Hello, and welcome to the VCE Data Analytics 2021 School-assessed Task on-demand video on the Unit 4 Outcome 1 SAT Criteria 6–10 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, the nature of the task, SAT Criteria 6–10, authentication and assessment.

We'll now look at the nature of the task for Unit 4 Outcome 1. Before we discuss the nature of the task, we need to look at the outcome statement. The Unit 4 Outcome 1 statement says: Develop and evaluate infographics or dynamic data visualisations that present findings in response to a research question, and assess the effectiveness of the project plan in monitoring progress. The nature of the task for Unit 4 Outcome 1 is stated in the study design and in the Administrative information for School-based Assessment. It involves infographics or dynamic data visualisations that present findings in response to a research question and an evaluation of the efficiency and effectiveness of infographics or dynamic data visualisations, an assessment of the effectiveness of the project plan, Gantt chart, in monitoring project progress in one of the following, a written report or an annotated visual plan.

The following slides reference the Administrative information for School-based Assessment for Data Analytics. We will unpack Criteria 6–10 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 database and/or spreadsheet solution. Criterion 6 assesses students' skills in using database and/or spreadsheet software. Students will use a database and/or spreadsheet software tools to store and manipulate data, apply appropriate validation techniques in document testing using suitable testing techniques and test data. In order to develop the database and/or spreadsheet solution, students are required to use appropriate software tools to manipulate data that meets the software requirements of the study. Further details regarding solution testing are in the *Advice for teachers*. Students will document evidence of their critical and creative thinking through the modification of their designs and evaluation criteria as part of the Development Stage in Criterion 6. Refer to the Skills underpinning the Design Stage in the Units 1 to 4, and the Problem-solving methodology specifications on page 15 of the study design.

Criterion 8 assesses students' skills in managing files. Students will document the procedures for the management of files and propose and implement procedures to manage the security of files. The evidence from this task is observed through Observation 6 and assessed through Criteria 6 and 8. This is Criterion 6 which involves Skills in using database and/or spreadsheet solution. In this criterion, students are to use database and/or spreadsheet software tools to store and manipulate data, apply appropriate validation techniques, document the use of suitable testing techniques and test data, and document evidence of critical and creative thinking through the modification of designs and evaluation criteria for solution development.

The next thing students need to do is to develop the infographics or dynamic data visualisation solutions. Criterion 7 assesses students' skills in using data visualisation software. Students will use a data visualisation software tool to create infographics or dynamic data visualisations, apply appropriate validation and verification techniques, and document testing using suitable tests to test data. In order to develop the infographics or dynamic data visualisations, students are required to use appropriate software tools to manipulate data that meets the software requirements of the study. Further details regarding solution testing are in the *Advice for teachers*. Students will document evidence of their critical and creative thinking through the modification of their designs and evaluation criteria as part of the Development Stage in Criterion 7. Refer to the Skills underpinning the Design Stage in the Units 1 to 4, and the Problem-solving methodology specifications of page 15 of the study design.

Criterion 8 assesses students' skills in managing files. Students will document the procedures for the management of files and propose and implement procedures to manage the security of files. The evidence of this task is observed through Observation 7 and assessed through Criteria 7 and 8. This is Criterion 7 which involves Skills in using data visualisation software. In this criterion students are to use data visualisation software tools to create infographics or dynamic data visualisations, apply appropriate validation and verification techniques, document the use of suitable testing techniques to ensure the solution performs as intended, and document evidence of critical and creative thinking through the modification of designs and evaluation criteria. An approach for developing infographics or dynamic data visualisations could involve the following from the *Advice for teachers*. In order to develop their infographics or dynamic data visualisations, students are required to use appropriate software tools to manipulate data that meets the software tools and functions document. Appropriate functions, techniques and procedures for the selected software tools are to be used, along with techniques for creating the infographics or dynamic data visualisations and techniques for validating and verifying data.

