

ICTs IN THE CURRICULUM

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Dilemma

ICTs can be powerful, essential tools for learning: understanding, interpreting and communicating about the real world

OR

They can be black holes into which we pour our money, intelligence and time, getting very little in return

Some Definitions

- Technology in Education: encompassing the use of print, radio, TV and video, and newer computer technologies such as the use of the Internet for e-learning
- Technological Literacy: knowledge about what technology is, how it works, what purposes it can serve, and how it can be used efficiently and effectively to achieve specific goals.
- Information Literacy: ability to evaluate information across a range of media; recognize when information is needed; locate, synthesize, and use information effectively; and accomplish these functions using technology, communication networks, and electronic resources.
- ICTs in Education: an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems, etc. as well as the various services and applications associated with them, such as videoconferencing and distance learning in education
- eLearning: methodology of transferring knowledge supported by multimedia content delivered synchronously and/or asynchronously over electronic network

Potential and Opportunities

The use of ICTs in education can:

- mitigate teacher shortages
- improve the consistency and quality of instruction
- motivate students and raise achievement
- make learning more inclusive and interesting
- better match individual learning styles
- engage students in a greater variety of ways
- encourage collaboration, creativity, higher order thinking
- assist with conceptual development/understanding
- provide flexibility of delivery
- reach students outside traditional education systems
- address inequalities: gender, language, disability
- enable students to take more responsibility for their own learning
- allow teachers to focus on teaching
- improve cost-effectiveness under certain circumstances
- provide window to demonstrate new learning paradigms

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Possible Barriers

- Focus on technology, not on educational goals and objectives
- Philosophy of education, curriculum framework and policies
- Institutional capacity and culture
- Teacher preparation
- Appropriate content, infrastructure and support
- Access
- Cost and sustainability

Why integrate ICTs in curriculum?



Guidelines...

- Technology is only a tool
- Technology must **serve**, rather than **drive**
- Proper planning for integration crucial
- ICTs must be incorporated in a systemic and systematic way- clear goals
- ICTs must be utilised within a coordinated framework

Pre-conditions for effective integration

- Adequate and on-going professional development of teachers (well-trained in practical integration of technology into classroom activities – more than basic computer functions)
- Extensive curriculum planning (systemic, systematic- defining appropriate pedagogies, redesigning curriculum and assessment help to optimise the use of ICTs)
- Supportive infrastructure (including technical support and maintenance)
- Quality content and material
- Enabling policies and strategies
- Practice informed by evaluation and research
- Vision and leadership (at all levels)
- Learner-centred/constructivist approaches
- Relevant assessment tools

Questions to ask ...

- ICTs for what educational purposes/goals?
- What will ICTs contribute towards enhancing learning in the subject? (e.g. will ICTs offer the learner the chance to develop their understanding of the subject in ways that would not be possible without ICTs?)
- Which technologies are appropriate for this phase/this subject/this context?
- How will the technologies be used to enhance learning and teaching?
- Will content and support material be created or acquired or modified?
- What level of competences do learners have and need to acquire?
- Where else would they have access to technologies?
- What competences do teachers have and need to acquire?
- What access would there be to technologies in the classroom?
- How often would teachers and learners be exposed to the technologies?

Suggestions for framework

Steps:

Identify educational purpose (e.g. improve quality of learning, expand access)



Start with scope and sequence of curriculum/ curriculum framework of subject



Identify specific topics/sub-topics and their objectives



Analyse whether topics/sub-topics and objectives lend themselves to the integration of ICTs and what and how ICTs will contribute towards enhancing learning in the subject



Analyse which ICTs would be most appropriate for the topic, phase, age group, context



Analyse which methodologies would be most appropriate in utilising ICTs for the purpose and topic identified



Analyse which assessment strategy would be most appropriate to determine whether competency has been achieved