Promoting the Use of School Libraries: Teaching Readers to Fish Instead of Fishing For Them

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This paper describes an on-line synchronous learning model that aims to provide guidelines for teachers and students to conduct synchronous instruction and set up cyber schooling framework which takes the much-familiar traditional school structure as the basis and attempts to enhance it by the use of technology to overcome shortcomings of traditional education and study without time and space restriction. We host training courses for teachers about multimedia tools and how to set up an e-learning environment that will record their pedagogy and organize their training materials for distance learning.

Synchronous Learning, Asynchronous Learning, E-Learning

Introduction of synchronous learning model

Traditional distance education has been typically constrained by the limitations of time and location, making it difficult for instruction. According to the time component, the distance learning could be divided into asynchronous and synchronous learning. Asynchronous learning allows teachers and students to interact and participate and in the educational process at different time irrespective of their locations; Synchronous learning requires the teachers and students to interact at the same time through they may be dispersed geographically.

The most important advantages of synchronous learning have been found as follows:

1. Immediate feedback can be provided to the students so that they can straightway correct themselves or strengthen what they have learned. This is especially essential for activities such as group decision making, brain storming, and analysis.
2. More motivation and obligation to be present and participate which in turn would increase their involved in learning activities, hence resulting in a better learning experience.

On-line synchronous live instruction mode

In traditional instructional settings, teachers and students all meet physically in a classroom environment to respectively teach and learn. In such a scenario, it is easier to build the instructional context. However, it is not easy to achieve the resource sharing and reuse. For example, even the same teacher teaching the same course but in two different classes must repeat the same content twice. This unnecessarily increases the teachers' teaching load, possibly resulting in a reduction in teaching quality. On the other hand, in the on-line learning

environment, all of the teaching material can be digitized, including the lecture. Therefore, it is easier for teacher to share and reuse the digital teaching material.

1. Editing of teaching material

Teachers plan each course unit in accordance with whole course objective and adapted to the backgrounds and attributes of the learners. After finishing the planning, teachers edit the course material of each unit as the plan. The sources of the course materials include a large variety that contain the lectures recorded by teachers themselves or others, material from publishers(books, films, teaching manuals etc), CD-titles, teaching videos and movies, and the content available in the public domain on the Internet. This approach ensure the sharing and reuse of the teaching resources (see Figure 1).

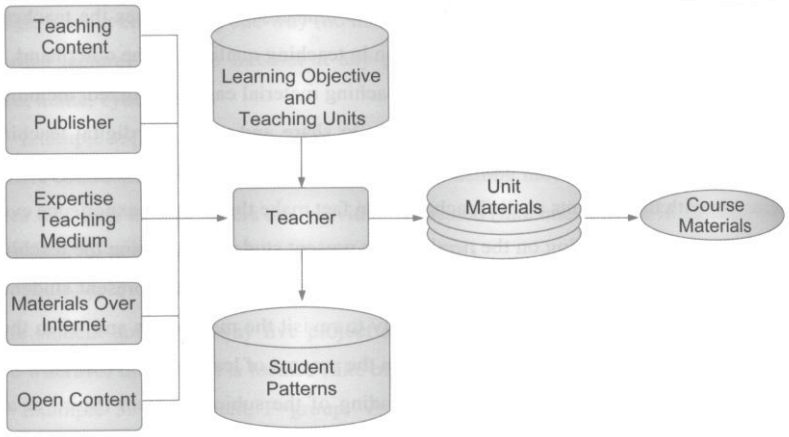

Figure 1 Teaching material editing task

2. On-line synchronous live instruction

During the on-line instruction task, the role of a teacher resembles to a Live DJ of a radio programme but in a teaching environment. Teachers can play a sequence of teaching material previously edited by them. Besides playing the teaching material, teachers can also give additional explanation of the content using annotation tools such as free-hand writing, drawing line, circle or rectangle, and so on. After a teaching segment finishes, teachers can either inquire students if they have any question, or assign a question and ask students to discuss that in the on-line chat room for a brief period of time and reply back. If students have any other queries, teachers can give another explanation or play othe

