

ICT in Education: Aspirations and Tensions

David Wood

Institute of Learning Sciences, University of Nottingham, Nottingham NG7 2RD, United Kingdom

djw@psychology.nottingham.ac.uk

Key words: Education, Future, ICT, Learning Models, Policy Makers, Recommendations

Abstract: Eight 'axes of tension', around which developments in the exploitation of ICT will revolve to achieve aspirations for schooling, are identified and explored in this paper. Possible interactions between these tensions and aspirations with the educational promises held out by the technology and constraints on change and innovation are illustrated with three main scenarios to portray possible futures for schooling. The main aims of the paper are to motivate and direct debate, and to provide access to a framework that others may use to etch out and explore their own preferred visions for the future of education.

1. INTRODUCTION: THE THINK PROJECT

Initiated by the European Schoolnet (EUN) and sponsored by the European Commission, the THINK project was designed **to articulate and** explore policy options in six national contexts, and an EU-wide one, **for the** exploitation of ICT to develop and strengthen school systems (Wood, 2002). The focus was on future educational *uses* of ICT, not provision of technical infrastructure. The time scale to be envisaged was short - three to five years.

Four scenarios were identified:

In **scenario 1**, ICT serves to augment the centralised control of all aspects of schooling, strengthening state regulation of curricula goals, content, delivery, pedagogy, formative and summative assessment, accreditation and finance.

In **scenario 2**, policy makers acknowledge the fundamental uncertainty concerning the nature of the impact of ICT on learning and teaching processes. Any state controls are relaxed to engender and support a research and development role for teachers and schools. Schools strive to become knowledge producers and learning organisations.

In **scenario 3**, the most radical future, the role of schools as organisations designed to promote learning how to learn, responsible citizenship and as key nodes in new communities is brought to the fore as their function for knowledge transmission is downplayed.

A **4th scenario**, in which ICT fails to deliver and 'melts down', considers various possible failures in policy (in)actions that undermine attempts to innovate with ICT.

The first three scenarios overlap with those etched out over a much longer time horizon by OECD (2000; 2001). The THINK project thus provides a means of mapping aspects of policy options for the short-term future onto potential longer-term changes in school systems.

2. AXES OF TENSION

When ICT becomes mission critical for educational systems, several processes will be set in chain that will generate new tensions and dilemmas for schools and education authorities. The main dynamics driving innovation in schooling stem from strategies adopted to resolve a set of "axes of tension" created by the impact of the technology on learning.

2.1 Axis 1 - Innovation with ICT is inhibited and stifled by failure to re-think the curriculum.

Propositions: The definition of what is worth knowing and the skills and tools implicated in what it is to be knowledgeable are being transformed by the impact of technology on all aspects of professional, vocational, private and public life. There is a growing tension, and an inherent contradiction, between demands for radical change in educational priorities and processes and the expectations and goals embodied in school curricula.

The current trend is simply to pile new learning objectives and teaching responsibilities on top of the traditional ones. This creates an unnecessarily heavy load, undue stress and a confusion of aims for schools.

In *scenario 1*, this tension is refuted. The belief is that the curriculum can remain relatively intact, although there is some extension of the educational pathways available in the later years of schooling. The view taken is that

through appropriate changes in pedagogical practice schools can achieve both the old and the new priorities.

In scenario 2, the tension is accepted. A strategy is developed that preserves a core of traditional curricula goals and assessments but also creates significant space for innovation. School achievement is assessed by two independent means. One is based on national examination and the second on innovative, school-based assessments. Schools have the task of innovating in order to meet the new educational priorities.

In scenario 3, the traditional conception of school learning as primarily concerned with the mastery of a pre-determined body of knowledge is rejected. The overarching objective is to create and develop a system in which schools become the core centres of community life and the development of skills in self-managed learning, critical thinking and responsible citizenship form the major goals of schooling. Decision-making about specific educational goals, strategies and practices are primarily the responsibility of the school and its community. Their task is to translate overall priorities for education into practice. ICT networking is exploited to engage the expertise of different communities in new ways of assessing the value and impact of innovative approaches to learning and teaching.

2.2 Axis 2 - Innovation with ICT fails, being inhibited and stifled by a failure to capture the imagination and support of parents and the public.

Propositions: A tension exists between the need for radical change demanded by educational policy and the majority sentiments of parents, the media and the electorate. Attempts at educational reform are currently ignoring this tension, remaining too inward looking and failing to exploit the technology to modernise the policy making process itself.

In scenario 1, this tension is not acute in the short term since the curriculum and examinations reflect the status quo and have majority support. Investment in ICT and in teacher training rests on the promise that it will enable the extended educational priorities to be realised through improved teaching and learning. ICT networking is used widely in attempts to maintain the support and educational involvement of parents.

In scenario 2, public confidence will be supported by the fact that recognisable elements of the traditional curriculum and certification are maintained in the early stages of reform. Strategies to capture the public imagination and support include the use of networking to communicate and disseminate innovative uses of ICT for teaching and learning identified in the course of peer assessment by teachers.