

## CHAPTER 6

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### THE CHINESE APPROACH

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#### CHAPTER SUMMARY

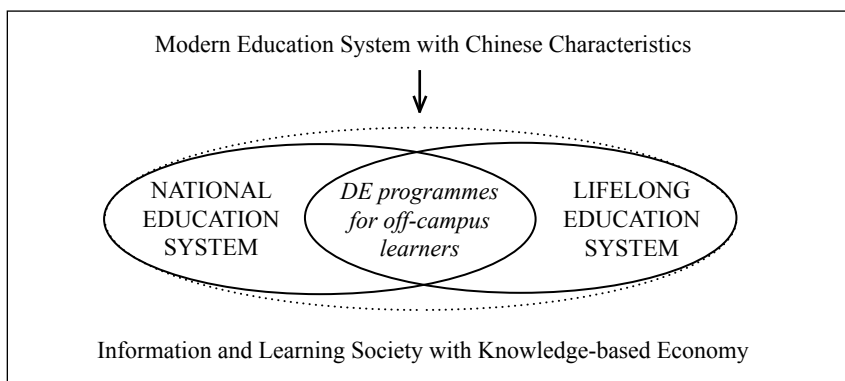
China is putting great efforts into developing ICT-based distance education (DE) and e-learning as a way of meeting the growing demands for higher education and the need for qualified personnel in a rapidly expanding economy. In this process the government – in particular the Ministry of Education (MoE) – is playing a strong steering and co-ordinating role. This chapter describes the general context of these developments, the challenges involved, the ways in which ICT-based DE and e-learning are organised and operated, and the intended future course of Chinese mass higher education (HE) and lifelong learning using ICT. For countries that are at a similar stage of development in these areas, and where the governments can play a similar steering role, the Chinese case offers some valuable policy lessons.

#### LIFELONG LEARNING FOR ALL IN A LEARNING SOCIETY

China, with its population of over 1.3 billion, is undergoing massive social and economic changes, moving from a planned to a market economy, pursuing rapid technological development and increasingly opening its doors to the outside world. As part of this process the Chinese government has embraced the vision of lifelong learning for all in a learning society. In China, in accordance with the statement made by *the Report of the Sixteenth CPC's National Conference* (CCoCPC, 2002) and the *New Action Plan for Invigorating Education (2003-2007)* (MoE, 2003a), the lifelong education system will be combined with the national education system (i.e. formal education provided by various kinds of schools, colleges and universities, usually under the guidance of the MoE) to form a modern education system within a learning society in China as shown in Figure 6.1. Thus, lifelong learning is defined as an activity whereby individuals are able to choose learning resources and strategies based on their career requirements and personal needs, and to engage in learning at any time, in any place and with any curriculum. In the implementation of this vision of lifelong learning, ICT-based DE and e-learning are playing and will continue to play a key role. Since 1998, China has initiated two great programmes known as modern distance education and e-learning.

The term modern distance education (MDE) means the provision of ICT-based distance education using multimedia computer facilities and the Internet as the core technologies for off-campus learners. The term e-learning refers to the integration of ICT with curriculum reform and pedagogical innovation in teaching and learning for all sectors of formal education, continuing education, in-service training and lifelong learning. The term online education college (OEC) designates a college providing MDE programmes attached to campus-based universities.

*Figure 6.1: Basic structure of a lifelong education system within a learning society*



MDE can be considered the latest of three phases in the Chinese system of distance HE. In the first phase starting in the early 1950s, DE was by correspondence; from the 1960s radio and television began to be used; and the end of the 1990s saw the beginning of the use of ICT including Internet in HE. HE is one of the areas that are being affected by the new technology – including, of course, distance HE for the lifelong learner. At present, due to a shortage of education resources, only about 10 per cent of school-leavers can be enrolled in colleges or universities (DDP of MoE, 2003), and consequently there is intense competition for university places. For mature students wishing to study for degrees or diplomas, the opportunities are even more limited. In this situation MDE is believed to be a fast and cost-effective way to ease the pressure (Ding, 1994, 1995, 1999a).

