Final Report of Massachusetts Standard Selection and MKEA Formative Assessment Alignment Process

June 30, 2015
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Executive Summary

The Massachusetts Department of Early Education and Care (EEC), in partnership with the Department of Elementary and Secondary Education (DESE), contracted with RMC Research Corporation (RMC) to provide recommendations on implementing the Massachusetts Kindergarten Entry Assessment (MKEA) in the context of other key policy initiatives and elements of the Commonwealth’s system of early education and care with the goal of streamlining assessment expectations but not sacrificing progress monitoring on critical dimensions of development.

This work included a review of existing prekindergarten and kindergarten learning standards and guidelines as well as competencies outlined in the Building the Foundation of Future Success for Children from Birth through Grade 3, commissioned reports related to the alignment of the Massachusetts early learning standards with Work Sampling System® and Teaching Strategies GOLD®, and the objectives, dimensions and indicators in the formative assessment tools that are being used as part of MKEA (Work Sampling System® and Teaching Strategies GOLD®). RMC used these foundational materials to develop a comprehensive working framework to link and align Massachusetts learning standards to the selected formative assessments. This comprehensive framework set the stage for determining the following key domains of learning to be included in this analysis:

1. Social and Emotional Learning
2. Approaches to Play and Learning
3. English Language Arts and Literacy
4. Mathematics
5. Physical Development

Following a thorough review of the existing learning standards, guidelines and reports, RMC conducted an analysis of the prekindergarten and kindergarten learning standards embedded in the Massachusetts Curriculum Framework for English Language Arts and Literacy (2001), the Curriculum Framework for Mathematics (2001), Massachusetts Draft Standards for Preschool and Kindergarten Social and Emotional Learning and Approaches to Play and Learning (2015), and the Comprehensive Health Curriculum Framework (1999). Recognizing that learning standards and assessment indicators differ – where standards are a thorough set of statements outlining what children should know and be able to do by the end of a specific time and assessment indicators capture information about aspects of children’s learning on a

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1 RMC was asked to provide recommendations for Physical Development and add it as a key domain at the request of the Massachusetts Department of Early Education and Care and the Department of Elementary and Secondary Education in May 2015. RMC utilized the Comprehensive Health Curriculum Framework (1999), referenced elements in the DIAL 4 and conducted Therefore, the selection and alignment process was unique to this indicator. RMC relied on alignment and elements in the DIAL
developmental continuum – it was important to first examine the prekindergarten and kindergarten learning standards incorporated within the Massachusetts Curriculum Frameworks and select key learning standards most predictive of children’s future success to streamline assessment for kindergarten teachers.

After selecting key Massachusetts learning standards, RMC conducted an alignment analysis with formative assessment being used in MKEA. Recognizing that learning standards and formative assessment serve different purposes and rarely have a one-to-one match, the alignment process required analysis at the indicator level of learning progressions described for the prekindergarten and kindergarten levels within the formative assessments. This process resulted in a set of recommendations of select learning standards aligned to key indicators of the assessment tools that are most predictive of children’s positive educational outcomes, which were then shared with key stakeholders across the state for input and comment. Finally, we were able to make recommendations to streamline assessment expectations by reducing the suggested indicators within the selected key domain areas from a possible 60 objectives and dimensions to 41 as depicted in the table below.

<table>
<thead>
<tr>
<th>Domain</th>
<th>Possible Objectives and Dimensions</th>
<th>Recommended Objectives and Dimensions</th>
<th>Sources and Links to Massachusetts Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social-Emotional</td>
<td>9</td>
<td>6</td>
<td>Massachusetts DRAFT Standards for Preschool and Kindergarten Social and Emotional Learning and Approaches to Play and Learning</td>
</tr>
<tr>
<td>Cognitive</td>
<td>10</td>
<td>5</td>
<td>Three are aligned with the standards incorporated in the Massachusetts DRAFT Standards for Preschool and Kindergarten Social and Emotional Learning and Approaches to Play and Learning; one is aligned to the Curriculum Framework for English Language Arts and Literacy; and one is aligned to the Curriculum Framework for Mathematics</td>
</tr>
<tr>
<td>Language</td>
<td>8</td>
<td>6</td>
<td>Curriculum Framework for English Language Arts and Literacy</td>
</tr>
<tr>
<td>Literacy</td>
<td>16</td>
<td>13</td>
<td>Curriculum Framework for English Language Arts and Literacy</td>
</tr>
<tr>
<td>Mathematics</td>
<td>12</td>
<td>8</td>
<td>Curriculum Framework for Mathematics</td>
</tr>
<tr>
<td>Physical</td>
<td>5</td>
<td>3</td>
<td>Two are aligned with the Massachusetts Comprehensive Health Curriculum Framework. One was not found for alignment in the Massachusetts standards.</td>
</tr>
</tbody>
</table>
This report provides a detailed description of the processes used to select key Massachusetts learning standards and align those standards to selected formative assessments. The complete set of recommended selections and alignments with assessments are presented in Part II of this report.

