Hello, and welcome to the VCE Data Analytics 2021 School-assessed Task on-demand video of the Unit 3 Outcome 2 SAT Criteria 1 to 5 for 2021. The purpose of this video is to support teachers with understanding the SAT, the criteria, authentication and assessment for Data Analytics.

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This session will involve the following topics: planning, nature of task, SAT criteria 1 to 5, authentication, assessment and issues identified after marking Unit 3, Outcome 2.

First we will look at some planning for the SAT. When planning the SAT for 2021, it's worthwhile to consider some questions. I've included the following questions to get you started.

Number one, what do I need to teach the students in order to prepare them? How long will this take?

Number two, how much time do students need to work on each criterion? Do they work a one criterion at a time, or criteria 1 to 5 together?

Number three, how much time will I need to assess student work and when will I do it? Do I assess each criterion separately and provide feedback to students for each one or do them all together?

Number four, when are students SAT results due to VASS?

Number five, when do I do the observations? How regularly? And what evidence do I then need to write down?

Number six, how do I develop the capacity of students in the use of software tools?

Number seven, how do I know if students have identified an appropriate research question for the SAT?

And number eight, how do I know if the students can complete it?

In terms of delivering and assessing the SAT, there are two strategies that teachers could follow. Strategy 1 is the milestone strategy and Strategy 2 is the submit all strategy.

Strategy 1, students complete and submit one criterion at a time for assessment. Teachers assess and provide feedback. Advantages. It's quick feedback for students and very effective for motivating students, particularly if they have a slow start, and better for authentication. Disadvantages. You need to be responsive and disciplined.

Strategy 2, students complete and submit criteria 1 to 5 as one submission in Unit 3, and then teachers assess criteria 1 to 5 and provide feedback, same with criteria 6 to 10. Advantages. Less marking throughout the SAT. Disadvantages. Some students will struggle due to less feedback. Possible issues with authentication because there's more observations. And more concentrated marking in a busy time of Term 2 and Term 3 for the teacher.

So now we will look at the nature of the task for Unit 3 Outcome 2. Before we discuss the nature of task, we need to look at the outcome statement. The Unit 3 Outcome 2 statement says, Propose a research question, formulate a project plan, collect and analyse data, generate alternative design ideas and represent the preferred design for creating infographics or dynamic data visualisations. The nature of the task for Unit 3 Outcome 2 is stated in the study design, and in the Administrative information for School-based Assessment. It involves: A project plan, Gantt chart indicating tasks, times, milestones, dependencies and critical path. And a collection of complex data sets that has been referenced. And an analysis that defines the requirements, constraints and scope of infographics or dynamic data visualisations. And a folio of alternative design ideas and detailed design specifications of the preferred design.

The following slides reference the Administrative information for School-based Assessment for Data Analytics. We will unpack criteria 1 to 5 by looking at the scope of the task, each criterion, and an approach for completing the task. The first thing students need to do is to develop a research question.

Criterion 1 assesses students skills in developing a research question. Students will document a research question as an information problem. Teachers should have discussions with their students regarding their research question and have a process for approving the research question before students commence their project plan. Students are encouraged to document their ideas to convince their teacher that they'll be able to develop the infographics or dynamic data visualisations. Students will document evidence of their critical and creative thinking as part of the Analysis Stage in Criterion 1. Refer to the Skills underpinning the Analysis Stage in the Units 1–4 and Problem-solving methodology specifications on page 13 of the study design. The evidence from this task is observed through Observation 1 and assessed through Criterion 1. This is Criterion 1 which involves Skills in developing a research question.