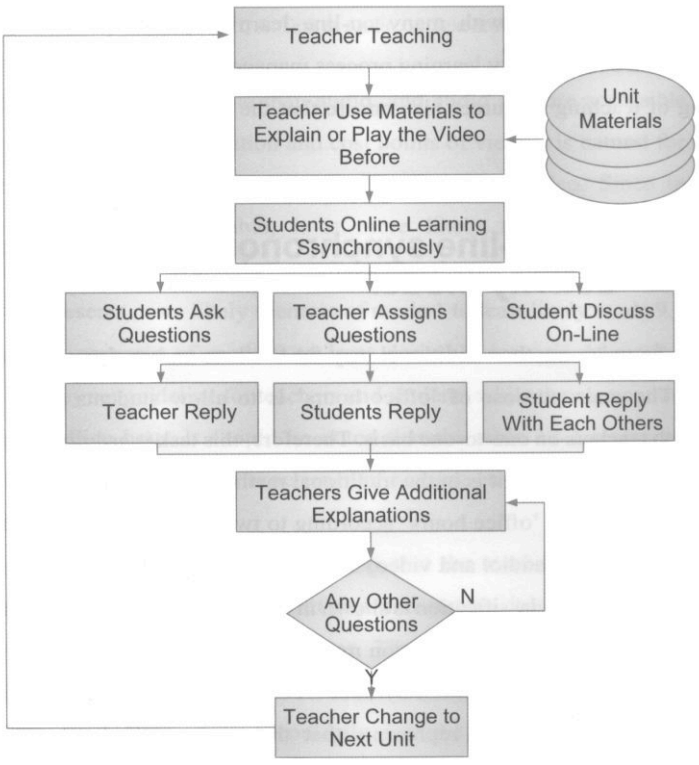

Figure 2 On-line synchronous live instruction task

1. Once the queries are answered, the teachers can continue with playing next reaching materials on-line and undertaking other teaching tasks (see figure 2).

Figure 2 On-line synchronous live instruction task

Introduction of cyber learning school

Cyber Learning School is an environment that includes hardware, software and pedagogy. It adds two new dimensions of mobility and situated learning to the traditional schooling concept, particularly when it utilizes information and communication technologies associated with distance learning.

There is a three-tiered layer of architecture in setting up and running a Cyber Learning School:

1. Hardware setup, where computer hardware and networking devices are put together to create system infrastructure.
2. Software setup, where e-learning system is installed by using appropriate software tools like HABOOK and WebCT.
3. Course setup, where online courses are designed and teachers and students undertake teaching and learning activities facilitated by e-learning system.

Cyber Learning School includes three elements: Cyber Learning Classroom, Cyber Teacher Desk, and Cyber Student Desk.

Cyber Learning Classroom

The Cyber Learning Classroom has many distinct advantages over the computer rooms that typical traditional schools generally have. Traditional schools generally have one computer room where teachers can take their students for some computer related activities. Such computer rooms remain fixed and therefore cannot be used for situated learning. They require students and teachers to move to separate room hence leaving all resources that are in the classroom, such as reference books, demonstration material, and other teaching aids. Basically, traditional computer rooms separate reality from virtual, whereas Cyber Learning Classrooms merge them together.

Cyber Learning Classroom are constructed under Cyber Learning School. Teachers can provide different courses in different Cyber Learning Classrooms. The resources of these courses can be digitalized and stored in the Cyber Learning School. In the Cyber Learning Classroom, teachers can manage various activities such as student interaction, teaching resources, assignments, students' tests, and students' results. On the other hand, students can interact in online synchronous or asynchronous teaching, have online synchronous or asynchronous discussion with classmates, submit their assignment, take online tests, and engage in other learning activities.

Cyber Teacher Desk

A Cyber Teacher Desk is generally constructed of a Tablet PC or notebook computer, combined with the ability of a wireless network connection and web camera.. With the help of teaching aid software, it also contains writing ability similar to that of a whiteboard, the function of immediate telecast, and of video recording. Besides, it provides teachers with no time and space restrictions, and also enriches teaching quality.

