**Zeta Wilson:** So, before we begin our session today, I would like to do an acknowledgement to country. I would like to acknowledge the traditional custodians of the many lands across Victoria on which each of you are living, learning and working from today. I would like to acknowledge the traditional owners of...the traditional custodians of the Wadawurrung people and their ancestral lands that I’m speaking to you from today. When acknowledging country, we recognise Aboriginal and Torres Strait Islander people’s spiritual and cultural connection to country. We acknowledge the continued care of the lands and waterways over generations and celebrate the continuation of a living culture that has a unique role in this region. And as we share of our knowledge in teaching and learning, may we pay our respects to Elders past, present and emerging, for they hold the memories, traditions, culture and hopes of all Aboriginal and Torres Strait Islander people across the nation, and hope that they will walk with us on our journey.

So, all I need is the ball, hey, Craig? Alright. The Overview of STEM for Aboriginal Perspectives. So, I would like to begin by talking to you about the contents of the presentation. In it, I will cover an overview of Aboriginal perspectives in the Victorian curriculum by considering the cross-curricular priorities about learning about the histories and cultures of Aboriginal and Torres Strait Islander peoples. Also, I’ll briefly provide an overview of Aboriginal perspectives in STEM, and I’ll also consider about...consider some of the protocols and suitable resources for embedding Aboriginal perspectives for STEM...in STEM for primary teachers in a localised and Victorian context. And the STEM curriculum manager, Erin, she’ll provide an overview of STEM in a localised and Victorian context. And as regards to key stakeholders – Aunty Fay from VACL, and Vaso from VAEAI – they’ll share their expertise and knowledge and contribute to the Q&A section.

Alright. This little slide really is just highlighting themes. You can see, on this slide, just how interrelated topics can be taught across the curriculum as thematic units of work, and you can make that connection to students learning about the histories and cultures of Aboriginal peoples. That’s it.

The Victorian Curriculum F-10 Overview. Now, to meet the diverse needs of all students, the Victorian Curriculum F-10 provides an inclusive and flexible framework for schools to develop their teaching and learning program. Learning about the histories and cultures of Aboriginal and Torres Strait Islander people is embedded across the Victorian Curriculum F-10. Because it occurs in different curriculum areas – you need to go back – we call it the cross-curriculum priority. The cross-curriculum priority for learning... We need to go back one. So, the cross-curriculum priority for learning about the histories and cultures of Aboriginal and Torres Strait Islander people provides the opportunity for all students to deepen their knowledge and understanding about the oldest living culture. And it’s also important for Aboriginal and Torres Strait Islander students in the classroom to see their own cultural identity and their history reflected in their learning. By engaging with learning across the 11 years of schooling from Prep to Year 10, students will build their ability to show their appreciation and understanding about why it’s important to show the respect and empathy towards the First Nation peoples.

Now, this deep learning can only occur over time because of the meaningful and learningful...meaningful experiences that can be explored through the shared viewpoints and perspectives from Aboriginal and Torres Strait Islander peoples when learning about the rich histories and cultures in Australia. Just the previous slide still. We’re just gonna touch on the point about localised and Victorian context.

Thank you. So, one great starting point here is the community-preferred education model. When it comes to learning about the history and culture of the Aboriginal and Torres Strait Islander people, start teaching your students in a localised and Victorian context. Now, what do I mean by that? First, just think about where your school is situated. Who are the traditional owners? And then localise the content about the history and culture of the traditional owners to suit the local area. Think of your community and then the surrounding areas. Next, you can extend your teaching and learning to incorporate the many Aboriginal groups across Victoria, and then you’d be providing that Victorian context. So, by following this community-preferred education model, you’d be able to embed Aboriginal perspectives across the curriculum with a focus on a localised and Victorian context. Next slide, please.

Alright, so this table here, all it does is just provides an overview of the number of content descriptions and elaborations that make reference explicitly to Aboriginal and Torres Strait Islander histories and cultures for STEM in the primary setting. Now, if you notice science, the primary setting here, there is no content description that makes that explicit...references to Aboriginal and Torres Strait Islander histories and culture, but as we know that the science curriculum provides the opportunity to incorporate Aboriginal perspectives, and it helps teachers to explore how there are different concepts of science and ways of knowing about the world, and having that understanding about the place of traditional knowledge in STEM.

So, if you would like the summary of the curriculum content – and that’s about learning about the histories and cultures of Aboriginal and Torres Strait Islander people – that is found on the VCAA website. Just go to the section of Overview, and you’ll find it under the cross-curriculum priorities. Next slide.

