIP BETWEEN IMPLEMENTATION OF THE HMH LANGUAGE ARTS AND MATH CURRICULA AND STUDENT LITERACY AND MATH ACHIEVEMENT? WHAT DID PARTICIPANTS THINK ABOUT THE CURRICULA PROVIDED BY HOUGHTON MIFFLIN HARCOURT?

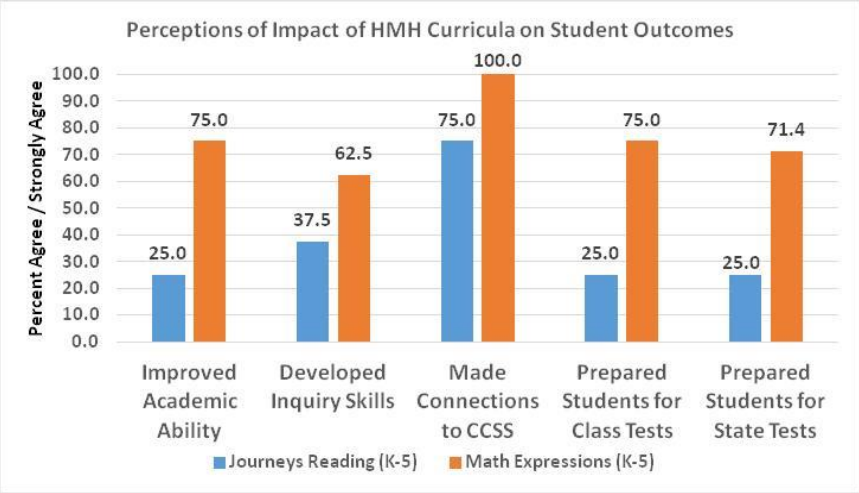
PERCEIVED IMPACTS ON STUDENT LEARNING

Teachers were asked to rate the curricula they primarily used on items designed to measure the perceived influence of the curricula on student learning outcomes, preparedness for CCSS, important 21st century skills, and student engagement (scale 1=strongly disagree to 5=strongly agree).

Only a small number of teachers rated each program (Journeys Reading *N* = 8, Math Expressions *N* = 8, Holt Literature *N* = 2, Big Ideas Math *N* = 2, and Larsen Math *N* = 2), and results reported here only represent ratings of the HMH curricula as there were not sufficient sample sizes to make comparisons to other, supplemental materials. Because of the small sample of teachers providing the ratings, results may not represent overall teacher perceptions.

Overall, the majority of K-5 grade teachers using Math Expressions reported positive impacts on students' academic ability and inquiry skills and that the program made connections to CCSS, and prepared students for class and state tests (see Figure 23). While the majority of K-5 grade teachers using Journeys reading reported that the program made connections to CCSS, less than half reported positive impacts on students' academic ability and inquiry skills or that the program prepared students for class and state tests. As noted, the small number of users who rated the Journeys Program combined with the large amount of curricula supplementation makes it unclear how much these ratings reflect teacher perceptions specific to the Journeys curriculum, especially in light of markedly more positive ratings in the 2014-15 school year (70-75% agreed in 2015).

Figure 23. Perceived Influence of Elementary Reading and Math Programs

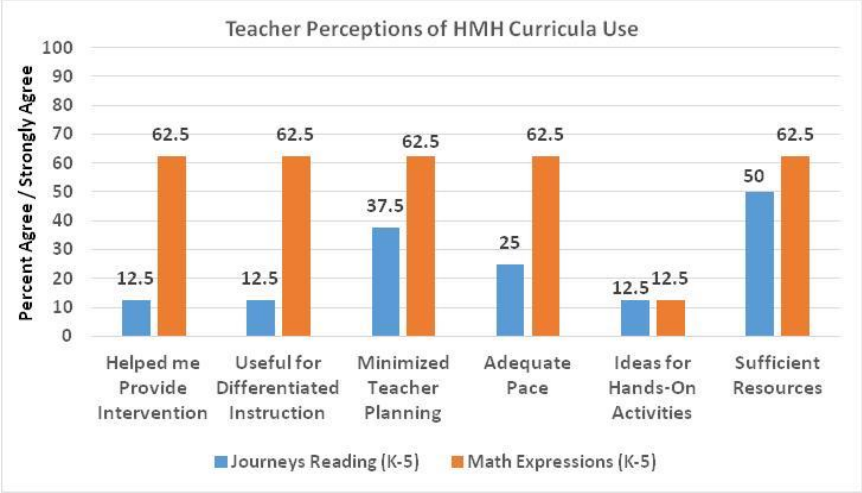


PERCEPTIONS OF HOUGHTON MIFFLIN HARCOURT CURRICULA

Teachers were also asked to rate their curricula. As noted, only perceptions of the HMH curricula are noted here, but because of the small sample size, results may not reflect overall teacher perceptions.

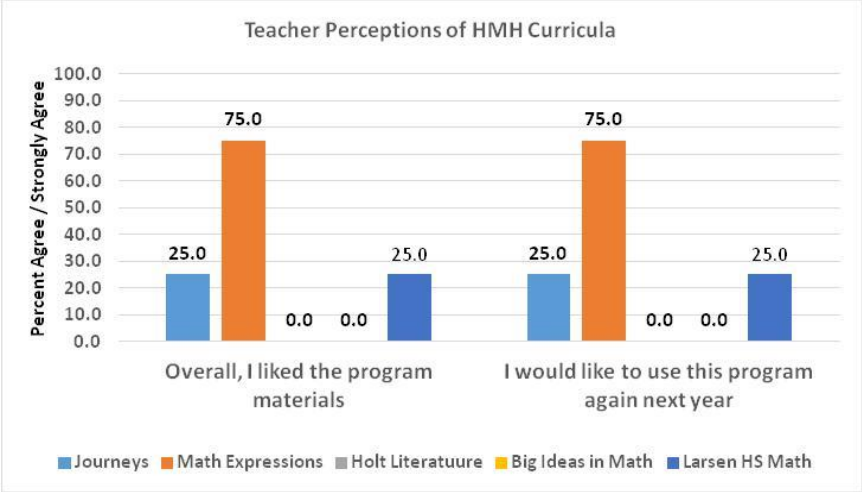
As shown in Figure 24, less than 50% of teachers using Journeys Reading (K-5) reported that it helped provide needed student intervention, was useful for differentiated instruction, minimized teacher planning, had ideas for hands-on activities, or provided sufficient resources. Conversely, 62.5% of teachers using Math Expressions reported that it helped provide needed student intervention, was useful for differentiated instruction, minimized teacher planning, and provided sufficient resources, but only 12.5% agreed that it had ideas for hands-on activities.

Figure 24. Teacher Perceptions of HMH Curricula Use



In the 2014-15 school year, HMH Curricula were overwhelmingly evaluated positively, with at least 71% of teachers reporting that they liked each program and would use it again. As shown in the figure below, 75% of teachers reported that they liked Math Expressions and would like to use it next year, while only 25% reported the same for Journeys and Larsen Math and 0% for Holt Literature and Big Ideas Math. As previously noted, these ratings are based on 8 teachers for Journeys and Math Expressions, and only 2 teachers each for Holt, Big Ideas and Larsen.

Figure 25. Teacher Overall Perceptions of HMH Curricula



In general, teachers reported that the HMH math curricula improved student academic ability and was useful to teachers. Conversely, the HMH reading curricula were poorly rated. These results were based on 2 to 8 teachers and contradict ratings from previous years, so it is unclear how much they reflect actual teacher opinion.

ASSESSMENT PERFORMANCE

Students in Oregon CUSD completed three kinds of assessments throughout the school year. As noted previously, AIMSweb testing measures students' general math and literacy skills at multiple time points in the year and is useful for identifying students in need of more intensive intervention. MAP testing measures growth from the beginning to the end of the school year in math and reading skills that are needed to perform well on end-of-year state assessments such as the PARCC. Currently the PARCC (beginning in 2015), and previously the ISAT testing, is used at the end of the school year to measure student progress in achieving the math and reading skills needed for college and career readiness. While each of these types of assessments is useful for gauging student progress, HMH professional development and curricula implementation would be expected to most impact the MAPS and PARCC assessments, as the HMH curricula and professional development are aligned to CCSS and these assessments. While changes in math and reading skills should occur gradually along with changes in teacher practices, improvements in end-of-year state assessment scores are generally not expected for three to four years following test implementation[2]. Additionally, students from a household with low income generally score lower on standardized tests than students from a household with high income, and the increase in percent of low income families in the Oregon CUSD may have influenced test scores[20].

