Project-Based Learning Model & Self-learning Ability by Network

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ABSTRACT: The team teachers give the learners a challenge of inquiring project-based learning. In the problem-solving process, learners have to know clearly what the problem they face and which misson they have to conquire. Besides approaching these steps, learners also browse many websites to gather information from variety of sources and synthesis, and analysis, and derive knowledge from it.Teachers have the responsibility to offer another unheard education in traditional classrooms. Learners who take a part in project-based leaning have more positive attitude, comfort and enjoyment when working numerous hours with peers.

Key words: project-based learning, learning attitude, problem-solving

1 The definition of PBL

Project-Based Learning(PBL) means learning through experiences. In PBL, students work in groups to solve challenging problems. Which challenging problems are authentic, curriculum-based, and often interdisciplinary[3,4,5] When team teachers decide which specific projects learners meet in groups to plan, they will create web sites and digital media presentations. They collaborately gather information from variety of sources and synthesis, and analysis, and derive knowledge from valuable inquiries.

2 How to pick a project

Joining or adapting someone else's project is a good way for educators to get their inspiration of PBL project. WebQuest is a good example of popular PBL projects. It is easy for many educators to begin to design PBL project. There are many digital media presented in the website. It provides good models for both educators and learners. Learners can demonstrate their newly knowledge and skills such as collaboration and communication[6,7].

3 The elements of a good PBL project

- PBL projects should be based on standards which have very clear learning goals and contents.
- Learners have to design the project and organize the presenting results.
- Learners should work collaboratively, such as team research, group communication, and decision making, and provide honest feedback to each other .
- The project should be connected with the real-life. The focusing topic or issue effects the learners' and someone else's lives[4,6]. For example, pollution problems need realistic methods to solve them.
- Project should be work in a nontraditional approach. Project is a task which needs time to experience from the correctness and error. It is a way for depth knowledge study.
- A good project should include formative and summative assessments. It evaluats learners what they learn and how well they can conquer the challenge. The evaluations are ongoing demonstrations that include peers' reviews, teachers' evaluations, self-reflection, and group feedback.

4 The role of technology

PBL gets work through web-based learning. Technology enables PBL, E-mail, forum, and other online applications to facilitate communication and collaborative work with the world outside the traditional classroom. Learners scaffold the world through the variety of web world. The web world

provides an access to museums, libraries, and remote locations for research. Learners work togather to accomplish a real-life task or improve global issue understanding. All the virtual world concerns about is what issues learners can focus. All work can be presented on the web for reviewing by real audiences all over the world, not just a teacher, a class, or a school[7,8,9]. PBL is published by the form of large number of digital data. Technology also plays a great role on assessment and evaluation. Students in schools compile their work electronically for the ongoing portfolio of team creation. New technology offers excellent potential for adding value to classroom teaching in a large varieties of ways. [1]

5 The role of the educators

To know how the project means and to be familiar with the global hot topics, then to design the project, is very important for an educator in PBL project. When students start to work with the team, the educators should be stand by and provide the learners valuable suggestion or direction. The role of the educator is an adviser who offers sources of imformation, and then the learners can acquire knowledge and reflection from the project.

6 The difficulty of promote PBL

6.1 Classroom conditions

Requirement of PBL is a key role in classroom. A well-reqirement can be a good tool for learners to get imformation. During the process of the project, giving a risk-free environment which students can use various styles to learn is a key to success. Website also is a good way for educators to check out sample projects in the curriculum[9]. Besides, website can provide an example of one kind of learning experiences.

6.2 Assessment

Assessment is an important part of PBL. According to Michael Simkins who directed the Challenge 2000 Multimedia Project, "Teachers should build in both formative and summative assessment. That is, they need to collect and act on information that will help students improve as they proceed, and they need to have measures that show what students learn overall." Written work, report assignment, presentations, informal discussions and questions, observations, and the final media product should be the lists of the evaluations. Certainly, all people including teachers, students, community members also give honest feedback to the project.