Alright. Very briefly, traditional knowledges perspectives and culture meets Maths and Science in STEM learning. What I’m going to say here briefly is that, of course, there are different concepts of science and ways knowing about the world for Aboriginal and Torres Strait Islander people. It’s making that connection to their culture and the traditional knowledge they hold – their practice and skills.

So take, for example, about the deep scientific understanding of country, and their knowledge about sustainable water practices and their inventions and innovation. And from enviro...from the environmental science to astronomy, you know, understanding the Earth’s ecosystem, the knowledge of the climate – we have the seasons, the fire-stick farming – down to tools and technology to agriculture and aquaculture. So, what it shows, that culture and traditional knowledge of Aboriginal and Torres Strait Islander has a place in STEM learning. Next slide.

Alright. So, this one is where I will hand over to Erin, and Erin will give an overview of STEM in a localised and Victorian context. Thank you, Erin.

**Craig Smith:** Sorry, everyone. Just bear with us. We’re on... I’m on my L-plates, so I’m just fumbling my way through this. One of the things we didn’t rehearse was when I shared my screen, I can’t actually see any of the chat box or the other functions, so...strap yourselves in. It could be a little bumpy at points, but we will get there. Erin, you now have the ball and I would suggest, if you can, you’d like to share your screen rather than sharing mine. Would that be possible?

**Erin Wilson:** I don’t have the presentation.

**Craig Smith:** Very good. I will go back to sharing my screen.

**Erin Wilson:** (LAUGHS)

**Craig Smith:** There we go. Hmm.

**Erin Wilson:** While Craig’s sharing his screen, I would like to just first acknowledge that I’m on the Dja Dja Wurrung country today, so I’d like to pay my respects to elders past, present and emerging of the Dja people. I would also like to acknowledge Zeta and Aunty Fay, who are here with us today. I think it’s a privilege for us to be able to be here today, talking about how we can incorporate and really make visible in the curriculum Aboriginal perspectives in relation to STEM.

So, Craig’s now sharing a whiteboard, but that’s OK. I will... Oh... Ah. So, I will get to where we’re talking to while Craig’s sorting that out. So, really, a couple of little first things that Zeta’s already mentioned a little bit is that, when we’re talking about STEM, we’re talking about a number of curriculum areas. And, so, from a Victorian curriculum perspective, we’re... Craig, have you sorted out the presentation yet? We’re only seeing the whiteboard. We’re not seeing the...

That’s OK. So, we’re talking about science, maths and technologies in terms of content knowledge, and then, from an inquiry skills perspective, we’re talking about science inquiry skills and creating designed solutions. I might be able to... Let me see.

No. Craig’s still... Craig, you might need to share your screen again. We can’t... I can’t... Sorry, everybody.

**Craig Smith:** Sorry, everyone. Just bear with me. It’s, um... The option I’ve got is viewing the whiteboard, so...rather than the PowerPoint. So...

**Erin Wilson:** No, that’s OK.

**Craig Smith:** I need to burrow back.

**Erin Wilson:** (LAUGHS)

**Craig Smith:** Actually, Zeta, as a work-around, can you load your PowerPoint and see if you can share your screen, please?

**Erin Wilson:** Well, I’m going to do the teacher thing and fill in some time while we’re sorting out the whiteboard. And, so, what I really want you to consider when we’re working, moving into STEM, and we’re talking about STEM from a local perspective – because that was one of the things that I’ll be focusing on in the presentation and wanting to discuss as well – is whether you are able to...are you able to identify the land, the Koorie land on which you’re currently on at the moment? Because I think that that’s a really good place to start when you are thinking about including Aboriginal perspectives within the curriculum.

One of the things, though, from a curriculum perspective, that I want to highlight is that, when we’re talking about STEM, we’re not talking about exis...adding to the curriculum. So, from a VCAA perspective... Ah, here we go! Excellent. Alright. So, from a VCAA perspective, what we’re doing is we’re talking about STEM as a way of delivering the curriculum. So, like inquiry-based learning or like STEM education, we are talking about a way in which we can integrate and deliver the curriculum. So, it really is incorporating the content knowledge in science, maths and the design and technologies curriculum, as well as digital technologies with science inquiry skills, and creating designed technology solutions.

Craig, how are you going? I think you need to...

**Craig Smith:** So, I’ve downloaded the file. I can see the PowerPoint displaying. Can...I assume you can see this too?

**Erin Wilson:** I can’t see... Which page are you on?

**Craig Smith:** STEM in the Victorian curriculum F-10. So, page 9.

**Erin Wilson:** OK. I can only see page 1. I’m not sure what everyone else can see.

**Craig Smith:** Page 1. OK, thank you, everyone. Um... Oh.

**Erin Wilson:** Maybe if you stop sharing your screen. No, it’s... Oh, OK. Now I’m going to see... Am I... I don’t have the finalised version. What can you see now, Craig?

