Chapter XI

A Dissemination Strategy for the Management of Knowledge in Rural Communities

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Abstract

Schools in rural communities of the Canadian province of Newfoundland and Labrador have been reorganized in the last decade. Because of rural to urban migration and the consequent challenge to the continued existence of many small schools, new academically and administratively open structures have been established within an Internet-based environment. Accordingly, traditional closed, autonomous schools in this province have increasingly become open sites within Internet-linked teaching and learning environments. What began as a research project linking eight schools in a single Digital Intranet has been extended to include schools across the province managed by a recently established branch of the Department of Education of Newfoundland and Labrador—the Centre for Distance Learning and Innovation. This chapter provides an outline of how information and communication technologies have been used to reshape education in a predominantly rural Canadian province, thereby preparing people for participation in the emerging knowledge-based economy.
Introduction

A decade ago tele-learning (e-learning) was described as the future of distance learning (Collis, 1996). In spite of this, e-learning remains, for many people, an unfamiliar term in the educational lexicon, the implications of which for teaching, learning, the management of schools, and educational policy are unclear. At the present time, many schools are in transition between traditional and virtual ways of organizing teaching and learning as they seek to integrate information and communication technologies in classrooms. This chapter outlines the transition from traditional (face to face) to virtual teaching and learning environments in a small network of rural Canadian high schools. It is argued, on the basis of research in science classes in this network in Newfoundland and Labrador, that the introduction of e-learning in schools involves a shift from a closed to an open model of teaching and learning. The shift from closed to open teaching and learning has implications beyond the school for regional development.

In most states of the United States and provinces of Canada there are communities that live beyond major centers of population. Although most North Americans live in urban centers, many Americans and Canadians live in small communities in rural and sometimes remote parts of the continent, in Alaska, Wyoming, and Montana, for example in the United States, and in in the Canadian prairie provinces of Saskatchewan and Manitoba as well as in Atlantic Canada. The development of natural resources such as lumber and fishing and the extraction of oil and gas that are important to the economies of both countries, often takes place in locations far from major centers of population. In the resource-based Canadian economy rural schools are, therefore, integral to the economic infrastructure. A decline in the viability of rural education has implications for provincial, and, indirectly, national economic infrastructures. However, it is sometimes difficult for professional people to justify enrolling their sons and daughters in small schools in rural communities if they provide fewer curriculum options than urban institutions.

Information and communication technologies (ICTs) are central to the development of the knowledge economy whose significance for rural schools was recognized in the mid-1990s (Barker, 1994; Stevens, 1994). Almost a decade ago the Canadian government set out two documents (1995, 1997) to prepare the country for the digital world. Small schools in rural communities have been particularly active in Canada (Cey, 2001; Healey and Stevens, 2002; Stevens, 2000, 2001) in using new technologies to promote educational opportunities for students and more efficient ways of organizing and managing knowledge in connected (Ertl & Plante, 2004), collaborative, electronic structures. The rapid growth and educational application of the Internet has led to a challenge to traditional ways of teaching and learning at a distance (Ben-Jacob, Levin & Ben-Jacob, 2000) that were based on paper and the postal system. The introduction of e-learning in schools in Atlantic Canada has been particularly noticeable in rural communities and has been influenced by declining enrollments because of rural to urban migration (Brown, Sheppard & Stevens, 2000). While the population of rural Atlantic Canadian communities has declined, the management of schools has been changed so that actual and virtual classes have, to some extent, been integrated. One of the Atlantic Canadian provinces—Newfoundland and Labrador—provides an example of rural population decline, a challenge to the continued existence of many small schools and a loss of local educational and economic opportunities. These changes have been countered by the
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