NEW ROLES OF VOCATIONAL EDUCATION AND VOCATIONAL TEACHERS FOR TECHNOLOGICAL CHANGE: A CASE STUDY OF THE HONG KONG INSTITUTE OF VOCATIONAL EDUCATION

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Abstract: This study aims to identify the recent changes happened in the Hong Kong Institute of Vocational Education (IVE) and to investigate the new roles of vocational teachers for technological changes, in particular, Information Technology (IT). A number of recommendations were made to vocational teachers so that they can make significant changes to meet the demands and challenges brought by these changes.

BACKGROUND

The world is now moving into the 21st century with a major shift from the traditional era of industrial economy into the knowledge-based economy (Bate, 1999). With its economy undergoing structural changes, Hong Kong is moving from a ‘labour intensive’ industrial society into a knowledge-based society and will become a regional information and transport hub in the Asia Pacific region. To achieve this, our new generation is expected to take the initiative to think, question, communicate, collaborate, participate, experiment and explore so as to construct knowledge, develop multiple abilities and enhance their personal quality, thereby laying a sound foundation for life, work and lifelong learning (Education Commission, 2000, p. 125).

With such shift and expectations, the functions and roles of education have to be changed in order to cope with such changes. The promotion of life-long learning and the applications of technology, IT in particular, marks the fundamental changes in education in Hong Kong that affect every stakeholder in the system (Hong Kong Government, 1999).

Like any sector of education in Hong Kong, vocational education has also been undergoing rapid changes. Vocational education is no longer simply serving as a sifter of manpower nor a provider of technical qualifications, but a motivator of lifelong and student-centered learning. The Hong Kong Institute of Vocational Education1 (IVE), the major vocational education provider in Hong Kong, has introduced significant changes in its operational structures and management systems (Segal Quince Wicksteed Limited, 1996). Among these changes, the development of key academic initiatives to support and enhance the quality of teachers has the most significant impact on IVE.

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1 In 1999, the IVE provided more than 62,000 full-time and part-time places to students age from 16 and up from post secondary three to sub-degree level.
teachers. Such initiatives, coupled with the new demand on teachers as proposed by the Hong Kong Government, have brought new challenges to IVE teachers.

Given the new challenges, the roles of teachers as well as skills demand on them will be changed accordingly. Teachers, as the most significant stakeholders in such process, will respectively change from an information provider to facilitator and mentor of student development. As Delors (1996) remarks,

the need for change, from narrow nationalism to universalism, from ethnic and cultural prejudice to tolerance, understanding and pluralism, from autocracy to democracy in its various manifestations, and from a technologically divided world where high technology is the privilege of the few to a technologically united world, places enormous responsibilities on teachers who participate in the moulding of the characters and minds of the new generation (p. 141).

This paper studies the recent changes happened in IVE and attempts:

1) to identify the areas and reasons for change in the IVE; and
2) to explore the new roles of vocational teachers in the new millennium and the IT skill requirements demand on them, given the changes identified.

METHODS OF STUDY

In order to explore new roles of vocational education and vocational teachers for technological change, three main methods: questionnaire survey; personal interview; and document analysis, were used to gather information for this study.

Questionnaire Survey

Two questionnaire surveys were conducted in which one was with IVE students and the other was with IVE teachers. The student survey was on students’ perception on an ideal learning environment and their applications of IT in learning, which affects the new role of IVE teachers. Three hundred first year students from six departments of two IVE campuses participated in this survey. This questionnaire survey included 20 questions which asked students’ perception of an ideal learning environment for two basic approaches of learning, i.e. the surface approach and deep approach as advocated by (Marton & Saljo, 1984). Students are requested to choose five requirements as their ideal learning environment among 20 questions, subsequently, questions with higher scores were regarded as the new expectation of students in their learning and new roles of teachers in their teaching (see Appendix 1 for details of questions).

