

Constructing and Sharing Open Educational Resources: Policy and Capacity

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Abstract. Since MIT OCW evoked a worldwide OER movement, many higher educational institutions have taken actions to consider how to take advantages of the initiatives. The concept of sharing high quality educational resources to promote education equality is widely accepted, but how to maintain sustainable development of OER challenges every university. This paper will review the mainland China's practical exploration with regards to creation and application of OER. It will narrate both government-supported projects and institutional actions to present achievements and problems. Based on some surveys and observations, the author will identify two major influential factors of policy and capacity and try to find out solutions to overcome the obstacles and facilitate the great undertaking.

Keywords: OER, policy, capacity.

1 Introduction

China's reform and openness have brought tremendous changes not only on economic prosperity, but also on educational flourishing. In the past ten years, the Chinese government has adopted many effective measures to develop mass education which has really benefitted the general public. National infrastructure has nowadays been well-installed and upgraded not only in urban areas, but also in rural areas. In 2011, state financial education funds accounted for 3.9% of gross domestic product (GDP). The gross enrollment rate has increased from 17.0% by 2003 to 26.9% by 2011, which indicates that there are more opportunities for young people between 18-22 years old to receive higher education. However, the gap between developed and under-developed areas is still obvious in mainland China. The imbalance of higher education is reflected in several aspects. First of all, it is the uneven distribution of higher educational institutions (HEIs). The Statistical Communiqué on National Educational Development in 2011 showed that there were 31,670,000 students pursuing higher education in 2,762 HEIs around the country. Nevertheless, most well-known universities are located in big cities or developed coastal areas. According to some observations, the western part of China is covering half of its territory, but the number of HEIs is accounting for only 10.1%. 60% of the universities involved in the

project of 211 (a project supported by the government) were concentrated in the eastern part, with only 21% and 19% in the western and middle part respectively. So it is with the higher educational resources distribution. Noted professors and scholars are usually working for well-known universities, whereas not well-trained faculty members in some universities have to take up teaching work that they are not competent. The distinctive phenomenon also exists for students as those living in big cities may have better opportunities for quality resources than those in remote and rural areas. As such, it is inevitable that relative departments should consider how people in different parts of China can enjoy equal quality education. As a revolutionary initiative, OER has in effect made breakthrough for the configuration of elite education dominating quality resources. It has not only created equal opportunities for the vast majority of social members wherever they are to access quality open courses, but also promotes knowledge sharing around the world. The OER movement represents an orientation of human progress in making knowledge to be open and accessible for all, which will surely accelerate the process of educational democracy and social justice. There is no doubt that knowledge sharing through OER will be beneficial for both universities and the society. In this sense, facilitating OER movement is really connected with the missions and values of universities. Since one of the historical tasks for universities is to serve the society, universities must take the lead in disseminating and creating knowledge for their students as well as the social members and advocate consistently to give an impetus to social development. In fact, MIT's initiative and many other projects have already received such an effect. Like many HEIs in the world, universities in mainland China are now experiencing the undertaking to build world's first class universities by facilitating the improvement of higher education quality. Therefore, joining the international OER movement will have far-reaching impact on our higher education reform and innovation, on our absorbing in worldwide quality educational contents, on our innovative teaching organization and pedagogy, on equal attainment of higher education resources, and on more cross-culture collaboration with other countries. The process of informalization in mainland China offered favorable condition for us to develop OER, which indicates an urgent need to mobilize our intelligence and wisdom. According to China Internet Network Information Center (CNNIC)'s 31 Statistic Report on Internet Development in China, there are 564 million people who can access to Internet by the end of 2012. The rate of popularity reaches 42.1%. More than 70% of the number gets access to Internet via their PC and more than 74% of the people get access to Internet via their mobile phones. In such a context of online learning environment, we can anticipate that OER has great potential for development in China. Through promoting OER, knowledge sharing will surely be further enhanced among HEIs and in the learning society.

2 Status Quo in Mainland China to Create and Use OER

The China government has put great attention to promote the popularity of high quality educational resources since the reform and openness. The recently released

document of "National Outline for Medium and Long-term Education Reform and Development (2010-2020)" has once again stressed the importance of sharing quality resources and enabling our mass to enjoy high quality education. It emphasizes that we should establish an open and flexible public service platform of educational resources to facilitate popularity and sharing of quality educational resources, which is coincident with the trend of OER movement in the world. To look at status quo in mainland China of creating and using OER, we can see the enthusiasm and actions below.

