

## A Model of Technological Course of using Information Science and Technology

Rong-Jyue Fang<sup>1</sup>, Hung Jen Yang<sup>2</sup>, Hua Lin Tsai<sup>3</sup>, Chi Jen Lee<sup>4</sup>, Tien-Sheng Tsai<sup>5</sup>, Dai-Hua Li<sup>6</sup>

<sup>1</sup>Senior Professor, Department of Information Management, Southern Taiwan University of Technology,  
Taiwan (R.O.C.)

<sup>2</sup>Department of Industrial Technology Education National Kaohsiung Normal University, Taiwan (R.O.C.)

<sup>3,4,5,6</sup>Graduate student, Department of Industrial Technology Education, National Kaohsiung Normal  
University, Taiwan (R.O.C.)

\*No.188, Zhongyi St., Fengshan City, Kaohsiung County 830  
Taiwan, R.O.C.

**ABSTRACT:** The purpose of this study was to develop of information technology and network infrastructure construction. On the past decades, educators have developed various scales to measure the learning attitudes. But few of them have constructed specifically for attitudes towards digital devices. This research is discuss the meaning and purposes of Life Technological Course crossing different fields, the strategies of implementation and the integration of information science, and the integration of information technology applying to every discipline. It is urgent to give teachers accurate teaching models of Life Technology Courses complying modern IT technology nowadays. According the discussing, we put forward and implement the tactics to support the reference that scientific and technological teacher crossing different fields and studies the way and information to incorporate teaching of life concretely finally.

**Keywords:** Information Science and Technology, Cross-area Learning

### Introduction

Although some researchers pointed out the days for mobile learning have yet to come [5]. It really works now. Mobile learning is an important learning milestone following e-learning. The term e-learning comprises computer-based learning, Web-based learning, virtual classrooms and digital collaboration. Such as the Internet, intranets, extranets, satellite broadcast, audio/video tape, etc. Mobile learning (m-learning/ mlearning) is a subset of e-learning, and it is the learning by means of mobile devices, that is, m-learning is a new stage of the progress of e-learning [3].

When it comes to enhancing teaching modes, the short term goal is to apply computer technology into constructing multiple teaching materials and the learning environment. In the twenty-first century, citizen's attitudes toward using and learning the digital technology may determine the educational and economical development of a society. How to implement information science and technology in the teaching of all areas will be one of the main policies for schools to prove the teachers' teaching models. According to a recent statistics, three-fourth of the five hundred

investigated teachers indicated their urgent needs of the technological application into teaching. [2] Therefore, the combination of information science and technology with teaching disciplines is the demand of both the officials and the teachers. However, some teachers expressed their embarrassing situation that the current workload makes it difficult to combine information science and technology with their teaching. They regarded it as too idealistic until the situation and problem are solved. All in all, the first consideration of its advocacy should be the deal with present and future teaching modes and provide teachers with practical references to integrate technology in their curriculum development.

According to the present curriculum schema in primary and secondary schools, the ability of manipulating technology and science is not only restricted in the field of Science and Technology, but is also encouraged in all the other fields, such as Math, Art, and Sociology. In other words, this ability is strongly connected with all the fields and shouldn't be isolated.

In the twenty-first century, citizen's attitudes toward using and learning the digital technology

may determine the educational and economical development of a society. Students' digital attitudes may influence their future involvement in digital-related careers or activities.

## 2. Literature Review

In terms of teaching, Grade 1-9 Curriculum focuses on the integration of all subjects, breaking the traditional subject-oriented curricular development. In which, teachers are expected to consider students lives experience, traditions, folk customs, and local characteristics, and put these elements into teaching. [3]

This curricular revolution meets the needs of the time and suits the development of teenagers. Also, it aims at developing people's various abilities, including sense of humane, ability of integration, spirit of democracy, and the understanding of both local and international ones. Moreover, people are encouraged to keep learning through their lives, i.e. continuous education. [4]

Critical thinking is a high level of cognitive ability. According to [1] [6], critical thinking is to 「decide what to be believed or to be the focused reflective and reasonable thinking.」 From view of problem-solving, critical thinking is an intellectual activity of choosing proper hypotheses or answers [2]. Norris and Ennis [7] argued that critical thinking can be regarded as a part of problem-solving process generally.

## 3. Methodology

As the coming of digital time, media becomes materials which need extra works to be products of the new time—E-media. That is, the manufacture machine is a computer, the process is Digitalization, and the labors will be teachers. As equipped with the proper ability manipulating E-technology and media, texts of modern time can be easily presented. The follows are some main directions of the production of digital instructional technology.