Cyber Student Desk

The construction of the Cyber Student Desk is similar to the Cyber Teacher Desk. It can be constructed using a Tablet PC or a notebook computer. Besides, it includes the ability

of wireless internet, web camera, and the learning aid software that includes functions such as electronic note-making, a dictionary, and a calculator.

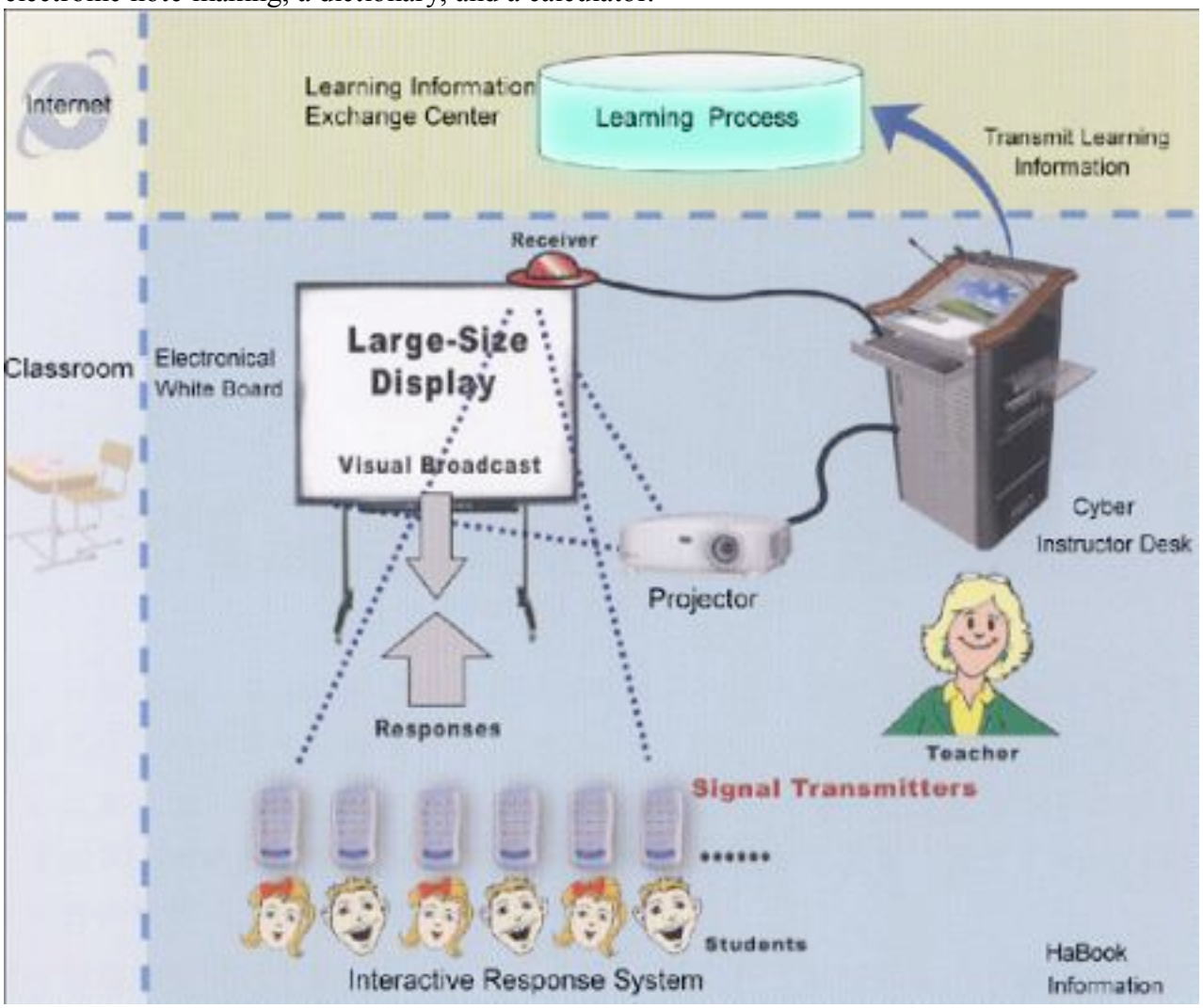

Figure3: Cyber Learning Classroom

The procedure of promoting the use of library

1. Setting up Information Communication Technology (ICT) platform:

   We set up Fiber Distributed Data Interface (FDDI) as campus network backbone architecture, and most system servers are established by the Linux system. The Figure below demonstrates this architecture:

