

Trends and Issues in the Research of Chinese Educational Technology

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The purpose of this study lies in touching the study trend of Chinese education technology through the analysis on present situation of the study in Chinese education technology, and is to suggest the direction for the its further study and development. In order to achieve these kinds of study purpose, the frames have been set to grasp the features and trend of Chinese educational technology in such as 4 aspects of educational technology definition, curriculum and the cultivation of genuine individuals, study zone aspect and the method, and in order to grasp, in the comparison with the countries of advanced educational technology such as Korea, America etc., the progressive features and the trend of development of Chinese educational technology have been analyzed. As a result of the analysis, it has been found that Chinese educational technology has the different features in the study and development of educational technology of Korea and America in the abovementioned 4aspects. First, in the education technology comprehension, it differs from Korea, Japan and America, and understands the technology as a skill. Consequently, in either study or actuality, it seems puts more emphasis on skills (moreover, the aspect of hardware). Second, in the aspect of curriculum and the cultivation of the genuine individuals, gives preponderance to science aspect, and the unclear distinction between the education technology and the computer science makes that the true character of educational technology is not clear. Third, when speaking of study fields and study methods, those of china is a little behind of the advanced nations of the educational engineering, Korea, America and so on. And in the range of study, China is following the international tendency but when it comes to the depth of study and quality is very far from perfect. In the aspect of study method, the theoretical study, design study and development study are occupying mostly, and it is hardly to see the existence about actual proof study, and in this aspect, it is quite different than that of Korea and America. And it is judged that it is related with the traditional educational ideology and the academic study tradition, the cultural air and the features of economical development of China.

Keywords: Trend of study on education technology , the trend of study on educational technology of China

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The Chinese Education Technology, Which has been started as the name of Visual Education in early 60's, has been called Computer Education with the usage of advanced media, a computer, from 80's, and started to be called Electric Education again as the reason of Electronic media usage for education later.

In all of University, high school, middle school and elementary school, teaching department of Electric Education have been settled these time, it had the role of experimental of teaching, could use every electric equipment of school for the purpose of teaching, not a distinguished major part.

Advanced info-trans technology, from early 90's, started to do more import role in Chinese education revolution, education technology also started to its best role as the solution for education revolution.

The Education Technology has been thought as more important from national education ministry and also local education ministry department. And many universities established Education Technology Center, started education revolution while considering it as important milestone for new major field establishment.

As Chinese academic commits started to learn American education technology theory from 90's, education technology, was considered as the second means for teaching, has been being settled as a distinguished major field. A lot of university opened education technology field and have cultivated education technology expert, and education technology became to a well-established major field with further theories and experimental researches of many scholars, teachers and later experts. And theoretical practice, using study results of many scholars, were doing actively in actual field, education technology has been doing the solution of whole education revolution without any doubt.

To review the Chinese education technology', which has been growing, present situation of development and study, to be acknowledged the difference with advanced education technology countries such as America and Korea, are clearly considered as meaningful study for more desirable development of Chinese education technology.

Accordingly I defined study fields, could represent the identity of education technology, 4 aspects as definition of education technology, cultivation of genuine individuals, the study field of education technology and its study method in this study, and tried to check out the present Chinese education technology with analysis which has been achieved through comparison with advanced countries such as America and Korea, to find out the figures of Chinese education technology development. But also I tried to review and reflect

for the further development through the analysis of nowadays Chinese education technology's study situation.

Concerning to Definition of Education Technology

We can say that making a definition about something is defining the identity of it. And what's more, making a definition about a learning is, what kind of field is it and what study can be a basic theory of it and also defining of its object, the most basic work.

So I did analysis the definition of Chinese educational technology as the first task to have a grasp for study trends of Chinese educational technology.

First of all to make it clear, china accepted a lot of American theory in academic study of educational technology, it is different than Korea and Japan those have a affluence from America, is translating Education Technology to not education engineering but teaching skill, and also is studying and applying it focused on skill.

As all of us are aware of it, America Education Engineering Academy made extensive education engineering definition in 1994. It is "Instructional technology is the theory and practice of design development, utilization, management and evaluation of processes and resource for learning.