6.3 Rubrics and feedback

Rubrics of PBL project make the quality difference. Rubrics are standards for students to know exactly what is expected and what is the goal should be met. Therefore, rubrics look critically at the quality of the project, and should be marked for clarity, accuracy, and honesty in reporting to the interested critical audience. [7,8,9]

6.4 Interaction between students and teachers

A study shows that "to preserve the traditional classroom environment may well be a reaction to that." [1]Some learners who lack of confindence strongly need teachers to scaffold the learning. With working long hours for the project, reaction between students and teachers is considered as a tough job to conquer. Certain learners will lose their interest for learning and then drop out the project.

7 Features of World Wide Web

World Wide Web originated from U.S.A. in 1980. It connects different websites to form a global channel for information conveying and offer information service. The services are e-mail, file request, remote access and e-bulletin board [9]. Hypermedia is one of the features of www. It derived from Hypertext and is a non-sequential data management. It saves the data in the nodes of web and connects them by linking. The different types of nodes and links can form diverse information constructions, and display the intended subjects [6].

8.Discussion in Network teaching strategy

The network teaching is a teaching plan which makes use of the characteristic and the resources of the World Wide Web, and based on the hypermedia, creating the significant learning environment with a support and the promotion study[10].

Simultaneously, [10] also aims at the characteristic of the network learning environment to propose his view, after like:

(1) Interaction : In the network, students can be interactive with other participants, teachers and on-line resource. The teachers and on-line experts can also provide the not- instant or instant help and the feedback by the network tool, such as E-mail system, the news discussions or video conference system.

(2) Emergence of multimedia : Curriculum in the network can conform many learner's study styles by multimedia (e.g.: the writing, the design, the movie,

the animation and so on).

(3) Open system : Comparing with more sealed learning system(as:CD-Title, book), the learners can arbitrarily go to the website which they want by the hyperlink.

(4) on-line inquiry : students can make use of research engine to search network resource which related with the curriculum, and uses the writing and the title which appears many times in the curriculum as the index then making the further inquiry again.

(5) Independence of equipment, distance and time : students can get on the web site for learning from any location, any time and any computer.

(6) Global searching : users can search worldwide information on-line in any location through network tools, and react with experts anywhere.

(7) Electronic publication : network offers convenient ways for students and teachers to upload their works onto the net, so people all over the world can access. These works and project results can also be put into the network courses for discussion or review to raise the students' learning motive and promote them to make great effort.

(8) On-line resource : numerous information are offered by the network, and can renew at any time. This special characteristic help teachers be able to obtain the latest resources to apply in the teaching. Students, teachers and experts who participate the network-based teaching also can make use of this characteristic to upload their learning effort in the network for reference.

(9) Dispersiveness : In the network multimedia resources disperse each place server in the world, therefore each person can become the provider of the resources.

(10) Trans-Culture interaction : The network-based teaching provides an environment that supplies the learners and the teachers to interact with people around the world. Therefore, students can not only obtain the resources and the knowledge in the network, but also make cultural interaction with participants in the distant place by the network, developing participant's field of vision.

(11) expert resource : Due to the characteristic which the network surmounts the national boundary, the network-based teaching can make use of expert's instruction from each place, and will help to student's study.

(12) learners' control : The network has provided flexbible and the opening learning environment, and learners can participate discussion initiatively, or only glance over. Therefore, students in the network-based teaching can own the control right with the content, the time and the feedback choice, and have the independent right in the study.

(13) convenience : Students can register, do assignment, research and even communicate with teachers directly by the network. Teachers also can take advantage of this to renew the content of curriculum. These all may carry on with the immediate or the non-immediate form.

By above may know, the network teaching applies these characteristics, such as the World Wide Web interaction, emergence of multimedia, open system, on-line inquiry, independence, global searching, electronic publication, on-line resource, dispersiveness, trans-culture interaction, expert resource, convenience and so on, which can utilize alternately to create an environment that has the significance and promotes to study.

[11]proposed the characteristic of network study, after like:

(1) The network has provided the fast and the economical search way, and may supply on-line search for the characters as well as various type-like material.

