**Monica Bini:** So, recapping with self-regulated learning, it’s about my strengths and weaknesses as a learner, developing learning strategies that I can manage and use, and strategies to motivate my learning when I’m feeling unmotivated. Of course, metacognition comes in here, but there’s also a strong link to Personal and Social Capability, and that from the Victorian curriculum comes from having a realistic sense of their personal strengths and personal characteristics, a capacity to interpret their own emotional state, needs, perspective, skills to work independently and conscientiously, delaying gratification and persevering in the face of setbacks. This is from our curriculum.

And how do we develop that in students? Well, we’ve got an example later on where we might look and see in a secondary context how that’s managed across...when you’ve got kind of different classrooms, the kids all don’t have the one...you know, a limited number of teachers. But for the moment, we’re going to look again at this example from 5 and 6, again.

It says...what it means, can students basically describe the influence that personal qualities and strengths have on achieving success? And to do that, can they describe what it means to be confident, adaptable and persistent, and why these attributes are important in dealing with new or challenging situations. So if students are able to do this, they’ll be empowered to have conversations with each other, they’ll be empowered to have conversations with themselves in terms of their own self-talk, and with their teachers. So, concepts that are the basis of formative learning conversations can be taught here.

And Crystal’s going to show an example of what that might mean in practice. So, over to you, Crystal.

**Crystal Afitu:** Yeah, this is a fun activity that I completed with my Grade 5-6’s. We had been learning about three-dimensional objects and spaces, edges and vertices, and then we also sort of crossed over to strength. And the goal of this was for students to work in groups and, as peers, trial and error was very, very important in establishing...developing a structure to a specific height with specifications that they had to achieve based on their prior learning and based on communication with each other.

And I think with this self-regulated learning, it needs to be student-initiated and it needs to be proactive. Students need to be able to articulate, justify and reason the processes that they are applying to whichever strategy that it is. What worked, what didn’t work, and always ensuring time for reflections.

When I do tasks like this, I always discuss learning intentions and success criteria, and my success criteria might be developed on a continuum of cognitive understanding. For example, “I can multiply my five-times tables,” and at a higher extent of abstract level, it might be, “I can problem-solve with multiplication.” And the student will be able to demonstrate, whether that be through written, verbal or some form of representation to me as a teacher.

Sharing of strategies – again, I’ll reiterate that that’s very important, because, again, at a student level, that resonates with them. It is important, as I mentioned before, to explore a range of strategies, because when it fails – if they’ve attempted a problem and it doesn’t work, which in many cases it will – it is important that they can rely on another avenue should any other issues arise.

Now, struggling in Mathematics, in particular, provides students a range of strategies to be able to apply across the learning areas. So the ability to come up to a problem or encounter an issue and then know what steps they need to take place, through accessing prior knowledge and prior strategies, to help them work through the solution of the current problem. This might come up with...for example, in English, if you’re wanting to extract specific information in regards to comprehension, where students will use a range of strategies identifying key information within a text and drawing conclusions.

No? If anyone has any questions along the way, I’m also monitoring the Q&A, so feel free to shoot any questions in there as well.

**Monica Bini:** So, in terms of the strategic thinking, if you will, around motivational learning strategies, it’s similar to metacognition but slightly different. So, particularly for dispositions, we’re looking at the value of them, the limitations of them. So, in other words, you know, should we continually persist, when do we give up? Can we be overconfident and perhaps reckless? You know, what are some of the protective factors that influence development of the disposition? Which, of course, is related to building self-awareness, fostering a healthy climate, where it’s recognising that development of these dispositions is a lifetime enterprise. It just goes...as we all know, goes on for the rest of our lives. And you’re not expected to be perfectly, you know, mature, obviously, while you’re at school, but we’re continually working on improving and getting better at it. But we need ways to appraise our behaviours and we need ways to think about factors in our life that we can control and perhaps change to help support our development.

So... Let’s see. So, self-regulated learning in Mathematics... Crystal, you wanted to add...do you want to add something there?