The Commonwealth also sought information about other assessment tools used by kindergarten teachers in the areas of language, literacy and mathematics. RMC conducted an analysis of existing data from surveys of schools and conducted a total of ten school interviews to identify other tools that school districts are using in addition to Teaching Strategies GOLD® and Work Sampling System®; that information is provided in a report sent under separate cover.
Part 1. Process

INTRODUCTION AND BACKGROUND

The Massachusetts Department of Early Education and Care (EEC), in partnership with the Department of Elementary and Secondary Education (DESE) and with funding from the Race to the Top- Early Learning Challenge Grant, developed the MKEA initiative which requires participating school districts to use a formative assessment tool that is evidence based and aligned with the Massachusetts Curriculum Frameworks. Initially beginning with three formative assessment options, participating schools ultimately selected one of two tools, Teaching Strategies GOLD® and Work Sampling System®. The MKEA initiative was launched with a first cohort of districts in the 2012-2013 academic year followed by a second cohort in 2013-2014. Districts in the two cohorts used either the full online version of Teaching Strategies GOLD® or Work Sampling System®. Based on feedback from the first two cohorts, the EEC and DESE only required that the third cohort participants assess children using the instruments in two domains: social emotional and cognitive development. This decision was based on field reports about the challenges posed with the amount of time and duplication that the full formative assessments required. Districts from the first two cohorts were offered the option of switching to Teaching Strategies GOLD®, which the majority did. By the third cohort, the vast majority of participating school districts were using Teaching Strategies GOLD®. Therefore, it is important to note that EEC encouraged RMC to focus alignments primarily on the objectives and dimensions outlined in Teaching Strategies GOLD®.

As the MKEA project enters the fourth cohort, EEC and DESE wanted to explore ways to encourage schools to engage in formative assessment across all domains of school readiness while reducing the burden on teachers. To accomplish this, EEC contracted with RMC to inform MKEA formative assessment requirements by selecting key prekindergarten and kindergarten learning standards most predictive of children’s future success, aligning selected prekindergarten and kindergarten learning standards to formative assessment indicators, and summarizing school survey and interview data about other assessments used by school districts in the language, literacy and mathematics domains. To accomplish this, RMC initiated a process designed to:

- Review existing prekindergarten and kindergarten learning standards and guidelines in their various forms as well as competencies outlined in the Building the Foundation of Future Success for Children from Birth through Grade 3, commissioned reports related to the alignment of the Massachusetts early learning standards with Work Sampling System® and Teaching Strategies GOLD®, and the objectives, dimensions and indicators in the formative assessment tools that are being used as part of MKEA (Work Sampling System® and Teaching Strategies GOLD®)
- Use a multi-step process, including a review of available research by RMC staff with early childhood backgrounds to check connections between indicators of development

- Align selected prekindergarten and kindergarten learning standards with Teaching Strategies GOLD® and Work Sampling System® indicators.
- Summarize survey analysis and interview data about other early learning assessments used in Massachusetts school districts in the language, literacy and mathematics domains.

Input from Massachusetts teachers and administrators was sought at 2 points during this process. Prior to the beginning of the alignment work, DESE surveyed districts to determine which areas they preferred to assess and what they perceived as the strengths and challenges of the initiative. In this survey teachers and administrators were asked if they would participate in a webinar that would outline the alignment work being done and provide additional feedback. This feedback was used to inform the final alignment results.

**Processes for Identifying Massachusetts Standards for Assessment and Aligning Assessment Indicators**

To reduce burden on teachers, it became clear early on in the project that the goal of streamlining a set of indicators required the initial step of identifying key learning standards from Massachusetts Curriculum Framework for English Language Arts and Literacy (2011), the Curriculum Framework for Mathematics (2011), Massachusetts Draft Standards for Preschool and Kindergarten Social and Emotional Learning and Approaches to Play and Learning (2015), and the Comprehensive Health Curriculum Framework (1999). RMC noted the importance of building on the standards work teachers were familiar with in order to anchor the proposed indicators to existing expectations and provide connections to the standards used at subsequent grade levels.