Assessments of General Abilities: AIMSweb

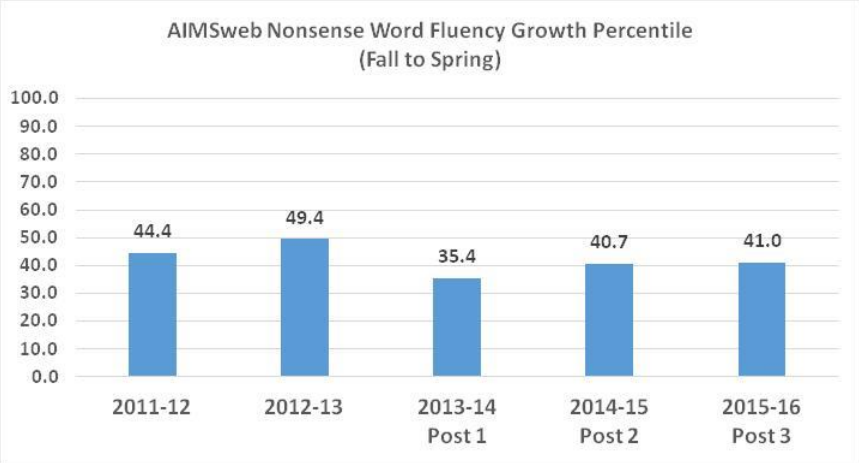
As noted, the AIMSweb is made up of various subtests in math and reading/early literacy skills offered for specific grade levels. The figures below provide the student growth percentiles (SGP) which represent the percent of students nationally who had similar prior scores and earned lower ROI scores on the most recent test. Higher percents represent higher growth from the Fall to the Spring compared to the national norm and lower percents represent lower growth.

Reading

Early Literacy: Nonsense Word Fluency **(NWF)** was administered to 1st grade students in Fall and Spring. Below are the average SGPs for each school year from 2011-12 to 2015-16. As shown in Figure 26, although varying year-to-year, student growth has consistently approached the 50th percentile representing nearly average literacy growth compared to national achievement averages. Growth scores are slightly lower post CCSS implementation, which may be due to a focus on rich tasks rather than basic skills.

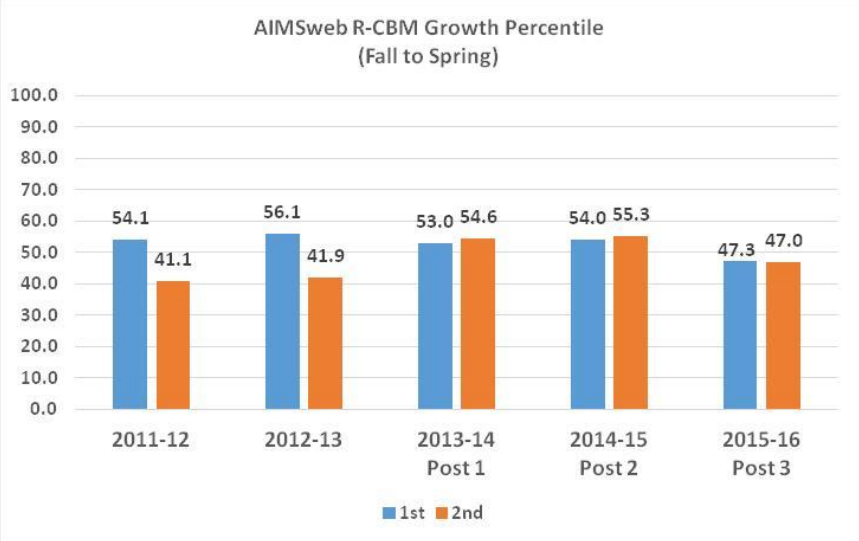
[20]Bradley RH, Corwyn RF. (2002). Socioeconomic status and child development. Annual Review of Psychology, 53, 371–399

Figure 26. AIMSweb NWF Student Growth Percentiles by Year



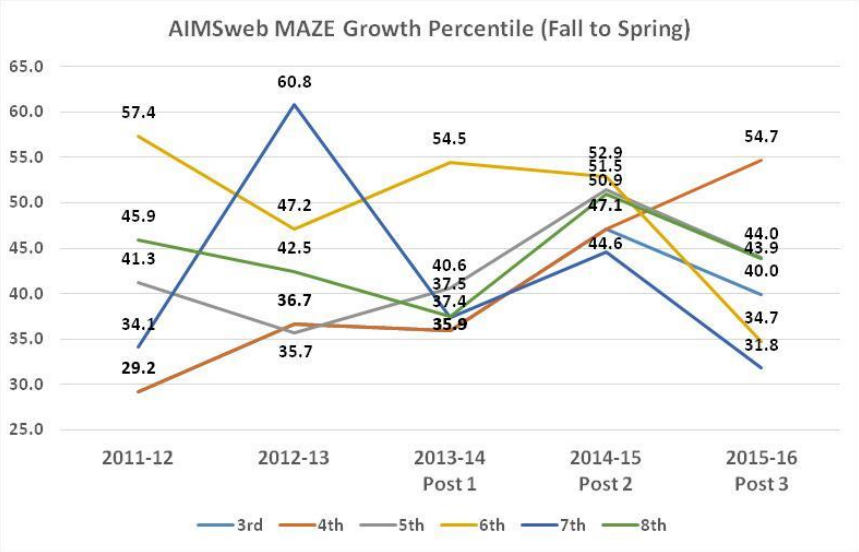
R-CBM: The Reading Curriculum-Based Measure is designed to measure oral reading in grades 1-2. As shown in Figure 27, while there was a general increase in growth percentile among 2nd graders from 41% in 2011-12 to 47% in 2015-16, change in growth rates were fairly stable for 1st graders during this time period with a slight decrease in 2015-16.

Figure 27. AIMSweb R-CBM Student Growth Percentiles by Year



MAZE: The MAZE consists of a cloze task to measure reading skills at higher grade levels. As shown in Figure 28, growth percentile scores show extreme variability year-to-year. However, in general, scores have increased for 3rd-5th grade students, and 6-8th grade students showed continued growth through 2014-15 yet decreased in the 2015-16 school year.

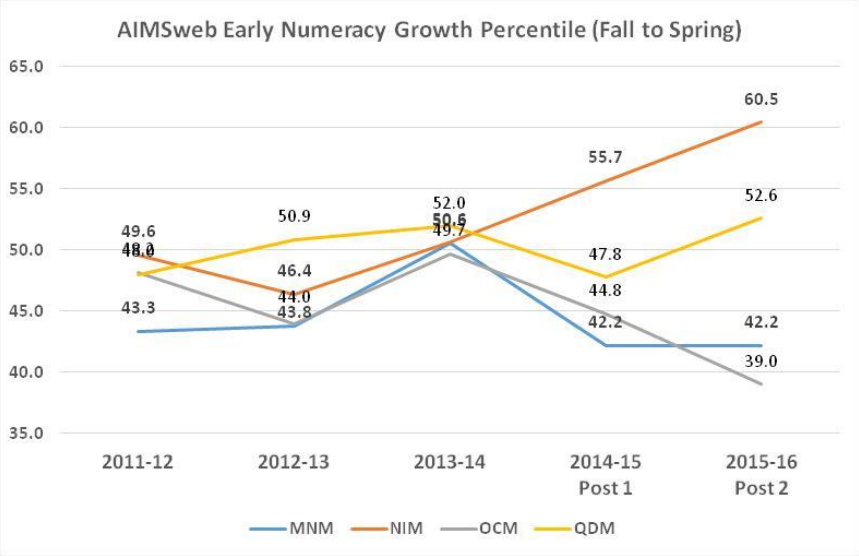
Figure 28. AIMSweb MAZE Student Growth Percentiles by Year



Math

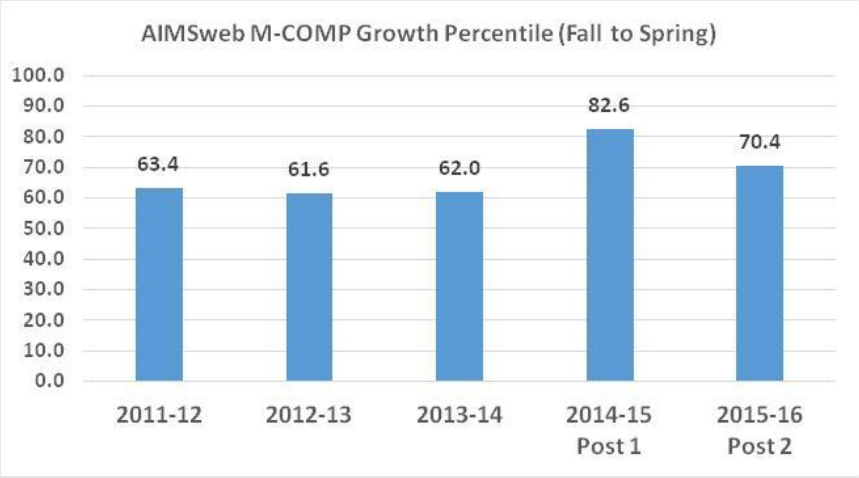
Early Numeracy: Four early numeracy measures were been administered at the 1st grade level. These consist of: 1) Missing Number Measurement (MNM), 2) Number Identification Measurement (NIM), 3) Oral Counting Measurement (OCM), and 4) Quantity Discrimination Measurement (QDM). Figure 29 shows the trends in the growth percentile across all four measures. From 2011-12 to 2015-16, there has been a general increase in NIM and QDM scores, a decrease in OCM scores, and MNM scores have remained fairly stable. These results are expected with a shift to CCSS that prioritizes more complex skills rather than those measured in oral counting.

Figure 29. AIMSweb Early Numeracy Student Growth Percentiles by Year



M-COMP: The Mathematics Computation subtest was administered to 2nd grade students. Results shown in Figure 30 show that growth percentiles remained stable from 201-12 to 2013-14 and then demonstrated a significant and very large increase in the growth percentile from 2013-14 to 2014-15 (when Math Expressions was first implemented) and remained high in 2015-16.