Chinese education engineering scholars made a definition for education technology based on America's definition for education technology but also Chinese education situation that is mainly public education and class teaching. Among them, the definition of professor Li Ke Dong(HNNU) is the most representative definition as following. "Education technology is the theory and practice, those do design, development, application, evaluation and management of progress and resource for learning using modernized education theory and information communication technology, and also make optimization."

The Chinese scholar's characteristic comprehension for definition of education technology comes from Chinese education situation, and represents Chinese education ideas. Accordingly, the American definition of education uses only one word, learning, and emphasizes it, but Chinese definition emphasizes both teacher and learning, makes definition based upon teacher's teaching rather than learning. This defines Chinese study trend which is described here in after.

Chinese scholars made a definition suitable its surrounding based on American education

engineering's definition, this means learning which is called education technology started to settle as a independent learning in china.

Chinese National education ministry declared in public education technology is one field of education learning in 1995 June, from this time many university has established education technology major field and invited students, and not a few university started to cultivate students for master and doctor degree. Most of famous university in china have education technology field and many students are going through the progress for bachelor, master and doctor degree.

This means education technology got out of times it was realized as a second means for practice and computer. And it is a clear evidence education technology has been found its own position.

Education Technology's Curriculum and Cultivation of Genuine personals

In America and Korea, there are many students for master degree but few students for bachelor and doctor. Students for master degree are mainly trying to get units during term especially in America, they do not have personal study project. In the other hand, students for doctor degree must get all required units and also do complete defined study project.

In case of America, having a look for post graduate course's curriculum, generally teaching system design and related contents are settled as learning requirements and we can understand that the important items, which have been declared by America education academy in 1994, are included in the required subjects. And also they have a point aimed at design and evaluation. The teaching material preparation is also included in the learning subjects, students are subject to design internet software for teaching. They say clearly we do cultivate software designer not software developer in education engineering major field. Most of the students are school teachers in American education engineering courses. They have technical knowledge in special field, and study to give more effective teaching through what kind of education technology. The learning method of university and post graduate course's students are mainly cooperated learning in small sized group. It can be said cultivation of Chinese education technology field is focused on school teaching. Most of the university students are graduated high school and post graduate course's students are

who majored education technology in university. The main purposes to apply education technology are to get better job with the popularity of major, they have too much subjects such as general foundations (math, probability etc.), major foundations (C language, programming, database, artificial intelligence etc.), and looks for technology as much as be confused to realize computer science. It has not established learning system yet. The following is learning system of Institute of Educational Technology, Hua Dong Normal University where I work.

The Institute of Educational Technology, Hua Dong Normal University can be said the example of Chinese education technology. Having a look this university's subjects is capable representing Chinese education technology's learning subjects. The curriculum schedule (Table 1) shows that the undergraduate student of Department of Educational Information & Technology in ECNU obtains the particular stress education on Technology. The arrangement of the curriculum schedule does not emphasize on "education", however, unilaterally emphasizes on the "Information & Technology" ability, which characterizes particularly as science. It ignores the basic theories of the Educational Technology, and neglects that the Educational Technology is a cross subject. It brings out that the arrangement of the curriculum schedule does not consider the character of cross subject.

Table 1. The Learning system of Institute of Educational Technology, Hua Dong Normal University (regular course)

Subject	Unit
Photography	3
Graphic	3
Multimedia	3
The principle and application of Database	3
The principle and application of internet	3
Webpage design and Internet application	3
Electric-Acoustic Technology and Advertisement design	3
Design and manufacturing of Multimedia software	3
Visual Basic programming	3
Math	3
C language programming	
Planning and manufacturing of TV program	3

On the contrary, the curriculum schedule of Department of Educational Engineering in Korea universities is more systematic, and reflects the whole body of the educational technology subject.