As China proceeds to develop its capacities in this area, it has assigned a central steering and co-ordinating role to the state. Over the past few decades strategic guidelines for educational reform and development in China have been formulated at various political levels from the Central Committee of the Communist Party of China (CCoCPC) downwards, with the MoE having a key function in the process. For example, the *Action Plan for Invigorating Education towards the Twenty-First Century (1998–2002)* formulated by the MoE (MoE, 1998) pointed out that “extensive use of modern information technology in education will engender profound changes in the educational sector, and lifelong education will be a requisite condition for both educational development and social progress...”. The *Decision* made by the CCoCPC and the State Council (SC) (Chinese central government) at the Third National Meeting on Education in 1999 (CCoCPC & SC, 1999) reconfirmed that more importance should be attached to MDE. It should be thoroughly modernised, and the use of ICT in education should also be promoted (Ding, 1999b, 2001a).

The government thus plays an overseeing and co-ordinating role, setting the overall guidelines and priorities for educational policy-making and striving to ensure that

educational development proceeds in an integrated way with innovations in science and technology, economic growth and social change. Over the past few years, the Department of Higher Education of the MoE has issued a package of policies and regulations relating to MDE, including quality norms for MDE, criteria for the approval of OECs and local study centres, and measures to facilitate online registration, tuition, learning and credit recording. In addition the government promotes the building of adequate infrastructure, provides varying degrees of financial and technological support, deploys educational resources where they are needed and authorises corporate involvement in educational projects. Increasingly the Chinese government is working in partnership with private-sector educational institutions and providers, both within China and internationally.

## THE RECENT DEVELOPMENT OF ICT-BASED MDE AND LEARNING

Before looking in greater detail at how ICT-based MDE and e-learning are organised in China, it may be useful to outline the current state of ICT provision in the country. Some 94 million people in China became Internet users by the end of 2004, according to the *Fifteenth Statistical Survey Report on Internet Development in China* by the China Internet Network Information Centre (CNNIC), published in January 2005 in Beijing (CNNIC, 2005), representing a yearly increase of 18.2 per cent since 1997. Among them, the number of broadband users was 42.8 million. In addition, the number of computer holders in China has risen to 41.6 million, an increase of 14.6 per cent over the past 6 months. The number of domain names and Web sites registered under “.cn” was 432,077 and then 668,900, increasing by 50,000 and 43,000 respectively within the period of six months.

Thus ICT and the Internet are taking an increasingly important role in modern Chinese society. Distance education and e-learning, along with other e-industries including e-commerce, e-publishing, e-advertising, e-entertainment and so on have all been developed rapidly in China. The *Report* mentioned above indicates that the Internet has become the main source of information for 98.5 per cent of all users.

Despite these rapid advances, there is still a big digital divide between China and the major western developed countries. The International Statistical Information Centre (ISIC) of the National Bureau of Statistics of China (NBSC) published its *Research Report on Information Capacity Building in China* in 1999, included a ranking of 28 selected countries in the world. The US was ranked number one, Japan number two, and China was ranked last, just ahead of Pakistan (ISIC of NBSC, 1999). China, therefore, has a long way to go in regard to ICT capacity. In addition there is an internal digital divide within China, which will be mentioned later.

At present, China’s distance HE system has basically three components (Ding, 2001b, 2002):

1. Single-mode, which is provided through printed, audio-visual, TV-based and Web-based transmission, run independently by a national system of RTVUs, with the CCRTVU as its headquarters.
2. Dual-mode, which is a mixed provision, offered by the regular, campus-based institutions of HE. It includes MDE, correspondence education and other modalities.
3. Consortium-mode, in which DE is provided by various kinds of consortia, e.g. partnerships between universities and IT companies, consortia of regular HEIs and joint provision by single-mode and dual-mode institutions. For instance,

the National Networked Consortium for Teacher Education (NNCTE) and the National Networked Consortium for Agricultural Science and Education (NNCASE) were set up in 2003. Consortium-mode DE in its various forms is now a rapidly growing trend.