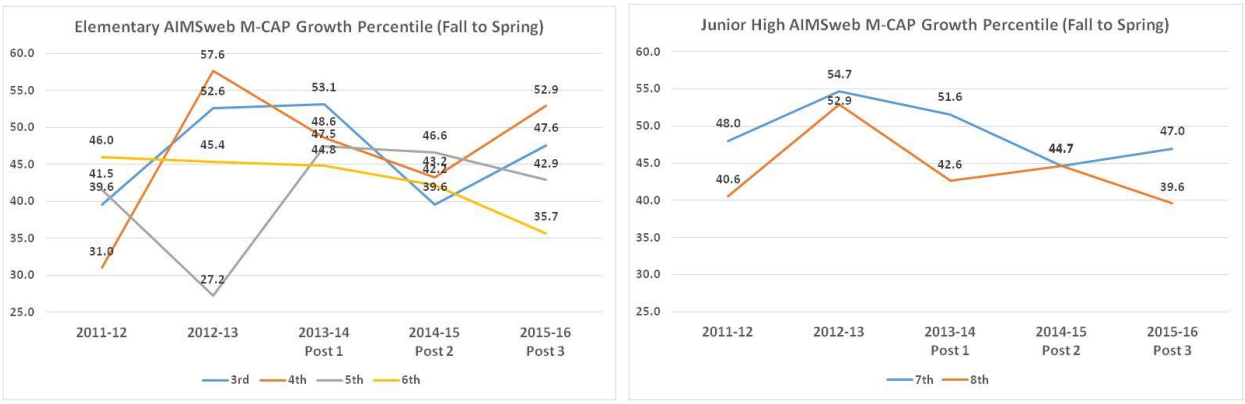
Figure 30. M-COMP Student Growth Percentiles by Year



M-CAP: The Mathematics Concepts and Applications subtest was administered to students in grades 3-8. In Figure 31 below, each box represents the average growth percentile from Fall to Spring at a specific grade. For example, the light green box in the 2011-12 column shows that 3rd graders performed better (i.e., had higher growth rates) than 39.6% of the national norm group. Though variable year-to-year, the overall pattern shows a general increase in 3rd-4th grade

students' growth rates, a general decrease in 6th grade students' growth rates, and large variability in 7th-8th grade students' growth rates.

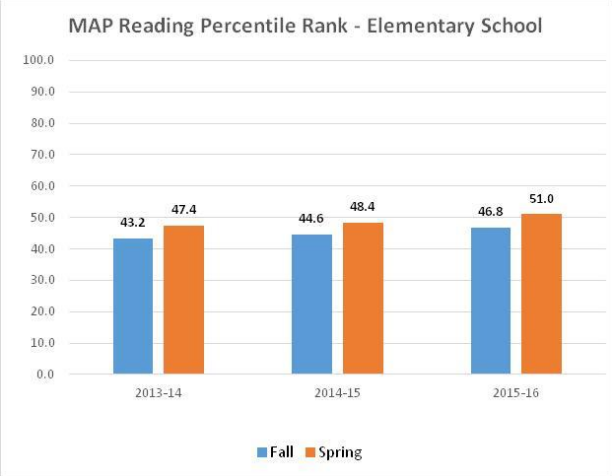
Figure 31. M-CAP Student Growth Percentiles by Grade and Year

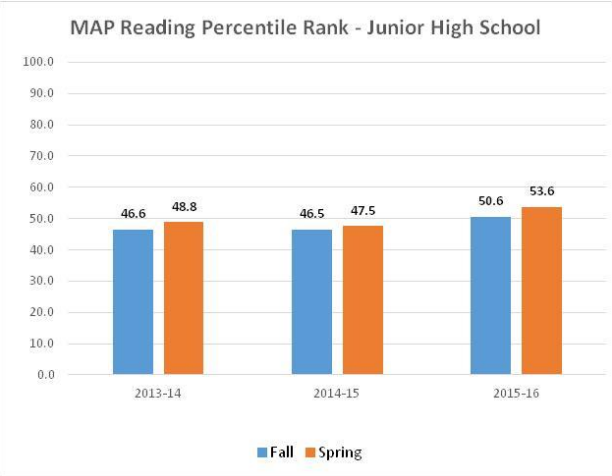


Assessments of Academic Growth: MAP

As part of the district's effort to measure student progress, students in grades 2-8 take the Measurement of Academic Progress (MAP) in early Fall and Spring in the areas of Math and Reading/Language Arts. As previously noted, MAP assessments were aligned to the CCSS starting in the 2013-14 school year and measure student growth in skills needed to do well on end-of-year CCSS assessments (i.e., the PARCC). MAP scores are reported along with percentile ranks, which represent a student's position relative to their national peer group. For example, a percentile rank of 65 means that the student performed better than 65% of his/her peers. Furthermore, if a student shows typical progress over the course of the school year, their percentile rank will remain the same. Thus, the same percentile rank from Fall to Spring represents typical growth, whereas a greater percentile rank in Spring as compared to Fall represents accelerated learning. As shown in Figure 32, since the 2013-14 school year, students have shown accelerated growth in reading from Fall to Spring. Additionally, Fall percentile ranks have steadily climbed and have surpassed the national average in the 2015-16 school year.

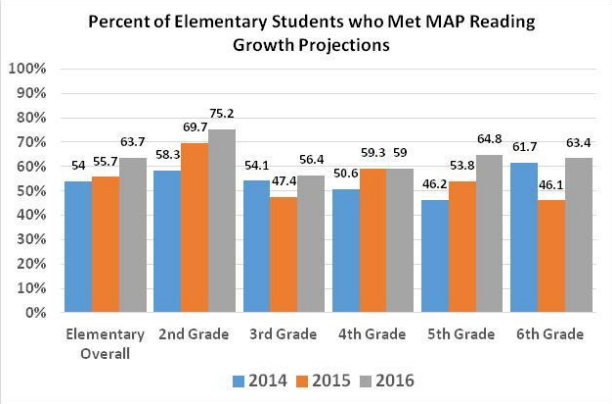
Figure 32. Average Fall to Spring MAP Percentile Rank: Reading

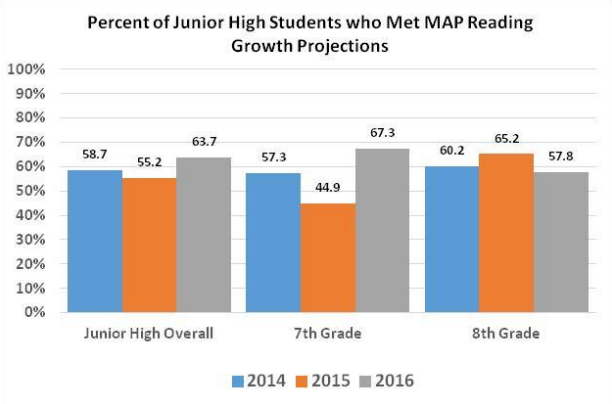




Another analysis examines the percent of students meeting growth projections. Students' growth from Fall RIT scores to Spring RIT scores is compared to growth projections based on national growth norms [21]. As shown in Figure 33, the percent of elementary school students who met MAP reading growth projections increased from 54% in 2013-14 to 63.7% in 2015-16. The percent of junior high school students who met MAP reading growth projections increased from 58.7% in 2013-14 to 63.1% in 2015-16. Year-to-year changes are also presented by grade for reference, however, because of the small number of students per grade, changes in just a few scores can appear as large overall group changes.

Figure 33. Percent of Students who Met MAP Growth Projections by Grade and Year: Reading



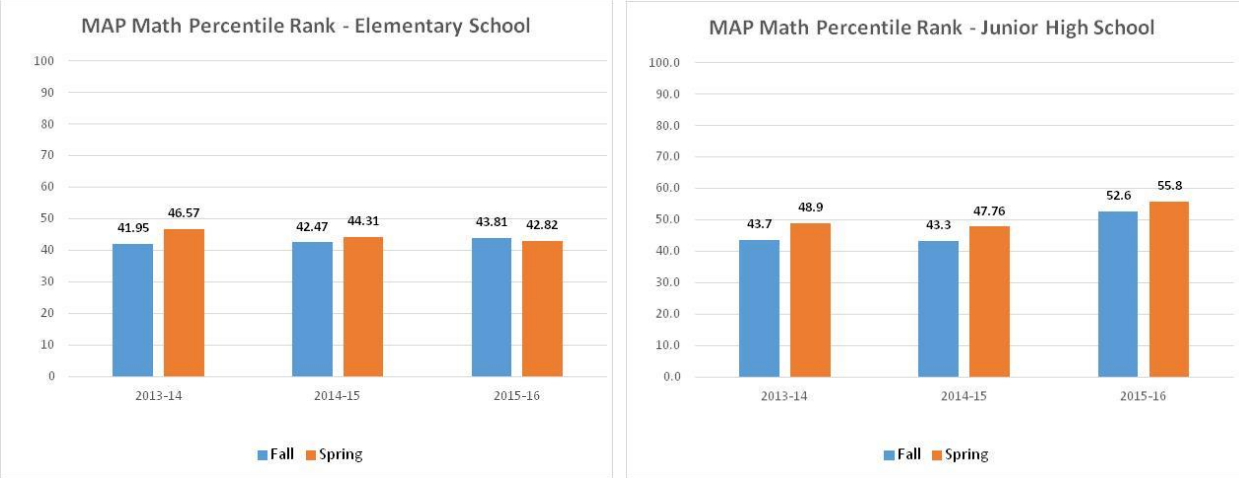


As shown in Figure 34, since the 2013-14 school year, students have shown accelerated growth from Fall to Spring in math, with the exception of elementary school students in the 2015-16

[21] Northwest Evaluation Association (2015). 2015 NWEA Measures of Academic Progress Normative Data. Accessed from: https://www.nwea.org/content/uploads/2015/06/2015-MAP-Normative-Data-AUG15.pdf

school year. Additionally, junior high fall percentile ranks have surpassed the national average in the 2015-16 school year, while elementary school fall percentile ranks have fluctuated.