**Crystal Afitu:** Basically, with self-regulated learning, with Mathematics, again, for me, I think it’s about how do we assess self-regulation? And we do look at the progression and the efficiency of the strategies that have been used, particularly with Mathematics.

I have a maze on there purely because for somebody that’s never been shown any strategies, they wouldn’t know where to start. And I think, when you are shown with strategies, particularly with Mathematics, you have a starting point and an entrance point, and it’s trial and error. And it’s that metacognition, the reasoning and the critical and creative thinking that encourages and promotes self-regulation with student learning. And I think, again, the importance of exposure to strategies, particularly with Mathematics, really encourages the self-regulated learning.

So, that was all I was going to say with that one, Monica.

**Monica Bini:** OK, thanks, Crystal.

So, as we said before, with the role of challenge, it demonstrates the usefulness of strategies. Students are not going to buy into a strategy unless they are challenged and can see the value of it for them. It’s motivating – obviously, you’ve got something to reach for. And it will enable skill development. Hopefully, that’s pretty straightforward.

Now, in terms of assessment, we’re going to do a bit...most of the rest of the session will be on assessment at this point. So, the key here is shared language. And I’m talking here a lot to...obviously, within a particular class, shared language between the student and the teacher, but in shared language across the school as well, and between learning areas as students move from class to class in a secondary context. So, obviously, at its key, in terms of the capabilities, the achievement standards for Critical and Creative Thinking and Personal and Social Capability can be used to plan for gradual development of skills and to assess students. They are things that the learning areas have in common, so they do enable different faculties to get together and plan together. And I’ve worked with a few schools who are doing this. They are getting heads of faculties together and putting the capability at the centre, and looking at how they’re working together to foster that in students. So it can be...it can be done.

So... Again, in terms of metacognition, it’s about...the curriculum is about breadth and depth of metacognitive strategies and control of your thinking. Can I select it and justify it? Can I reflect on other people’s thinking as well, as we go up the curriculum?

So how would you do that? Students can reflect on a strategy or tool that they’ve used and how it assists with their thinking. They can identify their own examples of where strategies might be useful. And I would assess through practical contexts where the level of challenge is high enough to require metacognition. You wouldn’t be looking for abstract responses, you know, that they know about it in theory – you want to be looking through practical contexts. But making sure that every student has the opportunity. And of course, you would use the achievement standards to help temper how difficult that is.

That’s just a kind of summing up for...across F-10.

And one example, a common way to look at metacognition is through written reflection. And borrowing off the webinar that we did from Critical and Creative Thinking, which happened also just coincidentally, use a maths example as well – but it’s perhaps useful as far as this goes to give you continuity of experience – the teacher I worked with there got students to write reflections in their maths book. They reflect on the difficulty of the task, what they’ve learnt and so on. They give them...they teach them... The teacher said that they teach the students stems that are used, and as...to begin with, at least, that’s part of a scaffolding. How to set up a reflection. Rather than just give me a reflection, they’ll structure it for them, and then gradually withdraw that scaffolding as they get better and more fluent in it. They also introduced a “What makes you say that?” thinking routine that’s used across every single class. So students are used to what that means and what’s expected of them when they’re asked “What makes you say that?” as a reflection.

And here’s an example of a work sample around a student reflecting on their strategies that they use for multiplication in this case. And the annotation there from the teacher in blue is not about the maths – it’s actually about... It’s using the SOLO taxonomy, which I’ll bring up in a minute. And it’s about their capacity to think about it, not necessarily, you know, whether they manage to successfully multiply or not. It’s their capacity to reflect on it that the teacher is giving feedback on.

And you can, of course, do that for anything. You could be looking at folios through the arts and reflection on the process...you know, their ability to create a good folio and get better and better at that. And how you get that metacognitive reflection improving over time.