In September 1998, the MoE granted MDE licenses to Tsinghua University, Beijing Post and Telecommunication University, Zhejiang University, and Hunan University as the first batch of HEIs pioneering MDE. In the same year the number of students enrolled in MDE with these four universities reached 9000. In 1999 Beijing University and the China Central Radio and Television University (CCRTVU) were added to the pioneer list. By the end of 2003, the MoE had issued MDE licenses to 67 pilot campus-based universities as well as to the CCRTVU. There are 2347 study centres distributed all over the country covering 153 specialties from 10 study fields for 67 pilot universities. The CCRTVU, like other online education colleges, is moving to MDE at the same time. Since 1999, the CCRTVU has been providing MDE through 44 provincial RTVUs, 930 city branches and 2021 county-level sites and 22,237 study centres (ICEM of CCRTVU, 2003).

In deciding whether HEIs should be granted MDE license within the pilot scheme, the MoE used five basic criteria. (1) The institution had to be a well established college or university with a high-quality teaching staff. (2) It needed to have a campus with good networking infrastructure. (3) It had to have good online teaching resources. (4) It had to demonstrate solid prior experience in using ICT in education. (5) It was necessary for the institution to submit a detailed and convincing plan for future implementation of MDE.

The pilot universities in this initiative have been empowered with great autonomy in selecting students, deciding the level of enrolment, opening up new specialties, and issuing academic credentials acknowledged by the MoE. Currently, the MDE programmes are mainly offered at three levels: (1) undergraduate programmes; (2) postgraduate programmes for Master's degrees; (3) vocational diplomas (Zhang, 2004).

## THE LEARNERS

By the end of 2003, there were 2.3 million enrolments registered for MDE programmes in 68 pilot universities and some 90 per cent of them were in-service adult employees (Zhang, 2004). Table 6.1 shows the enrolments for MDE programmes in 68 pilot universities over the period 1999-2003.

*Table 6.1: Enrolments for MDE Programmes in 68 Pilot Universities 1999-2003*

	(IN TEN THOUSANDS)					
	1999	2000	2001	2002	2003	Total
67 campus-based universities	2.3	2.1	18.4	27.4	31.6	79.8
CCRTVU	2.9	16.4	27.2	40.1	62.6	149.2
Total	3.2	18.5	45.6	67.5	94.2	229.0

Of these students, 57.8 per cent are registered for undergraduate courses, 41.7 per cent for vocational courses, and only 0.5 per cent for postgraduate courses.

According to the regulations on MDE issued by the MoE, the pilot universities have the autonomy to decide their own access policies. If they wish they can conduct a free entrance policy without any testing systems, only checking the applicants' graduation

certificates from their senior secondary schools. However, most pilot universities have chosen some kind of entrance examination system. Some of them run independent testing systems; others do it collaboratively. A number of pilot universities ask the applicants to take part in the National Unified Entrance Examinations for HE organised by the MoE, one for regular HEIs and the other for adult HEIs. Generally speaking, students opting for an MDE course through an OEC of a pilot university have lower scores in the national examinations than those entering the same university to take on-campus courses.

