

# Chapter 82

## Pre-Service Teacher Education for the Management of Actual and Virtual Classes

**Ken Stevens**

*Memorial University of Newfoundland, Canada*

### ABSTRACT

*The development of Internet-based school networks, facilitating the creation of virtual classes, has implications for the professional education of teachers who are increasingly likely to teach both face-to-face and online. In the Canadian province of Newfoundland and Labrador, pre-service teachers are being prepared for networked school environments within which on-site and online teaching and learning are required. Teachers are provided with a structure within which to manage collaboration that includes learning circles and cybercells. Within networked school environments, virtual classes have been developed for teaching an expanding range of subjects at high school level.*

### INTRODUCTION

In the Atlantic Canadian province of Newfoundland and Labrador teachers are being prepared to teach classes that are part of networked educational environments as well as for positions in traditional school classrooms. In Newfoundland and Labrador there has been a proliferation of Internet-based networks linking its many small schools in rural communities (Stevens, 2003). Within these networks virtual classes have been developed for teaching an expanding range of

subjects at high school level. The purpose of this chapter is to outline how pre-service teacher education in Newfoundland and Labrador has been organized to prepare teachers for work in both traditional and virtual classes.

### BACKGROUND

The development of Internet-based school networks, facilitating the creation of virtual classes, has implications for the professional education of teachers who will, in both North America and in other developed areas of the world such

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as Australia and New Zealand, be likely to teach both face-to-face and on-line, or virtually and actually (Starkey & Stevens, 2006). Cybercells, face-to-face groups whose members extend their discussions to include virtual visitors (Stevens and Stewart, 2005), provide a way of integrating e-learning and traditional face-to-face instruction, thereby challenging educational isolation and promoting learning communities.

### **THREE STEPS FOR THE INTRODUCTION OF CYBERCELLS**

The first step in the introduction of cybercells to pre-service high school teachers has been the development of awareness of recent changes in school organization in the province of Newfoundland and Labrador, particularly in the majority of schools that are located beyond major centres of population. Most of these institutions are physically small but networked with other schools both academically and administratively. Teachers in Newfoundland and Labrador are, accordingly, increasingly expected to provide instruction between sites as well as in traditional classrooms. The second step in the creation of cybercells for pre-service high school teachers has been an introduction to the potential of professional collaboration for effective integration of actual (face-to-face) and virtual instruction in classrooms. Traditionally teachers have been professionally prepared to teach in face-to-face classroom environments that have not been open to other classes. In opening traditional on-site classrooms to other classes for part of the school day, using the Internet, collaboration between teachers becomes essential. At the pre-service teacher level collaboration is taught through Learning Circles within which students are asked to reflect on and critique one another's recent intern experiences in schools. A third step in the development of cybercells for the integration of virtual and actual teaching and learning, based on step one (collaborative teaching and learning

structures) and step two (collaborative teaching and learning processes), has been the building of shared realities within which mutual understanding can be negotiated.

### **TEACHING AND LEARNING IN NETWORKED ENVIRONMENTS**

Schools in networked environments provide new challenges for teachers and for teacher educators. Teaching in traditional classes and in networked environments in which classes are linked across dispersed sites requires preparation starting with pre-service teacher education. In the Canadian province of Newfoundland and Labrador and in other sparsely populated parts of the world it is becoming increasingly important to be able to teach students who live beyond major centres of population and whose small local schools cannot provide a full curriculum on-site through its own teachers. The development of teaching and learning in networked school environments has proceeded through three stages in Newfoundland and Labrador: the creation of awareness of changes that have taken place in the province in the last decade using contemporary technologies, the use of collaborative pedagogy to maximize the potential of technological changes in schools and the integration of virtual and actual teaching and learning.

#### **1. Developing Awareness**

The Canadian province of Newfoundland and Labrador has a population of approximately 500,000 people almost all of whom live on the island of Newfoundland. Only about 28,000 people live in Labrador and most live in three main centres. On the island of Newfoundland most of the population lives in coastal settlements, often called "outposts," including the capital city, St John's. Approximately two out of three schools in the province are located in rural communities so the provision of educa-

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