Figure 34. Average Fall to Spring MAP Percentile Rank: Math



As shown in Figure 35, the percent of elementary school and junior high school students who met MAP math growth projects has fluctuated with a decrease from 2014 to 2015 and then an increase from 2015 to 2016, without much overall change. Year-to-year changes are also presented by grade for reference, however, because of the small number of students per grade, changes in just a few scores may appear as large overall group changes.

Figure 35. Percent of Students who Met MAP Growth Projections by Grade and Year: Math

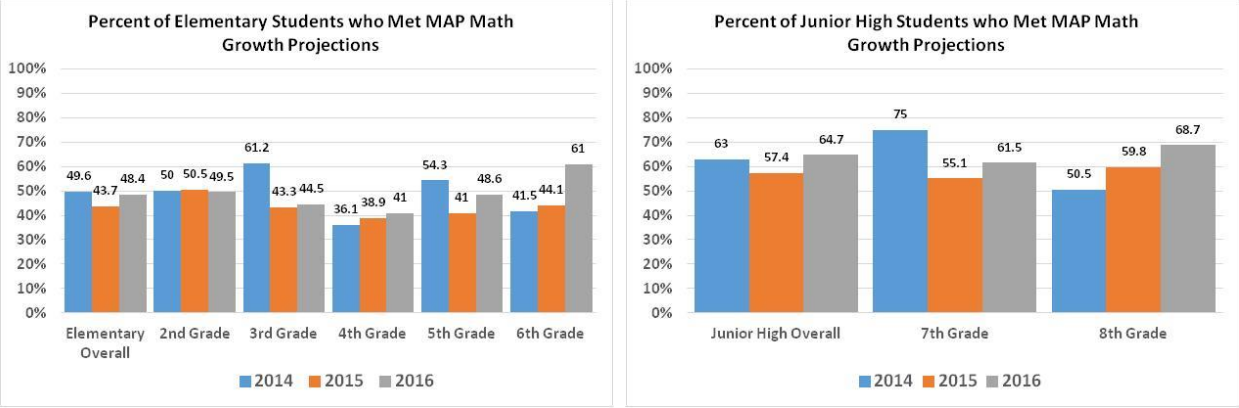
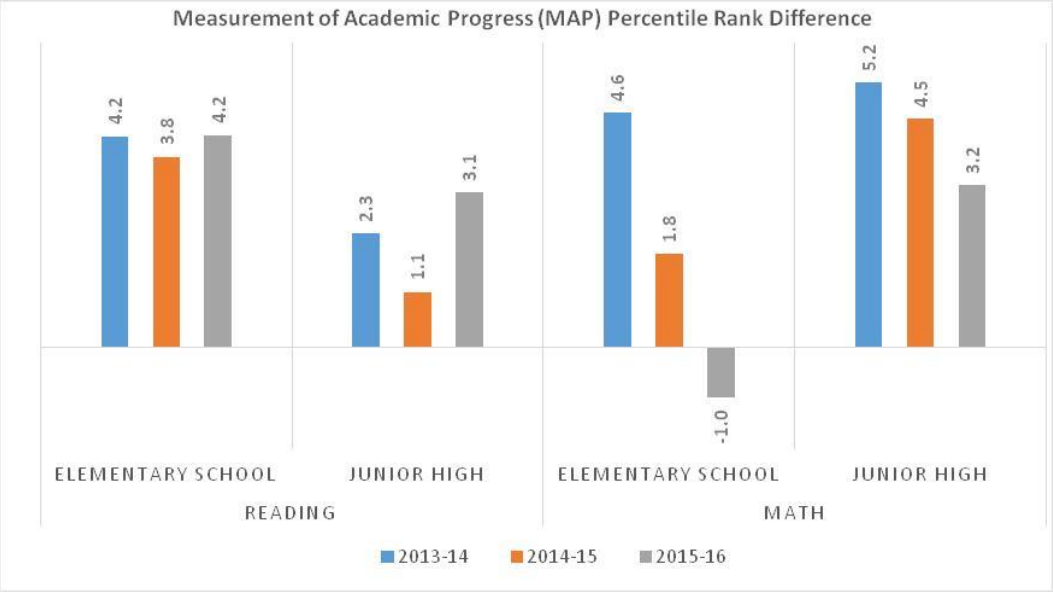


Figure 36 shows the percentile rank difference scores, representing the average change in percentile rank from Fall to Spring of that year. Results suggest that elementary school reading scores have maintained accelerated growth while math scores began as accelerated and ended as steady Spring to Fall growth. Junior high reading and math scores continue to show accelerated growth, however the amount fluctuates.

Figure 36. MAP Percentile Rank Difference Scores by Year



End of Year State Assessments

As previously noted, ISAT scores were provided for all Oregon CUSD students from Spring 2011 to Spring 2014. Scores for the school years 2010-2011, 2011-2012, and 2012-2013 represent student performance on the prior state standards as assessments were not aligned to the CCSS until school year 2013-2014. These scores are used here to demonstrate typical changes in testing scores over time rather than as a comparison of meeting the same standards that were subsequently assessed. In contrast, Spring 2014 testing was aligned to the CCSS and occurred after teachers received Common Core training and all HMH curricula (with the exception of Math Expressions at grades K-5). As such, Spring 2014 scores represent a baseline in assessment scores measuring the new standards. For the Spring 2015 and Spring 2016 testing, the PARCC assessment, also aligned to CCSS, was adopted to allow for national test score comparisons. However, the PARCC scale is not comparable to the ISAT scale, so direct growth comparisons cannot be made from 2014 to 2015.

A cross-sectional, descriptive analysis was conducted by examining trends in performance over time for each grade level. This means that researchers examined different sets of students at each school year. Figure 37 shows the average reading scale score for students at all grade levels taking the ISAT from 2011 to 2014. The 2014 assessments represented the new CCSS standards, and as expected with new materials and new tests, sometimes showed a decrease in scores from the previous year. For example, at 4th grade there was a 16 point drop in reading performance from 2013 to 2014, and virtually no change among 3rd graders; however, at 5th grade there was a 10 point

increase in reading. At the junior high level, there was a consistent drop of 3-6 points from 2013 to 2014. These drops from 2013 to 2014, however, also follow drops from 2012 to 2013, and do not indicate a strong pattern of improving or failing to improve. It should be noted that when the sample size is smaller than 100, as when scores are reported by grade level, changes in just a few students' scores exaggerate the differences in year-to-year scores.

Figure 37. ISAT Reading Scale Scores by Year and Grade Level

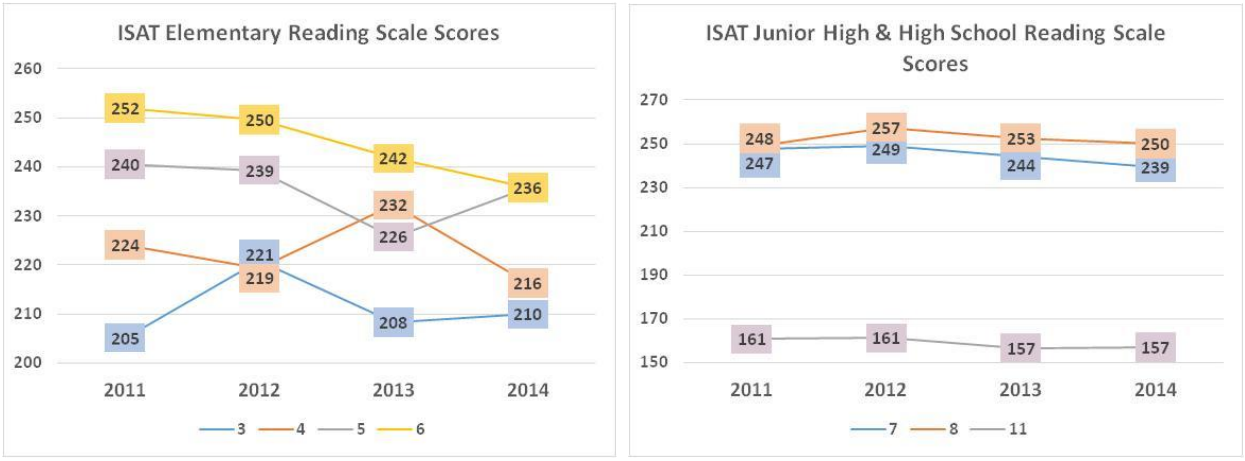
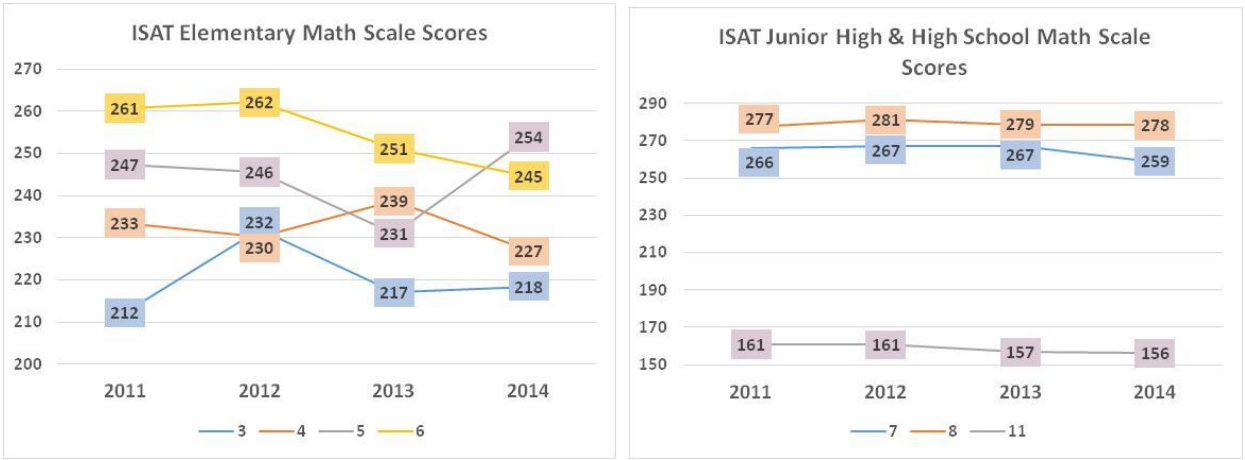