(2).The network has the fast renewal characteristic, and makes the content of network which compares with other media be richer and novel.

(3). The network may share individual work with other people around the world.

(4).The characteristic of the hyperlink provides fexible and massive study resources, causing students' study no longer to limit in the fixed place and the content.

Because the network study had these characteristics, the network teaching was prosperous day after day, and the development of teaching method was also vigorous in recent years. [12]tidied up the teaching strategy which often used in the network teaching, as table 1 show: picture1 strategy of network teaching[12].

Teaching Model	Purpose	IimplementTeaching Activity
Dissemination	Information Dissemination : make use of hyperlink and curriculum information in homepage to disseminate information	1. issue curriculum news 2. organize, reorganize network resources and interlink 3. provide digit information 4. the form of give lessons is similar to conventional teachingmodel
Facilitation	assist student	1. provide guidance , lead to discussion , suggest related resources 2. It is through E-mail, listsev, Web conference and MUD(Multi user Dialogue) environment to provide assistance.
Inside collaboration	student's communication	1. provide an environment which can support stusents toask questions, clarity direction, raise suggestion or related resources, and go on cooperate project 2. take E-mail, listsev, Web conference and MUD(Multi user Dialogue) as tools
Outside collaboration	interact with outside	1. invite outside experts to participate in Web conference 2.homepage interlink outside resources 3. provide to interlink MUD environment 4. participate in other network social groups
Apprentice Ship	outside experts provide guidance	1. outside experts are aimed at the guidance of some special learning activities 2. take E-mail, listsev, Web conference and MUD(Multi user Dialogue) as tools
Generative Development	announce content	1. aim at a special subject to reach the purpose of assimilating, interacting and reforming information by creation, organization and reorganization 2. practicable activity, like issue homepage, article or comment
Role Play	imitate role play	1. by MUD environment, it is based on a centre subject to create a learning activity which has many roles and situation.
Model	behaviour imitation	1. scope includes from sample network behavior to curriculum related sample 2. provide guidance to help students interact in fictitious environment 3. issue discussion, do assignment, implement project sample in WWW

9.The Network Teaching Model of Raising Self-learning Ability in Science and Technology Curriculum

Each person is born to have ponderation learning capability, so is the baby. Each person who own study instinct can study by oneself in the environment, even if not being taught painstakingly. The education decides the talented person. The talented person decides the future of the world. At present, the educational reform is raising in the whole world, and will carry on enlightenment of the human wisdom and competition of cultivating the talented person.

The outline of grade 1-9 curriculum is the programme of this project hope in Taiwan educational reform. In view of this programme, the curriculum design has given up the former discipline which subjects are standard with knowledge material and training recited ability, and emphasizes to cultivate the national accomplishment with ten big basic capabilities.

School good potency and teaching good quality depend on whether the teacher can continually attach importance to students' learning activities or not. "Comes up each child!"This is a how touching speech! Do not give up any child. No matter in learning of character or intellectual education, teachers can crane students neck to look into the distance to uplifting and developing potential. This is many teachers' common wishes. The teachers' role has turned into a consultant, a diagnostician, a catalysis and a resource provider when students study from a traditional knowledge authority and a governor. Students' study duty has also turn into the learner with active exploration, material collection, organization, integration, construction knowledge from the former role with reciting knowledge and transcription. Therefore, the teachers should ponder: (He, Pei-Yu, do not have date)

(1).How stimulates the students to spontaneous, unceasing study and the growth?

(2). How instructs the students to construct the knowledge, but non-accumulation knowledge?

(3). How enables the teaching activity to be more conducive toward students' study?

For example: The connotation of teaching activity causes students' learning activity to have the creativity and bring into play the learning effect, leading students to be able to unceasing study and the growth.