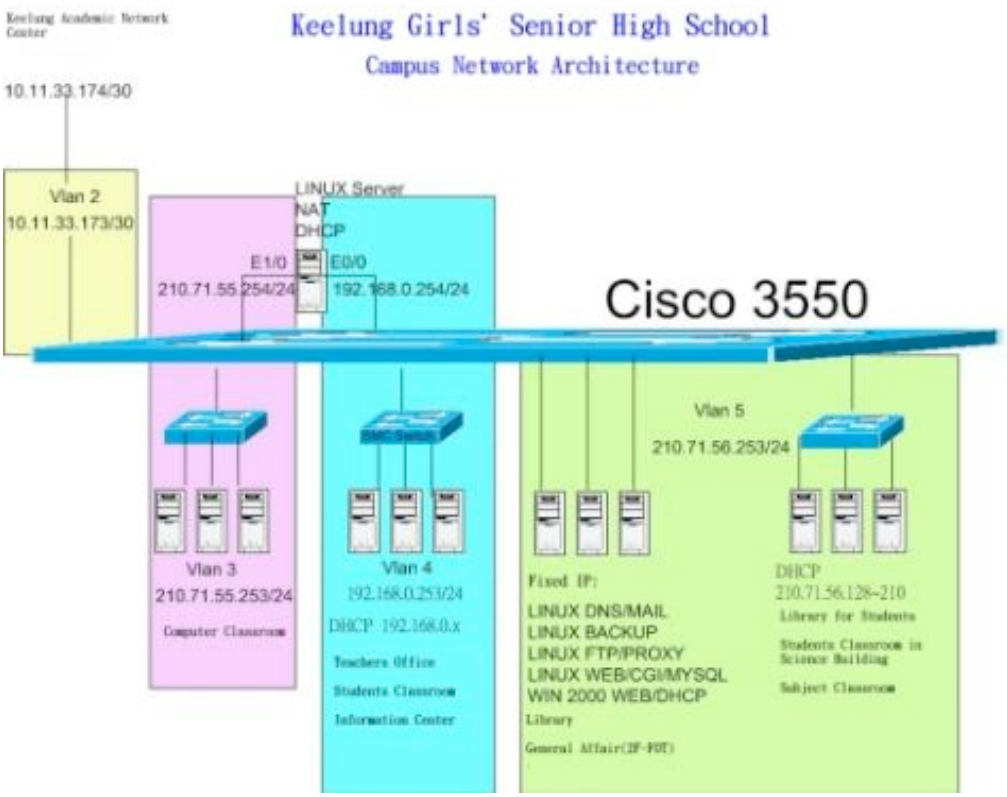

Figure4: campus network architecture

In Keelung area, there are over hundred schools connect to Keelung Academic Network Center(KANC) by FDDI network structure. From KANC connect to Taiwan Academic Network(TANET) by T3. We also set up Wireless Lan in campus, at the same time installing DNS, Web Server, E-Mail Server, FTP Server by Linux operating system, and set up Video on Demand Server by Window 2003 Server. As for IP address, we apply for two C class from TANET, it offers 512 fixed IP address.

2. Setting up Learning Management System (LMS) by HABOOK E-Learning system:

A learning management system simplifies the process of administering education and training. LMS help create and offer courses and curricula. They reside at the top of the offer column of our tools framework. We integrate software and hardware to promote teaching and learning, as well as building internet solution. By our highly efficient products, the teaching environment is more convenient, and the teaching session is more lively. In this way, there exists a highly interactive relationship between the instructor and the students. Through the aid of internet, the goal of computerized control and intercommunication system can therefore be achieved. These products are such as EZLearning, EduClick, EZTest, EZTeaching...etc.