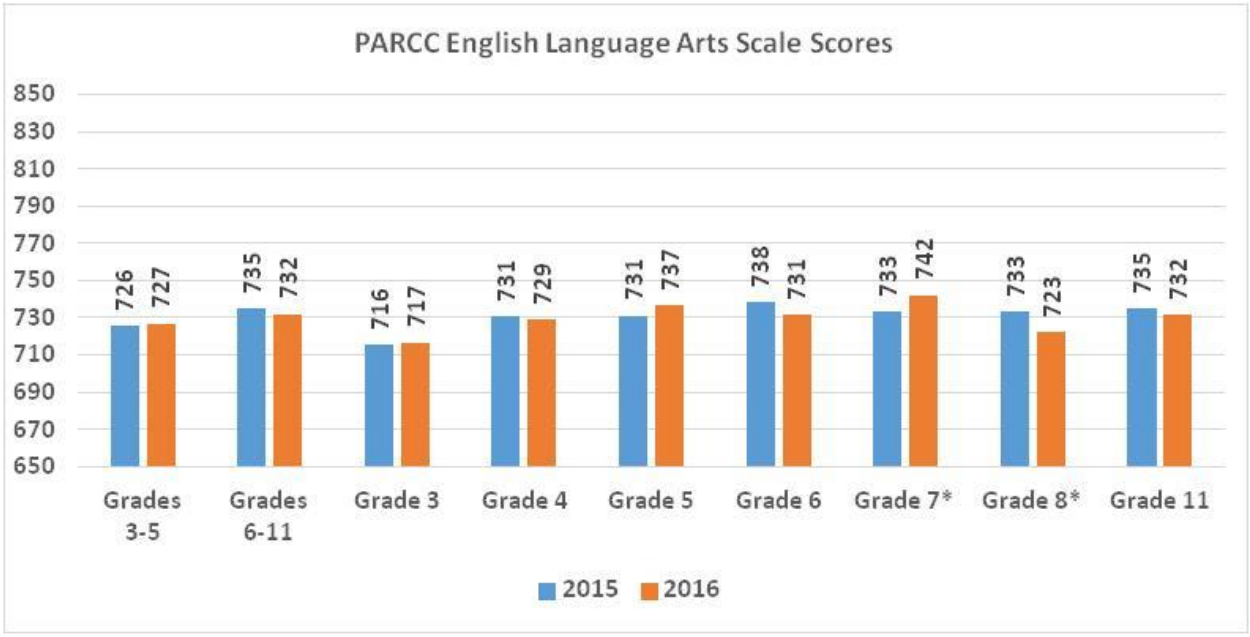
Figure 38 shows the average math scale score for Oregon CUSD students. It is interesting to note that there was a similar trend in math performance as that observed for reading, with periods of small increase and decrease over the years and a general decrease in scores in 2014.

Figure 38. ISAT Math Scale Scores by Year and Grade Level



As seen in Figure 39, the overall PARCC ELA scores show slight, non-significant increases and decreases between the testing in Spring 2015 and Spring 2016, and as yet do not demonstrate a strong pattern of score change. Grades 3-5 (Journeys) and 6-11 (Holt Literature) were analyzed together to show a baseline for students using the same curricula.

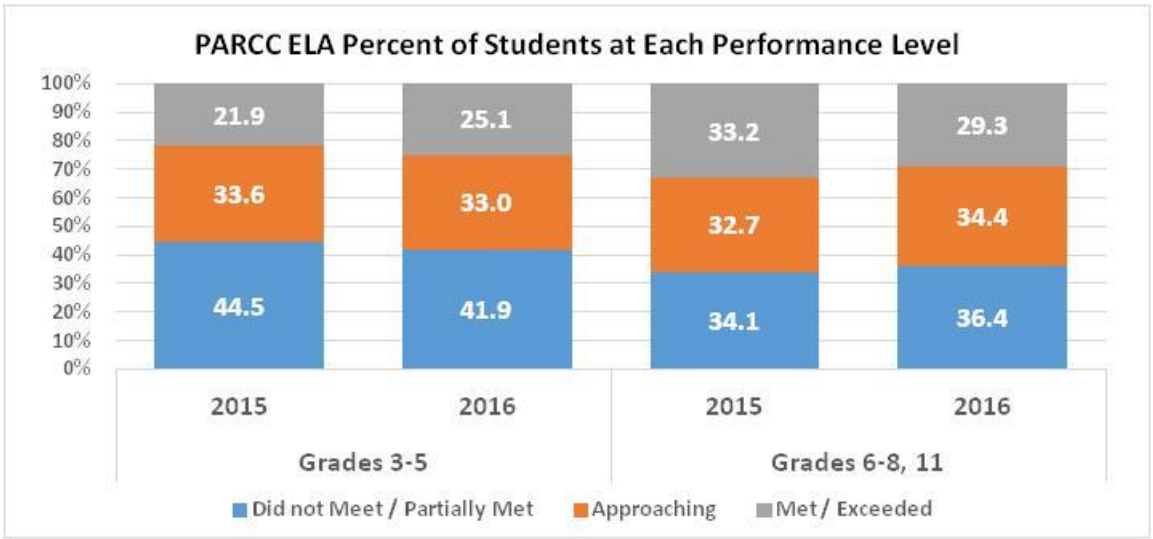
Figure 39. PARCC ELA Scale Scores by Year and Grade Level



*statistically significant difference at $p<.05$

From Spring 2015 to Spring 2016, there was a 3% increase in the number of students in grades 3-5 who Met or Exceeded PARCC ELA standards and a 3% decrease in the number of students who Did not Meet or who Partially Met the standards, while students in grades 6-11 demonstrated the opposite pattern with a decrease in percent who Met the standards.

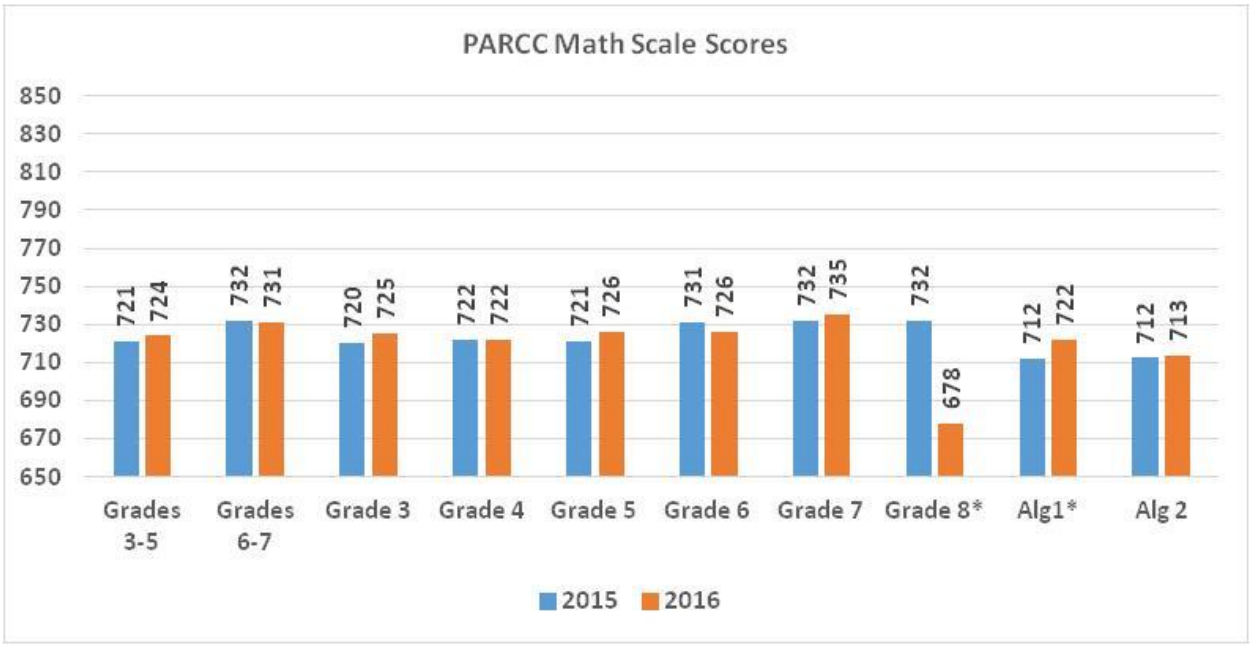
Figure 40. PARCC ELA Percent of Students at Each Performance Level



Similar to the ELA scores, as seen in Figure 41, the overall PARCC Math scores show slight, nonsignificant increases and decreases between the testing in Spring 2015 and Spring 2016, but as

yet do not demonstrate a strong pattern of score change. Grades 3-5 (Math Expressions), and 6-7 (Big Ideas Math) were analyzed together to show a baseline for students using the same curricula. It should be noted that all 8th grade students took the MAT08 test in 2015 but only low-scoring students took it in 2016, negating a year-to-year growth comparison.