The teacher survey was on teachers’ competencies in using IT for teaching in IVE. One hundred and fifty teachers from two IVE campuses were given a questionnaire which required them to identify their IT competencies at three different levels (see Appendices 2 & 3 (a) for details of the competencies). Consequently, a returned questionnaire with a high score indicates that the teacher has a high competency in IT skills and knowledge.

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2 Departments of Business Administration, Electronic and Information Engineering, Printing, Applied Science, Computing and Design
3 Questions 1 to 5, 6 to 13, and 14 to 21 represent the awareness level, application level, and advanced level of IT competencies of IVE teachers respectively.
Personal Interview
Structured personal interviews were conducted with 20 students from IVE’s Kwun Tong campus and 25 teachers of two IVE campuses to gather opinions about the applications of IT in learning and the considerations of IT applications in teaching accordingly. The questions for these interviews are shown in Appendices 3 (b) & (c) for details.

Document Analysis
Internal documents were examined in order to find out the progress of applying IT in teaching and learning in IVE.

FINDINGS AND IMPLICATIONS

Student Survey
Among 300 delivered questionnaires, 238 completed questionnaires were received, representing a response rate of 79%. In the survey, over 29% of students preferred teachers to be an explainer; entertainer and friend; liked to share with classmates and teachers; preferred for autonomy in learning; were eager to use lots of different learning methods; intended to understand; were more active in independent learning but de-emphasized the rote learning. In other words, they were seeking for higher level of learning - the deep approach and student-centered learning. Nevertheless, about 17% of students sought the surface approach of learning: preferred teachers to give effective notes and tell right answers as the learning aims. (The detailed analysis was also shown in Appendix 1).

Teacher Survey
Among 150 questionnaires delivered, 91 completed questionnaire were received, representing a response rate of 60%. Concerning the IT competencies IVE teachers achieved, it was revealed that over 80% of them were at the awareness level; over 39% of them were at the application level and below 18% of them were at the advanced level regarding their IT competence. A breakdown of the response was also shown in Appendix 2. It was reflected that most teachers achieved the basic skills and could apply these skills in their teaching.

Teachers also adopted a positive attitude to face the challenge of using IT in teaching and had already recognized the need to update and re-conceptualize their values of different IT competencies. These competencies were based upon the new directions and challenges that were significant to assist them to fulfill their new roles. However, teachers indicated that training programs offered to them by IVE should be strengthened to develop their IT knowledge to a higher level, e.g. the application and advanced levels as listed in the specifications of IT competencies for IVE teachers.

Structured Personal Interview with Students
In the interviews, most of the students preferred to have a flexible class where they could explore independent learning options and they were also comfortable with applying IT in their flexible learning. Most of the interviewees agreed that applications of IT in learning can assist them to learn more flexibly and effectively. They pointed out many advantages of applying IT in learning. For example, IT allows them unlimited time, space and format to learn. At the same time, it enables
self-paced learning for students and helps teachers to empower them to have greater control over
the learning process.

Furthermore, they use online Web facilities such as WebCT to access the event calendar, learning
materials, course assignments and teachers’ homepages, where teachers post information about their
learning style, assignments, grades and lessons for independent study. This tool also helps them
foster team building and enhance communication among diverse groups of classmates. As a result,
they develop greater confidence that improve their ability to communicate and work with their
classmates.

However, students reflected that the free booking of computer rooms plus the handful of computers
in the library could not satisfy their demands. WebCT added extra load onto students because they
could only gain access to the materials on the WebCT through the computers in the campus. This
was also reflected in the consolidated report on 1999/2000 Student Personal Tutorial Interviews4.
Some students opined that they were so keen on seeking for competition for a place in a Higher
Diploma course5, therefore, they preferred the traditional way of learning because teachers prepared
all notes and took an active role which puts a heavy emphasis on examination-oriented tuition for
them. This approach did not require teachers to apply any multimedia or IT to enhance their
learning.