This section of the report provides an overview of the process RMC used to identify Massachusetts prekindergarten and kindergarten learning and development standards that are predictive of children’s future educational success and also the subsequent process used to align to selected MKEA formative assessments.

*Step 1 Document Review*

RMC conducted the selection and alignment portion of the work in three phases. First, RMC began the selection and alignment process by carefully reviewing several guideline documents, existing reports commissioned by EEC that cross-walk the domain indicators of the assessment tools used in the MKEA initiative with prekindergarten and kindergarten learning standards
embedded in English Language Arts, Mathematics and Comprehensive Health Massachusetts Curriculum Frameworks, Massachusetts Draft Standards for Preschool and Kindergarten Social and Emotional Learning and Approaches to Play and Learning, and the essential competencies outlined in the Building the Foundation of Future Success for Children from Birth Through Grade 3. RMC also reviewed Teaching Strategies GOLD® and Work Sampling System®.

The Commonwealth of Massachusetts has developed a comprehensive set of Curriculum Frameworks across the key domains of learning and grade levels and has focused special attention over the last five years to updating and incorporating new and rigorous core state standards into learning frameworks, standards and guidelines. Most recently, the Commonwealth finalized the Massachusetts Draft Standards for Preschool and Kindergarten Social and Emotional Learning and Approaches to Play and Learning – two domain areas which were not clearly outlined in previous standards and guidelines. Additionally, the Massachusetts Curriculum Frameworks were developed by key stakeholder teams, and aligned with higher grades, including College and Career Readiness anchor standards.

As an initial step, RMC used the review of documents to develop a working comprehensive crosswalk of the Massachusetts Curriculum Frameworks subjects and learning standard categories to the domain areas, objectives and dimensions of Teaching Strategies GOLD® and the domain areas and indicators of Work Sampling System®. This process helped facilitate subsequent analyses, illuminate patterns and raise questions and concerns to be addressed by EEC and DESE to refine the overall approach. This initial work provided a basis for RMC and the EEC/DESE team to clarify terminology and organize information and work through specific challenges that are to be expected when aligning two different constructs – standards and assessment indicators. Standards are designed to be a thorough set of statements outlining what children should know and be able to do by the end of a specific time (either prekindergarten or kindergarten). Assessment indicators capture information about aspects of children’s learning and development on a developmental continuum. The crosswalk helped RMC work with EEC and DESE to work through the expected differences, such as labeling of similar concepts and inconsistent categorization of indicators within domains or objectives.
Step 2 Massachusetts Standard Selection

The second phase of the work focused on selecting Massachusetts learning standards that are most clearly related to children’s future educational success.

RMC staff consulted various research summaries and sources and used our professional background knowledge in early learning, including working with the IES practice guides and What Works Clearinghouse summaries in early learning to make suggestions about priority standards. Selected research sources are with the sets of recommended standards in Part II of the report.

RMC analyzed the content within each document at the level of observable skills or behaviors, typically defined in these documents as a “standard.” RMC first reviewed the standards to uncover skills or behaviors that may be subsumed by or preparatory to other standards.

Next, RMC referred to several research syntheses to highlight standards that are most predictive of children’s future educational success, in the domains where information is available. For example, RMC noted that while there is a strong and detailed research-based that specifies the skills necessary in the language and literacy domains of learning, the research is less defined in the approaches to learning domain. In other words, while the evidence is clear that the children’s approaches to learning and social and emotional development strongly impact their success in school, the details on the specific skills that are most predictive is less defined. To assist in domains where the research is still developing, RMC conducted reviews of information available through technical assistance centers, reviewed other states’ selections, and strongly considered key stakeholder feedback. All resources are provided following the selection and alignment charts presented in Part II of this report.
Step 3 Formative Assessment Alignment