**Craig Smith:** We can see a PowerPoint over the top of the Victorian curriculum.

**Erin Wilson:** Alright. So I’ll... This is not the finalised PowerPoint, so I’ll just go with what I can do and then we’ll see how we go. (LAUGHS)

**Craig Smith:** Yep. Thank you.

**Erin Wilson:** Alright. So, this is the page that I was discussing and talking about, and so this is the point that I was going to make – that, you know, what we’re really wanting to think about when we’re talking about STEM is that we are talking about incorporating and...all of these curriculum areas within themes and topics will integrate as units, from a primary perspective, which Zeta has already touched on some of those things.

So, as Zeta’s already mentioned, when we’re talking about Indigenous ways of knowing and Western science, I think it’s important, from a STEM perspective, that we acknowledge that there are very many similarities between the two. And I think this PowerPoint will be available afterwards, or the presentation will be available, so you’ll be able to access some of the links that we’ve got available here. But really, Aboriginal perspectives and Aboriginal knowledge has many commonalities and that they’ll work together to be able to do each of these things and to be able to explain the world in which we live.

So, as Zeta’s already mentioned too, the cross-curriculum priorities are available here. In terms of... At the VCAA website. In terms of STEM, if you haven’t already accessed the Aboriginal Languages Sample Units, there’s some really great sample units there that allow you to make Aboriginal perspectives visible. And I think, from my own personal perspective as well, and working with Zeta and working with Vaso, it really is often a journey that you go on in terms of developing your understanding and knowledge of the Aboriginal perspectives that you can embed within your classroom. So, these are a great place to start as well. So, Animals, My Mob, and Parts of the Body are F-2, and then Aboriginal People and the Environment and the Eels Project are 3-6. And they bring in those perspectives and understandings, as well as incorporating language and wording. So, like Zeta said, it’s important for Aboriginal and Torres Strait Islander children to see themselves in the curriculum, but it’s also a really nice way for us to make it visible within the curriculum as well, considering the topics that we may use within our classrooms as well.

Now, this is not in the right spot, I know, Craig, because this was the draft. So, it’s not quite here at the moment, but I was going to put this down the bottom, after Resources. And if you...so I’ll skip it and then I’ll come back to it, I think.

And so, as we’ve said, the preferred community model is to start local. So, for me, that means that I’m starting with Dja Dja Wurrung country as my local place or my local context in which I’m going to think about embedding Aboriginal perspectives into my classroom from a STEM perspective. And, so, for me, I knew where to get some of the resources, but I really did also start with just thinking about what resources are publicly available. So, the Dja Dja Wurrung Clans Aboriginal Corporation website is a fantastic resource, and so if you are on a different country within Victoria, they will potentially have also an Aboriginal Corporation website that you can visit.

For me, from a STEM perspective... And I know that there’s a few people in the webinar that are also on Dja Dja Wurrung country, and perhaps even some that live very close by to the creation story that is really about Mount...well, what is known as Lalgambook, or Mount Franklin, and this is a great little story. There’s a video that you can use as well to situate and make visible in the curriculum Aboriginal perspectives and Aboriginal ways of knowing around how geological formations exist and how they’ve come to exist as well.

For me, also, one of the things I think we’re...you know, we’re very conscious of the fact that we’ve technically just started what the Europeans would call spring, or, you know, we term spring, being 1 September. But if you’ve observed or paid attention to the things that have been happening in Victoria over the last couple of months, the four seasons of the European tradition really do not describe adequately the climate or seasonal change that happens in Victoria. So, the Dja Dja Wurrung people are part of the Kulin Nations, and they describe seven seasons, and that’s...we’ll touch on this as well, while the Gariwerd Calendar describes six seasons. And, so, currently, right now – late July to early August – is orchid and wattle season. And I’ve definitely... Here’s the picture of my backyard. Looking out there, I’ve definitely noticed that, you know, the last six weeks, while technically spring...spring hasn’t been arriving, the wattles have been flowering.

And so this is a really lovely way, I think, of being able to talk about, what do we mean by science? What do we mean by observation? Where do we go with STEM? What do we mean by technology? And, what do we mean by different ways of knowing, in terms of the way that we arrange the seasons and seasonal change? Because I know, also, in some countries, while we talk about seasons, the four seasons being from calendar months, then what you also get is you get calendar months...and you get seasons in terms of the phases of the moon.