Structured Personal Interview with Teachers

Most of the teachers being interviewed agreed that IT in education: was accompanied by the
sociological and economical pressure and would transform the way that education to be conducted;
and IT enhanced the effectiveness, efficiency and flexibility of teaching and learning. They
expected that IT will play an important part to provide professional, as well as causal ‘on-line
learning communities’ in vocational education in the near future. Applying IT in teaching will help
them to draw students’ attention, arouse funs, break the barriers to communication such as time and
distance, and monitor the progress of students.

In addition, IT allows teachers immediate access to up-to-date, diverse and specialist information,
speed up the process of research and development and allows greater collaboration between
industry and vocational education institutions both nationally and internationally. Nevertheless,
teachers stressed that IT may not be suitably applied in all subjects because the conceptual nature or
ideas of some subjects are difficult to be ‘visualized’ with IT. Therefore, the usefulness and
suitability of applying IT in teaching different subjects should be reasonably judged in terms of
learning objectives, motivation and prior knowledge of the learners.

They were also concerned that they may not have skills to use the latest IT and Internet technology
(e.g. video-conference, email, chat-rooms, discussion lists, ICQ, etc) in the tradition or virtual
'classroom’, as such innovation requires teachers to have sufficient training and a wide spectrum of
skills to be developed. Some teachers pinpointed that most teachers and students were too
accustomed to traditional approach of teaching and learning. They suggested that the applications
of IT in teaching and learning should be implemented incrementally and IVE should reserve
teachers and students enough time to adjust and to adopt.

Many teachers suggested that notebook computers should be widely deployed to teachers and
students in the long run. In addition, they urged IVE to grant teachers subsidies to purchase their
own personal computer. They also expressed that cooperation among staff of the Computing

4 It is IVE’s policy that an interview will be conducted between a student and her/his personal tutor once a year.
5 Students are admitted to Diploma course in their first entry to IVE. Depend upon their performance in their first year’s study, they may be promoted
to the second year of a Diploma course or a Higher Diploma course.
Division, Educational Technology Unit and teachers should be increased in order to make up the
deficit in design expertise and create effective, relevant and quality resources to students.
Lastly, teachers reflected that traditional assessment, which may not be compatible with IT, was a
barrier to promote student-centred learning. Moreover, IT may not be able to assess the learning
process and higher-level learning outcomes, such as innovation, thinking skill, problem solving, etc.

**Document Analysis**

As reflected in the documents collected hereunder, it was already visible that there has been an
organizational change taken place in IVE. Concerning the new roles of IVE teachers, some
significant and related initiatives were also made. These include:

1) A major curriculum revamp exercise was conducted by a rationalization of all IVE courses
   into a new system, which involved the development of a series of new courses across every
discipline among each IVE campuses (VTC Annual Report, 1998/99);
2) The provision of an IT training programmes for teachers via the Teaching and Learning
   Centre (see Appendices 3 (d) & 4 (a) for details);
3) The enhancement of IVE’s IT infrastructure (see Appendix 4 (b) for details);
4) The establishment of a Staff Training and Development Scheme
   A total of 40 members of staff received such sponsorship and the total amount reimbursed
   was around $750,000 in 1999. (see VTC Annual Report, 1998/99 for details)

**IMPLICATIONS FOR TEACHERS IN RESPONSE TO NEW EXPECTATIONS AND LEARNING MODE OF STUDENTS**

**Redefine the New Roles of Teachers**

In order to encourage students to develop a deep approach for student-centered learning, teachers
should help students to acquire collaborative, technological and problem-solving skills. Teachers
may use technology as a ‘conceptual environment’ in which students acquired and explored. As a
result, teachers will help to build up students’ independent learning and thinking. To achieve these,
as identified in the ‘findings section’, it is commonly believed that the new roles of IVE teachers
will act as facilitators, mentors and models who may share the joy of learning process with students,
arouse students’ curiosity and initiatives to learn, facilitate students’ self-centered and long-life
learning and extend educational opportunities and communication opportunities. They should
attempt to accomplish the networked outlook and experiences beyond their own institutes in any
time frame, develop a new professional culture, and multiply their teaching effects through mutual
sharing with other institutes nationally and internationally.