And you can... In this case, the teacher used...as Crystal was saying before, that students are taught the SOLO taxonomy and they’re given success criteria based on the SOLO taxonomy, and, for example, you can follow procedures to solve multiplication problems, remember and explain strategies for solving multiplication, compare and contrast different strategies, and evaluate and select the best method. And the students are guided through that.

Pam Hook – and I know this teacher developed these through looking at Pam Hook resources... So, Pam Hook is a kind of expert in SOLO taxonomy. She has a section there on metacognition that you can go and follow up and look at if you wish.

In terms of Personal and Social Capability, what I wanted to do is... Some of you asked in the...you know, when you registered what we do about crowded curriculum, how do we do this in a secondary context? It would not be useful, unless the student really needed it, to teach over and over and over in general, what persistence means, what confidence is, what adaptability is. In general, that is kind of a waste of time in some ways – unless, of course, a student might need it, obviously. But one way you can do it is introduce it through a linked learning area such as Health and PE, is a common one to teach Personal and Social Capability through, in secondary schools, a learning context of Health and PE classes. You would then teach and assess against the Personal and Social Capability achievement standards. But here’s the value-add – the program that’s written by the...you know, to be delivered in Health and PE class is shared across the school to then enable that shared language and application of learning in a range of areas...learning areas to occur. So the student might go on to apply their learning about, you know, persistence and adaptability in other learning areas, and other teachers should be on board with what the student has learnt. And that helps to manage crowded curriculum, because you’re not having to revisit what’s already been done in the other program, other than, you know, if the student really needs to.

So what that might look like is, in terms of our example before, we’ve got in Health and PE class, for example – it needn’t be Health and PE, but I’m just picking a common one – they learn what...the meaning and value of confidence, adaptability, persistence through learning activities based in Health and PE, but the Health and PE teacher makes sure that they talk about this in general, to help them then transfer across to other learning areas. Doesn’t mean the Health and PE teacher has to now be a mathematician, but they help the teacher...help the student to be aware that it’s not just Health and PE context that these things are useful for. Being confident, adaptable and persistent is useful beyond a PE or a Health context. And to help raise awareness of that in the students, then these programs are shared with the other teachers and the other learning areas. I’m thinking of now a secondary context. When the student walks in, they know that a student should be able to recognise the value of these qualities. They’re aware of some strategies around how to cope with challenging situations that have been taught in PE and so on, in general. They’re aware of what they are, that...you know, the program’s been shared, so they know the strategies that have been taught. And, ideally, those general strategies have been agreed on across the school, so that there’s buy-in across learning areas, that there’s the general strategies, the things that all teachers have agreed to that are useful across learning areas. And of course, the HPE teacher can value-add specific ones that are useful for HPE, just as you will do in your own learning areas, but the general strategies are common and agreed to.

And then, of course, in the learning area, they learn how to adapt and persist in the context of other learning area challenges. So, what is it to take a risk in an Art classroom, specifically? What does that look like, sound like, feel like? What does it look like in a Maths, English, Humanities classroom? And what does it look like in a Science classroom? And qualitative feedback is given by the student and teacher – so, in other words, just as a teacher reflects on their learning, they’re giving feedback to the teacher, really, the teacher’s giving feedback to them, to each other, and they’re using language that’s shared across the learning areas that’s been introduced in the Health and PE class in this case, but based on the Personal and Social Capability curriculum.

So what then happens is that, if you wish... In this scenario, the Health and PE teacher has taken on the responsibility of assessing students against the Personal and Social Capability achievement standard, because they’ve introduced that knowledge for the first time. How you then go on and track it is up to you. And it’s a school choice. You will... And it depends on how your school is structured. So you might have the opportunity for a tutorial teacher to be able to pull together all that qualitative feedback that different teachers are giving, bring it together into one spot and then talk with the student – I know of a couple of schools that are doing this – use that qualitative feedback coming in from different teachers to then have a learning conversation, set some learning goals with the students about their... “I see you’re persisting and adapting really well in drama class, but not so well in science. What’s going on there? Let’s talk about it,” and setting some learning goals for them. And of course, ideally, there should be a feedback loop back to the Health and PE teacher, if they’re the ones designing the next program.

