**Leanne Compton:** Hello, my name is Leanne Compton, and I'm a Curriculum Manager for Design and Technologies Victorian Curriculum and Assessment Authority. This video is one in a series of videos that the VCAA has developed to support teachers of VCE Systems Engineering in delivery of the curriculum and assessment for 2021. This particular video focuses in on authentication.

Colin Chapman, who's the state reviewer for VCE Systems Engineering will take you through this presentation. Thanks Colin.

**Colin Chapman:** Thank you. And thank you for the opportunity to work with our teachers across the state to improve practises. Here is the intellectual property statement from VCAA in respect to this presentation.

The system engineering mechanical and electrotechnological integrated and controlled system created for the School-assessed Task is based on Unit 3
Outcome 1 and Unit 4 Outcome 1. Teachers are required to fill out the authentication record form and provide the student with feedback on their progress at each observation. The authentication record form is our opportunity to show that we understand that the work that the student is submitting to satisfy the School-assessed Task is their work, and there has been no undue assistance. It also is a formative device which allows us to give feedback to the individual students, but also allows us to record other details with respect to the circumstances that surround the responses for our cohort in any particular year to the School-assessed Task in Systems Engineering.

Students are required to research all aspects of their proposed production in detail, but the work undertaken for their record of investigation, design, planning and production must be their own. Where is necessary for the student to outsource, that must be acknowledged so that the person assessing is mindful only to assess those things that have been acknowledged as the student's own. Teachers are reminded that it is not appropriate to provide detailed advice on corrections to, or actual reworking of student draughts or productions or folios. So the record of evidence is the student's response to the criteria and the indicators for the School-assessed Task. And it is not a case that the teacher will be iterating that for the individual student, in such cases it is most appropriate that the teacher remind the student that there is a mandated set of criteria for the School-assessed Task. There are eight and they're associated with indicators and also with performance descriptors and the students should be encouraged to compare their work as it is with that particular rubric. In order to support that sort of activity, it is a good idea for teachers to engage with students in activities where they try to assess mock records of evidence against the set criteria. They do that early on in the year, they get used to that process and then they can apply it to their own work. It means then that as the student iterates their record of evidence, we can be then confident that it is their own work.

The SAT is not a group project and students must work on their own design and production work for the entire SAT. It is their own work. Written documentation and visual representations required as part of the student's record of investigation, design, planning and production, form the basis for authentication of their work. So this must be an ongoing activity. It should show annotated references to proposed specifications, processes, materials or components and the relevance to the design brief. So this is particularly relevant to criteria one through to three, where the students are developing their intention. All notes should be dated and clearly documented to enable teachers to authenticate students' work. The annotated design options are part of the student's record of investigation, design, planning, and production. These design options are developed within criteria one through to three. They should be maintained and updated throughout the production process. So we're looking at the intention compared with what actually happened, and the student's record on investigation, design, planning and production together with the authentication form informs the teacher about how the student refers to the proposed specifications, processes, materials or components and their relevance to design brief.

We do expect throughout the student response to the School-assessed Task, that they keep the design brief and their response to what central. And they need to make sure that they are dating and annotating such references to the design brief as their response changes as circumstances change throughout the time they're working on their School-assessed Task. We do expect that what actually happens in the production of the School-assessed Task will be different to what was intended. That being the case, it is important that students keep very thorough records of what is going on throughout the whole process and check in with their teacher regularly, so that authentication is kept as a solid process. Teachers must sight and monitor the development and documentation of the student's work on a regular basis in order to record each student's progress.

The authentication record form for the Systems Engineering SAT sheet must be completed by the class teacher to monitor the student's work in progress, not the final product or the end of the stage, it must be the work in progress throughout the work. This is an important aspect of our learning and teaching activities. The idea that a teacher will be constantly engaged with each student as they are engaging with the intention that they have developed in response to the design brief. This sort of interaction should be recorded by the teacher as the progress, as the work is being progressed. The student must declare that all resource materials and assistance used have been acknowledged and that all unacknowledged work is their own. So where it hasn't been declared by the student we have to assume that this they're making decline that it is their own, where there is undue assistance, sorry where there is this outsourcing of work the student must declare it.

And again, we need to keep in mind that it is important that there are some processes that you aren't able to provide with your own school. Something that comes to mind might be water jet cutting. Not all schools have that facility. And if a student has deemed necessary to their project they could outsource that, but they must acknowledge it. Teachers should also make ongoing notes of observations of each student during the production of the SAT on the Authentication record form. The Authentication record form provides teachers the opportunity to present a written information that may be required to support the school-based assessment audit. These observations are super important.

It can be the case that a student has neglected in their record of evidence to note certain things that they have done throughout the process. Now, if you have witnessed students engaging in safe work practises or effective use of tools and so on, if you make those notes in your authentication record form that can provide evidence of achievement. If the student has for whatever reason neglected to mention it in their record of evidence. So maintaining these notes is important if we're to advantage our students in their engagement with the School-assessed Task.

