

## Chapter 2.24

# Asynchronous Learning Using a Hybrid Learning Package: A Teacher Developmental Strategy in Geography

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### ABSTRACT

This article analyses the rationale for the development of a Web-based teacher-upgrading programme and discusses the main issues of in-service professional upgrading of working adults using the WWW. In-service upgrading has been an accepted avenue for retraining practising teachers in Singapore to keep abreast of changing curriculum requirements as well as infusion of information technology in teaching and learning. To cope with the teachers' busy work schedule and many school commitments upgrading courses were offered to the teachers primarily asynchronously, using the Internet platform with some integrated synchronous sessions. Issues of adult learning in a learner-controlled adaptive learning environment, and life-long learning were addressed through an IT-infused asynchronous mode, providing the much-needed freedom in

time management for the course participants. The development also includes delivery of high definition graphics through a customized hybrid system of CD-ROM and Web that addresses image-downloading bottleneck and thereby overcomes a basic problem of distance learning in geo-spatial education. Finally reflections on the attending adult learners' responses to such an upgrading programme are discussed.

### INTRODUCTION

Learning through distance education using computer-mediated environment has not only become an accepted norm but has become a necessity in the field of retraining of working professionals. As McIssac and Gunawardena (1996) put it, it has currently become the fastest growing form of education. The fast flow of information and the

resultant rapid change in all disciplines has made it necessary for continuous upgrading of all professionals. With the workforce engaged in work-related commitments, distance learning using computers has enhanced the learning environment whereby the learners have access to upgrading programmes without having to physically go for the courses and yet be in constant contact with the facilitator as well as the other participants. In response to such demands for training and available technological infrastructure, there is a growing trend for asynchronous upgrading courses. One such example of matching the upgrading requirement with the available technology is the teacher training courses offered via WWW to the teachers in Singapore. Singapore's IT thrust started with the effort to integrate information technology in education under the first IT Master Plan in 1997 and a corollary to the introduction of IT infused learning is teacher education and training, not just for the sake of learning IT skills but also to incorporate IT in their overall training programmes. This is where in-service upgrading programmes fit in. Each year the teachers attend courses in content and pedagogy to keep abreast of the latest developments while still continuing their school commitments. The courses in discussion were a part of such upgrading of teachers and were delivered for content upgrading between 1999 and 2001 via WWW. This article analyses the rationale for the development of such a Web-based distance teacher-retraining programme, discusses the strategies adopted to align discipline and training requirements with the available technology, and some reflection on how the Web-based retraining programme was used by the participating teachers. The latter reflects to a certain extent on how computer-mediated learning environment influences upgrading of working professionals.

## **SPECIFICS OF THE SINGAPORE CASE AT HAND**

The following excerpt from the Year 2000 Teacher Training Prospectus of the Ministry of Education (MOE, 2000), Singapore underlines the teacher training initiatives that have been a part of the in-service teacher training scene in Singapore.

*From Year 2000, core upgrading for teachers will be implemented. Each teacher will need to attend at least three core activities within each 5-year cycle, starting from 2000. The aim is to enable teachers update themselves on the latest developments in education and to upgrade their teaching skills or content so as to stay relevant and competent in their profession. (Ministry of Education, 2000: v)*

## **Present Trend in Upgrading Programmes**

As a rule, most in-service courses for the teachers are requested by the Ministry of Education, Singapore and offered by National Institute of Education (NIE). Traditionally, these courses are conducted synchronously at the NIE campus although this is slowly changing. In 2002 NIE offered as many as 150 in-service courses, 35 of which were Web-based. While physical distance is not a real problem in Singapore, one reason for this move towards delivery via the World Wide Web is to free the participating teachers from a fixed time constraint. This series of three courses, named Geomorphology Online, were delivered as stand-alone upgrading courses between 1999 and 2001. The main objective was to support content upgrading of the participating teachers. The courses were designed for a dual-mode delivery, incorporating asynchronous Web-based as well as synchronous face-face sessions. Following Johanssen et al.'s (1991) "4-square map of distance education technology options," this present delivery could be described as combining

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