Kia Takatū ā-Matihiko
Digital Readiness

e-Learning/ICT Capability versus Digital Technologies

e-Learning - developing capability to learn **with** ICTs

- Presentation tools
- Locate and store information
- Digital publishing
- Interpret timelines
- Ownership and use - copyright law
- Managing files
- Mapping and geospatial tools
- Online communication and collaboration
- Digital music / multimedia

- Spreadsheets and graphing
- Analyse and visualise data
- Digital citizenship

Create solutions and learn **about** Digital Technologies

- Digital products
- Robotics, mechatronics, and automation
- Coding and programming (sequence, selection and iteration)
- Computational thinking
- Software engineering
- User Interface
- Algorithms
- Pattern recognition
- Systems thinking
- Decompose problems
- Storing and Transmitting data (binary numbers)
- Data collection, presentation and analysis

e-Learning or Information Communication Technology (ICT) Capability in the New Zealand Curriculum

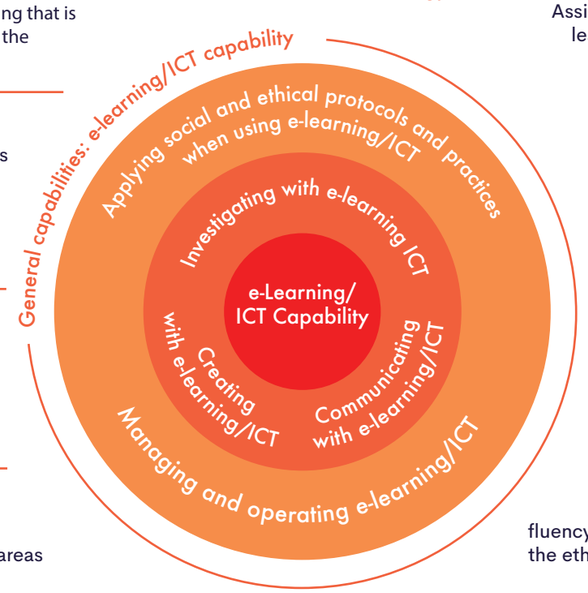
e-Learning capability supports students to be effective users of technology.

e-Learning is learning and teaching that is facilitated or supported through the appropriate use of ICTs

Assists the making of connections, enables students to enter and explore new learning environments, overcoming barriers of distance

Facilitates shared learning by enabling students to join or create communities of learners that extend well beyond the classroom;

Is explicitly planned, integrated into curriculum, and taught across all subject areas



Assists in the creation of supportive learning environments by offering resources that take account of individual, cultural, or developmental differences;

Enhances opportunities to learn by offering students virtual experiences and tools that save them time, allowing them to take their learning further

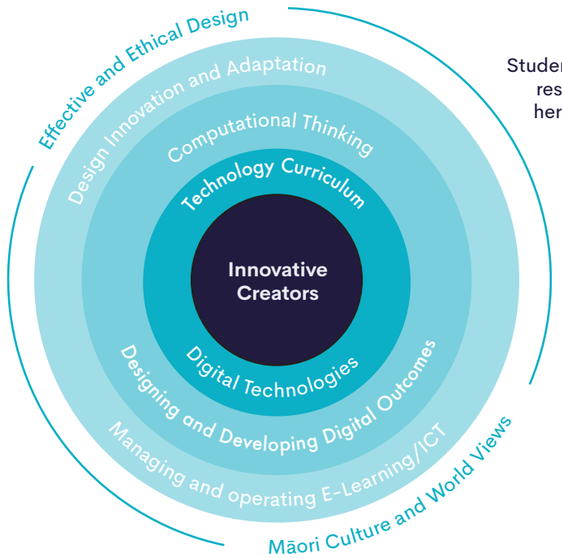
Adapted from New Zealand Curriculum (2007) Ministry of Education by Learning Media Limited p.35-36

Incorporates digital citizenship, fluency and literacy, when considering the ethical and social impacts of using technologies.

Digital Technologies

New curriculum content for year 1–10 students with a focus on learning in authentic contexts, using an iterative, design thinking process.

Develops knowledge, understandings and skills of the underlying concepts of computational thinking for digital technologies (CT) and designing and developing digital outcomes (DDDO).



Students learn that technology is the result of human activity from their heritage, Aotearoa New Zealand's rich cultural environment, and contemporary examples of technology.

Digital Technologies enables students to build skills and capability so they can be innovative creators of digital solutions.

This relies on and extends e-Learning/ICT capability, moving students beyond being solely users and consumers of digital technologies.

Examples of e-Learning in action

- Use digital concept mapping tools to plan and select research tasks.
- Use presentation software to present findings of an inquiry that includes text, images and video.
- Use video to analyse a sports performance to provide coaching tips
- Use a computer simulation or game to test predictions and collect data.
- Use a search engine effectively as a research tool.
- Use spreadsheet functions to create tables, record, sort, calculate and present data to identify trends
- Use an online game that has a grid map system to learn about directions.
- Share a book review or information using a QR code.
- Use tools such as Google docs to work collaboratively on a project and Skype to connect with outside experts.

Examples of Digital Technologies in action

- Code a makey makey to play sounds from bottle caps
- Create a QR code image using black and white squares. Invite a classmate to decode and access the information contained.
- Compare a transport network system and computer network system to explore ideas about pathways, reliability, protocols and security.
- Create an interactive story from a favourite book with user-input using a familiar programming language.
- Create your own simulation using a visual or text-based programming language.
- Explore ways to generate and access secret code by securely transmitting data through techniques of encryption and decryption.
- Create network diagrams to identify relationships between different sources of data and analyse this data.
- Design your own maze and use an app to program a robot to go through it.

"Digital Fluency is about understanding how to use digital technologies.

Digital Technologies is about learning to be a creator in the digital world, not just learning to use systems.

Digital Technologies is NOT about learning WITH technology (e-learning), it's learning ABOUT technology."

Tim Bell
University of Canterbury

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