

BCCUPMS Articulation Committee Meeting
May 15, 2018
Attended by Lisa Marshall on behalf of the Ministry of Education

Thank you for the opportunity to attend the BCCUPMS Articulation Committee meeting. I appreciated the discussion.

In the meeting, I committed to following up on a number of outstanding questions regarding the Provincial Graduation Numeracy Assessment (GNA). I apologize for the delay in responding.

I have provided some additional information below. As well, ministry staff could attend a future BCCUPMS meeting to have a more in-depth discussion about the GNA. Further information on the GNA can also be found in the [Graduation Numeracy Assessment: Design Specifications](#).

The following provides additional information on questions raised:

Q1: The reliability of the GNA was greater than .8 and all parameters are within expectations. Can you provide further information on what this means?

A1:

- The reliability index is an estimate of how consistent the results are across all the items on the assessment. A good reliability index (i.e., greater than 0.8) suggests that there is overall strong correlation between items and the general construct (numeracy) the assessment is trying to measure.

Q2: Can the ministry release how students did in each assessment category? (i.e. how many 1s, 2s, 3s, and 4s?)

A2:

- A provincial summary report will be produced for the GNA, similar to reports produced for provincially required exams.
- There is also a [report from markers](#) on student performance on the Graduation Numeracy Assessment (GNA). The information is drawn from comments from the BC teachers who marked the January 2018 GNA. It offers insight into students' strengths and areas to work on, as indicated by their performance on the open-ended questions. Comments are based on the four types of tasks outlined in the [Graduation Numeracy Assessment: Design Specifications](#).

Q3: How were the four categories determined? How are they to be interpreted?

A3:

- We have the goal of implementing strength-based, descriptive scales for reporting on all our provincial assessments. The four categories were derived from research and typical scales in place in schools. We are still open to changes while the student reporting policy is piloted and reviewed. The descriptors for the four categories were developed by teachers from across the province who have extensive experience in numeracy. These descriptors were produced as part of the standard setting work they conducted.
- The following proficiency scale was developed for this assessment and provides information on what a student "can do" at each level:

1 - Emerging	2 - Developing	3 - Proficient	4 - Extending
<p><i>Students demonstrate an initial understanding of the concepts and competencies relevant to the expected learning, specifically, they can:</i></p> <ul style="list-style-type: none"> retrieve information from sources (e.g., graph, image, table) attempt to solve a real-world problem communicate thinking with minimal evidence use a narrow range of mathematical concepts, tools and approaches 	<p><i>Students demonstrate a partial understanding of the concepts and competencies relevant to the expected learning, specifically, they can:</i></p> <ul style="list-style-type: none"> apply information from sources (e.g., graph, image, table) apply a strategy to solve a real-world problem communicate thinking with limited supporting evidence use an adequate range of mathematical concepts, tools and approaches 	<p><i>Students demonstrate a complete understanding of the concepts and competencies relevant to the expected learning, specifically, they can:</i></p> <ul style="list-style-type: none"> analyze and interpret information from sources (e.g., graph, image, table) in a logical manner select an appropriate strategy to solve a real-world problem communicate thinking with sufficient supporting evidence use a broad range of mathematical concepts, tools and approaches 	<p><i>Students demonstrate a sophisticated understanding of the concepts and competencies relevant to the expected learning, specifically, they can:</i></p> <ul style="list-style-type: none"> adeptly analyze and synthesize information from sources (e.g., graph, image, table) in a logical manner select an effective strategy to solve a real-world problem communicate thinking with thorough supporting evidence use an extensive range of mathematical concepts, tools and approaches

Q4: What was the development of the categories based on

A4: The descriptors were developed by teachers from across the province who have extensive experience in numeracy. They are based on thousands of student responses and written as part of standard setting.

Q5: What is the relevance of the Numeracy assessment for PSIs? What skills/abilities might they look to this for when assessing students for admission? Should PSIs look to the assessment as part of entrance requirements and acceptance?

A5:

- Further to the conversation we had at the meeting, the Ministries of Education and Advanced Education, Skills and Training have been working with post-secondary institutions, including the BC Registrars Association, to support their review and governance processes to ensure alignment with the changes in the K-12 sector. This includes their consideration of the Graduation Numeracy Assessment.
- As you know, each post-secondary institution has the authority to determine admission requirements for students. Several have already indicated they will not use the Graduation Numeracy Assessment to inform admissions at this time.

Q6: Is the assessment scale nationally and internationally recognized and accepted?

A6:

- Yes, proficiency scales are widely used nationally and internationally.
- Further background information can be found in the [Graduation Numeracy Assessment: Design Specifications](#).

Q7: How is the numeracy exam marked? How reliable are the results?

A7:

- All marking is centrally done by credentialed teachers to ensure high standards and rigour.
- For additional information, you may wish to review:
 - [Report from Markers \(January 2018 session\)](#)
 - [Numeracy Scoring Guide and Student Exemplars \(PDF\)](#) – includes the scoring rubric and sample student responses to the in-depth questions in the [sample numeracy assessment](#)
 - [Graduation Numeracy Assessment: Design Specifications \(PDF\)](#) – description of the design specifications and explanation of how numeracy will be measured