The other thing I think nice...is a nice literacy link as well, from a primary perspective, is that there are many picture stories and books that refer to the seasons being, you know, Christmas in winter and so... So, there’s plenty of really nice opportunities to be able to link those perspectives in meaningful ways, to really talk about how we know and how we create our understanding.

A couple of other examples that I’ve been able to find when I’m thinking about linking Aboriginal perspectives and knowledge to the country which I’m currently on is the Aboriginal waterways assessment. So, this is an assessment of Dja Dja Wurrung people going out on country to assess the health and healthiness of the Coliban River, and then also the Myrnong daisy as well, which is also a really nice example.

So, there are plenty of places and ways for, you know...for you to be able to think about, “Well, here’s my curriculum. Here’s my STEM curriculum. Where can I make the link between those STEM curriculum areas? Where does it fit in perhaps my integrated unit?” And then, “Where can I make Aboriginal perspectives more visible?” And I think as you engage in your own research and your own understanding and the knowledge that’s available in your particular area, related to your local context, there’ll be different links and elaborations that you’ll be able to make.

Aboriginal Victoria has some really nice resources in relating to places and objects. Culture Victoria has some really... (AUDIO DROPS OUT) …I haven’t spent much time prior to the webinar actually exploring the Culture Victoria website, but there’s some really good creation stories. There’s some really...you know, opportunities to talk about land and spirit stories that are video recordings as well. So it’s not just written in print text. And then there’s a lot of information that we can link to STEM in terms of artefacts and tools and design technologies. Aboriginal Astronomy has got lots of resources in terms of teaching resources, research and external resources. The DELWP Aboriginal water program has information, depending on which country you are situated on, in terms of the water grant projects and video resources, and so that’s where I was able to find the video that links to the Dja Dja Wurrung water assessment. The Australian National Herbarium has some really nice resources for use of fungi and plant use that you could use as a stimulus or a prompt. Some of them are, you know, probably really...the resources are designed for later secondary, university, but they’re certainly useful places for you to go to extend your knowledge and think about ways you could make your own curriculum links. And then the University of Melbourne, their Indigenous knowledge curriculum resources, they have information in all of the curriculum areas – so, they have resources for maths, resources for technology, resources for sciences, in learning area resources, and that is from F to 10. And then they also have themed teaching resources that relate to astronomy, fire and water.

And I think I’m at the end! So, now, if I stop sharing my screen... Here we go. OK. I have stopped sharing my screen. So, I think, now, Craig should be able to share his screen. Or, Zeta, you might be able to share your screen, because you’ve got the whole presentation, perhaps. If I pass the host function to you... Oh, there we go.

I hope I did it in roughly the right amount of order. (LAUGHS) We’ll be able to scroll down and see if there’s anything I missed. Oh, the local organisations. Yep. So, that was my last...that was the last bit I needed to do, so I’ll just... VAEAI’s gonna... Vaso’s going to talk shortly after me. So, these are... Oh!

**Zeta Wilson:** That’s right?

**Erin Wilson:** That’s right. She’s got it. Yeah. So, VAEAI and VACL, Aboriginal Victoria, the local traditional owners and local Aboriginal organisations really, I think, are good places for you to start when you’re thinking about the perspectives that you might incorporate.

**Zeta Wilson:** Alright. Is it back to me, Erin?

**Erin Wilson:** It is back to you, Zeta.

**Zeta Wilson:** Alright. Thank you. OK. So, the protocols in STEM. This is a section where I’ll consider one resource to support teachers to understand about the cultural protocols in engaging with Aboriginal people. So, here’s one resource – it’s the Koorie Cross Curricular Priorities for Victorian Government Schools. It provides principles, guidelines and further links and references to support teachers about the protocols for teaching Aboriginal and Torres Strait Islander culture in the classroom. Now, having a good understanding and knowledge of the cultural protocols is a good starting point to help teachers to develop the confidence in how they can incorporate Aboriginal perspectives across the curriculum.

So, resources for STEM. Here, I’ll just briefly explore some localised and Victorian resources that are available to support teachers to provide that pathway and improve the participation for Aboriginal and Torres Strait Islander students in STEM subjects and professions for professional learning, for teachers to gain the understanding about Aboriginal knowledge.

Alright. So, this one here was just looking at resources that are available from VAEAI, the Aboriginal Education Incorporated, I’m not sure whether... Vaso, if she can share. So, how do we work through that?

**Erin Wilson:** Send the host function to Vaso and then she should be able to share her screen, Zeta.

**Zeta Wilson:** Yes. Hang on. One moment. Alright. Vaso, see how you go with that. And Vaso will talk us...or show us the VAEAI, some of the Koorie resources.

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