## **INVESTMENT AND COSTS**

The MoE is in charge of the development of MDE. The strategy for developing MDE is characterised by government support in the initial stages and self-financing in the long run. Thus the MoE contributed 200 million yuan RMB for restructuring CERNET (Chinese Education & Research Network) and CEBSat (Chinese Educational Broadcasting satellite), and 40 million yuan RMB for developing Web-based resources of more than 300 online courses to support the pilot programme of MDE by the end of the 1990s. In addition, the CRTVUs' system had contributed 3 billion by the end of 2003. Later on, the OECs of 68 pilot universities (including CCRTVU) run the MDE programmes on a self-financing basis. The main revenue comes from tuition fees from students. There are basically two systems of tuition fees. One is credit-based, the other is year-based. On average, tuition fees range from 80-150 yuan RMB (approximately US \$9.6-\$18) per credit or 3000 – 12000 yuan RMB (US \$363 – \$1452) per year. Some universities have adopted a special policy by which tuition fees for learners in Western China, for example, were only half of those charged in Eastern China. However, generally speaking, the tuition fees for MDE learners are higher than for those studying on-campus in the same universities. The reason for this is partly because universities are able to obtain revenue from central or provincial government budgets for on-campus learners, but not for MDE learners.

In the case of the 68 pilot universities, most of these co-operate with companies and social organisations in developing their MDE programmes. Furthermore, since corporate involvements were permitted by the MoE, there have been more than 1840 million yuan RMB (US \$222.5 million) invested from social capitals. The CCRTVU and its partner for providing Internet services have invested a total of 3000 million yuan RMB (US \$363 million) for the information infrastructure (Zhang, 2004). In addition to the pilot universities, numerous IT companies and e-learning Web sites have been initiated. Although these are not authorised to award degrees or diplomas in higher education, they provide a wide range of training programmes for in-service learners and also play a valuable role in the technological development of e-learning systems.

## **INFRASTRUCTURE DEVELOPMENT**

The rapid development of e-learning as a major part of higher education in China is heavily dependent on the advancement of the e-learning infrastructure and has benefited greatly from government policies targeting e-learning development, including support for MoE-initiated projects. In addition, e-learning development has increasingly involved co-operation with enterprises in the private sector, and most of the e-learning program providers have benefited from such co-operation.

The e-learning infrastructure consists of: (a) a national network acting as a backbone structure for the delivery and sharing of learning resources; (b) the broadcasting network using a mixture of new and more traditional DE technologies and serving as an

important resource for undeveloped areas; (c) the campus network of e-learning sites. As the backbone of e-learning resources delivery, the China Education and Research Network (CERNet), which started in 1994, has reached 2.5-GB wideband for stem links. Figures for 2003 indicate 1200 universities with 30 million users connected across 220 cities. Meanwhile, CERNet2 has been running on a pilot basis. The blend of relatively traditional DE technologies and e-learning is proving especially useful for the delivery of e-learning resources to far-reaching areas. For example, the China Education Broadband Satellite (CEBSat) provides 8 TV channels, 8 voice channels and 20 IP data channels for e-learning delivery.

The campus networks constitute the main e-learning sites across the country and are able to function as virtual universities through the use of the CERNet. Since the Digital Campus Project was initiated by MoE in 2001, more than 1200 universities/colleges have built campus networks, and 80 per cent of universities are connected with CERNet. Various educational institutions have also built school or classroom networks, which are connected with CERNet. As for the undeveloped areas, especially in Western China, there are special funds available for educational institutions to build campus networks as e-learning sites, in order for them to join the e-learning system. This is an example of a policy that is playing an important role in bridging the digital divide.

## DELIVERY AND LEARNING MODELS

In the third phase of distance education, e-learning in China is blending ICT with traditional DE technologies. The main e-learning delivery media include Internet, satellite, broadcasting and television systems, CD-ROM and even printed materials. For example, the e-learning system of the CCRTVU is shown in Table 6.2 (Zhang, 2004).

