

The Research

Links...

- Observed class room practices (50 classes)
- ICT provision in Year 3, 5 & 7 classrooms
- The use of ICT in class programs
- Years 3, 5 & 7 Literacy & Numeracy outcomes

The Outcomes

- Professional Development 'package'
- A Grounded Theory to inform teaching and learning that incorporates the use of ICT
- A better understanding of the connection between the use of ICT and Literacy and Numeracy outcomes

Progress so far

- Observations of 16 classes in 12 schools
- Classroom Computer Climate Index data gathered for 2002
- Analysis of CCCI in relation to Literacy and Numeracy outcomes & ENI underway
- Theoretical framework under development

Professional Development

Based on an **action learning** approach and focusing on relevant

- **Knowledge**
- **Insight**
- **Action and experience**

Possible projects may include

- Improving the **educational alignment** within the school's program
- Exploring an explicit and acceptable process model of **pedagogy**
- Using an **action learning** approach to review teaching, learning and ICT in the school
- Exploring the use of various **learning forms** within the school's program
- Understanding the **nature and role of technology** to make better informed choices
- The contribution of ICT to project based learning
- **Other related initiatives** by negotiation

Some In-school Observations

ICT, competence & learning structures

# PCs	Learning Structure	ICT Competence	Student Independence
1-3	Withdrawal from class	Low - Med	Medium
4-6	Group Rotation-1 Same task eg webquests	Medium	Medium
4-8	Group Rotation-2 Complementary eg class project	Medium to high	Medium +
>3	Integrated Project Individuals, groups & class	Medium to high	High

The Technology

- Reliability seems to be improving: many factors
- PCs often the last items to be 'managed'
- Students & adult expectations are similar

Computer use

- Students typically use PCs 2-4% of class time
- Most use is for 'research' (MSOffice influence?)
- Research = acquiring, processing & presenting (text) information
- Many students are not motivated by computers
- Greater use and learning out of school for the majority of students

Student access to computers

- The digital divide still exists: urban/rural, ENI?
- Teachers underestimate student access by 15-20% - need to include friends, workplaces...
- Rural and urban difference
- Many factors: support, permission, and knowledge...

Teacher support

- Educational: how to use it within class program
- Technical: how to operate & problem solve
- Equity: knowledge, availability & acceptable
- Development is disruptive!!! Hence...
- Everyone needs on-going support at own level

CCCI Survey: Some Initial Results

[306 DoE + 132 Catholic classrooms]

Teachers in 2002

- ~60% had less than 10 hours of ICT PD
- Spent more time on ICT tasks than their students
- 7% found it difficult to access computers
- Younger teachers use computers more
- 62% of teachers report sufficient software available (48% in 2001)

Students in 2002

- Generally spend less than one hour per week using ICT at school
- Estimated home computer access increased to 61% (from 53% in 2001), but ABS = 74%
- Estimated home internet access increased to 45% (35%) and ABS = 48%

Classes

- 42% of classes were involved in one or more online learning project
- 90% of grades 3 & 5 had computers available throughout school hours,
- 5% had computers less than half a day

ICT reliability

- Hardly any breakdowns 70% (48% in 2001)

ICT helps

- Students access, research & present and publish information: 75%
- Skill learning though skill development, personalised learning and widening learning opportunities: 71%
- Increased motivation 25%

ICT and the Future of Teaching

- 66% of teachers expect more use of ICT
- Needs better resourcing and to be kept in perspective: 44%
- Will facilitate connection between classes, schools and home: 25%
- Will foster student centred learning: 24%

Emerging Theoretical Framework

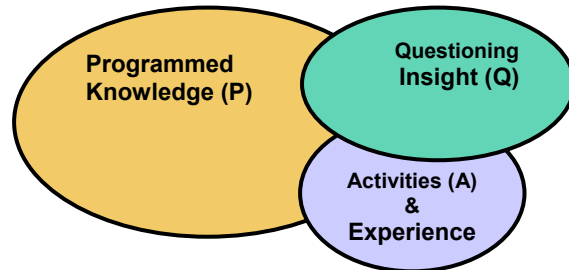
1. Technology

- Is used in **activities** (actions on objects)
- Application requires **knowledge** and **insight**
- Changes the **boundaries** on what activities are possible
- May **extend or curtail** what is possible including
 - Actions (and choices)
 - Products
 - Experiences
- May **reduce or increase** the need for action, knowledge, resources and effort.

2. Action Learning

Two sources of knowledge

- From others (P)
- From our own thoughts (Q)



- **Programmed knowledge:** codified, transferable (often 'from others')
- **Questioning insight** used to examine existing and possible knowledge and also actions usually in the light of experiences
- **Activities and Experiences:** the things we do (and experience) that help us make sense of the world. May confirm or challenge the knowledge available to us.
- Leads to an understanding of various **forms of learning**, eg, skill development

Emerging Theoretical Framework

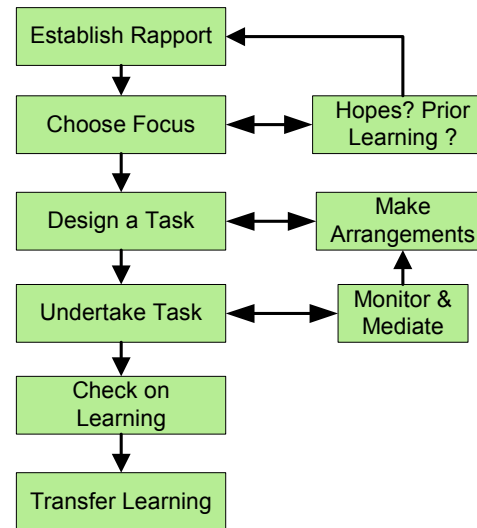
3. Alignment

In order to align teaching, learning and the use of technology it is also necessary to achieve align

- **System:** its purposes, policies & practices
- **Educational:** purposes, curriculum & learning practices
- **Practices:** with consideration of the intended products, experiences, learning
- **Levels:** at each level and between levels system, school, class, group...

4. Pedagogy

The project has adopted a 'generic' process model in order to consider pedagogy in the classroom



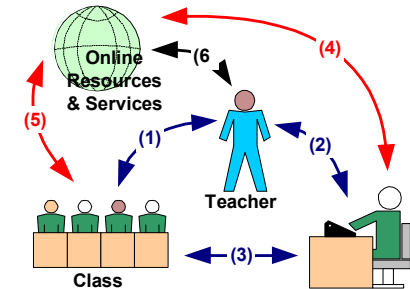
These steps can be found in most teaching and learning (to a greater or lesser extent).

- The **order may vary**.
- Many steps are **iterative**
- **Who does what** may vary



UNIVERSITY OF TASMANIA

Children, Online Learning and Authentic Teaching Skills in Primary Education



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