**Identify New Skills**

For the successfully integration of technology in the overall learning environment, on-going
training and support at all levels is essential (Aust & Padmanabhan, 1994). In IVE, a number of IT
workshops were provided to IVE teachers to up-date and up-grade their IT competencies.
However, teachers do demand more high level IT training, as reported from the ‘findings’.
**Tailor the Curriculum**

Teachers should be given a freer hand to exercise their professional judgment so that they will have more flexibility in refining the curriculum and assessment as well as to arrange lesson time according to students’ characteristics and needs. In the long run, IVE has to streamline the work procedure, to reduce teachers’ workload and to arrange a flexible teaching time so that teachers can devote more time and efforts to design better curriculum, activities and resources as well as to provide students with a comprehensive learning experience.

**Establish Collegiality**

Transforming information into quality IT teaching and learning resources demands a vast amount of time and effort. By involving different expertise from different parts of IVE may be more productive. Therefore, a team approach towards resource development will be appropriate. With clearly defined roles and responsibility in the team, different experts will contribute to different areas of resource development in the most effective and efficient way.

**Provide Hardware and Software Support**

Appropriate support to teachers is essential for teachers to make the most of IT for teaching. With better IT provisions, teacher will be able to prepare better quality teaching resources, to search latest resources and to communicate with students at the time and place which are of most convenient to them and their students.

**RECOMMENDATIONS**

In order to assist IVE teachers to fulfill their new roles under the constraints and difficulties mentioned by teachers and students and to build up an institutional-wide IT pedagogical environment, the following recommendations were made:

1) IT programs provided to IVE teachers should be focused on developing teachers’ knowledge to a higher level of skill such as application and advanced level of IT competencies. Training on more up-to-date software and hardware should be incorporated into these programs. Modern pedagogy in using IT to enhance the quality of teaching and learning should be introduced in addition to IT skill training.

2) Besides the HK$176.9M being granted, IVE should continue to seek extra funding to improve its technological infrastructure and support to teaching and learning using IT. To allow teachers to make the most of IT for teaching, i.e. the flexibility of time, pace, place, etc, IVE should provide teachers and students free Internet access at home, up-to-date hardware (e.g. notebook computers) and latest software.

3) A team approach has been proven to be one of the best means towards resource development. Teachers should team up with other experts in IVE, e.g. IT experts from the Computing Division, production professionals from the Educational Technology Units, etc. to develop quality IT resources for their teaching. They may also build up collaboration with other partners from other institutes for better resources and to get fruitful opportunities for curriculum enhancement.
LIMITATIONS

Certain limitations arose in this study. Firstly, the questionnaire survey and the interviews were only conducted in two IVE campuses. Therefore, the sample size was relatively small and thus the results of the study should not be generalised to the whole IVE. Secondly, the criterion of IT competencies for IVE teachers and the questions of student’s ideal learning environment designed in the questionnaires might only reflect part of the IT capabilities that some teachers possessed and part of the expectations that the students seek. However, this is only a starting point to study the employment of IT in teaching and learning in vocational education in Hong Kong and we invite readers who are interested in this topic to further investigate and share their experience with us.

CONCLUSION

Change requires new mindsets and attitude from students, teachers and the education institute. To meet the changing nature of student population and a growing percentage of students who have already had a lot of experience with technology and high expectations of the educational institute, IVE must formulate a technology vision in order to realign itself to stay ahead of the trends. Moreover, the institute should review and revise its strategic plan that commits to the provision of high quality vocational education in Hong Kong. As educators, we must be brave to re-examine our traditional assumptions about teaching and learning and re-assure our role as facilitators of knowledge acquisition. At the same time, we should stimulate students to re-think their responsibilities in learning so that they will become independent and life-long learners. At last, but not the least, we should bear in mind that IT is only a tool to facilitate quality learning and teaching. However, the teachers who are willing to equip themselves to meet the challenges which derived from the new roles, showing genuine care to students and committing themselves in teaching, are most valuable to our students and the society.