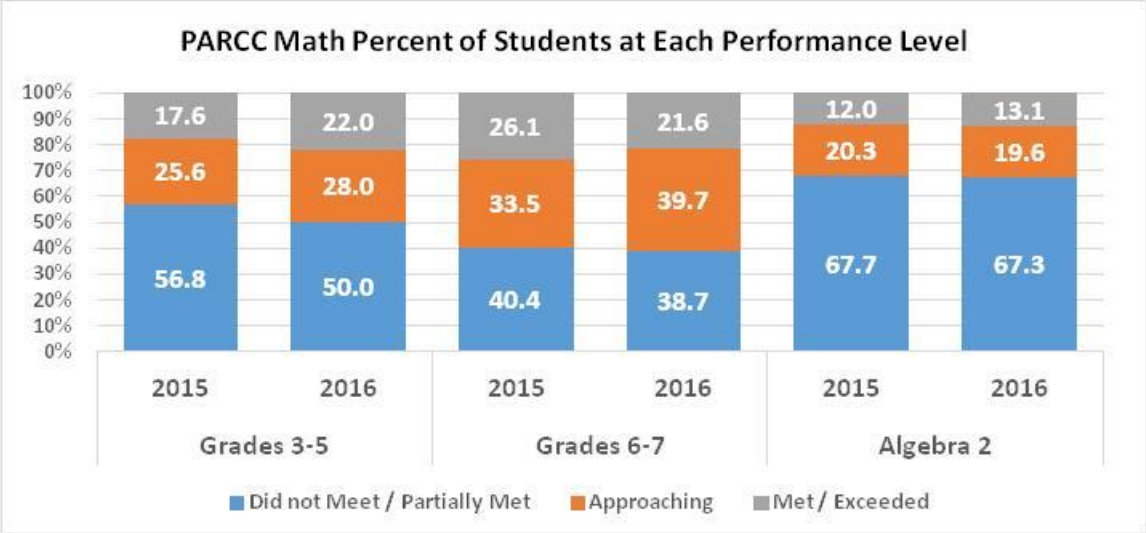
Figure 41. PARCC Math Scale Scores by Year and Grade Level



*In 2015 all students in 8th grade took the MAT08 test while in 2016 only lower scoring students took MAT08 while all other 8th grade students took Algebra 1.

As shown in Figure 42, from Spring 2015 to Spring 2016, there was a 4.4% increase in the number of students in grades 3-5 who Met or Exceeded PARCC Math standards and a 6.8% decrease in the number of students who Did not Meet or who Partially Met the standards. Students in grades 6-7 demonstrated a decrease in percent who Met the standards, with more students only Approaching the standards. At the elementary school level, 3.7% of students moved from not meeting to approaching standards and 2.1% more met standards. There was little change among students who took Algebra 2.

Figure 42. PARCC Math Percent of Students at Each Performance Level



Using a sample of students from 71 Illinois school districts, Fall MAP RIT scores were mapped to Spring PARCC Achievement Levels to create Achievement Level predictions[22]. Overall, student PARCC ELA achievement levels were as expected based on their Fall MAP RIT scores (see Table 6). With 330 students scoring in the projected achievement level, 123 students scoring higher than the projected achievement level, and 134 students scoring lower than the projected achievement level, no significant difference existed between projected *(M = 2.73)* and actual *(M = 2.73)* achievement levels *(t(588) = 0.16, p = .87)*.

Table 6. Number of Students who Met Projected PARCC ELA Achievement Levels Based on MAP

PARCC ELA Achievement Levels					
Projected	**Did not Meet**	**Partially Met**	**Approached**	**Met**	**Exceeded**
Did not Meet	66	26	4	0	0
Partially Met	26	65	49	4	0
Approached	9	26	102	46	0
Met	3	7	40	93	5
Exceeded	0	0	0	12	4

Note: Cells highlighted in purple show students who met projected achievement levels; cells highlighted in blue show students who exceeded projected achievement levels; cells highlighted in gray show students who did not meet projected achievement levels.

[22] Northwest Evaluation Association (2016). Linking the PARCC Assessments to NWEA MAP Tests for Illinois.

Overall, student PARCC math achievement levels were slightly lower than expected based on their Fall MAP RIT scores (see Table 7). With 363 students scoring in the projected achievement level, 86 students scoring higher than the projected achievement level, and 139 students scoring lower than the projected achievement level, there was a statistically significant difference between projected *(M = 2.68)* and actual *(M = 2.57)* achievement levels *(t(587) = 3.74, p < .01)*. Compared to student PARCC ELA achievement levels, more students met but less students exceeded projected PARCC math achievement levels.

Table 7. Number of Students who Met Projected PARCC Math Achievement Levels Based on MAP

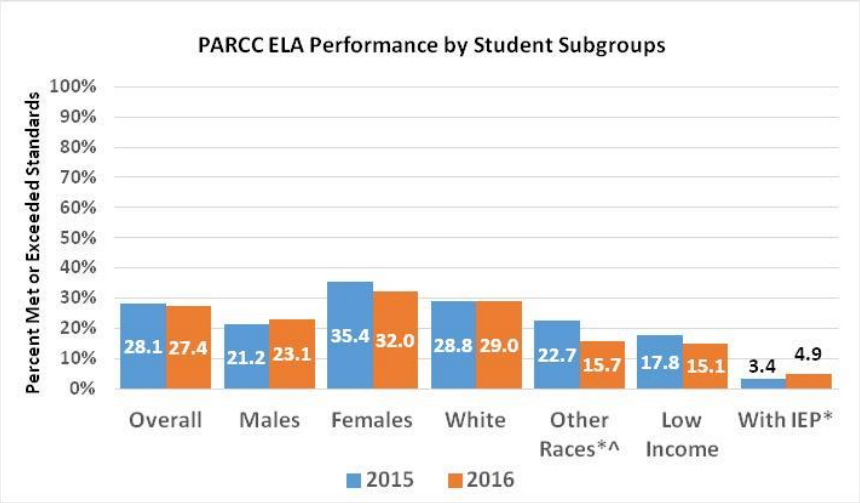
	PARCC ELA Achievement Levels				
Projected	**Did not Meet**	**Partially Met**	**Approached**	**Met**	**Exceeded**
Did not Meet	62	9	2	0	0
Partially Met	48	93	33	0	0
Approached	6	51	121	37	0
Met	0	2	30	88	5
Exceeded	0	0	0	2	1

Note: Cells highlighted in purple show students who met projected achievement levels; cells highlighted in blue show students who exceeded projected achievement levels; cells highlighted in gray show students who did not meet projected achievement levels.

Does the relationship between HMH professional development and curricula and student outcomes vary as a function of different student characteristics (e.g., across different types of students, at different grade or ability levels)?

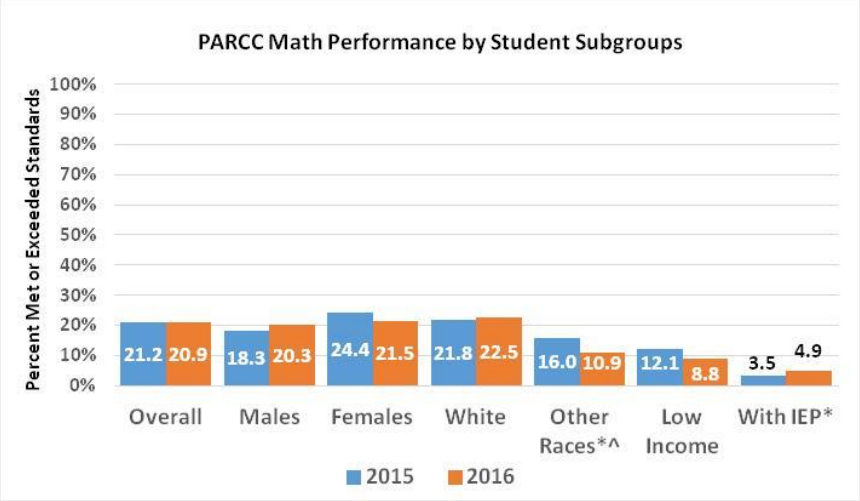
Figures 43 and 44 show the percentages of students in each subgroup who met or exceeded PARCC ELA standards and math standards, respectively, in the Spring 2015 and Spring 2016 assessments. Initial trends suggest that females more often Met or Exceeded standards than males, and non-White students as well as those from a low income family or with an IEP less often Met or Exceeded standards than the district average (see Appendix A for statistical significance of comparisons). These represent baseline numbers and future years will allow for year-to-year growth comparisons within these groups. Additionally, because of the small number of students in the subgroups, year-to-year changes are sometimes due to just one to three students' scores, and may not represent substantial group change.

