This is the 4th video and it is also the last one in the series of videos discussing how to develop a modelling and problem-solving task, based on the Calculus and Vectors area of study. In this video, I will discuss how to develop task related rubrics, for the assessment criteria, using the published VCAA criteria.

The number of available scores for the outcomes set by VCAA for the three outcomes: one, two and three are eight, ten, and seven respectively. Given the fact that in the first two parts they are the introduction of the context through specific cases or examples. It was a guidance with a touch of scaffolding helping students to understand and engage in the context for investigation through specific cases or examples. Hence the mathematics involved and its applications should be familiar and routine. Thus, the scores for Outcome 1 in both Parts 1 and 2 will be more than the one in Part 3.

In Part 3, students are required to develop and explore a model for a particular scenario with different constraints and conditions. Which involved extending and creating and testing rules for formulas and the context is explored in wider breadth and/or depth. As we know, this part is heavily involved with open-ended work with some unfamiliar and non-routine aspects considered. Hence Outcomes 2 and 3 in this part, weight more than that of Outcome 1. So as you can see from this slide scores given in the table reflect what I've just discussed.

So similar to the videos where I discuss how to develop an application task. I have also produced common terms with definitions such as the ones shown on this slide. Develop, explore, describe, investigate. These words were used in Part 3 where I want students to have a clear understanding of the expectation, where they see these command terms in the SAC. I'm sure this list would not just benefit the EAL students, but every student.

Now 8 marks are available in Outcome 1. Aspects of the task related to the criteria. This table is an extract from the VCAA website. It can be the starting point for us. We can fill this table in however you think is suitable. I gave a few examples in each criteria for your information, such as information for Criterion 1: appropriate use of mathematical conventions, symbols, and terminology. I had application of mathematical conventions in graphs. Appropriate and accurate use of symbolic notation in defining mathematical terms or expressions such as vectors and derivatives.

Criterion 2 is between zero to three marks. Definition and explanation of key concepts and I gave one example there. And in Criterion 3, it's between zero to three marks. It's actually for accurate use of mathematical skills and techniques. And I gave one example there for you. So we've got dots there where you can actually add more to those tables that are related to your task.

Outcome 2, there are 10 marks available to this outcome. So, in Criterion 1 you can see it is between zero to two marks. Criterion 2 is between zero to four marks. And Criterion 3 is between zero to four marks again. So you can see in here, Criterion 2 and 3, the marks are actually a bit more than Criterion 1 because that's where a lot of the investigation is happening.

And then Outcome 3, which is worth seven marks. This outcome has two main criterion. One is on appropriate selection and effective use of technology. And the other is the application of technology. Students are not just simply using the technology for routine calculation, such as finding the minimum or maximum turning point, setting an appropriate window for the graphs etcetera, not just that or finding exact or approximate value. But they must be able to use the technology to test the rules to see how changing one variable affects the features of the graphs and so on.

So on this slide you see it is a sample assessment record, which is a available from the VCAA website, for you to use as it is or you can use it as a starting point for your own work rubric.

Resources. There are lots of useful resources available on the VCAA website. You can click on Advice for teachers on the PowerPoint and it will take you to the page with a set of sample tasks, including the task that I have shared in this video, in this set of videos. And that brings me to the end of this set of videos about how to develop a modelling or problem-solving task.

I would like to thank you all for watching these videos. I hope that what I have presented will be helpful and useful for you in many ways in developing your own modelling or problem-solving tasks. So what topics would you be interested in? Perhaps, after watching this set of videos, you might want to sit down and write up one for yourself with your favourite beverage. Good luck and all the very best. Bye for now.

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