Unpacking Exploration Assessment Criteria

Criterion A: Communication

1. What is the difference between rationale and introduction?
2. What is the difference between coherence and organization?
3. Can a work has organization without being coherent? What is the achievement level in this case?
4. Is the work complete if the conclusion is missing?
5. What is a conclusion?
6. Can a work that is more than 12 pages long still achieve A4?

Criterion B: Mathematical Presentation

1. What is the difference between mathematical presentation and communication?
2. Will the work be penalized if graphs contained computer notations generated by software?
3. Can the work attained B3 if it only contains one appropriate form of presentation?
4. What are key terms?
5. Can the work attained B3 if it contains more than 2 weaknesses?
6. Can the work attained the higher achievement level in B if it is hand-written and appropriate diagrams are hand-drawn?
7. How does “mostly appropriate” compared to “some appropriate” and “appropriate throughout”?

Criterion C: Personal Engagement

In answering the questions below, you may want to consider what a DP student can be expected to demonstrate with regard to personal engagement in modelling and investigation work.

1. How is personal engagement demonstrated in the work?
2. What is a common investigation/textbook problem?
3. How does “outstanding” compared to “significant” and “some”?
4. What are examples of thinking independently?
5. What are examples of thinking creatively?
6. What are examples of presenting mathematical ideas in their own way?

Criterion D: Reflection

1. What constitutes critical reflection?
2. If reflection is seen only at the end then will the work still qualify for D3?
3. How is reflection different from a conclusion?
4. How is reflection different from Personal Engagement?

Criterion E: Use of Mathematics

1. A student has used a GDC to obtain the correlation value for his work, there is no discussion of why correlation is used. He also did not interpret the correlation value. There is no other relevant mathematics. How should this work fare in E?
2. Can a work obtain an E6 if it has one or two isolated and minor calculation errors that did not distract the flow or outcome of the work?
3. Can an exploration obtain a good IA grade if the mathematics is not commensurate with the course?

Case Study: The shape of St Louis Gateway Arch in Missouri, USA.

4. What do you expect a SL student to demonstrate in the exploration for E3, E4, E5 and E6?

Source: Beyer, Dirk. "File: St Louis Gateway Arch 1916.jpg." Photograph. *Wikimedia Commons*. Wikimedia, 16 May 2005. Web. 23 Aug 2015.

https://commons.wikimedia.org/wiki/File%3ASt_Louis_Gateway_Arch_1916.jpg