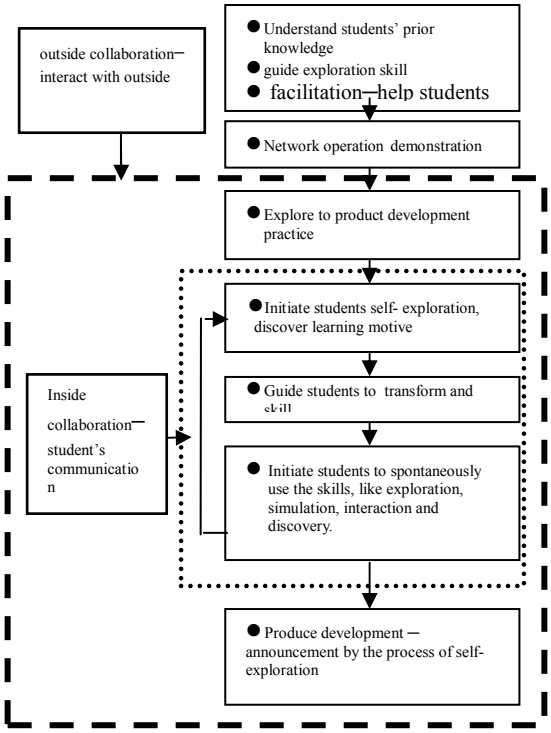
The properties of science and technology curriculum lay stress on taking the student as the center, paying attention to individual difference, and raising the self-study ability. The learning of science and technology adopts suitably individualizing study, or emphasizes this teaching model which teachers and students interact. In addition, raising the self-learning capability can utilize creation ponder and the network teaching skill. Such as : question teaching method, design teaching method, discovery teaching method, creation teaching method…and so

on.

[13] pointed out that the suitable teaching strategies for the technical education have the explanation, the demonstration, the community interaction, the game, the simulation and the inquisition study. Besides explanation and demonstration, other teaching strategies are suitable in network teaching. The community interaction teaching strategy means to be in the cooperation-like study situation, adopting to the way of dividing into groups to obtain the study result together, and its utilization skills have the discussion, the debate, the brainstorm, the seminar, the role acting and so on. The game and the simulation in the technical education environment may help study by the simulation real world. Inquisition study adopts the inquisition training the way, training the students to foster the logical ponder and self-study ability from the processs of collecting material, searching question and solving scheme.

In summary, the network educational model of raising the self-learning capability can divide into two major parts, like internal cooperation and exterior cooperation. First, teachers understand students' prior knowledge and guide students' exploration skill. Second, after the network operation demonstration, teachers instruct the students according to prior knowledge to make the probe-like presentation practice, letting students feel the achievement of presentation. Third, to initiate students' motive of voluntary exploration study, teachers can make use of teaching strategies, such as the explaination, the demonstration, the community interaction, the game, the simulation and the inquisition study and so on, to practice.Then teachers guide students to transform and to be skilled the study, initiating students to spontaneously utilize skills, like the exploration, the simulation, the interaction and so on. Teachers also adopt the network cooperation study teaching strategy by the internal cooperation operation way. In this circulation, teachers operate repeatedly to achieve the goal of the stimulation motive. Finally, by producing development, teachers interact with exterior cooperation again to strengthen students' self-confidence to achieve deepened the study interest. (detailed as shown in Figure 2).

Picture 2 The network teaching model of raising self-learning ability in science and technology curriculum



Produce development─announcement by the process of self- exploration

Learning is a very pretty thing. By the learning, we renew to create ego. By the learning, we can do the thing that we had never done, and renew to know this world and the relation between us and it, developing the ability of creating the future. 「learning」is like「flowing water」 whose life and growth in nature, pouring into the organization whose ability will unceasingly transform to respond to the trend of the time which changes fast.

In conventional teaching, students often were expected to correctly remember a large number of learning contents, but they seldom had a chance to utilize their knowledge to discovery the relation between these knowledge and this world which they lived. Therefore, under this kind of education way, students are unable to utilize their knowledge to solve the problem in the new condition, because they have these knowledge with no life, loosely and no constitutive organization. That is the dead knowledge.

