

Empowering VET Teachers to Use IT for Teaching

Alfred Koo

Teaching and Learning Centre,

Vocational Training Council,

VTC Tower, 27 Wood Road, Wan Chai,

Hong Kong Special Administrative Region, China

akoo@vtc.edu.hk

ABSTRACT

This poster describes a framework for preparing vocational teachers for using IT for teaching and learning in the Vocational Training Council of Hong Kong. Three levels of IT competency were identified and a series of training programs were designed and delivered to help teachers to achieve the IT competencies. A benchmarking system was also set up for teachers to monitor their progress and achievements.

Keywords

Teacher development, IT for teaching and learning, IT competency for VET teachers, implementation of change.

1. INTRODUCTION

The Vocational Training Council (VTC) is the largest government funded vocational education and training (VET) provider in Hong Kong. It consist of nine campuses and three training centre complexes scattered across different parts of Hong Kong. VTC offers vocational training programs, at different levels and in various disciplines, for more than 20,000 full-time students. In response to the Government's initiative to develop Hong Kong into a knowledge-driven and technology economy, VTC is committed to enhance its program quality by utilizing IT as a tool for program delivery. VTC's IT infrastructure was upgraded and a comprehensive training program was designed to upgrade and update teachers' capabilities in using IT for teaching and learning activities.

As there is currently no universally accepted models on the best method to implement IT related learning strategies, both in Hong Kong or elsewhere (e.g. in Australia [1]), there is a need to suggest a framework for VET institutions for preparing their teachers to make the most of IT to enhance teaching, as part of the strategies in implementing IT for teaching and learning.

2. IT COMPETENCIES FOR TEACHERS

VTC has more than 1,500 full-time teachers who come from different academic and industrial backgrounds. Three levels of IT competency were identified to cater for their diverse background and training needs, as teaching and learning are concerned. The three levels of competency, namely Awareness, Application, and Advanced, are listed and described in the following paragraphs.

2.1 Awareness Level

Teachers at this level are expected to:

- ◆ Handle a computer Operating System (e.g. Windows 98)
- ◆ Use local network to transfer, retrieve, and save teaching and learning materials and to share them among teachers and/or students
- ◆ Operate basic computer peripheral equipment to prepare simple teaching materials
- ◆ Identify common desktop software to assist teaching and learning activities
- ◆ Identify commercial CAI and CAL programs to enhance teaching and learning effectiveness
- ◆ Operate IT-based projection system to deliver lectures
- ◆ Access the World Wide Web (Web) with a browser to search, retrieve information and resources
- ◆ Possess a basic understanding of the implications of IT in education.

2.2 Application Level

At this level, teachers are expected to:

- ◆ Prepare course materials (e.g. curriculum documents, lecture notes, lab sheets...) using a word processor
- ◆ Use spreadsheet/database applications to handle teaching related tasks (e.g. course scheduling, student assessment...)
- ◆ Prepare a lecture presentation using presentation software
- ◆ Use FTP to share and retrieve resources
- ◆ Use e-mail (with attachment) to communicate with colleagues and students
- ◆ Create text-based Web pages to supplement teaching
- ◆ Use graphic programs to create simple graphics for educational illustrations
- ◆ Understand the basic concept and principles of Web-based instructions and a Management and Delivery Platform
- ◆ Understand the applications of Web-based Management and Delivery Platforms
- ◆ Apply basic instructional design skills in planning teaching and learning materials/activities.

2.3 Advanced Level

Teachers at this level are expected to:

- ◆ Create multimedia presentations with presentation software
- ◆ Create a simple interactive program with presentation software and/or authoring tools for student learning
- ◆ Provide assistance to colleagues on using IT in teaching and learning activities
- ◆ Use asynchronous communications, e.g. mailing list, newsgroup and discussion forum, to enhance teaching effectiveness
- ◆ Use synchronized communications including chat room, ICQ, NetMeeting, etc. to enhance teaching effectiveness
- ◆ Develop a Web course using a Management and Delivery Platform

- ♦ Manage a Web course using a Management and Delivery Platform
- ♦ Communicate with students on the Web using a Management and Delivery Platform
- ♦ Create and manage on-line assessment using a Management and Delivery Platform
- ♦ Create multimedia Web pages to supplement teaching
- ♦ Create a Web site for teaching and learning purposes
- ♦ Apply advanced instructional design skills to enhance the quality of teaching and learning materials
- ♦ Apply project management skills to develop teaching and learning materials with a team of staff.