In tandem with phase two, RMC reviewed the MKEA formative assessment instruments to align indicators with the Massachusetts standards. RMC focused on Teaching Strategies GOLD® in this phase of the work since the vast majority of MKEA sites are using Teaching Strategies GOLD®. To conduct the alignment work, RMC analyzed Teaching Strategies GOLD® at the indicator level of observable skills or behaviors most closely matched to the Massachusetts standards. The matching required a review of the indicator statements themselves, the examples provided for each indicator level, and in some cases a review of strategies teachers may use that were provided in the Teaching Strategies GOLD® documents. Beginning with the selected Massachusetts standards, RMC matched Teaching Strategies GOLD® indicators at both the prekindergarten and kindergarten levels. In some cases the match was clear but in others the developmental progression within the Teaching Strategies GOLD® posed challenges. For example, in a few cases, the skills defined within the indicators at higher levels of progression varied in how the Massachusetts learning standards were defined on a developmental continuum. For example, a child could exhibit behaviors described at a higher level in the Teaching Strategies GOLD® indicator, but not at a lower level. While these challenges were discussed with EEC and DESE, they did not necessarily impact the selections or alignments.

As a result of the first two phases of the standard selection and alignment work, RMC was able to streamline assessment recommendations in terms of the number of selected key Massachusetts standards, thereby reducing the number of suggested indicators. Specifically, RMC recommended reducing the number of key Massachusetts indicators as depicted below:

<table>
<thead>
<tr>
<th>Domain</th>
<th>MA Standards (Prekindergarten and Kindergarten)</th>
<th>Recommended MA Standards (Prekindergarten and kindergarten)</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>Approaches to Play and Learning</td>
<td>8</td>
<td>4</td>
<td>Massachusetts DRAFT Standards for Preschool and Kindergarten Social and Emotional Learning and Approaches to Play and Learning</td>
</tr>
<tr>
<td>English Language Arts</td>
<td>138</td>
<td>61</td>
<td>Curriculum Framework for English Language Arts and Literacy</td>
</tr>
<tr>
<td>Mathematics</td>
<td>38</td>
<td>22</td>
<td>Curriculum Framework for Mathematics</td>
</tr>
<tr>
<td>Physical</td>
<td>7</td>
<td>2</td>
<td>Comprehensive Health Curriculum Framework</td>
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2 The standard selection and alignment process in the Physical domain was unique. RMC was asked to provide recommendations for Physical Development and add it as a key domain at the request of the Massachusetts Department of Early Education and Care and the Department of Elementary and Secondary Education in May.
Step 4 Key Stakeholder Input

The third phase of the selection and alignment work included obtaining stakeholder feedback on selection of Massachusetts standards and Teaching Strategies GOLD® alignments. Stakeholders included a working team at EEC and DESE and administrators from the three cohorts that have implemented MKEA. In April, RMC, EEC and DESE hosted a webinar to provide an overview and introduction to the process of selecting standards for measurement and alignment to inform the MKEA and to invite participants to independently review and inform selections. The webinar presentation is included in the attachments. Additionally, EEC and DESE presented a modified version of the webinar and invited input at four regional meetings across the state. RMC developed a review and feedback form for stakeholders to comment on Massachusetts learning standards selections and alignments to Teaching Strategies GOLD® in the following domains: language and literacy, mathematics, approaches to play and learning, and social and emotional development. RMC received feedback from four MKEA participants. Three provided feedback on language and literacy, one on mathematics, one on social and emotional, and one on approaches to learning. RMC also collected feedback from EEC and DESE staff.

RMC summarized all key stakeholder feedback in a chart of suggested changes and provided rationales about whether changes should be implemented, provided as an attachment. RMC shared the deliberations with EEC and DESE for further review and comment for final revisions. In some cases, RMC added to the suggestions or clarified suggestions. In other areas, RMC provided explanations of why suggestions might be considered or not considered. Additionally, EEC shared the final list of recommendations with partners at Teaching Strategies GOLD®, who suggested adding two dimensions. Both suggestions made were added to the recommendations which are found in Part II of this report.

2015. RMC referenced the Comprehensive Health Curriculum Framework (1999), aligned with elements of the DIAL 4 screening tool and Teaching Strategies GOLD®. Recommendations were sent to the EEC and DESE team for review and comment.
Part II. Results

In summary, the selection and alignment process narrowed the number of possible assessment Teaching Strategies GOLD® dimensions and objectives within the selected key domain areas to 41 from a possible 60.

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Massachusetts Standard Selections and Formative Assessment Alignments

The final list of Massachusetts standard selections and formative assessment alignments are found in the charts below, organized by learning domain. Following each domain chart are corresponding research summaries and sources.