REFERENCES


ACKNOWLEDGEMENTS

We are pleased to express our gratitude to the staff of the Hong Kong Institute of Vocational Education (Kwun Tong and Shatin campuses) for providing valuable information and help to us. Moreover, we would like to thank the contribution of all respondents to our questionnaires and interviewees to our questions who provide us important insight and stimulation for our research paper. At last, we are also grateful to Ms Adele Graham and Dr Lawrence Chan for their support and encouragement in writing this paper.
### Appendix 1

**Questionnaires and Summary of Findings in “Student’s Ideal Learning Environment”**

**Questionnaires - (Shatin and Kwun Tong Campuses/Conducted on 31/5/00, 2/6/00 and 5/6/00)**

<table>
<thead>
<tr>
<th>No of Rank.</th>
<th>My Ideal Learning Environment/Question No/No of Votes</th>
<th>% of Choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Would have the lecturer/assistant lecturer who was not just an instructor, but more an explainer, entertainer and friend? (Q.11)/122</td>
<td>51%</td>
</tr>
<tr>
<td>2</td>
<td>Would encourage me to learn using lots of different learning methods? (Q.12)/118</td>
<td>49%</td>
</tr>
<tr>
<td>3</td>
<td>Would provide a flexible class where I can explore independent learning options? (Q.18)/109</td>
<td>45%</td>
</tr>
<tr>
<td>4</td>
<td>Would be where learning is a mutual experience where I contribute to the teaching and learning in class? (Q.8)/95</td>
<td>40%</td>
</tr>
<tr>
<td>5</td>
<td>Would be where the lecturers/assistant lecturers doesn’t tell me the answers; rather he/she shows me how to find the answers for myself? (Q.7)/87</td>
<td>37%</td>
</tr>
<tr>
<td>6</td>
<td>Would provide a classroom atmosphere of exploring and debating new ideas? (Q.13)/78</td>
<td>32%</td>
</tr>
<tr>
<td>7</td>
<td>Would be where I can make connections among various subject areas and am encouraged to construct an adequate argument? (Q.20)/76</td>
<td>31%</td>
</tr>
<tr>
<td>8</td>
<td>Would provide a workshop or seminar atmosphere so that we can exchange ideas and evaluate our own perspectives on the subject matter? (Q.17)/74</td>
<td>30%</td>
</tr>
<tr>
<td>9</td>
<td>Would value my classmates as sources of information, not only as companions? (Q.10)/72</td>
<td>30%</td>
</tr>
<tr>
<td>10</td>
<td>Would be a ‘free-flowing’ class that does not follow a strict outline? (Q.16)/72</td>
<td>30%</td>
</tr>
<tr>
<td>11</td>
<td>Would be where I would have a lot of control over the course content and class discussion? (Q.3)/70</td>
<td>29%</td>
</tr>
<tr>
<td>12</td>
<td>Would be where I take effective notes on what is presented in class and reproduce that information on tests? (Q.4)/40</td>
<td>17%</td>
</tr>
<tr>
<td>13</td>
<td>Would emphasize class discussion but I would expect the lecturers/assistant lecturers to tell the right answer? (Q.5)/36</td>
<td>15%</td>
</tr>
<tr>
<td>14</td>
<td>Would have the focus on having the right answers rather than on discussing methods on how to solve the problems? (Q.9)/27</td>
<td>11%</td>
</tr>
<tr>
<td>15</td>
<td>Would have the lecturers/assistant lecturers give me all the theory and information I need to know? (Q.2)/27</td>
<td>11%</td>
</tr>
<tr>
<td>16</td>
<td>Would include straightforward, not ‘tricky’ tests, covering only what has been taught and nothing else? (Q.6)/26</td>
<td>10%</td>
</tr>
<tr>
<td>17</td>
<td>Would be where I could listen intently to the lecturer/assistant lecturer and not to classmates and peers for answers to questions? (Q.19)/25</td>
<td>10%</td>
</tr>
<tr>
<td>18</td>
<td>Would be lectures since I can get the information I need to know most efficiently? (Q.15)/25</td>
<td>10%</td>
</tr>
<tr>
<td>19</td>
<td>Would provide assignments with practice everyday applications? (Q.1)/23</td>
<td>9%</td>
</tr>
<tr>
<td>20</td>
<td>Would include exams and assessment as part of the learning process? (Q.14)/20</td>
<td>8%</td>
</tr>
</tbody>
</table>