*Table 6.2: The e-learning systems of the CCRTVU*

TYPE OF SYSTEM	NUMBER OF USER INSTITUTIONS
Campus network	847
Receiver system for satellite analog signals	1216
Receiver system for digital IP information	900
Vertical Blanking Interval (VBI) receiver	867
Classroom network	8878

Commensurate with the diversity of delivery methods, the learning models used are also diverse. Basically, two instructional delivery models are popularly adopted, one is the remote classroom teaching model, and the other is the autonomous learning model. In the remote classroom teaching model, an instructor gives a presentation on campus and the presentation is delivered to remote learning sites through digital satellites or an interactive video conferencing system. Meanwhile, students at remote learning sites watch and listen to the presentation, ask questions, and get immediate feedback from their nearest learning sites. Furthermore, the remote classroom teaching model is accompanied with asynchronous discussions among students and/or between students and the instructor. Learners can also browse learning resources, take online quizzes and submit assignments through the network. The staff in local learning sites are responsible for technical support, practical supervision, and the organisation of final examinations. In the

autonomous learning model, the course presentations are pre-recorded on CD-ROMs and then mailed to the remote learning sites or learners directly. Similarly, learners can have online discussions with their peers and/or instructors.

Apart from the presentations through broadcasting and CD-ROM, group learning and face-to-face tutorship are also important learning models. According to a recent survey, more than 90 per cent of e-learners have the opportunity to acquire a face-to-face tutor, and more than 80 per cent have at some time taken part in learning groups.

## **THE MOE-INITIATED PROJECTS**

As previously mentioned, the MoE has launched a series of national projects in the recent years to promote the development of e-learning in China. These range from infrastructure development and technology to the content of e-learning resources and curricula. This section briefly describes some of these projects.

### ***The MDE Project***

This project, initiated by the MoE in 2000, includes four sub-projects:

- Online course construction for higher education: The primary goal of this sub-project is to build up approximately 200 online courses, as well as their supporting case bases and test bases in two years. These online courses can be accessed and utilised by both learners and teachers at a distance. The cases can be used as study examples, and the tests are for learners' online practice and diagnosis. The first pilot started in 2000, and since then 321 online curricula have been developed. The second round started in 2003 with a target to develop 1500 high-quality online-curricula by 2007. Meanwhile, 10,000 teachers have been trained in the development of online curriculum. To date, 68 cyber-education institutions have developed more than 9338 online courses.
- Online educational resource construction for adult education. This sub-project aims at collecting, designing and developing online educational resources, as well as providing instructional support and management for adult education.
- Online education resource construction for basic education. This is an initiative to develop two complete online courses (English language and information technology) and case bases for other subjects. A resource gateway for basic education will also be established.
- Online training for in-service school teachers. The main objective of this sub-project is to develop 35 online training courses and their supporting materials for in-service school teachers.

More detailed information regarding the modern distance education project can be found on the Web site: [www.cde.edu.cn/](http://www.cde.edu.cn/).

### ***The e-Learning Technology Standardization Project***

Hundreds of ICT companies are competing in the Chinese e-learning market. Consequently, many e-learning systems developed by various educational companies are experiencing difficulties in sharing resources and harmonising their systems owing to the different technological standards used. In 2001, the Chinese e-Learning Technology Standardization Committee (CELTSC) was established, which is responsible for developing a standardised framework for e-learning technology systems. Thirty target

standards have been proposed for the framework and eleven specifications have been published by the CELTSC. More information regarding the CELTSC and the project can be found on the web site: [www.celtsc.edu.cn/](http://www.celtsc.edu.cn/).

### *The Digital Museum Project*

This project was initiated by MoE in 2001, with the aim of creating shared digital museum resources, bringing together universities with particularly useful collections, such as Beijing University of Chinese Medicine for herbal resources, Beijing University for geological resources, Tsinghua University for art resources, Shandong University for archaeology resources and so on. Museums are an important university feature and play a significant role in teaching, learning and scientific research. The Digital Museum Project will support the digitalisation of these museums. To date, 18 Web-based museums have been established, which can be accessed through links available at: [www.edu.cn/20020118/3018035.shtml](http://www.edu.cn/20020118/3018035.shtml).

