

# **Designing, Implementing and Evaluating a Computer-based Distance Learning Curriculum in a Student-Centered Learning Environment**

## **Abstract**

In recent years, information and communication technology and curriculum and instructional reform are the most significant educational reform issues in Macao. The aim of this dissertation is to investigate teaching and learning opportunities and challenges faced by curriculum designers and managers when designing, implementing and evaluating a computer-based distance learning curriculum in a student-centered learning environment.

The research uses literature review, group discussion with local educators, and action research using a collaborative network-based learning platform under established curriculum concepts and themes to provide a common learning environment for students to determine their own learning goals, choose learning contents, integrate learning experiences and evaluate learning outcomes by themselves.

The following preliminary results were originated from this research in the area of designing, implementing and evaluating a computer-based distance learning curriculum in a student-centered learning environment.

- At the theory level, mainstream educational theorists agreed that students are at the center of educational process, such that both the design and management of the curriculum should also be student-centered;
- At the policy level, most industrialized countries in the world put strong emphases on the development and implementation of long term and comprehensive information and communication technology policies in education;
- At the curriculum framework level, the development of information and communication technology will inevitably transform the teacher-centered, passive and individual instructional paradigm to a student-centered, proactive and collaborative learning paradigm;
- Although the use of computers and internet are widespread in Macao, and information technology infrastructure and hardware had seen substantial advancement in recent years under continuous financial support from the

government and collaborative initiatives from the community. However, the achievement level is still behind some industrialized countries and regions;

- Students in Macau currently seldom use information technology resources for the purpose of organized learning. Although many teachers possess the ability to use basic information and communication technology tools, they have not been able to successfully integrate information and communication technology into the teaching and learning process;
- Educators and citizens' attitudes towards information technology are the most crucial factors in the success or failure of any information technology educational development strategies. Although most people support the development of information technology in education, some people do have certain reservations about its outcomes;
- The result of the distance learning action research showed that most students successfully participated in the computer-based distance learning programme enjoyed the learning experience; and students' attitudes towards information and communication technology are the most important factor in pre-determining their success in the curriculum;

In summary, the theories of information and communication technology in education made dazzling promises to the future of educational reforms, but whilst transforming these theories into actual designing, implementing and evaluating curriculum practices, the attitudes of teachers and students alike have not transformed as fast as technological advances, therefore there are still any obstacles to be tackled before the vast potential opportunities can be fully explored.