So these kids might be in Year 7, semester one, they’ve learnt this. Maybe there’s a secondary program to develop them further in semester two, maybe there isn’t. Maybe they won’t see another program that focuses on this until Year 9. And they ought to... A really good Year 9 nine version of this program to develop student learning further should take into account some of that data that perhaps feeds through from the tutorial teacher, then back to the HPE teacher to say, “Well, look, here’s how these kids are tracking. This is what they seem to be getting really good at.” Perhaps they need to know more of, “This is what you can build on.” So, when they’re introduced to new knowledge, new skills, again through HPE – some new general ones, I’m talking about – this can be based on some data from...based on how they’ve applied it in other learning areas. And this, then, again, will keep the students engaged, because they’re not learning things they already know, for a start, and they’re actually learning something useful that stretches them a little bit more. And yes, it requires a bit of time and effort. It definitely requires good communication across the school, and it requires a serious investment in metacognition and self-regulated learning as something the school wants to focus on and, you know, as something we will all pay attention to. And for those of you...hopefully, it’s obvious that that is something worth paying attention to.

I’ve got a...one of...my daughter’s in Year 12, and is in the next room there, studying for two exams tomorrow, and you see it right at the other end, how I hope that her metacognition and self-regulated learning is paying off by this stage. But, of course, it requires quite dedicated work. And you want every kid to develop this, not just by osmosis, not by happenstance, not through sheer luck – you want to provide opportunities and repeated opportunities, consistent opportunities for every student to develop. And what that means is it has to be part of everyday practice. And then, for metacognition and self-regulated learning, that’s easy to do, because, surely, when you’re teaching, being in control of your thinking, working on problems, that is your everyday practice. So it’s being more strategically aware of it, how you as a learner are coping every day in the classroom, and being aware of that.

And that helps with assessment, too, because if it’s an everyday practice, you will eventually get some data on all students. It may not be every student period five that you’re going to be able to see on this day, but across the semester, across weeks, you will get around to them, and you’ll build a picture through observation, written reflections and so on.

So, in terms of planning for this, you’ve got to plan from the outset for the shared language across the school, the shared language within your classroom. And that involves paying attention to capabilities, concepts and learning area concepts as well, as we looked at before. Multiplication strategy is a learning area concept. The capabilities concept might be something like persistence or adaptability, disaggregation – you know, the strategy of breaking a problem down to help us solve it.

The other thing we have to plan for is challenge, and that’s informed by knowing what the next steps in student learning is. Too often, we make it too easy for students at the top end of the class and too hard for students at the bottom, and it’s too much of a struggle. So how... And it’s that everyday teaching that you struggle with now, is how to do that differentiated learning and set the right level of challenge for everyone. But at least striving to do that in our planning. Perhaps it’s through student choice, perhaps it’s through, as Crystal said, providing ranges of strategy, giving...you know, opening up the next level of learning for them. If...you know, if they’re conquering a particular body of knowledge, how can you get them to go deeper? What are the resour...do you have resources available to help a range of students?

So, that’s pretty much it. We’ve left a little bit of time, Crystal, for some questions. I’ve been looking in Q&A, I’m just going to... There don’t seem to be questions that I can see there. And in the chat... No. Does anyone have any particular questions that you’d like to ask at this point? It is recorded. There was a lot we went over. We might need to...

**Crystal Afitu:** I’m just going to say, Monica, that I pasted in two references into the Q&A. One of them was by Zimmerman and Martinez-Pons that talks about metacognition and self-regulated learning, which was very helpful. And the second one is by Richard Skemp – so, he’s a mathematician who is also a psychologist, and talks about the importance of developing a relational understanding of content in mathematics in order for it to be applicable. And in order to get to that relational level, you have to apply your metacognition, you have to apply your reasoning, your justification, as well as it drives your student in self-regulated learning as well. So they’re two...