The indicators state the tasks that students need to complete to satisfy the criterion. These are assessed against the levels of performance. Each criterion is worth 10 marks. In this criterion, students are to document a research question as an information problem. And document evidence of critical and creative thinking to identify, clarify and critically analyse data and the sources of data to be collected. An approach to developing a research question could involve the following considerations: How do you want students to identify an appropriate research question? Some schools do this formerly. How should they document this for you? Are you convinced they can actually develop the infographics or dynamic data visualisations and meet the criteria? How will you support struggling students? How much time will students need to do this? Get them thinking early in Term 1. What software tools and functions will they use? Refer to the Software tools and functions document on the study page.

Teachers should encourage their students to adopt the best possible approach when creating their research question. The question should be researchable within the timeframe available and allow for an analytical response rather than a descriptive one. A helpful guide is provided on the Monash University website via the *Advice for teachers*.

The next thing students need to do is to prepare project plan. Criterion 2 assesses students' skills in project management. Students will prepare a Gantt chart using software that documents all the stages and the activities of the problem-solving methodology for Unit 3 Outcome 2 and Unit 4 Outcome 1, in both parts of the SAT. Students will need to document all the relevant tasks, sequencing, time allocations, milestones, dependencies and critical path. The evidence for this task is observed through Observation 2 and assessed through Criterion 2. This is Criterion 2 which involves Skills in project management. In this criterion, students are to: Prepare a Gantt chart using software that documents all stages and activities of the problem-solving methodology for Unit 3 Outcome 2 and Unit 4 Outcome 1. And document all the relevant tasks, sequencing, time allocations, milestones, dependencies and critical path.

An approach for preparing a project plan could involve the following from the *Advice for teachers*: Students will produce a project plan, Gantt chart that outlines the task, sequencing, time allocation, dependencies, milestones and the critical path. They will follow the project plan to develop their infographics or dynamic data visualisations for their research question. The project plan takes into consideration all stages and activities of the problem-solving methodology covered in Unit 3 Outcome 2 and Unit 4 Outcome 1. Once the project plan has been developed, it will be modified throughout the entire project. And students do not have to use dedicated project management software in the development of their project plan.

The next thing students need to do is to document their analysis. Criterion 3 assesses students' skills in documenting an analysis. Students will document the data they've used to support the research question and document the functional and non-functional requirements, constraints and scope. An example is provided in the *Advice for teachers*. Students will document evidence of their critical and creative thinking through questions and strategies to critically analyse solution requirements as part of the analysis stage in Criterion 3. Refer to the Skills underpinning the Analysis Stage in Units 1 to 4 and the Problem-solving methodology specifications on page 13 of the study design. The evidence from this task is observed through Observation 3 and assessed through Criterion 3. This is Criterion 3, which involves Skills in documenting analysis. In this criterion, students are to: Document the data used to support the research question, document the functional and non-functional requirements, constraints and scope. And document evidence of critical and creative thinking through questions and strategies to critically analyse the data and solution requirements. The approach for documenting the analysis could involve the following from the *Advice for teachers*: Students document their analysis to clearly outline the use of data to support the research question for the proposed infographics or dynamic data visualisations. They should include a statement of functional and non-functional requirements, constraints and scope. Looking at an approach for documenting critical and creative thinking, the last indicator in several criteria involves students documenting their evidence of critical and creative thinking as part of the criterion. This is an example from Criterion 3. Notice in the indicator that students are documenting their thinking through questions and strategies to critically analyse the data and solution requirements. This links back to page 13 of the study design.

As part of the Analysis Stage of the Problem-solving methodology, and specifically the Skills underpinning the analysis stage, students will carry out these steps as appropriate when documenting the data and solution requirements. Students can document this in a log, a portfolio, or as a written report in order to show their thinking through completing this criterion and other criteria with critical and creative thinking indicators.

The next thing students need to do is to acquire and prepare data. Criterion 4 assesses students' skills in data collection. Students will acquire data sets from primary and secondary sources using appropriate data acquisition methods. Prepare the data for manipulation using data types and data structures and reference the primary and secondary data sources using the APA referencing system.