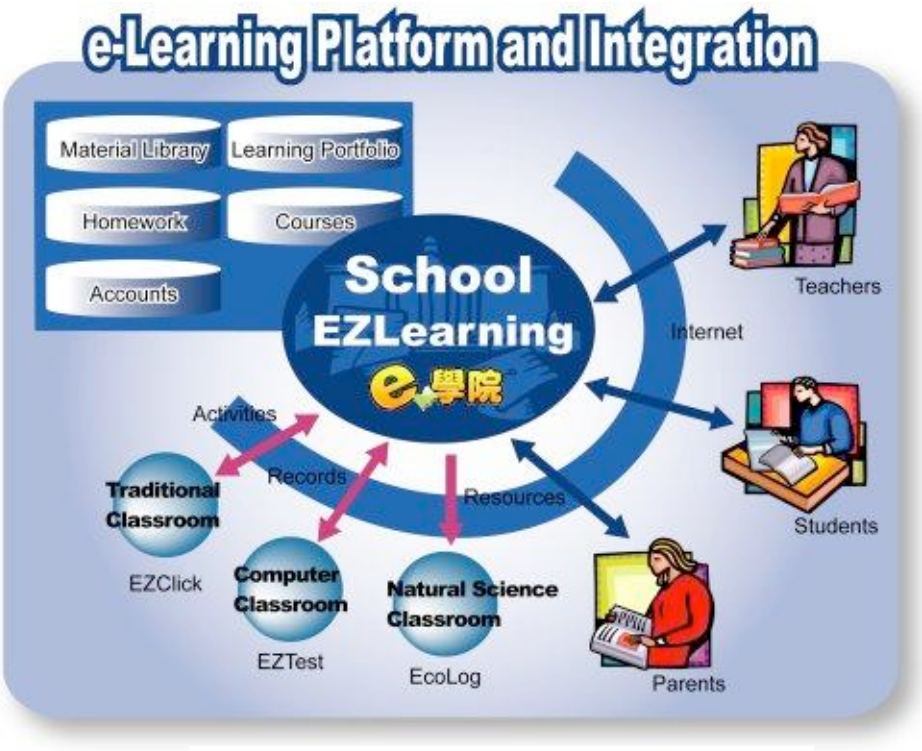

Figure 5: School EZLearning

What is EZLearning

EZLearning is a platform built to help teachers better manage materials, resources and learning results. With this platform students can learn and obtain knowledge through internet activities.

EZLearning is an Internet learning information-integrated center. It's like an e-learning system at school, it is also a platform that supports learning material, manage resources and learning results. With the help of this platform, students can learn and obtain knowledge through internet activities. Not only that the platform supports learning with needed online services, but also combines learning information from internet with classroom work, to help create an e-school learning environment. This platform enables students to continue learning from home, on their own or with their parents. This endows better interaction between teachers, parents and students.

What is EZClick

EZClick, a highly interactive remote instructional system, undoubtedly fits in with the technological learning in classroom environment. EZClick is a combination of software and wireless remote controls used to improve classroom interaction.

The remote controls must be handed out to each student. With the features of EZClick system, instructors can use the software to design media-rich multiple-choice questions. Instructors can create questions ahead of time or they can ask spontaneous questions at any time during the class.

During the course lecturing, instructor can pose a question to students, along with a set of answer options, all of which is projected on to a large screen. Students response by pressing the corresponding button on the assigned remote controls. Everyone's signal from the remote control will hit the infrared receiver to log answer into instructor's computer. These answers are instantaneously graded, tallied and analyzed by the system. The results are graphically available to the instructors and students. This function frees instructors from grading papers and compiling statistic.

EZClick is a set of in-class technological tool that promotes students' interests and attentiveness in learning activities. It also meets the rising demand for technology in teaching and learning. Therefore, why not let EZClick play a key role in helping students boost their confidence and learning performances!