Figure 43. PARCC ELA Performance by Student Subgroups



*The small subgroup *N* means that year-to-year changes look exaggerated but only reflect differences in 1 to 3 people
^All other groups were combined as the samples were too small to compare individually

Figure 44. PARCC Math Performance by Student Subgroups



*The small subgroup *N* means that year-to-year changes look exaggerated but only reflect differences in 1 to 3 people
^All other groups were combined as the samples were too small to compare individually

As measured by assessments used in the district that are aligned to CCSS, student performance on the Measure of Academic Progress (MAP) assessments have generally shown accelerated growth in the 2015-2016 school year, as compared to the prior 2014-2015 school year – with assessments showing an increased growth in reading and math skills from beginning to end of the school year. End of year PARCC assessments, which were first administered in Spring 2015, do not yet demonstrate discernible changes or patterns in scores. While students are moving from lower achievement levels to higher achievement levels in grades 3-5, students in 6th-7th grades show a slight decrease in achievement scores. That said, prior findings suggest that the number of RCD units implemented and the extent to which there is horizontal alignment of CCSS within grades is somewhat greater at the elementary level than for the middle and high school levels. Such information as to where the different grade spans are in terms of their implementation of RCD and CCSS is relevant when interpreting assessment results.

Conclusion

The partnership between HMH and Oregon CUSD that began in 2012 has resulted in an increased availability of professional development and HMH curricula for educators to utilize during this period of district-wide CCSS alignment. Educators were offered training on the Common Core State Standards, the use of Rigorous Curriculum Design, Data Teams, and provided ELA and math curricula for grades K-12. As expected, the implementation of CCSD via curricula and creation of RCD units has progressed slowly since the 2013-14 school year with substantial, but not complete, progress demonstrated during this past 2015-16 school year.

A variety of surveys and assessment data were examined to determine the extent to which HMH curricula and professional development services impacted teacher behaviors and student outcomes.

While approximately half of the respondents of the 2016 Educator Survey had attended CCSS training or Curriculum training, nearly all had attended Rigorous Curriculum Design training and Data Teams training. Responses indicated that the majority of teachers now feel they have the knowledge needed to provide instruction that meets CCSS. However, similar to findings in 2015, educators who attended the CCSS professional development in 2014 continued to more frequently express that they had the requisite knowledge to provide CCSS instruction than those who did not attend, suggesting that the early knowledge and confidence gained from the professional development continued through the second subsequent year of implementation. While agreement is increasing, in 2016, 48% of teachers still do not agree that they have the required resources or materials to provide instruction that meets the CCSS. Commitment to implementing CCSS remains high, although there is some movement from 2013 to 2016 from feeling very committed to feeling somewhat committed to implementing CCSS.

Educators reported many changes in teacher practices, student outcomes, and workplace behaviors since the CCSS initiatives implementation began in 2013. The majority of educators agreed that the variety of assessment practices used and classroom alignment with CCSS has increased while slightly fewer than half agreed that integration across content areas has increased. More than half of educators agreed that student academic preparation increased while only somewhat less than half agreed that student engagement increased. The majority of educators agreed that discussion about data and student progress and documentation of students attaining standards increased, while about half agreed that vertical alignment and horizontal alignment/pacing, and standardization of end-of-school-year expectations for students has increased. About half of teachers report that there is collaboration in sharing materials and using data to improve instruction. Perceptions of work environment flexibility and room for professional judgment varied with one-quarter of educators agreeing that it increased while just less than half said it decreased. Nearly every educator agreed that teacher stress has increased.

Rigorous Curriculum Design activities continued to progress in the 2015-16 school year. Educators reported substantial progress in creating a horizontally aligned pacing calendar and developing RCD units for the classroom. Some progress was reported in completing a vertically aligned pacing calendar and creating common units of instruction for teachers in the same grade. Individual schools reported varying amounts of progress in each task but each school in the district reported progress in completing and testing RCD units. Results from the Educator Survey support some themes expressed during the site visit in that educators reported less than optimal satisfaction with the RCD units they had already developed and more than half agreed that the approval criteria was unclear.

Completion of the HMH professional development increased to include nearly every teacher by the 2014-15 school year, but implementation of HMH curricula has progressed more slowly. Few teachers implemented the HMH curricula in the 2013-14 school year, while more implemented in the 2014-15 school year and the majority of teachers implemented the curricula for the 2015-16 school year (all math and grade 6-12 reading teachers and three-quarters of K-5 reading teachers). In looking at the extent that the curricula was used in the classroom, teachers reported completing a greater percentage of the curricula (at least half) during the 2015-16 school year than the 2014-15 school year in every topic at every level except for the ELA teachers in grades K-5, who reported using more supplemental materials in 2015-16 and less of the Journeys curriculum. This pattern of use coincides with greater completion of RCD units which draw on all available materials from every ELA teacher and so creates units comprised of both HMH curricula and supplemental materials. As such, changes in assessment scores may be related to professional development or curricula implementation or both.

Three kinds of assessment scores were examined for patterns of change. The AIMSweb assessments measure growth in basic literacy and math skills from Fall to Spring in comparison to a national norm and results suggest that overall student growth in reading from 2012 to 2016 testing has increased for some grades and decreased for others, without a strong pattern of consistent change. The MAP assessments were aligned in 2014 to assess growth in CCSS-related skills, and results suggest that since 2014, students in both Elementary and Junior High school have demonstrated accelerated growth in reading from Fall to Spring as compared to the national average growth, fall percentile ranks have surpassed the national average for the 2015-16 school year, and the percent of students who met MAP reading growth projections increased. MAP math scores show the same pattern among students in grades 6-8. However, the pattern for Elementary School math students is less clear and fluctuates year-to-year, but strong patterns of change would not yet be expected as the K-5 math curriculum was not introduced until the 2014-15 school year. The PARCC assessment measured end-of-year achievement progress in 2015 and 2016. PARCC overall ELA and math scores both show slight year-to-year fluctuation but do not yet show a strong pattern of change.

The pattern of results reported in this Year 2 evaluation suggest that teacher practices and classroom experiences continue to become more aligned with the Common Core State Standards. Though still in the early phases of curricula implementation, student assessment scores show signs of accelerated growth in learning from the beginning to the end of the school year, and changes in year-end assessment scores and performance levels will be examined for stronger patterns in future years.

Appendix A: Statistics

Educator Instructional Practices

Oneway ANOVA

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
a1Differe	2015	38	3.58	1.130	.183	3.21	3.95	1	5
	2016	50	4.00	.904	.128	3.74	4.26	2	5
	Total	88	3.82	1.023	.109	3.60	4.03	1	5
b1Integration	2015	38	4.08	.997	.162	3.75	4.41	1	5
	2016	50	3.82	.962	.136	3.55	4.09	1	5
	Total	88	3.93	.980	.104	3.72	4.14	1	5
c1Connect	2015	38	3.42	1.056	.171	3.07	3.77	1	5
	2016	50	3.34	.982	.139	3.06	3.62	1	5
	Total	88	3.38	1.009	.108	3.16	3.59	1	5
d1Collab	2015	38	2.76	1.051	.170	2.42	3.11	1	5
	2016	50	3.34	1.423	.201	2.94	3.74	1	5
	Total	88	3.09	1.301	.139	2.82	3.37	1	5

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
a1Differe	Between Groups	3.828	1	3.828	3.772	.055
	Within Groups	87.263	86	1.015		
	Total	91.091	87			
b1Integration	Between Groups	1.448	1	1.448	1.516	.222
	Within Groups	82.143	86	.955		
	Total	83.591	87			
c1Connect	Between Groups	.142	1	.142	.138	.711
	Within Groups	88.483	86	1.029		
	Total	88.625	87			
d1Collab	Between Groups	7.184	1	7.184	4.410	.039
	Within Groups	140.088	86	1.629		
	Total	147.273	87			

PARCC Overall Scale Score Comparisons by Year

Oneway ANOVA Reading and Math Overall by Year

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
OvScaleELA	2015	659	730.78	30.893	1.203	728.42	733.14	650	824
	2016	720	730.15	30.970	1.154	727.89	732.42	650	804
	Total	1379	730.45	30.924	.833	728.82	732.09	650	824
OvScaleMath	2015	721	723.80	30.029	1.118	721.61	726.00	650	819
	2016	722	723.99	30.412	1.132	721.76	726.21	650	809
	Total	1443	723.89	30.211	.795	722.33	725.45	650	819

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
OvScaleELA	Between Groups	135.949	1	135.949	.142	.706
	Within Groups	1317622	1377	956.878		
	Total	1317758	1378			
OvScaleMath	Between Groups	12.278	1	12.278	.013	.908
	Within Groups	1316094	1441	913.320		
	Total	1316107	1442			