As the production work for the SAT occurs over a period of time the authentication form can assist teachers in their record keeping, teachers may find it useful to refer to the comments on the sheet when assessing the four criteria related to the production work. Some skills, particularly those related to the use of tools, equipment, and machines and safety measures might not be clearly documented by the student, but if you have them documented you may then use them as observations to arrive at a judgement with respect to satisfactory completion and then level of achievement.

Risk assessment and risk management must be addressed throughout the design it is a live process. Risk assessment and risk management does not just occur in criteria three, risk assessment and risk management also will be iterated throughout the project as it's progressing, it is an agile process and we reward students for developing competencies, maturity and so on with respect to risk assessment and risk management, as well as its demonstration in criteria seven and eight. So this must be addressed throughout the design, planning, construction, testing and operational of the integrated controlled system. Teachers should supply written information based on observations of students during practical work sessions, including individual student adherence to safety procedures and project management, on the Systems Engineering Authentication record form.

So we need to keep these records, keeping in mind also that these records will show, can show increasing confidence with regard to risk assessment and risk management, and if that's the case, if the student matures in their application of these ideas, this assessment and management ideas with respect to risk, that we are able to reward students appropriately in criteria seven and eight. So again, students address risk assessment and risk management in criteria three, effectively as an intention, then as an ongoing engagement with the School-assessed Task, we make observations of adherence or use of such intentions and improvements modifications and change in these assessments and managements. Any use of external support and or equipment must be documented in the student's record of investigation, design, planning and production, to ensure that any use of external support and or equipment is appropriately limited, and that the student does not receive undue assistance. All use of external support must be planned and documented through criteria one to three when students develop their intention. And then teachers must certify that such support does not constitute undue assistance.

Photographs taken during the production process must be true and accurate representations of students' works. We do not want to have a situation where photographs are staged to show certain skills. This shows that perhaps video recordings may be a better measure of student work and engagement, because the student has to move beyond staging to actually carrying out a particular skill in a safe and effective manner. So it's important that the photographs and video are attested as being true representations, this ensures the integrated control system can be authenticated as a realisation of a design brief response developed by the student, and that student is not receiving undue assistance in the production stage, this in turn ensures that all students are assessed equitably. All photographs must be dated.

Teachers are reminded that the authentication procedures are required to be followed for all student work in relation to this SAT. The school-based assessment audit includes the inspection of authentication record forms. Authentication record forms will also be required to be forwarded for all works nominated for the Season of Excellence awards in 2022, as part of Top Designs. So here is the authentication documentation, and I'll go through this briefly. So you can see it reflects the criteria for the SAT, including the indicators. There is space for observation dates and for comments. And for both the teacher and the student to initial, this student teacher initialling, as we've gone through the ongoing process is important because this can form, can develop formative feedback for the student for their ongoing project. This formative feedback can then be acted upon by the student, and then they can take opportunities to improve their practise with respect to the indicators that you have commented on. So we need to keep in mind that this is a summative and a formative tool.

And we have criteria two, and again it reflects the criteria and the indicators. We have in research we have this additional note in the authentication area. Now, all resources must be acknowledged, where the student conducts research there needs to be an acknowledgement of, the providence of the research materials, whether that's a data sheet from a particular company for a particular component, or it could be an article in a journal that they're referring to as part of the design process or whatever it might be, they need to make sure they acknowledge all resources. And this is part of their response to a concern for intellectual property. It is expected that students will find work that has been done by others, and they may hack or change that particular work to make it respond to their particular concern. They need to acknowledge the providence of the materials that they are changing and also documents multiple ways and how they're making those changes. And again, teacher initials and student initials here make this section here an important part of formative feedback on the ways towards the students responding effectively to the School-assessed Task.

And here we have assigned documentation for criteria three, again with plenty of space for comments and so on. And you can see that that works out, so we've got a direct mapping of the criteria and the indicators with the mandated documentation from the VCAA that is updated and published every year, including a space for dates and authentication issues and comments as well as teacher initials and student's initials, so that this becomes both a formative and summative tool. Now, here we have signed documentation but now we have bracketed in the authentication issues slash comments. All outsource processes must be recorded at least three observations need to be recorded. Again if this is an ongoing process and engagement with the student, we would expect that there would be multiple opportunities for engagement with the student.

And here we have criteria six, guiding assigned format criteria seven and criteria eight. So again, we have a reflection of the mandated criteria from the VCAA and the indicators as published year on year, opportunities to date, give comment and to have teachers initial and students initial. So the students have an opportunity to, in a timely fashion respond to the, of the authentication issues slash comments.

For further information please contact the Curriculum Manager Design and Technologies Dr. Leanne Compton, her contact details are listed below.

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