What is EZTest

EZTest Highly Interactive Instructional System for Computer Classroom is a system designed for the computer classroom. It not only makes learning more exciting but also supports teachers with their exam grading workload.

EZTest Highly Interactive Instructional System for Computer Classroom only needs to be combined with the broadcasting system in order to work. It does not need other hardware and only needs to be installed in the teacher's computer along with internet access. The students can easily complete exams, analyze test results and helps teacher combine final grades, reach the goal of EZ Test and EZ Management. Evaluation, result analysis, and interactive learning are all available through EZTest.

3. Encouraging greater involvement of book-reading clubs among teaching faculty, administrative staff, students and parents:

   It is generally agreed that an uplifting spiritual life of each individual contributes to a more harmonious society. Also, a smooth-running society is a generator that powers the huge machine of society. A resilient mind capable of any internal improvement begins with the willingness of an individual to remove as much as possible the weed of selfishness from his mind. This way, there can be hope for a society teeming with sympathy and compassion. Among the chief cost-efficient results are: individuals are encouraged to invest more time in reading books with a purpose or books that are inspiring. Individuals are also observed to get more involved in experience sharing or discussions of various kinds, to broaden their world of knowledge and to get to know each other better. Starting from year 2000, the central government set the policy of "one class, one book-reading club". Annually, one or sometimes more than one training camp of book-reading club leaders is organized by the school library. A good-quality books exhibition is also on the agenda of the school anniversary. The school principal also takes the leading role in the participation in the book-reading club's activities and the by-product of a better coordination among the administrative is often the result. The Taichung based office of the Ministry of Education also requested National Tainan Girls' Senior High School to hold network book-reading club for all senior high school in Taiwan. In Keelung, we have promoted this business for 3 years and have observed this club's students increase at a rate of 30% every year.

4. Training seed teachers to promote and popularize Multi-Media Information literacy:

   In Keelung area, eight library directors of senior high schools and vocational schools proposed one Keelung area characteristic project to the Education Minister and received

US$200,000 in funding for the last two years. We invited instructors to train seed teachers how to operate multimedia tools, PowerPoint, MovieMaker, Anicam, Producer, PhotoImpact, Flash, FrontPage, etc., to create teaching materials. We prepared five-day training courses twice per year for two years.

Meanwhile, we asked seed teachers to establish and maintain teaching materials on a campus web page. We also hold Keelung area Web's Fair contests, invite teachers and students to attend it, and offer a prize for the masterpiece.

5. Holding regular contests in web page design, book reading report and evaluation of reading club performance:

The purposes of holding contests before the school's anniversary are evaluation of promoting activities' performance. We also encourage outstanding students to attend contests sponsored by outside of school. In 2004, one team of students obtained second place in the national web page design contest. At least one student gets an award from attending the national book-reading report contest every year. We offered reward for the counselor and students who get the award from attending contest. It makes them more confidence and good for promoting information literacy and book-reading.

6. Issuing E-newsletters:

Our school has accumulated two years' experience of issuing e-newsletters. It is our hope that a better-quality, more versatile community e-newsletter will emerge if and when all 13 local academic and vocational senior high schools can work together toward the goal. There sure will be lots of benefits involved, less manpower and greater mutual exchanges among others. More important, it can serve as a platform on which creative issues of special interest can be discussed and the exchange and marketing of issue researches can be made known and made possible. The baffling problem is that an advisory team which is in charge of all academic and vocational senior high schools nationwide already has its own e-newsletter. Insufficient funding has also cornered and stopped the future publication of our e-newsletters. For the time being, all creative-thinking issues and issue-related research is channeled into the e-newsletters constructed by the aforementioned advisory team. Nevertheless, we are still in firm belief that from a long-term viewpoint, a community-level localized e-newsletter is what is needed to serve as a tool that helps boost the idea of marketing creative learning exchanges, provide an incentive to construct a life-learning environment and improve local citizens' capability to confront and handle problems.