1. In response to MIT OCW, a consortium namely China Open Resources for Education (CORE) was established in 2003. Though it is a non-government organization, it has motivated some institutions and volunteers to take part in OER movement. Several universities have their faculty members to make use of overseas open courses in their programs and teaching activities. A lot of volunteers have started their translation work for Chinese learners to appreciate conveniently the original open courses. Around 140 courses have already been translated from English into Chinese. Discussions and research on OER creation and application have been made among professors and practitioners. However, this is only part of the OER development in mainland China.
2. Owing to distinction in education context and people's appeal, China has its peculiar way to promote OER. As a matter of fact, the government-supported project of Excellent Courses and some other institutional-supported projects are coincident with the idea of OER. In 2003, the Ministry of Education in mainland China launched the project of National Excellent Courses, aiming at serving teachers and students mainly, offered diversified online shared basic courses and specialization to different learners in the society simultaneously. The idea of that lies in constructing and sharing quality resources of courses among higher education institutions, stimulating changes in teaching concept, updating teaching content, facilitating reform on pedagogy, improving quality of fostering talents and serving a learning society. From 2003 to 2010, national-level excellent courses amounts to 3,862. The number of institutions involved is 746. Owing to a 3-layer design of framework, the majority of universities paid much attention to the construction work, while assessing national excellent courses, tens of thousands of excellent courses have been developed at provincial and institutional level. In 2011, the MOE decided to launch National Open Excellent Courses which include Excellent Resources of Sharing Courses and China University Open Video Courses. The MOE expected that during the 12th Five-year Plan, 1,000 excellent open video courses will be built. By now, more than 1,670 episodes of 244 courses have been posted online (See <http://video.jingpinke.com>) and many are under construction, covering 6 major categories such as literature and art, philosophy and history, economic management and law, basic science, engineering and technology, agriculture, forestry and medicine, etc. The contents are related to extensive sphere. Apart from constructing excellent courses, the government has initiated some other experimental projects to try out the pathway of making resources open to the public.

3. National Online Consortium of Teacher Education has linked with colleges and universities that conduct teacher education with publishing house and offered open courses for training primary and secondary school teachers, and open and free courses for those in-service graduates majoring in distance education in normal universities.
4. National Digital Resources Center has developed some open resources that are specialized for vocational students, communities, and social members. With a view of more flexible learning, they have divided some courses into small blocks as five-minute micro-courses so that people can enjoy those resources conveniently.
5. Along with the government-supported projects, many institutions have adopted actions to encourage their staff members to participate in knowledge sharing programs. Sun Yet-San University has initiated an online open classroom which is addressing to the general public and is very welcomed by the society. Science and Technology University of Dalian carried out the project of iLab with MIT so that its students can share the iLab with MIT to improve their practical skills. Some universities have started to introduce open source educational tools and software, like Sakai, Moodle, and eduCommons, etc. and try to localize them and put into wider range of uses. On the basis of that, several universities are making efforts to develop some open source software independently. Also, in mainland China, Sun Yet-San University, Xian Jiaotong University, the Open University of China and Beijing Open University have already selected their featured courses and put them onto iTunes U in succession.
6. In addition, some IT companies like Wangyi (<http://open.163.com>), Xinlang (<http://open.sina.com.cn>) and Chaoxing (<http://openv.chaoxing.com>) have started to use creative commons (CC) agreement of Chinese 2.5 version to provide online contents of OER with different features. Hujiang Network and YY Education have offered part of their specialized English learning or training contents as open resources.

3 Obstacles and Issues

Influenced by the worldwide OER movement, the mainland China has supported many innovative projects to facilitate quality higher education to be shared among universities and by the general public. Nevertheless, creating and using OER seems not to have conducted as widely as expected. The survey, conducted between January and March 2011 among some institutions of CORE does, to some extent, present to us the current situation of creating and applying OER in mainland China. Using quantitative research methods, we have collected some effective feedback through the website of CORE. Though the number of collected questionnaires is very limited, it has at least informed us some opinions and attitudes from some institutions and individual professors, technicians and managers towards OER. 65 valid individualized questionnaires have been submitted and 26 valid institutional representatives filled in the questionnaires.

