scopeIT EDUCATION

Digital Technology Concepts for Schools

4 steps to a quality digital technologies educational program

Schools frequently tell us that digital technologies is an important new area of learning, but that there are barriers that prevent a successful program implementation. We offer the following 4 steps to help schools.

1. Build a learning framework

Before commencing coding, a framework of learning and a clear pathway ensures that students can adapt to various code languages and understand how the systems and technologies work together. This framework can be learned in most basic coding languages. In fact, we commence all ScopeIT Education lessons with floor time discussing important individual coding concepts with the students and providing an offline comprehension, wherever possible integrating these with other KLAs. Conceptual integration allows students to gain a full understanding of how technological concepts fit together and integrate with the rest of their learning. Through a planned lesson structure, students establish and build on conceptual building blocks, and then integrate their digital technologies fundamentals with the rest of their learning.

A clear pathway of learning ensures that students understand how coding underpins other digital technologies subjects like electronics and robotics. It's important to understand that coding is just the beginning and not the end goal; the end goal is to understand the concepts of coding so they can be applied in many programming languages and then how that drives other technologies.

2. Ensure you are adequately equipped

One of the big struggles for schools is to constantly refresh technology hardware and provide the most current applications for student learning. It's great to get hold of a 3D printer, many hours of classroom fun can be had. However, a good understanding of 3D printing design concepts will produce a richer learning experience. It's also great to learn robotics but one or two expensive pieces of robotics equipment makes it difficult for all your students to experience hands-on practical application. Do the research and understand how the same results can be achieved with less expensive equipment and provide many more students with the opportunity to learn.

3. Have course pathways

Many schools are embarking on DIY coding classes by skilled teachers. This can be an exciting start but it doesn't always have great depth. Coding underpins a good technology program but it shouldn't be taught in isolation. Robotics,

electronics and even digital safety are all important elements that should be taught in conjunction with coding. It's great to get started but without a clear pathway that demonstrates how all the technologies interlink then the learning becomes experiential and lacks deep understanding.

Just like with any other subject, students will need a progressive learning journey as they advance through the concepts and years. With the introduction of mandatory digital technologies curriculum coming soon, it's important that schools begin to build an understanding of the various learning pathways and opportunities in digital technologies learning.

4. Reach every single child

No longer is digital technologies learning the subject for gifted and talented students. It's a vital life skill for participation in the workforce of the future. The Australian Government's National Innovation and Science Agenda has recognised the crucial need for ICT in most careers of the future, and has stated its support for *"all Australian students to embrace the digital age by promoting coding and computing in schools to ensure our students have the problem solving and critical reasoning skills for high wage jobs."*

It is interesting to note that the student you least expect could be the one that excels - don't deny them this opportunity because they have not over-achieved in other subjects.

About ScopeIT Education

We hope that every Australian student can gain access to the skills and knowledge that they will need for their future careers. We offer the following educational programs:

In-school Classroom Learning: we deliver weekly classes to over 14,000 students per week across Australian primary schools. We bring our own lesson plans, mobile computing lab, trained educators, course pathways, assessment tools

and equipment. We are a simple one-stop-shop for digital technologies education.

One Day High School Incursions: we offer a full day of learning for high school students.

Professional Development for Educators: a series of courses offered for those schools wishing to develop staff in digital technologies skills and knowledge.

CIY.Club: after-school clubs and school holiday camps for students aged 7-17, caters to the beginner through to tech genius.