The evidence from this task is observed through Observation 4 and assessed through Criterion 4. This is Criterion 4, which involves Skills in data collection. In this criterion, students are to: Acquire datasets from primary and secondary data sources, prepare data for manipulation, and use data types and data structures, to reference primary and secondary data using the APA referencing system. An approach for acquiring and preparing data could involve the following from the *Advice for teachers*: Students are required to collect data that will inform the analysis of their research question. Data collection should include a range of methods and techniques including interviews, observation, querying of data stored in large repositories and surveys. Also keep in mind that data needs to be from both primary and secondary sources.

The next thing students need to do is to design the database and/or spreadsheet solutions and the infographics or dynamic data visualisations. Criterion 5 assesses students' skills in designing the database and/or spreadsheets solutions and the infographics or dynamic data visualisations. Students will generate two or three alternative design ideas, develop evaluation criteria, with reference to their desired ideas and infographics or dynamic data visualisations, and then produce their preferred designs for the infographics or dynamic data visualisations. An example of the process for developing detailed designs is in the *Advice for teachers*. Students will document evidence of their critical and creative thinking through design ideas, solution requirements and the justification of preferred designs as part of the design stage in Criterion 5. Refer to the Skills underpinning the solution design activity in the Units 1–4 and the Problem-solving methodology specifications on page 14 of the study design.

The evidence from this task is observed through Observation 5 and assessed through Criterion 5. This is Criterion 5 which involves skills in designing the database and/or spreadsheet solutions and the infographics or dynamic data visualisations. In this criterion, students are to: Generate alternative design ideas, develop evaluation criteria with reference to design ideas and infographics or dynamic data visualisations, produce preferred design for infographics or dynamic data visualisations, and document evidence of critical and creative thinking through design ideas, solution requirements and justification of preferred designs. An approach for designing a database and/or spreadsheet solutions and the infographics or dynamic data visualisations could involve the following from the *Advice for teachers*: Students could generate two or three design ideas, develop evaluation criteria for evaluating their alternative design ideas, and produce their preferred designs.

Just a quick look over authentication as this is covered in more detail in the Background to the SAT video and Authentication video. Teachers are to fill out these forms during the year. They are to state the date of the observation and submission of each of the components of the SAT. Comment on the observation and the submission of each of the components, and sign their initials for each observation and submission. Students are also required to sign their initials for each observation and submission. At the completion of the unit, students are to sign and date the declaration, that all resource materials and assistance used have been acknowledged and that all unacknowledged work is their own.

The Authentication Record Form should be updated for each observation and submission during the lifetime of the SAT. It should not be left to the end of the SAT. Authentication Record Forms can be requested as part of the audit process by the VCAA.

And finally, looking at the assessment of the SAT. This is the Assessment Sheet for scores to be added and submitted through VASS. All 10 criteria for the SAT are listed on this page, the spaces provided for each of the scores. The first five scores Criteria 1–5 will be filled in for the SAT in Unit 3 Outcome 2. A couple of marking issues that need to be discussed: Use the rubrics from the 2021 Administrative information for School-based Assessment, Data Analytics. Mark the rubrics holistically. Consider how you mark and the effect on statistical moderation of those marks. The awarding of a zero instead of an NA can affect statistical moderation of your class results. Late submission, this is a school-based decision with some flexibility. NA is to be awarded when a criterion or a group of is not observed and not submitted. You can award a mark if observed and not submitted. A zero is to be awarded where the work is submitted but does not meet the descriptors. Students will still need to be able to achieve an S.

The last slide looks at issues identified after marking Unit 3 Outcome 2. At the completion of Unit 3 Outcome 2, students may experience issues that will have a negative effect on the development of their infographics or dynamic data visualisations in Unit 4 Outcome 1. Teachers can provide feedback on the quality of these designs, however, the adjustments must be initiated by the student and not directed by the teacher. While students can make changes to their designs, they will not be reassessed and their original score will stand.

This is the end of the presentation.

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