Note: Ranking No 1 to 11 and 12 to 20 represent the “Deep Approach” and “Surface Approach” learning respectively.
Appendix 2

Questionnaires and Summary of the Findings in “Teacher’s IT Competence” Questionnaires
(Shatin and Kwun Tong Campuses / Conducted on 31/5/00 and 2/6/00)

Campus: ___________________________  Department: ___________________________

(The purpose of this questionnaire is to identify the IT competence of teachers. The information provided will be kept in strictest confidential and used for this purpose only. The followings were modified from Alfred Koo’s proforma, namely, an “IT Capability Enhancement Plan” in IT Enhancement Program for IVE teachers)

Enter a "x" in the empty boxes to indicate some of your IT competence and leave it blank if you do not know.

<table>
<thead>
<tr>
<th>Crit. No</th>
<th>IT Skills - Awareness Level</th>
<th>No of Votes/ % of IT Capabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Handle computer Operating System</td>
<td>81 (89%)</td>
</tr>
<tr>
<td>2</td>
<td>Use local network to transfer/retrieve/save materials and to share them among teachers and/or students</td>
<td>77 (84%)</td>
</tr>
<tr>
<td>3</td>
<td>Operate basic computer peripheral equipment to prepare simple teaching materials</td>
<td>88 (96%)</td>
</tr>
<tr>
<td>4</td>
<td>Access to WWW with a browser to search, retrieve information &amp; TL resources</td>
<td>85 (93%)</td>
</tr>
<tr>
<td>5</td>
<td>Basic understanding of the implications of IT in education</td>
<td>75 (80%)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IT Skills – Application Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
</tr>
<tr>
<td>7</td>
</tr>
<tr>
<td>8</td>
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<tr>
<td>9</td>
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<td>10</td>
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<tr>
<td>11</td>
</tr>
<tr>
<td>12</td>
</tr>
<tr>
<td>13</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>IT Skills – Advanced Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
</tr>
<tr>
<td>15</td>
</tr>
<tr>
<td>16</td>
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<td>17</td>
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<td>18</td>
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<tr>
<td>19</td>
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<tr>
<td>20</td>
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<tr>
<td>21</td>
</tr>
</tbody>
</table>

Note: TL = teaching and learning  CMDP = Course Management and Delivery Platform
Appendix 3 – (a)

Definitions of Three Levels of Teacher’s IT Competence

(The IT Enhancement Programme has been designed to match different levels of IT competency with the courses that may be available to IVE teacher.)

Awareness Level
(teachers build up foundation skills and become comfortable using it jargon, and in using general it productivity tools.)

Application Level
(teachers become more knowledgeable about how to select the computer-based information, and to integrate it into their lessons.)

Advanced Level
(teachers become very adept using computers, even to the extent they can author their own multimedia material for use in their classes, and to design and maintain their instructional web sites.)

Appendix 3 – (b)

Questions Used in Structured Personal Interview with Students

1. Do you agree that the application of IT in learning is flexible?
2. Do you agree that the application of IT in learning is effective?
3. Do you agree that the application of IT in learning will help the communication between the teachers and students?
4. What can IT be used in facilitating the learning process? In what aspects?
5. What are the constraints of applying IT in learning?
Appendix 3 – (c)

**Questions Used in Structured Personal Interview with Teachers**

1. Do you agree that the integration of IT into education has been accompanied by sociological and economical pressure?
2. Do you agree that IT has the potential to transform the way/method that education is conducted and enhance the effectiveness, efficiency and flexibility of teaching and learning?
3. What are the advantages of applying IT in teaching?
4. What are the limitations of using IT in teaching?
5. What are the considerations of applying IT in teaching?