Table 2. Learning system of Institute of Educational Technology, An Dong National University (regular course)

Grade	Term	Course of Study	Subject	Exercise
1	1	Basis of common	Education & Education Technology	
	2		Basis of Software Development	
		Required of Major	Behavior Cognitive Science	
			Instructional System Design	
	1	Optional Major	The Development of Initiative thinking	
			The Development of Story Board	
2		Teaching Profession	Lifetime Education Survey	
			Instructional Media and engineering	
		Required of Major	The Pedagogy of Education Technology	
			Motivism Theory and Instructional Design	
	2	Optional Major	Learning Theory and Instructional Theory	
			Instructional System Design	
		Required of Major	Computer Basis of Instructional Design	
			Regional Society Development and Education	
		Optional Major	Analysis Needs and performance	
			Teaching Theory and Model	
		Required of Major	Multimedia Teaching Development	
			E-learning Design	
	1	Optional Major	Education System Design	
			Learning and Difference <u>among</u> Individuals	
3		Required of Major	Human Resources Development	
			Industry and Business Development	
	2	Optional Major	Education Message Design	
			The Evaluation of Education Program	
		Teaching Profession	WBI Development	
			The Development of Industry Program	
	1	Optional Major	Project Management and Assessment	
			Education Technology Guidance	
4		Required of Major	Understanding and Usage of Distant Education	
			Constants Planning and Design	
	2	Optional Major	The preparation for Education Broadcasting Material	
			Leadership and Communication Skill	
		Required of Major	Occupation Ethical and Philosophy	
		Optional Major	Education Technology Seminal	

Table 2 is the curriculum system for undergraduate student in Department of Educational Engineering in An Dong national university. This university cultures a large amount of excellent teaching staff in Korea. The curriculum schedule of An Dong national university is based on the education elementary theory, and shows systematically in teaching course. Furthermore, it takes the Educational Technology as a cross subject into consideration, and arranges some related course. As a consequence, the curriculum schedule of An Dong national university is both theoretical and technological, and more scientific and systematic.

The curriculum system for graduate student in Department of Educational Information & Technology in ECNU and Department of Educational Engineering in Korea national normal university is compared in the following. Table 3 is the curriculum system for graduate student in Department of Educational Information & Technology in ECNU.

Table 3. Learning System of Institute of Educational Technology, ECNU (graduate Course)

Course of Study	Curriculum	Unit
Common Course	Politics Theory	3
	Foreign language1	5
	Foreign language2	1
	Instructional Practice	2
Basis Course of Major	CAI Theory and Method	3
	Educational Information Discretion	3
	The Theory Education Technology	3
Course of Major	Educational Design Theory	2
	Visual and Auditory Material Design	2
	Software Progress	2
Optional Course	Artificial Intelligence	2
	Distant Educational Technology	2
	Database Theory and Technology	2
	Internet and Technology	2
	The Theory of Curriculum Development Skill	2
	Cooperation Skill of Computer	2
	Application of virtual Reality Technology	2
	Multimedia Technology	2
	Higher Programming Technology	2
Cognitive Psychology	2	

Table 3 shows that the curriculum system for graduate student in Department of Educational Information & Technology in ECNU pays more stress on the education elementary theory, however, it still emphasizes particularly on the electronic account technology. The arrangement of the curriculum schedule in ECNU is not so systematically considered the continuity of the cross subject as which in Korea, but arranges them independently.

Table 4 is the curriculum system for graduate student in Department of Educational Engineering in Korea national normal university.

The most of master course's students in KNUE are school teachers. Accordingly learning course is composed

Table 4. Learning System of Institute of Educational Technology, KNUE(Graduate Course)

Course of Study	Curriculum	Unit
Subject	Education Technology's Crash Course	3
	Education Technology Study Method	3
	Trends and Issues of Education Technology	3
	Informational Technology and Education	3
	The Theory of Instructional System Design	3
	The Theory of Instructional Design	3
	The Theory of Instructional Learning Theory	3
	Learning Material Analysis	3
	Individual Learning Theory	3
	Instructional Media Development	3
	Study and Application of Instructional Media	3
	Educational Broadcasting	3
	Educational Movie	3
	Theory and Practice of Distant Education	3
	Education and Media	3
	Theoretical Basis of CBI	3
	Design and Development of Multimedia	3
	Educational Application of Internet	3
	Understanding about Edutainment	3
	Planning of Educational Game	3
Development of Educational Game	3	
Research	Individual Reseach1-3	1

Accordingly learning course of education technology is composed of basic theory and information engineering systematically considering teaching improvement when teachers are back to school class. And We can find that teaching method is based on learning practice and problem solving at teaching. This shows that it is different than that of Hua Dong Normal University.

