**Felicity -** Hello, my name is Felicity, and I'm a VCE Product Design and Technologies teacher. This video is one in a series of videos developed to support the delivery of VCE Product Design and Technologies accredited from 2024 to 2028. This video focuses on Unit 2, Positive impacts for end users.

In this video, we will outline a brief summary of the content in Unit 2, Area of Study 1, Opportunities for positive impacts for end users. Area of Study 2, Designing for positive impacts for end users, And Area of Study 3, Cultural influences on design. We'll also look at an outline of assessment for Unit 2. In this unit students will research what the diverse needs of end users, they will explore how inclusive product design solutions can support belonging, access, usability, and equity, and examine social and physical influences on design. We can think of this unit as a wonderful opportunity for students to make connections with others, and develop empathetic relationship with members of the community, as well as see how design can have such a positive impact on so many members of society.

In this unit, students will also formulate a profile of potential end users, research and explore specific needs, and importantly, make inclusive products that have a positive impact for others. The unit also allows students to explore the cultural influences on design. There is content in the cross-study specifications that needs to be read in conjunction with the content from this unit such as the concepts related to Aboriginal and Torres Strait Islander knowledge, history, and culture on page 11, design briefs on page 12, and the design process on page 12 to 14, as well as other relevant concepts. As is the case for all units in Product Design and Technologies, Unit 2 is underpinned by the Double Diamond design approach. We as teachers need to familiarise ourselves with the activities in the Double Diamond design approach as described in the VCE Product Design and Technologies Study Design on page 13 and 14.

These activities in the Double Diamond are not necessarily sequential, students do not have to complete each activity in a particular order, but rather approach the order of each diamond task as suited to their project needs. The process of designing should be adapted and customised to suit each project, it is important to note the design process is not linear, but rather an iterative approach. In Unit 2, there are 3 areas of study, Area of Study 1, Opportunities for positive impacts for end users. Area of Study 2, Designing for positive impacts for end users, and Area of Study 3, Cultural influences on design. You can see there are now 3 areas of study in Unit 2. I think it is important to note that the time spent on the delivery of each area of study may vary and schools and teachers can make decisions about the time and resources needed to teach the 3 outcomes. Based on your experience with the cohort and the resources you have.

Area of Study 1 is related to opportunities for positive impacts for end users. On completion of this outcome, the student should be able to investigate and critique products using the factors that influence design, to make judgements about the success or failure of products, to support positive impacts for end users. This outcome will allow students to start to build on that empathetic relationship with others in their communities and beyond. So as to really understand how design can be a powerful tool to help others, you can see some of these words on the slide are highlighted. These are command terms, and it will be important in the study for teachers to be explaining the command terms that are used throughout the study design.

For example, students should have an understanding of what critique means versus explain or describe. It will be important to understand the command terms and the use of the VCAA glossary. This will assist in ensuring the teaching programme provides opportunities for students to demonstrate the outcome through a range of ways, such as what they do, say, make, draw, or write. So, the teaching programme then provides opportunities for students to demonstrate an 'S' in a variety of ways. Area of Study 1 gives us the opportunity to explore positive impacts for end users by engaging with a variety of end users scenarios. Also, researching and looking at current products that cater for different needs that address belonging access, usability, and equity.

Also, exploring how students can work collaboratively with potential end users to create positive impacts, minimise harm, and support inclusivity by the things we design. Again, looking at the underlined command terms, we want to allow students to critique and make judgements about a product from a range of specialisations using the language of the factors that influence product design, which are in the cross-study specifications on page 18 of the study design. The students can analyse and make judgments about these different products. In doing this, students can then analyse future market opportunities or potential needs for the development of products. At this stage the students won't necessarily be designing products but will be developing a further understanding of products and how they can meet a diverse range of end users. While not essential, this may be a good opportunity for students to meet end users with specific needs and see some of the products that help that end user group. Teachers and schools may have community connections for this already that are worth investigating like links to primary schools or local organisations that may support people living in the community.