7.Creating Synchronous and Asynchronous Courses:

If we continually get the fund from Education Minister, we will create the synchronous and asynchronous Courses as follows:

I Asynchronous Courses:

A Create the following multi-media tutor and training guide in web site:

(1)PowerPoint presentation tool
(2)PhotoImpact image processing tool
(3)PDF document creating, such as Acrobat Reader
(4)FrontPage homepage creating tool
(5)Namo Web Editor home page design tool
(6)Flash animator tool
(7)Captivate tool
(8)Producer tool
(9)VideoStudio multi-media tool

(10)Anicam screen recorder tool
(11)CDex to convert CD format to WAV or MP3 format
(12)GoldWave audio edittng

B To invite instructors to explain how to create teaching materials by above multi-media tools.

II Synchronous Courses:

Holding the following courses four times per year：

Trainee will learn above asynchronous courses before taking the following courses.

no	Subject name	Hours
1	PhotoImpact image processing workshop	3 hrs
2	FrontPage homepage workshop	4 hrs
3	Namo Web Editor web page designing workshop	3 hrs
4	Flash animator workshop	7 hrs
5	Captivate workshop	4 hrs
6	Producer workshop	3 hrs
7	VideoStudio multi-media tool workshop	4 hrs
8	Anicam screen recorder workshop	1 hrs
9	Moodle e-learning tool workshop	6 hrs

Obstacles to be conquered and recommendations

In Taiwan, all the senior high schools and vocation high schools meet some obstacles in promoting creative learning exchange. So far, we have 3 obstacles to be conquered.

1. Lack of qualified and certified teachers:

Courses on systematic thinking process opened and going on at certain colleges and universities are mostly at their initial trial stage. Furthermore, as a result of an acute lack of qualified and certified teachers, the systematic thinking process did not extensively applied to the learning process off other disciplines of science.

2. Lack of pedagogical approaches:

Due to an obvious shortage of capable teachers, translated materials that are sufficiently professional and suit the need of the students here are too few in variety and too small in quantity.

3. Financial problems:

The project is still in its initial, groping-its-way-along phase, with no agency or bureau of any appropriate authority serving as its supervisor, it suffered from a tight budget, which in turn had its grave impact upon the matters of policymaking or performance evaluating. The limited financial resources available usually came as a response to a separate, specific case of research project. Often, and sad to say, we had to rely on the meager appropriation from the school yearly budget.

To confront and conquer the barriers mentioned above, we have come up with the following recommendations:

1. Creative thinking process should be incorporated into the design and development of school curricula.

Extracurricular clubs with creative thinking process as their core ideas can be started and their performance and results evaluated before finally being integrated into the whole school curriculum.

2. Institutes should created at local and national levels.

Such institutes, with promotion of creative thinking process as one of their vital roles, are supposed to hold seminars on a regular basis, carry out promotion programs and thereby evaluate their performance, construct web pages and issue e-newsletters, hold contests, and publish journals.

3. A sufficient amount of funding should be provided.

To get the necessary funding, the school in charge has to tender:

(1) Short-term plans regarding seminars on creative-thinking process and workshops of seed-teachers training programs,
(2) Mid-term plans concerning class-teaching demonstrations and related contests,
(3) Long-term plans with focuses on a better pool of teachers, a more definite outline of curricula and a more extensive application in colleges and universities as a selective or required course.

CONCLUSION

The eventual success will be laid on the groundwork of selfless cooperation on the part of the administrative staff, the teaching faculty, the student body and the students' parents. To make the whole project possible, any and every possible situation has to be taken into account and incentives big and small have to be created. It is something that requires contribution made not only by individuals but also by all involved. The central idea of teaching students to learn how to learn and creative thinking approaches should always be the consistent goal because it is this ultimate capability that arms them in the face of problems and helps with the problem-solving.

It is estimated that a full 25% of an individual's resources is dedicated to learning in preparation for the challenges in life in a changing world. Such a huge stake of one's resources is absolutely an important and worthwhile investment rather than a meaningless and purposeless waste.

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