

Case Study: Implementing the Digital Technologies Curriculum

Monte Walker, Somerville House Middle School, Brisbane, Australia

The Challenge

Monte was challenged with implementing the new Digital Technologies Curriculum and introducing teachers and students to coding for the first time. The first hurdle for Somerville House was a lack of specialist teachers with coding experience. The second was helping students new to coding meet the requirements of the Australian Curriculum.

The Solution

1) Seeking professional development

Somerville House supported its teachers in seeking **professional development opportunities** and researching best practices. At the ACCE 2016 Conference in Brisbane, Monte attended two workshops delivered by Grok Learning.

“The opportunity to learn by doing was appealing and enabled me to see how [Grok] could be seamlessly delivered to students by teachers that were themselves learners.”

In particular, Monte thought the instant, **scaffolded feedback** provided by Grok was perfect for a situation in which both students and teachers were still developing their skills. “The Grok Learning platform allowed teachers to pace their own learning and to ensure that they were prepared and conceptually ahead of where their students were... Seeing the confidence growing amongst the team was encouraging, witnessing the “Woohoo!” and “Yes!” moments of all learners when their code passed all testing was gratifying.”

2) Differentiated, self-directed learning

For Monte, the “greatest joy is in watching children, unfettered by rigid lockstep curriculum, free to excel and learn at their optimum rate.” Some students even surpassed their teachers in their progress, but with multiple courses and auto-marked feedback Grok offered them a “consistently challenging experience that suited their learning level.”

“On the flipside, it was easy to get feedback on the students that required greater support, allowing a differentiated teaching environment.”

“One teacher utilised students as class experts for small student-led sessions, providing student-as-teacher moments. The teacher was rewarded with witnessing her class experts leading

fellow students to find solutions, to think about what steps would be required, using the language of coding and not just telling their classmates the answers. The expert students used the same guiding principles that the teacher herself had demonstrated to the class.”

3) Encouraging new ways of thinking

Alongside their coding skills, students also needed to develop **new attitudes towards failure**.

“Learning to code is a vastly different experience from learning almost every other discipline. The mindset is one of working on something that is broken/wrong until the moment that it works, and then starting on something else that needs fixing. All the while remaining positive and trying not to give in to frustration.”

“Parents too find that they for the most part are less able to assist their children at home, compared to what they are used to in other subject areas. It has been vital to communicate to them that some level of learning frustration is to be expected; however, this is a normal part of the learning experience and should not be interpreted as a sign of incapability.”

“The Grok auto-marking provides a beacon in the dark wasteland of unfinished or buggy code.”

Improving students’ marks in computing and beyond

Overall, Monte was incredibly pleased with the progress his students made, with a 99% pass rate in Year 9 and a 96% pass rate in Year 8, and some students even progressing to writing their own programs outside the friendly Grok sandbox.

“This year, all students in grades 7, 8 and 9 will learn to code in Python. Year 9 students will also learn HTML and CSS... In 2018, students from years 5-10 will code [and] Grok Learning will be a core element of the delivery of coding to students.”

“In an increasingly digital age, students are avid technology users, but not competent technology creators. 2020 graduates will have high requirements of digital literacy.”

“Providing students with the skills of computational thinking... improves resilience across all subject areas [and] ending the taboo of failure, by glorifying the “Flearning” (fail + learn) process of learning via elimination of ways that don’t work allows our students to develop their persistence.

Grok Learning provides curriculum-aligned resources for all levels of ability. Contact us if you would like more information about how we could support your computing teaching in Primary or Secondary School.