In Unit 2, Area of Study 1, it gives the students a good opportunity to think critically, creatively, and speculatively by gathering a range of diverse solutions to design problems which allows for divergent thinking, then critically analysing those with some convergent thinking, and then thinking speculatively about future solutions to have positive impacts for end users. The VCAA support material also provides a range of suggestions for teaching activities to support design thinking along with other activities that teachers may use or adapt to suit the needs of the cohort in your school. Area of Study 2 is related to designing for a positive impact for end users. In Outcome 2, students should be able to design and make an inclusive product that responds to the needs or opportunity of an end user or end user group that address positive impacts in relation to belonging, access, usability, and equity.

Again, in this outcome, it is important to understand the command terms and using the VCAA glossary to assist with ensuring the teaching programme provides opportunities for students to be able to demonstrate the outcome through things such as what they do, say, make, draw, or write. The teaching programme should provide opportunities for students to demonstrate an 'S', this may be in a variety of ways. Teachers may find that this outcome will require more time dedicated to it than the other 2 outcomes, so students have an opportunity to design and create solutions to a design problem.

In Area of Study 2, students will respond to the need or opportunity and develop a profile of end user or users. Students will also explore needs and opportunities of end users, they will use a range of design thinking strategies to examine ways to make positive impacts and minimise harm, this should include creative, critical and speculative thinking, and they will generate and design both graphic and physical product concepts, including making prototypes and a final proof of concept to design and make inclusive products. The content of this outcome is underpinned by the Double Diamond design approach. Students may move from one diamond to the next, and back as they work, through generating and designing both graphic and physical product concepts. Graphic product concepts refer to drawings such as visualisations, design options, and working drawings. Physical product concepts are physical in nature whether be actual or virtual, so prototypes demonstrate the physicality of product concepts. A prototype can be used to ratify parts of a product concept in low fidelity alternative materials prior to using more expensive resources.

Prototypes can also be computer generated using computer-aided design or virtual modelling tools. A calico toile or a 3D model of a hinge or a joint, or a scaled physical model of a product using different materials with similar properties are all examples of prototypes. In Area of Study 2, students will be conducting and using research through using qualitative and quantitative methods to gather primary and secondary research and look at ethical research methods. They will write criteria to evaluate processes to develop product concepts, final proof of concept and making of product, and work technologically to implement, manage, and document the Double Diamond design approach. To break that down briefly, students will need to be taught about the process designers use to conduct research, and about the types of research, such as quantitative research referring to the collection of numerical data, graphs, and statistics, and qualitative research referring to the collection of non-numerical data such as people's opinions and subjective experiences.

There are different methods to collect data, and students will need to be specific about what types of research methods collect what type of data. For example, a questionnaire can collect both quantitative and qualitative data, it depends on the questions being asked. Whereas a focus group may collect more qualitative research of opinions and be more subjective. Primary research refers to the process of collecting original data directly from sources through methods such as questionnaires, interviews, experiments, or observations, visits, testing. Secondary research is that process of gathering and analysing existing data and information that has already been collected by others, and students may do this through things like books, journals, or the internet. Students will need to understand how both primary and secondary data can help inform a designer.

Thinking about ethical research, ethical research methods may involve adhering to principles and practises that prioritise the wellbeing, autonomy and rights of research participants. This may include things like obtaining informed consent from participants, ensuring confidentiality, or privacy of data that is collected. We want to minimise potential harm and risks. They may provide support or debriefing, and maintain integrity in data collection, analysis, and reporting. Additionally, ethical research involves conducting research, thinking about cultural sensitivity and inclusivity, and we want to avoid conflicts of interest and ensure transparency in the research process. It may also include welfare or humane treatment of animals involved in research. There is further information in the cross-study specifications under the Health, safety, and ethical research considerations heading.

And then what does multimodal mean? Quite simply, a multimodal record of evidence refers to a collection of various types of evidence or documentation that is presented in multiple modes or formats, and it might go beyond traditional written or verbal evidence, and may incorporate visual, auditory, interactive elements, provide more comprehensive and diverse representation of learning. Students can gather and present information in a variety of ways, including videos, photos, drawings, charts, audio files, presentations, or traditional design folios. Area of Study 3, Cultural influences on design. On completion of this unit, the students should be able to research and discuss how designers and end users are influenced by culture. Again, it is important to understand the command terms, in this case such as research and discuss, and using the VCAA glossary to assist with ensuring the teaching programme provides opportunities for students to demonstrate the outcome through things such as what they do, say, make, draw, or write that will provide opportunities for students to demonstrate an 'S'.