10.The meaning of the E-learning of science & technology

The meaning and content of the E-learning of science & technology describes as following:

1.The meaning of the E-learning of science & technology

[14] defines science technology as "the tool, technique or method for the mankind to reach some

purposes, including not only thing but also service". [15] then define science & technology as " Aiming at the beneficial purpose carring on the systematic application knowledge; especially with the related phenomenon of the physics, chemistry and system".

[16] points out that the introduction of any new communication technology will become important and profound impact to the particular social culture and the interpersonal relationship. According to the Ovum definition, the motion marketing is "making use of wireless media communicates with consumers, promoting to sale its product, service or principle for taking advantage of this the creation profit." Then Wireless Advertising Association (WAA) defines the wireless advertisement as it is a way which is through non-leases internet to transmit the advertisement to the wireless communication equipments, like cell phones or PDAs etc., to achieve the effect when the advertisement broadcasts [17]. In the future, there are some important technologies, including GPRS、EDGE、WCDMA、Mobile IP and the Wireless LAN etc., will lead us into the society of E-learning of science & technology[18].

■GPRS(General Packet Radio Service): it will enhance high efficiency link between the Internet and the company interior network, almost instantaneous building up link. And the high speed material transmission will also cause the innovation of individual and the commercial utilization.

■WCDMA(Wideband Code-Division Multiple Access)：Meanwhile it provides the brand-new and appealing motion multimedia for individual and the company users.

■WLAN(Wireless Local Area Network)：it extends company's network, and provides the high reliable communication, also provides the high velocity company network acceptance.

■WAP(Wireless Application Protocal)：it mobilizes the Internet. The cell phones also can provide the interaction service.

■WWW：MMM(Mobile Media Mode)：it is general marketing sign which integrates the Internet and the motion communication.

■Bluetooth：it can let the users link various electronic equipments.

■EPOC：The new generation operation system makes the telephone of speech appropriation become to even surmount a multi-media telephone.

2.The connotation of the E-learning of science & technology

The teachers who want to inspire students' learning interest and acquire the best learning result have to follow the trend of the times and absorb the advantage of the new technologies [19]. [20] also indicates that the launch of the E-learning of science & technology (for example: cell phones、PDAs) makes motion business become to have a hopeful future development direction.

In the third generation of the E-learning of science & technology, everyone can take the service which is based on ones' habit by a personalized mobile portal. Such personalized hypothesis also can change along with the acceptance condition. Because all communications and the users do not have the direct connection in the position, the demonstration of message content will depend on the terminal device ability to decide.

The society of the motion message may let many persons make a profit because of three factors by the new way integration. These three factors include : digitalization of all content, the Internet becoming a worldwide message transmission media, as well as cell phones and wireless equipments achieving mobility.

The bigger freedom in life is in the pleasure. Such service further transfers the passive service content to the dynamic function. The service providers also make a profit plentifully.

The digitizing content must be suitable on the suitable equipments. So Media Phones, Laptops, PDAs and various other equipments can connect to take a multi-media message anytime or anyplace.

[21]point out the logic of the personal communication of science & technology is "perpetual contact".

[22]studied the relations between the Finnish children and the young people and the cell phones.

[23]pointed out that teenagers' brief messages extremely widely used the spoken language and the word game. [24]discoveried teenagers' brief messages mainly were used in peers' and in the home to deliver. [25] think the teenagers adopt communication and information technology (CIT) quickly, so gradually liberate from organizations, such as the family and the school.

The research of Ling and Yttri discoveries that cell phones between the teenagers had toolize function and also were used to express the social group which they belonged, managing hypercoordination. What so-called " hypercoordination " is the foundation which surmounts the businesslike connection, including the public relations and the emotion interaction coordination.

In summary, the E-learning of science & technology is ideal realization of perpetual contact in the modern society; it is the tool for the teenagers to construct a social network and interact with the others; it is a part of language culture which was

nurtured by teenager's peers; it is the extension of global limitless boundary; it is hypercoordination which contacts the peers, displays that the cognization of E-learning of science & technology is necessarily at present.