Oneway ANOVA READING

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
ELA03	2015	102	715.67	32.922	3.260	709.20	722.13	650	806
	2016	113	716.71	34.650	3.260	710.25	723.17	650	787
	Total	215	716.21	33.767	2.303	711.67	720.75	650	806
ELA04	2015	118	730.65	30.502	2.808	725.09	736.21	661	824
	2016	104	729.03	30.630	3.004	723.07	734.99	659	803
	Total	222	729.89	30.504	2.047	725.86	733.93	659	824
ELA05	2015	81	731.14	28.661	3.185	724.80	737.47	652	792
	2016	110	736.85	25.383	2.420	732.05	741.64	670	796
	Total	191	734.42	26.898	1.946	730.59	738.26	652	796
ELA06	2015	100	738.12	25.628	2.563	733.03	743.21	650	796
	2016	83	731.29	27.256	2.992	725.34	737.24	659	792
	Total	183	735.02	26.526	1.961	731.15	738.89	650	796
ELA07	2015	91	733.45	31.329	3.284	726.93	739.98	654	812
	2016	111	742.20	29.567	2.806	736.64	747.76	671	799
	Total	202	738.26	30.609	2.154	734.01	742.50	654	812
ELA08	2015	99	733.18	30.610	3.076	727.08	739.29	650	803
	2016	94	722.61	32.097	3.311	716.03	729.18	650	781
	Total	193	728.03	31.707	2.282	723.53	732.53	650	803
ELA11	2015	68	735.35	31.768	3.852	727.66	743.04	673	806
	2016	105	731.86	29.066	2.837	726.23	737.48	674	804
	Total	173	733.23	30.114	2.290	728.71	737.75	673	806

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
ELA03	Between Groups	58.129	1	58.129	.051	.822
	Within Groups	243944.0	213	1145.277		
	Total	244002.2	214			
ELA04	Between Groups	145.738	1	145.738	.156	.693
	Within Groups	205491.7	220	934.053		
	Total	205637.4	221			
ELA05	Between Groups	1520.770	1	1520.770	2.114	.148
	Within Groups	135943.9	189	719.280		
	Total	137464.6	190			
ELA06	Between Groups	2116.292	1	2116.292	3.041	.083
	Within Groups	125941.6	181	695.810		
	Total	128057.9	182			
ELA07	Between Groups	3826.447	1	3826.447	4.148	.043
	Within Groups	184498.2	200	922.491		
	Total	188324.6	201			
ELA08	Between Groups	5392.650	1	5392.650	5.489	.020
	Within Groups	187633.2	191	982.373		
	Total	193025.8	192			
ELA11	Between Groups	504.365	1	504.365	.555	.457
	Within Groups	155476.4	171	909.219		
	Total	155980.8	172			

Oneway ANOVA MATH

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
ALG01	2015	133	712.40	27.826	2.413	707.63	717.17	650	786
	2016	173	722.31	30.241	2.299	717.77	726.85	650	799
	Total	306	718.00	29.581	1.691	714.68	721.33	650	799
MAT03	2015	102	720.30	31.953	3.164	714.03	726.58	650	792
	2016	113	725.03	32.341	3.042	719.00	731.05	657	806
	Total	215	722.79	32.169	2.194	718.46	727.11	650	806
MAT04	2015	118	721.95	29.212	2.689	716.62	727.27	650	819
	2016	104	721.84	30.369	2.978	715.93	727.74	657	779
	Total	222	721.90	29.692	1.993	717.97	725.82	650	819
MAT05	2015	81	721.35	24.776	2.753	715.87	726.82	654	775
	2016	111	725.94	28.443	2.700	720.59	731.29	650	795
	Total	192	724.00	26.985	1.947	720.16	727.84	650	795
MAT06	2015	97	731.11	26.722	2.713	725.73	736.50	651	784
	2016	83	726.14	23.476	2.577	721.02	731.27	675	782
	Total	180	728.82	25.330	1.888	725.10	732.55	651	784
MAT07	2015	91	731.98	29.206	3.062	725.90	738.06	664	792
	2016	111	735.27	27.010	2.564	730.19	740.35	650	809
	Total	202	733.79	27.998	1.970	729.90	737.67	650	809
MAT08	2015	99	732.26	33.787	3.396	725.52	739.00	662	803
	2016	27	677.59	18.423	3.545	670.30	684.88	650	709
	Total	126	720.55	38.378	3.419	713.78	727.31	650	803

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
ALG01	Between Groups	7389.973	1	7389.973	8.657	.004
	Within Groups	259501.0	304	853.622		
	Total	266891.0	305			
MAT03	Between Groups	1195.659	1	1195.659	1.156	.283
	Within Groups	220260.5	213	1034.087		
	Total	221456.2	214			
MAT04	Between Groups	.701	1	.701	.001	.978
	Within Groups	194837.9	220	885.627		
	Total	194838.6	221			
MAT05	Between Groups	987.120	1	987.120	1.358	.245
	Within Groups	138098.9	190	726.836		
	Total	139086.0	191			
MAT06	Between Groups	1104.293	1	1104.293	1.728	.190
	Within Groups	113742.0	178	639.000		
	Total	114846.3	179			
MAT07	Between Groups	541.999	1	541.999	.690	.407
	Within Groups	157017.8	200	785.089		
	Total	157559.8	201			
MAT08	Between Groups	63405.524	1	63405.524	65.139	.000
	Within Groups	120699.7	124	973.385		
	Total	184105.2	125			

ELA Oneway ANOVA

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Race	Did not Meet Standards	523	15.45	1.571	.069	15.32	15.59	11	17
	Met Standards	197	15.78	1.079	.077	15.63	15.93	11	17
	Total	720	15.54	1.459	.054	15.43	15.65	11	17
Gender	Did not Meet Standards	523	1.55	.498	.022	1.51	1.59	1	2
	Met Standards	197	1.44	.497	.035	1.37	1.51	1	2
	Total	720	1.52	.500	.019	1.48	1.55	1	2
Homeless	Did not Meet Standards	523	1.99	.097	.004	1.98	2.00	1	2
	Met Standards	197	2.00	.000	.000	2.00	2.00	2	2
	Total	720	1.99	.083	.003	1.99	2.00	1	2
IEP	Did not Meet Standards	523	1.85	.357	.016	1.82	1.88	1	2
	Met Standards	197	1.98	.141	.010	1.96	2.00	1	2
	Total	720	1.89	.318	.012	1.86	1.91	1	2
LowIncome	Did not Meet Standards	523	1.47	.500	.022	1.43	1.52	1	2
	Met Standards	197	1.75	.433	.031	1.69	1.81	1	2
	Total	720	1.55	.498	.019	1.51	1.59	1	2

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Race	Between Groups	14.975	1	14.975	7.093	.008
	Within Groups	1515.775	718	2.111		
	Total	1530.750	719			
Gender	Between Groups	1.802	1	1.802	7.269	.007
	Within Groups	177.964	718	.248		
	Total	179.765	719			
Homeless	Between Groups	.013	1	.013	1.896	.169
	Within Groups	4.952	718	.007		
	Total	4.965	719			
IEP	Between Groups	2.375	1	2.375	24.264	.000
	Within Groups	70.286	718	.098		
	Total	72.661	719			
LowIncome	Between Groups	11.138	1	11.138	47.843	.000
	Within Groups	167.160	718	.233		
	Total	178.299	719			

Oneway ANOVA Math

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Race	Did not Meet Standards	571	15.43	1.613	.067	15.30	15.57	11	17
	Met Standards	151	15.70	1.171	.095	15.51	15.89	11	17
	Total	722	15.49	1.534	.057	15.38	15.60	11	17
Gender	Did not Meet Standards	571	1.49	.500	.021	1.45	1.54	1	2
	Met Standards	151	1.48	.501	.041	1.40	1.56	1	2
	Total	722	1.49	.500	.019	1.45	1.53	1	2
Homeless	Did not Meet Standards	571	1.99	.093	.004	1.98	2.00	1	2
	Met Standards	151	2.00	.000	.000	2.00	2.00	2	2
	Total	722	1.99	.083	.003	1.99	2.00	1	2
IEP	Did not Meet Standards	571	1.87	.342	.014	1.84	1.89	1	2
	Met Standards	151	1.97	.161	.013	1.95	2.00	1	2
	Total	722	1.89	.316	.012	1.86	1.91	1	2
LowIncome	Did not Meet Standards	571	1.48	.500	.021	1.44	1.52	1	2
	Met Standards	151	1.81	.395	.032	1.74	1.87	1	2
	Total	722	1.55	.498	.019	1.51	1.58	1	2

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Race	Between Groups	8.668	1	8.668	3.698	.055
	Within Groups	1687.744	720	2.344		
	Total	1696.411	721			
Gender	Between Groups	.035	1	.035	.139	.710
	Within Groups	180.397	720	.251		
	Total	180.432	721			
Homeless	Between Groups	.009	1	.009	1.330	.249
	Within Groups	4.956	720	.007		
	Total	4.965	721			
IEP	Between Groups	1.402	1	1.402	14.319	.000
	Within Groups	70.511	720	.098		
	Total	71.913	721			
LowIncome	Between Groups	13.130	1	13.130	56.999	.000
	Within Groups	165.861	720	.230		
	Total	178.992	721			