**Monica Bini:** Yeah.

**Crystal Afitu:** ...good resources that can assist with, you know, implementing the capabilities through different learning areas as well, with strategies and ideas in them.

**Monica Bini:** And I think, particularly when we’re looking at student agency, student voice, giving students more choice, they’re going to do a much better job, have much higher quality learning outcomes – or produce better work, effectively – if their metacognition and self-regulated learning is stronger.

**Crystal Afitu:** I think it brings a sense of accountability of their own learning as well, and, you know, putting the onus on the student as well. And I’ve seen this... I remember when we first implemented student-centred learning, even at Foundation, and we were very sceptical as to how this would be – students selecting their own activities. But, ultimately, if you teach strategies and the importance of achieving through their own investigations, it is actually a self-empowering skill that the students actually find quite rewarding. So, yeah, it’s definitely worthwhile doing some reading and some applications of things that have been discussed.

**Monica Bini:** Yes, and it’s...as we said at the start, it’s a worthwhile...it’s very low-cost intervention, if you like, from an admin...I guess, at school admin end, but it’s highly effective. If you want students to improve, it’s...the evidence is in – it is a highly effective thing to do for them.

OK, so, if there isn’t any more to add... So, don’t forget about the Assessment of Critical and Creative Thinking webinar. That will be up in a couple of... Oh, I don’t know when precisely. “Soon” is what Craig tells me. And the webinar coming up on 1 December for whole-school planning, so we’ll dig a bit deeper into that. Hopefully, if you’re learning area isn’t Mathematics, you’ve been able to extrapolate some of the things we’ve been talking about here. Effectively, it means thinking about, in my context, what does it...you know, what does it mean to think about my thinking in my learning area? So, how am I going to help students be more self-aware? Rather than getting them to just be doing things all the time and being busy, they’ve got to be more aware and strategic around their thinking. And how can I help them do that in the context of my learning area? So... And what kind of teaching does that entail? What do I have to teach them explicitly to help them do that?

And I’d encourage you also... Some secondary schools kind of have farmed off the capabilities to... And you can, hopefully, see now that if you’ve kind of farmed off Personal and Social Capability to something like Health and PE, which is pretty common, and no other learning area benefits from all that metacognition and self-regulated learning that’s happening there, that’s a bit of a shame. So you want to have somewhere that introduces the learning for the first time, the general learning, the general thinking, the general things, to the students for the first time, brings it alive in that learning area. But then that teacher helps to scaffold and transfer it across by pointing out that it’s useful in more than one context. And then, because it’s shared, the other teachers pick it up and run from there. They share the same language, they share the same strategies, because they’re agreed on, and then build on it from there. And that should help to manage some of the crowded curriculum issues.

Alrighty, so, Craig, are you still with us? Do you want to add anything to round us off, or...?

**Craig Smith:** Hi, Monica. No, I’ve been lurking for the last 50-odd minutes. No. And, look, thank you both very much for such a clear and pragmatic, you know, webinar. And I think, just even going on a few of the comments coming through already, most of our attendees seemed very pleased. It’s a fantastic resource that you’ve put up.

So, to wind up this afternoon, I’d just like to, on behalf of everyone, thank Monica and Crystal for their presentation, to thank Alicia Farrell, who’s a wonderful admin person who makes all the magic happen in the background, and of course, thanks to you, our attendees, for coming along this afternoon. I’d really encourage you to come to our next session on 1 December.

And I don’t know about you, but one of the things that happens when I cognate after some of these webinars is, I do eventually get a question or a comment that eventually floats its way up to the surface. So please feel free to bring any questions or queries to the next one. And...

**Monica Bini:** Yeah. And can I add, if you do register for the one, pop in your questions there as well, because I’ll look at those next week to help me write the webinar. So, you know... And I’ll look at those to help me plan it. So if you’ve got any needs about whole-school, please put them in when you...or send them to me directly. Here’s my email, so you can send them to me directly. That’s fine as well. If you’ve already registered and forgotten to do that.

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