University of Washington
Office of Educational Assessment

College Readiness Mathematics Test (CRMT) Working Meeting
University of Washington, Roosevelt Commons B, 416
May 11, 2007, 9:00-5:00

Meeting synopsis:

1. Welcome
2. State perspective
3. Math Placement Testing (MPT) program
4. MPT and CRMS alignment
5. Discussion of CRMT relative to MPT
6. CRMS component ratings
7. Item writing

1. **Welcome**. Nana Lowell, Director, OEA, welcomed the group, discussed test security, and described the meeting goals as well as the project timeline.

   Test security – The Math Placement Tests have been administered as locally developed tests without the level of psychometric development and test security required for wider and higher stakes use. Because of this, everyone working on the test will be asked to sign a Participation Agreement. This Agreement currently assigns ownership of the tests to the University of Washington in order to provide the legal basis for enforcement, and is under review by the HECB attorney general. Signed Agreements were obtained from all meeting participants with the proviso that they would be returned to participants if the Agreement needed to be modified. A concern was voiced that sectors who are contributing to development of the tests should participate in determining how they are used. It was agreed that the Academic Placement Testing Program (APTP) governing board would be expanded to include representatives from two-year schools and K-12, but no timeline was set for this.

   Meeting goals and project timeline – The major milestones of the project are to administer revised Intermediate and Advanced Math Placement Tests (I-MPT and A-MPT) during spring 2008, and to implement 11th-grade testing in autumn 2009. To meet this ambitious timeline, we will focus on expanding the existing MPT testing program, and then turn to possible enhancements as determined by the APTP governing board. The goals for this meeting are to determine the relative importance (i.e., weighting) of each of the CRMS components, and to write sample items to 'operationalize' the standards.

2. **State perspective**. Cindy Morana, Associate Director, COP, discussed legislative interest in placement and college readiness, including the requirement to develop a single test and score to determine college readiness in math. In particular, we are directed to a) "…revise the MPT to serve as a common college readiness test for all 2 and 4-year institutions…"; b) make the test available to high school students to advise them if they are currently college-ready, and c) align the test and those determinations with actual placement into or out of remedial-level courses in the freshmen year of college. Specific milestones are:
   - September 1, 2008 have the test revised
   - September 1, 2009 all public colleges and universities implement the new test
   - Fall 2009 school districts provide tests to students (especially grades 10 & 11)

3. **Math Placement Testing (MPT) program**. Jerry Gillmore, Director Emeritus, OEA, gave a brief discussion of the current Math Placement Tests, who takes them, when and where the tests are administered, the history of test revisions, and governance of the Academic Placement Testing Program (APTP).
4. **MPT and CRMS alignment**. Jon Peterson, Research Scientist, OEA, discussed the current alignment of the I-MPT and A-MPT with the CRMS. He highlighted the differences between Achieve's singular item-to-standard mappings and OEA's approach to mapping items to multiple evidence of learning indicators. In addition to covering the OEA's mapping database for the 195 items on Forms F, G, and H, the specific CRMS mapping of two I-MPT items were demonstrated.
5. **Discussion of CRMT relative to MPT**. The group held a lengthy discussion of different aspects of the Math Placement and College Readiness tests.

   Entry level college courses – Because of the range of college level mathematics, the group discussed common entry level courses at various institutions. Discussion focused on the hazard of setting the "college readiness bar" at pre-calculus and covered other non-algebra based college mathematics courses. This discussion provided the context for the subsequent component ratings task described below.

   Calculators – The use of calculators is not permitted during MPT testing. Arguments for their use centered around the fact that students will have used calculators in their past classes and will expect to use calculators in their future classes and, of course, in real life. Some participants also argued that certain higher level mathematical processes can be more easily assessed through the use of calculators. Arguments against centered around the reality that some questions may be answered by the calculator, not by the student, and that inequities may exist depending upon the quality and currency of the students' calculators. The possibility of limiting students to scientific calculators was discussed. The group agreed to begin by writing items that did not depend upon use of calculators but to leave the question open for the present.

   Online testing – The possible advantages of online administration was discussed and the web-based WAMAP mathematics assessment program (developed with TMP funding) was viewed during the lunch hour. Although online testing is outside the scope of the initial test development, parallel discussions will continue with interested working group members with WAMAP included as one alternative.

   CRMT structure and logistics – It was agreed that we would retain the current item format (five-alternative multiple-choice), test length (35 and 30 items for the I-MPT and A-MPT, respectively), and method of administration (paper-pencil with scannable forms) in order to meet the legislated timeline, but that we would leave open the possibility to implement alternatives in future revisions as determined by the APTP governing board.
6. **CRMS component ratings**. Following these discussions, group members rated the relative importance of the CRMS components relative to assessing college readiness. The ratings instrument asked participants to rate four Content components and two Process components as "most important" and to assign the same number of "least important" ratings. The remaining components were to be given intermediate ratings. The ratings results were summarized during the lunch hour and provided to participants before the afternoon item writing session. The rating exercise was repeated at the end of the day and showed little change in participant judgment of the relative importance of each component. Additionally, only minimal differences were found when average ratings were compared by participant sector (K-12, 2-year, 4-year).

7. **Item writing**. The afternoon was spent in writing items to 'operationalize' the components. Working group members were formed into four small groups made up of representatives from each sector (K-12, 2-year, 4-year). Each group was assigned with the task of writing multiple-choice items for nine CRMS Content components. Participants were asked to map their items to the evidence of learning indicator level and encouraged to write items in such a way to simultaneously target Process standards. Additionally, participants were asked to include both correct and incorrect answers, and to identify whether a particular item required the use of a calculator.

Attending:

Linda Bolte	EWU	Bev Parnell	Yakima Valley CC
Vauhn Foster Grahler	TESC	Jan Ray	Seattle Central CC
Cinnamon Hillyard	UW-Bothell	Katy Absten	Olympic ESD
Russ Killingsworth	SPU	Ron Donovan	OSPI
Jane Lane	EWU	Dave Thielk	Central Kitsap SD
Ginger Warfield	UW	Bridget Monahan	Lake Spokane Elem
Patrick Averbeck	Edmonds CC	Jerry Gillmore	OEA
Jim Brady	Spokane Falls CC	Nana Lowell	OEA
Gary Glaze	Spokane Falls CC	Jon Peterson	OEA
David Lippman	Pierce CC		

Not attending:

Stuart Boersma	CWU	Michael Lundin	CWU
Ken Bube	UW	Jeanette Martin	WSU
Linda Cave	WWU	Bill Thelen	CWU
Jackie Coomes	EWU	Tjalling Ympa	WWU
Tom Henderson	CWU	Linda Brown	Spokane IEL

Guests:

Celia Gilger	OEA	Ricardo Sanchez	HECB
Cindy Morana	COP		