Welcome back to this video series of creating an application task for Further Mathematics, Unit 3. This is the last of the short videos, and specifically relates to the assessment of the task itself.

The idea of the story that was unfolding in the first three components, we now need to look at in terms of being able to assess this. Certainly rubrics, the idea of trying to get this assessed fairly across a group of students. And it also gives you scope for flexibility. The fact that you are not going to deem a particular component or part of this task to a mark as you would in an examination, you do have a little bit more flexibility in the marking itself.

We did talk earlier or it was mentioned earlier about the weightings that you might actually have for outcome, sorry, Component 1, Component 2 and Component 3. Depending on where they sit, Component 1 might actually be quite low, or maybe you want to emphasise Component 1 a little bit more, try to help your students who might find Further a little bit more difficult. And then limiting what's actually in Component 3 because you know that the good students will certainly get there, but they don't need to be over-rewarded for the work that's actually going to come up in that component.

So, part of your initial assessment is what weighting do you want to have on each of the components? And what would that look like across each of the outcomes? Of course, the outcomes certainly have totals that you must adhere to. And the weightings themselves are really of your choice. So, I'll just put in a selection of values into each of those areas.

So at the moment, you'll notice the Component 1 is 12 marks out of the 50 that are actually available. So, that's a reasonable set of marks. But as I look through the other two, then I've got a few more marks in Component 2, I've got 15 in there, and I've got 13 in Component 3. So, really Component 2 seems to hold the weighting of what's going on with this marking. But as I said, you can develop that to your own liking, and emphasise each in their own.

Once you've worked out a weighting for the components, part of the assessment is now trying to work out responses for students and how do they link to these components and outcomes. So, I'm going to give you a few thoughts of a starting nature of each of the components of the assessment grid. And this one is utilising the assessment grid that's on the VCAA website, with the components, criterion, et cetera as you go through.

So, the first two outcomes have three criterion pieces. And then the third outcome, which is generally calculator-linked, technology-linked, has two criterion. So the headers that are there, appropriate use of mathematical conventions, et cetera, definition and explanation of key concepts, that's the definitions that are used on the standard VCAA rubric. You can change them to your liking, if you wish, to emphasise slightly different elements of the task that you would assess rather than these ones. But underneath each of those, I'm then going to allocate responses from students and how I would actually mark that.

Notice Criterion 1 7only has a total of two marks. So, in a global sense if I'm looking at this across the task, I'm looking at their language, their notation, what it looks like across the entire task. I might see that there are a couple of minor errors in the notation. But based on the structure of the whole task, I may not take a mark off for a couple of erroneous ideas of notation when the bulk of them were actually excellent. And this is where you can become quite global in your marking of the task itself.

So notation and language is certainly part of that first bit that I would be looking at throughout. Have they used the correct terminologies? Have they presented work as I would with the correct variable names, et cetera, throughout? That's quite easy to then go through and assess. The explanation of key concepts, just an example, defining what wheat production and wheat sold is.Being able to create a statistic that actually combine those two things together in terms of the global area, what they're defining as a country and its time period.

So, a lot of the work that they will bring in will have inherent definitions already embedded, but there's certainly something that can come up as part of that second criterion. Of course, what would be more obvious is when they don't actually define any of the material. And what you're looking at is a set of data that really doesn't cover the aspects that you would like.

The accuracy of mathematics interestingly only comes into Criterion 3. So where you might mark an examination and mark it right and wrong, you've only got four marks available to you out of the 50 to be able to allocate to correct mathematics. The rest of it looks at a whole series of other things. And this is where it can be quite helpful to students who find Further Mathematics a bit more difficult because it's not always about getting what your class says as a correct answer. So, that's certainly a part of the marking as we go through.

Let's look at the other outcomes. Again, there are three criterion pieces for Outcome 2, one of the examples for identifying important information. I'm talking about the reliability of forecasting, being able to refer to the limitations that are actually around there. Other important information could be how they round values, what accuracy did they actually write down? That's important in terms of the entire task itself. The ideas that are being used, of course, this is just going back to your study design, and remember, you've already linked the content to the components that were done earlier. There's all your mathematical ideas coming out. So that part you can then look at as a global view across the entire task and see just how well the students have utilised and used that material as you've gone through.

The analysis and interpretation, one of the areas I've put in, summarising the wheat grain production for the state or across the state, because there's going to be many times where you're going to emphasise that analysis. The idea of applying the mathematics and the analysis, of course, both are allocated eight marks, and that's certainly the most out of any of the criterion pieces. So, this is where your marking would differentiate particularly between those who know Further Mathematics well, but may not have presented the material as well as somebody else. So those two criterion pieces to me help to differentiate certainly between the much better and well-written application tasks against those that are just quoting, for example, a lot of mathematical summaries or visuals without the interpretation at the same time.

And then of course the last part of the assessment is the calculator, use of technology. You will understand from inherent levels, if they're producing graphs, then generally speaking, their functionality of calculator has been used. Regressions, for example, how they've gone about possibly a smoothing technique, the summary statistics that have been involved. So, the task itself, you can often see when they've been able to use their technology, choosing the right technology to use, or the functionality, for example, if I have 50 values and somebody has gone through by hand to go and summarise that material, I wouldn't put that down as an appropriate selection and effective use of technology. In fact, I would think that they should have gone and used their calculator instead. That can come into that idea of the appropriate selection of the technology itself.

So there's just a few mappings, but of course, again, you will develop this in far more detail as you undertake and look at responses of students. Many would construct this in its finality after student responses have come in. From an initial allocation of thoughts that you had for student responses, you might find that the students haven't done some of the items that you thought they would, but they've substituted them for other components, and you would then reword or reallocate those items to this marking scheme. So it then became very realistic of what the student responses were. So, the idea of amending this at the end based on student responses is quite a common action done to make this as accurate as it possibly can be.

And then of course, the assessment rubric that I referred to, that's what it looks like. That's the one that is commonly useful for these sorts of tasks, and is the one that was developed based on those criterion pieces that I was just looking at before.

So hopefully through the short videos that you've been looking at, you've got a sense of the development of a task, the construction of questions, the development of content that is inherent, I think in the question itself, the mapping of those ideas back to content within the study design, and then of course the assessment on the rubric and allocating components to each of your tasks.

Hopefully you found these videos useful in terms of helping you to understand the whole idea of an application task, it's purpose, construction and assessment. And it will be useful for you when you come to plan your own task. Thank you for listening in on those videos. And I wish you well in the construction of your application task. Thank you.

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