Students may choose to create either infographics or dynamic data visualisations. They do not do both or they do not create both. And there are a number of methods and techniques that students can use to achieve this requirement, from creating movies to using specialised software. An approach for testing the solution could involve the following from the *Advice for teachers*. Students should robustly test their database, spreadsheet and infographics or dynamic data visualisation solutions to fully ensure they meet the requirements of the area of study.

Functionality and validation testing are expected to be documented through the use of testing tables. Testing tables are to include both expected and actual results, along with a clear description of the test to be performed and the test data used in each test. And students should be encouraged to included in their documentation all tests that have failed, including actions and mitigations taken, in order to demonstrate the changes made as a result of a robust testing process.

This is Criterion 8 which involves Skills in managing files. In this criterion students are to document procedures for the management of files and propose and implement procedures to manage the security of files. An approach for managing files could involve the following: Refer to the first Key knowledge dot point in Unit 4 Outcome 1 in the study design. Procedures and techniques for handling and managing files, including archiving, backing up, disposing of files and security. Students need to document their procedures for the handling and managing files and the security of files. Consider what and when files will be archived, backed up and disposed of. Also consider how files will be made secure. The next thing students need to do is to evaluate the infographics or dynamic data visualisations.

Criterion 9 assesses students' skills in evaluating the solution. Students will propose strategies for evaluating the efficiency and effectiveness of the infographics or dynamic data visualisations and evaluate the efficiency and effectiveness of the infographics or dynamic data visualisations in meeting requirements. Students will document evidence of their critical and creative thinking through the evaluation of the analysis, design and development stages and improvements to the solution as part of the Evaluation Stage in Criterion 9. Refer to the Skills underpinning the Solution evaluation activity in the Units 1 to 4 and the Problem-solving methodology specifications on page 15 of the study design.

The evidence from this task is observed through Observation 8 and assessed through Criterion 9. This is Criterion 9 which involves Skills in evaluating the solution. In this criterion students are to propose strategies for evaluating the effectiveness of the infographics or dynamic data visualisations, document the evaluation of the efficiency and effectiveness of the infographics or dynamic data visualisations in meeting requirements. And document evidence of critical and creative thinking through the evaluation of the analysis, design and development stages, and improvements to the solution. An approach to evaluating the infographics or dynamic data visualisations could involve the following from the *Advice for teachers*. Students should use their evaluation criteria developed in Unit 3 Outcome 2 when evaluating the efficiency and effectiveness of their infographics or dynamic data visualisations. The proposed evaluation strategy should evaluate the extent to which the infographics or dynamic data visualisations present the findings of the research question. The last thing students will need to do is to assess the project plan.

Criterion 10 assesses students' skills in assessing the project plan. Students will document the modifications made to the initial project plan throughout the duration of the project and then assess the effectiveness of the project plan. And the evidence of this task is observed through Observation 9 and assessed through Criterion 10. This is Criterion 10 which involves skills in assessing the project plan. In this criterion students are to document the modifications made to the initial project plan throughout the duration of the project and assess the effectiveness of the project plan. An approach for assessing the project plan could involve the following from the *Advice for teachers*.

Throughout the SAT process, students should be collecting evidence to support the assessment of the project plan in managing the project. While not an exhaustive list, this evidence may take the form of progress journals, annotations to the project plan, screenshots of infographics or dynamic data visualisations, photographs of design iterations and annotated drafts of diagrams.

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 a 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 with space provided for each of the scores. The last five scores, Criteria 6 to 10, will be filled in for the SAT in Unit 4 Outcome 1. And the last slide is just a reminder regarding some marking considerations. Use the rubrics from the 2021 Administrative information for School-based Assessment, Data Analytics. Mark the rubrics holistically. Consider how you would 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 when the work is submitted but does not meet the descriptors. Students still need to be able to achieve an S.

This is the end of the presentation.

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Thank you for following this presentation.

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