Chapter 1.54
ICT in Schools:
What is of Educational Value?

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ABSTRACT

This chapter considers how information and communication technology (ICT) can be used to achieve educational value in schools, and encourages teachers to focus on approaches that promote higher-order thinking. It examines the reasons for use of ICT in schools, and argues that clarity of thinking is needed in the face of popular beliefs about ICT. While highlighting the ways that ICT can contribute to important learning objectives, the chapter stresses that many uses of ICT may have little educational value. It argues that the real value of ICT in schools is in enabling more challenging learning activities that develop higher-order thinking, and offers a simple diagram that teachers can use to evaluate their use of ICT. Various ways in which basic technology can be used to promote higher-order thinking are explored. Finally, the chapter considers the factors within a school that are likely to encourage and sustain worthwhile uses of ICT.

INTRODUCTION

Across the world, there is a rush to include information and communication technology (ICT) in schools. In almost every country there is an ICT strategy, and teachers are being trained to use ICT. Teachers and schools leaders are keen to get the best possible benefits from ICT, and wonder how they should be using it. The aim of this chapter is to identify where the benefits lie, and to identify the general principles of how ICT can best be used.

WHY ICT IS IMPORTANT

Before identifying the best uses, we must first be clear about what we are trying to achieve. National ICT strategies often reflect a series of different aims for ICT. In general, four different

rationales for use of ICT can be seen. These can be described in general terms as the economic, the social, the pedagogical, and the knowledge society rationales.

The economic rationale is perhaps the most obvious. ICT is increasingly a part of working life for many people. As Negroponte (1995) has so eloquently argued, the development of digital technologies is having an impact on economic structures, changing the way businesses operate, where businesses locate, and even allowing a whole range of new businesses to emerge. ICT skills are seen as important in helping to grow the kinds of business that rely on technology. As a result, developing ICT in schools is a key plank of economic development and competitiveness strategy for many countries.

The social rationale centers on the concern that in the spread of ICT skills, some people will be left behind. Technology is becoming a more important part of everyday life. The numbers of computers are increasing dramatically, as they become cheaper and more powerful (OECD, 2001, pp. 12-13). More and more people use ICT as a main source of their information about the world. By 2001, U.S. Internet users were spending more time online than reading newspapers or magazines, and 45% of Internet users even reported a reduction in their time watching TV as a result of their Internet usage (Jupiter Communications, cited in OECD, 2001, p. 14). As ICT becomes more pervasive and more frequently used, those without ICT skills may become increasingly disadvantaged or marginalized by their lack of skill.

The argument is almost parallel to the argument for literacy. In a society where few people can read, lack of literacy may not be a major barrier, as few things will be written down. Once writing is used by enough people, then those without literacy are at a disadvantage. They may not have the same access to information and may have to rely on others to get information for them. Imagine being illiterate 100 years ago, before radio and television. To find out about jobs or opportunities,

or to hear political or public news, you would have to hear from someone else who could read.

The same argument can be applied to ICT. Those with good ICT skills have easy access to information about jobs, economic opportunities, learning opportunities, and news from a variety of perspectives. Of course, those without ICT skills have a variety of other media like newspapers and radio to choose from, but they are at a disadvantage in terms of the speed of access and the range of material they can access. For this reason, ICT is often described as a literacy, and the skill gap is seen as a major cause for concern. As Tom Alexander, then head of the Center for Educational Research and Innovation at OECD, stated:

...there are profound concerns now about the gaps opening up between the ICT 'haves' and "have-nots," between those who reinforce their access to, and use of ICT in education what they have and do at home, and those who have little of either. The gaps may become every bit as profound as earlier forms of rigid social and education selection. (Alexander, 1999)

In this view, the rationale for having ICT in schools is to ensure that all young people get some exposure to ICT. If this does not happen, then there is a risk of a digital divide between those with ICT literacy and those without. Universal experience of ICT while at school is made more important by the uneven patterns of access to ICT at home. In most societies the richest and best-educated groups are also most likely to have home computers (Russell & Drew, 2001; Ginsberg, Sabatini, & Wagner, 2000). As a result, if schools do not act to redress this imbalance, the benefits of the digital age may fall to the already privileged social groups.

ICT as a Teaching Tool

Educators also make a pedagogical case for ICT. This view argues that ICT can be used to sup-

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