As my interview with students, technology subject or basic subjects, such as Cognitive psychology, is same of computer science and/or psychology in class, they has not related with education. It can not satisfy the ideology to improve teaching circumstance through development of teaching resources and optimized teaching process design.

There is few professor who has majored education technology or education, but are mainly those who have majored physics, computer science and chemistry in Chinese education technology. This is the main reason that cause present situation.(The 70% of professors are majored science or engineering in Hua Dong and Bei Zhing University)

In other hand, in case of Korean university such as Ahn Dong and KNUE, all professors have majored education technology and most of them are from famous American university as known advanced country in education technology. So it is no doubt to have a debate whether their teaching and its method are to meet the identity of education technology. Of course professors, who were cultivated in china and became education expert, are in university. But this is only first step. Because they did not studied personalized method and teaching in overseas, they will following their teacher's way. This will last long in china and it will affect Chinese education technology's teaching and study.

This situation for Chinese cultivation of personals let know me that education cultivation, teaching process system and teaching method in class have been doing while ignoring the identity of education technology, even though some scholars are well aware the importance that education is distinguished clearly with other learning.

Study category and Method of Education Technology

In the view point of study category

When we have a look study trend of education engineering along with the communication technology, it is true that it came back to U-learning through CAI, CBI, WBI, WBL and E-

learning days.

But these studies start from teaching and seek for unification of communication technology. So if there is not improvement in teaching method, the communication can not do well in its potentiality. Being aware of this, many studies for unification of teaching method are done and the purposes are also the design of teaching method based on communication.

The studies of America and Korea start from inter-study of education engineering, it has been widened the study boundary to close study such as Cognitive psychology, Knowledge Ecology, Neuro-Science, Learning Science, these new studies have been done systematically through experimental study. The result of experimental studies suggested the scientific and theoretical basis for design study and development study. This makes push on useful design study and development study. To keep going education technology study based on Chinese situation is a fundamental idea of Chinese education technology student.

When we have a look for the territory of education technology study,

Firstly, theory study are undergoing in spread to answer “for what”. As is, they are for the study of definition of education technology, study of basic theory and principle for teaching method design and study of teaching system design etc.

Secondly, they are development and practice studies of education technology. These category’s studies are most of Chinese study result of education engineering. And these are studied in deep. The main purposes are focused on multimedia technology, design and development of teaching, remote teaching etc.

Above mentioned different category studies are;

Firstly, they suggested new purpose and meaning of teaching study in information days, and analyzed new teaching method and basic theory of study.

Secondly, they analyzed the concept of teaching, means of teaching and many character in remote teaching based web.

Thirdly, self-initiative teaching model, meaningful feedback learning model, studies for teaching model or teaching method keeping in mind motivism started to be noticed.

Fourthly, cooperation learning theory and cooperation learning model started to be introduced, basic theory study for cooperation learning and teaching design study in cooperation learning situation became to start in wide range.

Fifthly, recently, Chinese education technology started to try inter-study between knowledge ecology and knowledge economics, at the same time tried to combine

information communication technology and knowledge science. Also many R&D centers have been established, but theoretical and practical studies remain in starting level.

Sixthly, china still lacks of studies of industry education engineering. Education engineering is recognized mainly as a study field for teaching improvement at school, so industry education engineering study for company employee's training is few.

Seventhly, special features in Chinese education technology study category are the fact that studies in military field are going actively than other fields. The many people professor or the specialist of the military school admit in the education engineering research dissertation presenter and them are advancing the research against the education technical application from all military direction.

The eighth, When the research which it follows in change of the studying means which it follows is development medium and method it flows it tries to observe, China comparison stays long in CAI or CBI time, The WBI and WBL time the United States or Korea to elapse shortly compared to is not universally applied from education site or the enterprise training side not to be, (the cause where the scope and speed of Chinese infra are late), The Mobile the as (PDA technique it falls behind relativly and PDA or hand phone supply ratio still low-end cause) it jumps over a Learning time now in order to follow the world-wide birds of the education technical crane like that broad way the U-Learning does is discussed.