In Area of Study 3, Cultural influences on design, we want students to be able to develop an awareness of how Aboriginal and Torres Strait Islander people's design and produce products and consider how sustainable design practises care for Country. To assist teachers, the study design provides information about Aboriginal and Torres Strait Islander knowledge, history, and culture in the cross-study specifications. There is also a link on the VCE Product Design and Technologies Study page to on-demand video recordings, which were presented with the Victorian Aboriginal Education Association and the Department of Education Koorie Outcomes Division for VCE teachers and leaders as part of the Aboriginal and Torres Strait Islander perspectives in the VCE webinar programme in 2023. There is also suggested teaching activities in the support material. Where possible teachers and schools are encouraged to establish connections with their local Aboriginal communities in order to foster genuine and culturally responsive learning experiences for their students. Your school may already have some connections established that may benefit your students in this outcome.

In Area of Study 3, students will examine how traditions and culture are acknowledged in contemporary design, making connections to personal and other cultural heritages, and use ethical research to extrapolate information from a variety of sources to connect and make meaning between designers' culture and the products that they design. So, this area of study is a great opportunity for students to make connections with other cultures, and it may be an opportunity, if appropriate and culturally sensitive, to make connections with the cultures of students in the class or cohort. By looking at ethical research methods, students can explore how other cultures and make connections with how culture has and continues to influence design.

Here is an example of a learning activity that comes from the VCAA support material for VCE Product Design and Technologies. It is one example of how content from the key knowledge and the key skills could be taught, it also illustrates how the cross-study specifications relate to this content. For this, teachers may use examples of product design of Aboriginal people from their local area if appropriate. The classroom activities looks at the key knowledge of cultural influence on product design, including those of Aboriginal and Torres Strait Islander peoples, and factors that influence cultural, need, and opportunities for end users, and the key skill is to examine a variety of products through a cultural lens. And the cross-study specification link is Aboriginal and Torres Strait Islander knowledge, history, and culture, and design thinking. And for the activity as a class, watch the video, 'Restoring the Koorong tradition', which is on YouTube, which shows how Aboriginal people and other people gathered in Ballarat to showcase Aboriginal and Torres Strait Islander technology and design by building one of the most significant forms of transport in Australian history, the stringy-bark canoe. And then the students could discuss the influence of first nation's culture on design and production of the canoe.

So, there could be a class discussion after watching the video, which would provide opportunities for students to demonstrate the outcome through what they say, and this may in part provide opportunities for students to demonstrate an 'S' for this outcome. Throughout Unit 2, the cross-study specifications should be incorporated into the teaching and learning activities. The cross-study specifications provide details of the concepts which underpin Units 1 to 4 and include things such as Aboriginal and Torres Strait Islander knowledge, history, and culture. What a design brief is, the design process, design thinking, critical, creative and speculative thinking, developing and conceptualising products, design specialisations, working technologically and technacy. Factors that influence product design, sustainability, health, safety, and ethical research considerations. Units 1 and 2 is a very good opportunity for students to become familiar with the concepts in the cross-study specifications, so they are comfortable with the topics and language of this area. The concepts and further information are provided on pages 11 to 19 of the study design, and these concepts need to be read in conjunction with the key skills and knowledge of the unit.

Looking at assessment in Unit 2, some suitable tasks for assessment in this unit are multimodal record of evidence of research, development, and conceptualisation of products addressing a need or opportunity related to positive impacts for the end user. It may also be practical work, demonstration of graphic and physical product concepts including prototyping and making final proof of concepts along with the finished products, addressing a need or opportunity related to positive impacts for end users, and case study analysis or research inquiry of a designer and end users that explores the influence of culture in product design. It is important to remember the purpose of assessment is to rank the student cohort. Assessment may contribute to determining the 'S' or 'N' judgement; however, students should be provided with opportunities to demonstrate the outcome statements through teaching activities, and this can be in a number of ways to suit the learners in your cohort.

Thank you for listening, and best of luck to all of the teachers teaching Unit 2. And for any further questions related to this unit, please contact Dr. Leanne Compton, at the Victorian Curriculum and Assessment Authority. Thank you.

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