### *Key Technologies for e-Learning Project*

This project was initiated by the department of science and technology of the MoE in 2001 to develop a holistic e-learning technology facility. Its functions include tackling key problems, developing application systems and constructing e-learning demonstration. Many key developments for e-learning have been tackled in this project. They include linking up wire and wireless networks and integrating the two basic platforms of CERNet and CEBSat. Using this integrated platform, a holistic e-learning system has been constructed, in which synchronous teaching, asynchronous teaching, a learning management system, an e-education charging system, a testing management system and an educational resources management system are all interoperated harmoniously. As for the demonstration of e-learning systems, there has been a fruitful co-operation between Shanghai JiaoTong University, Xi'an JiaoTong University and Zhengjiang University, which started in June 2002, to facilitate mutual access to courses, credit recognition and the sharing of learning resources. Up to now 54 shareable courses have been developed in these three universities, benefiting thousands of students on and off campus. Furthermore these kinds of high quality resources have been made accessible free of charge to the Western universities, such as Xinjiang University and Ningxia University. More detailed information about the Key Technologies for e-Learning Project can be found at [www.cutech.edu.cn/chengguo/introduction/jihua/JP/default.asp](http://www.cutech.edu.cn/chengguo/introduction/jihua/JP/default.asp).

## **PROBLEMS OF E-LEARNING**

While it is clear that e-learning in China is playing a key role in meeting the demand for higher education, it is necessary to recognise that it involves certain problems relating to learners, teachers, learning resources and education quality.

### *Learner isolation*

To most of the e-learners this is the last chance for them to receive higher education. A typical comment that one hears is: "I had to opt for cyber-education as I got a lower score in the national exam for university entrance." Clearly it will take some time for e-learning to become fully accepted alongside the more traditional forms of learning and for e-learners to develop the sense of belonging to a learning community. Other problems that they typically have to overcome include loneliness and lack of self-motivation.

Some information work is therefore necessary to improve understanding of e-learning and remove misconceptions. At the same time e-learners will need to have access to appropriate advice and assistance in making the best use of the system.

### *Inexperience of teachers*

Among teaching personnel there is a widespread lack of understanding about e-learning and how to design and conduct ICT-based courses. Unaware that the new media demand innovative approaches and new teaching methods, many instructors simply make the lectures or other learning materials available on a server and leave the students to manage the online learning as best they can. Here again, much information and training work is necessary to create an adequately prepared teaching force.

### *Lack of quality resources*

There is also a lack of materials suitable for online learning. In the absence of a learning community, face-to-face interaction, live discussion and so on, the learning resources should be specially designed to facilitate e-learning. Furthermore, other mechanisms should be integrated into the learning system to permit online discussion and create virtual learning communities. In addition, a lot more work should be done to promote the sharing of high-quality learning resources. As to the infrastructure resources on the learners' side, there is still much to be done in the area of network connection. Not all e-learners have adequate facilities to learn online at home, often lacking appropriate computers or wide-band network connections.

### *Difficulties of quality assurance*

While e-learning is reaching out to increasingly large masses, it is important to pay attention to the qualitative as well as the quantitative aspect. While there are effective MOE regulations governing the quality of MDE for most of the pilot universities, some institutions tend to neglect the quality of teaching and learning. In dealing with this question it has to be recognised that the quality of learning for online students is in many ways different from the notion of quality that applies in traditional learning. How to define the quality of e-learning is, therefore, a challenge for e-learning institutions. Equally difficult problems are involved in the practical application of quality assurance, especially at a time of rapidly expanding enrolments in e-learning.

## **BUILDING A HOLISTIC LIFELONG LEARNING SYSTEM**

The above-mentioned problems can best be solved within a holistic learning system embracing all phases of life, all sectors and all levels of education. Such a system would include a kind of "learning supermarket" where e-courses and other learning resources are stocked and shared, and where learners can choose courses and engage in learning, take part in tests and obtain credits. The different institutions involved in the system would be encouraged to work together so as to achieve optimum use of resources – for example, by setting jointly agreed quality standards, providing integrated e-library facilities and creating effective assistance and consulting services for learners. E-learning should be presented not as a complete alternative to campus-based formal education, but rather as a good modality for adult education and as one constituent in a lifelong learning system. Promoting this concept of e-learning would do much to remove the misunderstandings about lifelong learning that are common among both learners and teachers.