The Nineth, The research against an education game from education engineering research territory almost is the actual condition which is not.

The education technology in china is behind of America and Korea in improvement speed, it apt to be lacks of science and systemic flow, and be judged most of studies are focused on teaching method improvement in school teaching.

And education, lacks of education technology's identity, are done in university, it excessively depend on skills, it may cause lose the propriety of education technology.

By these, we can find internal and external reasons from the fact education technology with information technology improvement have appeared as the an alternative idea of a trite Chinese teaching method focused on class teaching in Chinese circumstance which is public education. And it does the general social climate of China which is placed in developmental transition period is reflection from education technical objection and Fact.

In the view point of study method

In a study of learning, the study method is the most important part to affect the improvement of learning. and also, it is necessary to point out study method in judging the identity and study trend of learning.

Chinese study methods of education technology are mainly theory study, development study and design study, experimental study is very few. For example, among thesis for degree of Hua Dong University's graduate, most of them were about theory study, design study and development, and there in not any thesis about experimental study.

And also as far as I have searched study report in education technology, after year 2000, through Chinese online study report database, there were only 4 reports about experimental study.

On the other hand, about 75% are experimental study report in Korean education engineering study report and experimental study report is ranked No. 1. This shows that china's study trend is the contrary of Korea.

The experimental study is a persuadable study that gives scientific basis for studies produce design study and development study, and basic study for design and development study.

If there is not a suggestion of scientific basis through experimental study, design study and development study lose their meaning and it may cause symptom that blind design and development study, lacks of scientific basis, has been occurred.

The blind design or development may affect the ability of instructor and spend human and material resources. This may be called a evil that Chinese circumstance have made so that Chinese learning society's traditional trend and present education technology study focused on skills point excessively.

In the view point of study method, I think this Chinese present situation must be issued and improved by experts for the desirable development.

Conclusion and Suggestion

In this study, I've analyzed Chinese education technology's study trend in comparison with advanced countries such as America and Korea through every possible documents and database sites. I can make conclusion as followings.

Firstly, china must precede the study which makes education technology's identity clear in education technology study, this must be started from the change of education technology expert's thinking style.

Secondly, China must cultivate talented personals upon curriculum reflecting education technology's identity, and must overcome and improve circumstance focused on skills excessively.

Thirdly, in the education technology's study category, China must have differentiated study category thinking inter-learning characteristics of education technology with others to remain. And also china must overcome the trend which depends on media, which has been changed rapidly along with days, excessively, do study more deep and systematic, must seek for desirable quality improvement.

Fourthly, in the study method of education technology, china must use advanced study method and promote persuadable study ongoing.

After all, china must apply to advanced country's experience in proper to china's circumstance in education technology study, start from current china's situation and must be balanced in publicity and personality in further study. And also study, including all above mentioned requirements, in cultivation talented personal and application of practice education.

References

- Deng Shang Min (2000). Comparison Analysis of Improvement between Chinese and American's present Distant Education . *Chinese Distant Education* 9.
- Dong Sik Kim (1996). Trends and Issues in the Research of Korean Educational Technology. *The Research of Educational Technology* 15(1) pp. 173-193
- He Ke Kang (2000), The study of Self-initiative Learning Model, *Chinese Electric Education* 2
- Huang Rong Huai (2005). Thinking about Improvement of Chinese Education Technology, *Chinese Electric Education* 216
- Zhu Zhi ting (2002). Modern Educatinal Technology. *ECNU publisher*.
- Zhong Qi Quan (2004). Educational Theories and Thought's Multiperspectives. *Educational Science publisher*.

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<http://edutech.knue.ac.kr/korea.htm>

http://edutech.andong.ac.kr/~try/2004-3/etl_bb.et

<http://www.magshow.com/>

<http://www.deit.ecnu.edu.cn/bksjx/index.asp>

<http://www.deit.ecnu.edu.cn/yjsjx/index.html>

<http://www.deit.ecnu.edu.cn/xslw/index.asp>



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