3. IT ENHANCEMENT PROGRAM

Staff development is a central theme related to change of any educational practice [2 & 3]. An IT Enhancement Program (ITEP), in the format of workshops, were planned to help teachers to achieve the IT competencies identified. Teachers, depending upon their departmental or individual needs, can join these workshops voluntarily. Twenty-eight courses in seven categories, as showed in Table 1, have been offered since September 1999.

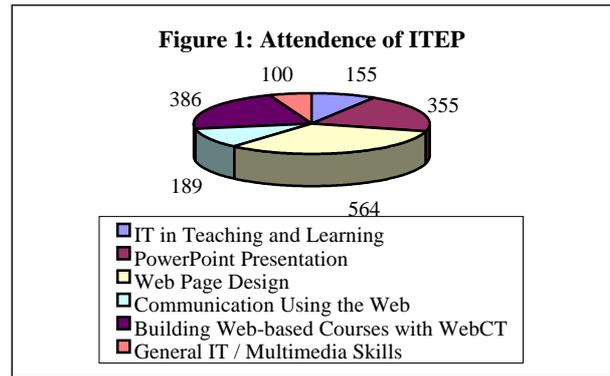
Course Category	Titles at different levels
IT in Teaching and Learning (pedagogy)	6
PowerPoint Presentation (e.g. basic skills, multimedia presentation...)	3
Web Page Design (e.g. Composer, FrontPage...)	6
Communication Using the Web (e.g. e-mail, Newsgroups...)	3
Building Web-based Courses with WebCT (different features of WebCT)	7
General IT/Multimedia Skills (e.g. Windows, Photoshop...)	3

4. BENCH-MARKING

Benchmarking of teachers' achievement is an important aspect in the training process. To assist teachers to identify their training needs and to record their achievements in this program, an "IT Capability Enhancement Plan" was designed and distributed to all teachers. It is a plan in which all the competencies are listed in one column, and the IT courses in which teachers participated in other columns. Using this plan, teachers can match different IT competencies with the courses they are going to take or have taken. They can then negotiate with their supervisors for staff development priority, training time release, special timetable arrangement, special funding provisions, etc.

5. OUTCOMES

From September 1999 to January 2001, 1749 attendance made by 716 teachers was recorded. A breakdown of this record is showed in Figure 1.



Popular courses were repeated multiple times due to high demand and new courses were planned in response to the advancement of technologies and the changing needs of teachers. To support this program, the following resources were developed:

- ♦ A CD-ROM on intellectual properties for education
- ♦ A *Jump Start Guide* for using WebCT
- ♦ Web sites to support ITEP and WebCT users.

6. CONCLUSION

A framework for training VET teachers to update and upgrade their capability for using IT in teaching and learning was developed. This framework includes: identification of IT competencies; provision of training programs; benchmarking for achievements; and supporting resources for teachers.

From experience, the following points are deemed to be important in successfully implementing such a framework:

- ♦ Different units of the organization (VTC) should work closely to provide resources for the program
- ♦ Different types of courses, at different levels, should be provided to cater for the diverse needs of teachers
- ♦ The program should be regularly reviewed, revised and renewed so as to meet the changing needs.

In sum, this framework makes a good reference for colleagues who are looking for strategies for preparing VET teachers in using IT to enhance teaching and learning.

7. ACKNOWLEDGMENTS

The author would like to thank Adele Graham, Head of Teaching and Learning, VTC, for her advice on this poster.

8. REFERENCES

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