4.The development and impact of the E-learning of science & technology

The development of the E-learning of science & technology can be divided into two kinds, mobile devices and technology of motion communication, as follows:

(1) The development of mobile devices

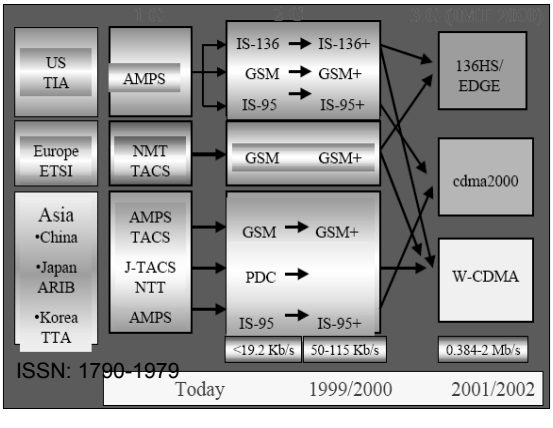
PDAs started popularly because an American company, Palm Computing, made efforts. Establishing in 1992, Palm announced Pilot 1000/5000 series in 1996 and made a success in one stroke. The successful reasons are its graceful shape and its moderate size. It only has four functions : address book, calendar, task and memo. The buyers knew very clear about PDAs which is not a PC, and did not think its function is too few.

Palm's operation system (OS) opens completely. There are a lot of people to write software. And other famous factories, like Visor and TRG, join to develop a compatible model and additional hardwares.

Comparing PDAs and cell phones, both of the difference lies in that appearance of PDAs is bigger and PDAs can link with personal computer and order function. In regard to appearance, the appearance of cell phones is smaller and shows just enough several words, but the PDA has bigger appearance and can show image. But PDAs can input the data into the personal computer by keyboard, then do the data synchronous way with computer to achieve the goal which inputs massive writing. The cell phones can't respond personal need and order function, but PDAs can install an applied software by themselves.

(2) The development of technology of motion communication

The entire evolution of technology of motion communication may roughly divide into the analogy-like first generation of motion communication system (1G), digital-like second generation of motion communication system (2G), the enhancement digital data service 2.5G system as well as the third generation motion communication system (3G), as shown in Figure 1.



Picture 1 The evolution chart of technology of motion communication (Tseng, Shun-Cheng, people 91)

Judging from the development of technology, the motion data communication is divided into two kinds, analog and digital.

In view of the process of development, the motion data communication is divided into three major realms, the first generation of motion communication system (1G) is the analogy-like honey-comb system, using frequency division multiple access(FDMA) which means that the assigned spectrum is divided into several channels to provide the use of the motion communication. The second generation of motion communication (2G) is digital-like honey-comb system is constructed by the technology of a digital transmission specification, and the technology of radio frequency transmission taking time division multiple access (TDMA) and code division multiple access (CDMA) as a foundation. At present, global system for mobile communications (GSM) is mostly constructed in the 2G network. The principle of TDMA is that each telephone is assigned the channel and the time. The signal of each telephone is cutted into a fixed time effectively and deliver crisscross on the same channel. CDMA cuts the telephone signal into different fragment which has the unique code, then using different channel to send out in the meantime. Transmission method of these two kinds of technologies makes communication digital signal calculating and decoding in the receiving terminal. The merit of the this kind of technology is that there is no misgivings for digitize interception. Comparing with analogy-like type technology, its pronunciation quality is clearer and few disturbances. General packed radio service is a product which was made in hand over to connect a period between the traditional wireless pronunciation electric circuit switched network (2G) and packet switched wireless pronunciation and the data network (3G). The original design construction of GSM can deliver data on pronunciation transmission system, and its basic data transfer speed is 9.6 Kbps, also it has the more advanced code technology to be possible to reach bandwidth of the 14.4Kbps. GPRS has the further strengthening data transmission function. This technology will seal and pack data which is inputted from different communication process. In view of the situation of channels using, it makes the best disposition to the packed capacity. The transmission speed of this technology theoretically may reach 170Kbps, and its speed after the general commercialization reaches 56 Kbpses~115 Kbps as same as the speed of fixed lines modem. The third generation mobile communication(3 Gs) constructs

on W-CDMA, founding on packed switch technology. In the Internet agreement of communication level utilization standardization, this technology is the data network which founds on packed switch technology, can take along pronunciation information and is different from the second generation of motion communication with taking along data imfromation pronunciation.

