

TECH TALK FOR PRINCIPALS

ScopelT Education – November, 2016



Providing School Principals with an understanding of Digital Technologies

Welcome to your first edition of our *Tech Talk for Principals* news. This will be your ICT Education development guide to help you wade through the enormous amount of literature, hype, news and often confusing world of digital technology education for your school.

Tech Talk will give you regular updates providing the information to enable you to research and evaluate which ICT programs, initiatives and courses are right for your students. With so many options out there, it is essential that you understand the

full scope of the emerging digital technology education requirements for your staff and ultimately your students.

With ICT education, in fact any education, it's important that as school leaders we overlay our own knowledge of the content to the delivery of a program and we must develop teaching strategies that we believe will reach our students. To do this, we must have a fundamental understanding of the subject matter.

Over the coming issues of *Tech Talk for Principals*, we will explore topics including:

- › What Digital Technology Education is and its benefits for students
- › Potential pitfalls, problems and things to look out for
- › Costs involved
- › What levels of professional development are required
- › Solutions available

This first edition is all about understanding the Digital Education terminology. For some, this will be revision, but for most there will be some technical words and aspects that are important to understand.

Read more...



Frank

Founder and CEO,
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If we can be of any assistance to you or your school, please don't hesitate to contact us.

Frank Lucisano is a Sydney based entrepreneur with a passion for technology and education. Frank is currently the founder and CEO of **ScopeIT Education**, Australia's leading and fastest growing ICT Educator. Additionally, Frank is Chairman of the **Academic and Education Board.org**.

Not only is Frank a strong advocate of education, he has his own academic achievements including Computer Science (CS50x) at Harvard, Economics with UC Irvine and Duke University. Frank also undertook a philanthropic endeavour by holding a position as a volunteer with the University of Illinois, Champagne-Urbana teaching Microeconomics. He currently sits on the advisory panel of Education Nation.

Terminology guide for Digital Technology Education

Coding – The language of computers. This is how computer programmers write the software that make computers run the applications. It is the process of turning the design of a program into computer “speak”. A common misconception is that the online programming language “Scratch” does this but it only offers the smallest snippet to assist with understanding concepts of coding. A similar analogy would be saying understanding concepts of coding. A similar analogy would be saying singing your ABC's is reading when in fact it's just a stepping stone.

Electronics/Robotics – Often these two are mixed together but they are two very distinct subjects. Robotics is the combination of design, construction and software to make physical objects interact with the world. Electronics on the other hand, is simply the subject of circuitry and use of electricity to transmit and compute information. Electronics forms the foundation and builds the base level concepts for the comprehension of robotics. Without an understanding of electronics, robotics is often merely a ‘construction’ activity.

Algorithmic Thinking – A way of getting to a solution through the clear definition of the steps needed. This is a process that uses logical process and helps students to problem solve.

Hour of Code – The Hour of Code is a global movement by Computer Science Education Week and gives students a taste of what computer science is all about.

Code.org – An online tool and platform to assist teachers that are looking to implement an ICT course for their students.

Scratch – A slightly more advanced tool than Code.org closer to being a ‘real’ programming language. It's an online community where you can create your own interactive stories, games, and animations.

High level language – This is a programming language that enables a programmer to write programs that are more or less independent of a particular type of computer. Such languages are considered high-level because they are closer to human languages and further from machine languages.

Low level language – There are languages that provide little or no abstraction from a computer's instruction set architecture and often are extremely cryptic to human comprehension. This requires advanced education.

HTML – Hypertext Markup Language is a standardised system for tagging text files to achieve font, colour, graphic, and hyperlink effects on World Wide Web pages. Essentially it's the high level computer language that underpins the websites we all use every day.

Javascript – An object-oriented computer programming language commonly used to create interactive effects and applications within web browsers.

Java – Not related to Javascript (above) or coffee! It's often used for software, typically to develop for the Android mobile platform.

Python – A high-level general purpose programming language. Its design philosophy emphasises code readability, and its syntax allows programmers to express concepts in fewer lines of code than possible in other similarly powerful languages.