The development of e-learning within such as system will demand heavy investment. Government involvement will provide the basic infrastructure and network connections, and will carry out the basic work on accreditation, regulation and standardisation, to ensure educational quality. Public and private-sector capital will join with the e-learning institutions to develop high quality learning resources, and with the introduction of market mechanisms, more learning opportunities will be available for the low-income populations.

The development of standards-based resources is a key factor. The sharing of resources depends on the standards on which the resources are based. The framework of Chinese e-Learning Technology Standards has been established and will serve as a basis for further work in this area. Standards should also be applied in the building of e-learning resources.

These goals should be linked to an international vision of e-learning. International co-operation and communication should be emphasised, especially in the development of e-learning standards, the fostering of a new e-learning culture, and the advancement of e-learning technologies. Furthermore, co-operation in e-learning provision also should be considered. China will thus play its full role in promoting a global as well as a national strategy for lifelong learning.

## POLICY CONSIDERATIONS

- **Infrastructure:** The example of China demonstrates how the government, through the MoE, can play a vital role in ensuring the development of an adequate and internally compatible infrastructure. The plan for such an infrastructure needs to be established at an early stage in the country's development of its ICT system.
- **Further role of the government:** The example of China also demonstrates how the government, through the Ministry of Education, can facilitate the development of e-learning through national projects, the content of e-learning resources and curricula, and the enabling technologies for e-learning. The government also plays the key role in e-learning resources accreditation, regulation and standardisation, to ensure the education quality.
- **Promoting synergy between universities:** Here again the Chinese example shows how the government can play a useful role by encouraging universities to co-operate and assist each other in their e-learning programmes by, for example, sharing research material posted on the Internet and providing access to each other's courses. A good example is the National Networked Consortium for Teacher Education (NNCTE), launched in 2003, which involves eight universities that have come together to provide teacher training through e-learning. More than 1000 courses are shared online.
- **Training of teachers:** The provision of training schemes for teachers is essential to an adequate functioning of ICT-based education. The Chinese example shows that, in a holistic e-learning system, teacher training should be taken as an integrated part, including the basic ICT skills, and especially the instructional design of e-courses
- **Outreach to learners:** As the Chinese experience demonstrates, many learners are ill-formed about e-learning or have a resistance to it. Those who attempt it often experience difficulties in getting used to it. Expansion of ICT-learning provision needs to be accompanied by public information about it and by providing counseling, help and support to students.

- ***Outreach to less-developed areas:*** As for the campaign to reduce the internal digital divide, the case of China illustrates the importance of this and provides some examples of workable ways of bringing e-learning infrastructure and content to the less-developed areas
- ***Co-operation between government and the private sector:*** What China's experience can teach in this area is to provide opportunities for the private sector to invest in e-learning resources building. This co-operation can also be important in the field of research, where the development of new technologies will benefit both sides of the partnership.

## ACRONYMS AND ABBREVIATIONS

CCoCPC	Central Committee of Communist Party of China
CCRTVU	China Central Radio and TV University
CEBSat	China Education Broadband Satellite
CELTSC	Chinese e-Learning Technology Standardization Committee
CERNet	China Education and Research Network
CNNIC	China Internet Network Information Centre
DE	Distance Education
DDP	Department of Development and Planning
HE	Higher Education
HEIs	Higher Educational Institutions
ICEM	Information Centre for Educational Management
ICT	Information and Communications Technology
ISIC	International Statistical Information Centre
IT	Information Technology
MDE	Modern Distance Education (ICT-based Distance Education)
MoE	Ministry of Education
NBSC	National Bureau of Statistics of China
NNCTE	National Networked Consortium for Teacher Education
NNCASE	National Networked Consortium for Agricultural Science and Education
OEC	Online Education College
RMB	Renminbi (Chinese currency, yuan in unit)
RTVUs	Radio and TV Universities
SC	State Council (Chinese Central Government)