Appendix 3 – (d)

**The Provision of an IT Training Programmes for Teachers via The Teaching and Learning Centre**

**(Accumulated Attendance of IT Enhancement Programme)**


<table>
<thead>
<tr>
<th>Course Name</th>
<th>Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles in Using IT for Teaching and Learning</td>
<td></td>
</tr>
<tr>
<td>IT in Teaching and Learning: Fundamental/Educational Issues</td>
<td>115</td>
</tr>
<tr>
<td>IT in Teaching and Learning: Design Issues</td>
<td>82</td>
</tr>
<tr>
<td>Basic Principles of Web Based Instruction</td>
<td>19</td>
</tr>
<tr>
<td><strong>PowerPoint</strong></td>
<td></td>
</tr>
<tr>
<td>Preparing Lecture Presentation with PowerPoint: Basic Skills</td>
<td>101</td>
</tr>
<tr>
<td>Power Up Your Presentation with PowerPoint</td>
<td>91</td>
</tr>
<tr>
<td>Preparing Interactive Multi Media Lecture Presentation with PowerPoint</td>
<td>94</td>
</tr>
</tbody>
</table>
## Appendix 4 – (a)

### The Provision of an IT Training Programmes for Teachers via The Teaching and Learning Centre

*(Accumulated Attendance of IT Enhancement Programme – Cont’d)*

*(May 1999 - February 2000)*

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Web Design/Teaching</strong></td>
<td></td>
</tr>
<tr>
<td>Understanding HTML</td>
<td>11</td>
</tr>
<tr>
<td>Basic Web Page Design for Teaching and Learning</td>
<td>109</td>
</tr>
<tr>
<td>Developing Web Page for Teaching and Learning</td>
<td>73</td>
</tr>
<tr>
<td>Teaching with the WWW</td>
<td>82</td>
</tr>
<tr>
<td>Making Static Web Pages to Delivery Teaching and Learning</td>
<td>7</td>
</tr>
<tr>
<td>Enhancing Communication Using the Campus Network/Web</td>
<td>107</td>
</tr>
<tr>
<td><strong>WebCT</strong></td>
<td></td>
</tr>
<tr>
<td>Making Use of Course Management &amp; Delivery Platform with WebCT</td>
<td>77</td>
</tr>
<tr>
<td>Building WBI Courses with WebCT</td>
<td>12 198 *</td>
</tr>
<tr>
<td>Course Management Using WebCT</td>
<td>5 88 *</td>
</tr>
<tr>
<td>Creating On-line Quizzes with WebCT</td>
<td>51 13 *</td>
</tr>
<tr>
<td>WebCT in Action</td>
<td>5 10 *</td>
</tr>
<tr>
<td>Webpage Building Workshop</td>
<td>28 *</td>
</tr>
<tr>
<td>Workshop for Graphics/Photos on the Webs</td>
<td>25 *</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1041 362</td>
</tr>
</tbody>
</table>

# including Training the Trainers Programmes

* Course Offered by Educational Technology Unit
Appendix 4 – (b)

The Enhancement of IVE’s IT Infrastructure

(I) **Use of IT for Quality Vocational Education**
For example, additional PCs for students, Web-based teaching and learning service, enhancement of the information technology, remote dial-up and mobile PC access service, video conferencing services, replacement of outmoded IT facilities, increased Internet access, server enhancement, etc.

(II) **MIS and User Services Enhancement**
For example, enhancement of MIS infrastructure to enhance interface, data warehousing of IVE, Web-based MIS, executive information system, e-mail accounts for all staff, etc.

(III) **Network Infrastructure Enhancement**
For example, upgrade of Internet facilities with Internet access for all PCs in IVE campuses, enhancement of network security, installation of high speed wide area network connecting the nine IVE campuses and three training centre complexes, and the headquarters, electronic library upgrade, etc.

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