First of all, teachers should be capable of transferring texts into scripts. Since scripts are visual forms of lesson plans, the rest following jobs are simply following the lesson plans and collecting the related information.

the resources are textbooks, handouts, campus journals, data of the community and the internets.

### 3.1 The Internet

Also, teachers should make an advanced preparation in case of an unexpected accident. If there are Documents, teachers can make use of Word and save as a HTML file. Also, teachers can complete the work directly by FrontPage.

Teachers should observe different E-teaching principles at all learning areas and collect related teaching samples. Such are helpful for designing E-correspondence modes. It also meets the concepts of Committee of School Curriculum Development. Meanwhile, from the viewpoint of self-made texts from teachers, PowerPoint developed by Microsoft is indeed a good helper. It has multiple functions, including broadcasting and editing films and documents, making slides and handouts.

## 4. Results and Discussion

A teacher's ability to deliver a presentation would not be enhanced or diminished by the introduction of novel technologies, therefore one shall be mindful of placing too much focus on the use of multimedia and thereby failing to recognize a teacher's true capabilities.

Technology is not the answer to everything. For one, in emergencies like a blackout, a computer crash, or a shortage of resources, a teacher should be adept at switching to a teaching method that does not rely on high-tech products, however tech-savvy they might be. There are also situations where, for example, a simple poster might do a better job of explaining a concept to students than a high-tech learning environment.

An educator should be familiar and flexible with an array of media to suit the needs of the courses, [4] proposed in their "Multimedia" concept. The use of digital data is ideal for this sort of media switching, as it can easily be moved from platform to platform, and readily converted to different formats to meet the requirements of various technological equipments. An educator's command in digital technologies is therefore crucial.

IT aims at rising the effects of teaching, but it is a successful curriculum development that really matters. In the schema of Grade 1-9 Curriculum, a teachers' curriculum development ability is the core competence to integrate the curriculum. When it comes to the design of curriculum and

teaching activities, [5] indicated that keeping modified teachers' thoughts and methods via

Computers are not only used in the computer room and in every classroom. The curriculum development doesn't follow the linear mode but the non-linear one—hyperlink. Hence the teaching methods need to adjust. Teachers at digital time should welcome the new technology and be capable of developing new teaching methods to cope with the teaching job.

## 5. Conclusion

information world wide. Teachers of different subjects can divide themselves into groups and look for certain topics through the searching engine. After that, a systematical classification is in need. Then all the teachers and students can utilize it. The second stage is to think of Internet as teaching materials. Encourage students and teachers communicate by emails, news groups and message delivery tools. Cooperative learning is strongly recommended at this stage. Teachers will give students a task and ask them to solve it in time. When students exchange their information by emails, a duplicate is asked to send to their teacher so that the teacher can handle the progress and give them a hand immediately. The last stage is to involve Internet into teaching, that is Web\_title. Just like CAI, there's no time and space limit by means of Web\_title. Because people can be anonymous on line, some introverted students can express their ideas and thoughts with fear on line and practice their critical thinking. May be one day. popular of information science and technology has become necessary and it will be an important issue that how to make good use of technology to meet the future educational trend and the needs of modern teaching modes.

## Reference

- [1]Chong-Xiong Fang( 1996 ). A Study of Course Design and Experiment of Problem Solving Mold on Living Scien-tech for Secondary
- [2] Bereiter, C., & Scardamalia, M. *Surpassing ourselves: An inquiry into the nature and implications of experts.*:Chicago,1993: Open Court.
- [3]Chrag, Francis (1988). *Thinking in School and Societ.* London: Routledge.
- [4]Dewey, J. (1910). *How We Think.* Boston: D. C. Heath.
- [5]Ennis, R. H. (1987). A Taxonomy of Critical Thinking Dispositions and Abilities. In J.B. Baron & R.J. Sternberg(eds.). *Teaching thinking skills: Theory and Practice.*, NY: Freeman, 9-26.
- [6] Capron, H. L., *Computers: tools for an information age* (2nd ed.), New York: Addison-Wesley, 1999.
- [7] Freysen, J. B., M-learning: an educational perspective, In Jill Attewell and Carol Savill-Smith(Ed.), *Mobile learning anytime everywhere* (pp. 73-75), from MLEARN 2004.
- [8] Georgiev, T., Georgieva,E., and Smrikarov, A. M-Learning - a New Stage of E-Learning, paper presented at *International Conference on Computer Systems and Technologies - CompSysTech'2004*, Bulgaria, Rouse, June 17-18 2004.