## RELEVANT INTERNET SITES

CCRTVU Online: [www.open.edu.cn/](http://www.open.edu.cn/)

China Central Radio and TV University: [www.crtvu.edu.cn/](http://www.crtvu.edu.cn/)

China Education and Research Network: [www.edu.cn/HomePage/english/index.shtml](http://www.edu.cn/HomePage/english/index.shtml)

China Education and Research Network - CERNET:  
[www.edu.cn/HomePage/cernet\\_fu\\_wu/index.shtml](http://www.edu.cn/HomePage/cernet_fu_wu/index.shtml)

China Education and Research Network – e-Learning:  
[www.edu.cn/HomePage/jiaoyu\\_xinxi/index.shtml](http://www.edu.cn/HomePage/jiaoyu_xinxi/index.shtml)

China Education and Research Network – China Education – Higher Education:  
[www.edu.cn/HomePage/zhong\\_guo\\_jiao\\_yu/jiao\\_yu\\_yan\\_jiu/gao\\_deng/index.shtml](http://www.edu.cn/HomePage/zhong_guo_jiao_yu/jiao_yu_yan_jiu/gao_deng/index.shtml)

China Education and Research Network – China Education – Distance Education:  
[www.edu.cn/HomePage/zhong\\_guo\\_jiao\\_yu/jiao\\_yu\\_yan\\_jiu/yuan\\_cheng/index.shtml](http://www.edu.cn/HomePage/zhong_guo_jiao_yu/jiao_yu_yan_jiu/yuan_cheng/index.shtml)

China Online Education – China Distance Education:  
[www.chinaonlineedu.com/media/zx\\_dis\\_01.asp](http://www.chinaonlineedu.com/media/zx_dis_01.asp)

China Online Education – Networked Education Colleges:  
[www.cer.net/HomePage/cer.net/jiao\\_yu/gao\\_kao/zhuanli/wangluo/index.shtml](http://www.cer.net/HomePage/cer.net/jiao_yu/gao_kao/zhuanli/wangluo/index.shtml)

China Education Television: [www.cetv.edu.cn/](http://www.cetv.edu.cn/)

China Internet Network Information Centre: [www.cnnic.net.cn/en/index/index.htm](http://www.cnnic.net.cn/en/index/index.htm)

Chinese e-Learning Technology Standardization Committee: [www.celtsc.edu.cn/](http://www.celtsc.edu.cn/)

Chinese Journal of Distance Education: [www.chinadisedu.com/](http://www.chinadisedu.com/)

Chinese Journal of Educational Technology: <http://cet.hedu.net/>

Chinese Journal of Educational Technology Research: [www.etr.com.cn/qikan/dhjyjj.htm](http://www.etr.com.cn/qikan/dhjyjj.htm)

CRI Online: <http://en.chinabroadcast.cn/>

Key Technologies for e-Learning Project:  
[www.cutech.edu.cn/chengguo/introduction/jihua/JP/default.asp](http://www.cutech.edu.cn/chengguo/introduction/jihua/JP/default.asp)

Ministry of Education of People's Republic of China: [www.moe.edu.cn/](http://www.moe.edu.cn/)

MoE of China – Policies and Regulations:  
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National Centre for Educational Technology: [www.ncet.edu.cn/](http://www.ncet.edu.cn/)

National Networked Consortium for Agricultural Science and Education:  
[www.uast.com.cn/](http://www.uast.com.cn/)

National Bureau of Statistics of China: [www.stats.gov.cn/english/index.htm](http://www.stats.gov.cn/english/index.htm)

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