(3).The development of E-learning of science & technology impacts to the development of our country's science & technology

It is no debate problem that the E-learning of science & technology has changed the human life and the social state. The E-learning of science & technology is also an important part of the whole organic structure, simultaneously responses historical vein and social situation in the development process of science & technology. The E-learning of science & technology makes a contribution to humanity, including the change of the time and space, the obtainment and store way of the lately information, the new work type, and it also changes the human relation, thinking mode and sense experience. On the other hand, the use of E-learning of science & technology causes negative result, including the new crime type, excessive dependence and command of information, estrangement of interpersonal relationships and ego, alternative type of cultural nurtures.

11. CONCLUSION

The significant finding project-based learnings have overwhelmingly advantages and disadvantages[1]. Even most learners hold positive responses toward the web-based learning, both students and teachers met various difficulties that make them feel frustrated . But the attitude of facing the task is the key to fulfillment. To accomplish the goal, teachers and students are also asked to get more information literacy and the ability of organization .To be familiar with the web-learning is essential. For this reason, students have to discuss with peers to communicate varieties of information from websites. Maybe the project works for several hours, weeks or months, giving a significant support is virtually encouragement for all. Through the activities, students also can examine how they meet a condition of deep knowledge. These finding can give students a support view that the learning experience enjoyness may have the salutary outcomes. E-learning has been developing in recent years. There are many academic organizations using the internet as a learning bridge among students to enable them to make use of online resources and to connect the world. Multimedia and interactive e-learning are used to narrow the gap among students, to promote international cooperation, and to implement international exchange.

In recent years, the booming development not only represents that personalization mobile devices are gradually popular, but also means that the times of internet combination has already arrived, becoming gradually an indispensable part of consumers' life. The application service of the communication network of the E-learning of science & technology are portable, movable, personal-based and so on. Along with the development of 3G, the individual product of the E-learning of science & technology is of progress, and the structure and technology of communication is of promotion, even expands to the entire information industry possibly.

Currently, the E-learning of science & technology have gradually formed in corporate world, the market growth can be expected. The big international information factories put into one after another and try in this market to contend a place through every kind of strategic alliance. It is believed in the extremely short future, and we might see that the E-learning of science & technology has applied during our daily life. In order to respond the need of times, education cannot fall behind the tendency, and should teach students the new science & technology information to be able to adapt the future social life.

The essential factors for introducing the meaning of the E-learning of science & technology into national education include the popularization of mobile phone, which implies high market potential in mobile phone user groups. The users' satisfaction level in bandwidth, stability, coverage and safety is gradually rising, but the most important thing is the quality and efficiency of life can be significantly improved through applying e-learning technology in education. E-learning technology development is a key for a nation to increase or keep competition ability. The E-learning of science & technology can help people resolve many bothersome issues, such as inconvenience in communication and so on, reduce time and economic cost, and also improve life quality.

To summarize all above, this paper discussed the applications of strategies of the E-learning of science & technology integrated education, the potential issues and the possible solutions. Based on the theoretical analysis and the experience in practical teaching, we can integrate the meaning of the E-Learning of science & technology integration in science and technology curriculums of primary school through the combination of theory and

practice. This is also able to be a reference of administration and teachers for the contents in new generation education.

Due to the liberalization of global economy, all trades and professions emphasize on the promotion of comprehension in order to expand their international markets, and to keep themselves in the same pace with global economic development. To improve the competitiveness of the country, the government has proposed that enhancing students' comprehension is an important policy. The Education suggests the perspective of 'Creative Taiwan, connecting globally', in which 'fostering talents with foreign language abilities' is one of the action plans. Digital teaching materials produced with multimedia films and pictures provide various and more active content of courses. Therefore, using multimedia digital teaching material on international interactive teaching is a necessary way of learning in this digital era.

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