- The results indicated that although most people are aware of the importance to develop OER, they have not demonstrated much enthusiasm and taken real actions to promote OER.
- Many faculty members have not showed much interest in producing OER as they insisted that their institutions did not offer appropriate policies to draw forth their motivation and enthusiasm.
- For individuals, the principal barriers to the use of OER are lack of (1) awareness; (2) the ability to locate quality OER for teaching; (3) skills; (4) interest in pedagogical innovation amongst staff members; (5) incentive mechanism for staff members to devote time and energy; (6) support from management and (7) the ability to locate specific and relevant OER for teaching.
- As for institutions, the principal barriers include (1) awareness; (2) an incentive mechanism for staff members to devote time and energy; (3) interest in pedagogical innovation amongst staff members; (4) skills; and (5) proper software.
- Another phenomenon that we have observed is that traditional consciousness towards teaching in many institutions is still taking precedence as many faculty members have long been accustomed to immersing themselves in a familiar teaching environment and lack of innovative spirit. Many young teachers have interest in some open courses only out of the sense of novelty and curiosity, but they do not really understand the nature and value to develop OER, not to say to consider how to maintain the sustainability of OER movement.
- Furthermore, many faculty members have no sufficient knowledge of judging quality open resources and making use of creative commons. Therefore, it is necessary for institutions to develop relative policies to support their staff members and encourage them to throw themselves conscientiously into the OER movement and increase their own capacity in the course of it.
- Creating OER needs self-confidence that comes from capability, awareness and many other skills, which calls for sustainable professional development of our staff members.
- In addition, sustainable development of OER needs a feasible business model. Investment from foundations or government cannot last long. In which way can we keep a steady flow of learning resources, open and free? How can we really satisfy the increasing number of learners by quality and quantity? How can we ensure OER can enable knowledge sharing to keep on? It is hard to copy the model from other countries. We need to look at the problems behind the phenomenon.
- In the Chinese context, national and institutional policies are still playing an important role. Without national policies, there will be no competitive mechanism among institutions. Without institutional policies, staff members will have no motivation and enthusiasm to create and apply OER.
- Also, capacity is another issue for institutions and their staff. Even when young faculty members incline to participate in creative activities, they need to be trained and guided. Institutions have to develop incentive mechanism to involve more and more people to be proactive in educational innovation.

4 Potentials and Perspectives

The objective to develop OER throughout the world is the same in the respect of sharing knowledge and serving all people. However, each country has its own way to promote OER development. None of us can neglect the circumstances of its own. The mainland China needs to address several issues when developing OER.

1. **Demand-Driven:** Above all, creating OER comes from driven-need requirements. Hence, analysis of demography and social demands are necessary. Four major groups should be addressed apart from university students, including (a) Young people who need career development but cannot acquire quality learning resources from campus-based learning environment; (b) In-service employees with ability of independent learning, who expect to expand their knowledge, but with limited educational opportunities; (c) Overseas individuals who have special desire for learning Chinese and appreciate Chinese culture, but could not locate what they need; (d) The specified groups of people like the elderly who have left their working places, but yearn for rich later life. Although the ultimate goal of developing OER is to allow all to enjoy quality education resources, it takes time and needs us to promote it step by step.
2. **Policy Support:** Though most universities in mainland China have participated in the national projects to offer their excellent courses to students and general public, stimulating policies are still needed. The policy from government level should focus on establishing a competitive mechanism and facilitating the process of building a flyover for lifelong learning within the country. OER will attract different learners with free and open learning content. However, learning does not only mean to provide resources and contents as learners need their learning achievements to be accredited and recognized. Therefore, national credit bank should be developed. Institutions should offer policy to encourage their staff to be proactive towards education innovation and development, and try to establish an incentive mechanism to excite their staff to take actions.
3. **Capacity Building:** To overcome new challenges, institutions need to develop capacity of offering best quality resources and assessment index when their staff join in creating OER. Universities should not only train course designers, but also online tutors and technicians to create open learning resources which are really useful and efficient for various learners. While acquiring outside knowledge, institutions also need to foster their staff members to develop capability in creating new knowledge, managing online teaching activities and being familiar with technological tools.
4. **Quality Assurance:** Learners need credible and quality open learning resources. Some people insisted that National Open Excellent Courses should not only be reviewed by the expert panels, but also need to be evaluated by its users. Higher education institutions should enhance the sense of social responsibility and response to the social concern and reflect its real value in the process of promoting OER movement.

5. **Copyright:** It is imperative to increase consciousness and knowledge of copyright so that our staff, students and all other users will no longer fear over copyright infringement while using and creating OER content. Training our staff members to know creative commons and other open license can also increase their sense of protecting their own rights.
6. **Collaborative Mechanism:** While creating quality OER, universities should establish partnership with other organizations, enterprises and companies, and give free rein to each one's superiority. The joint efforts of constructing and sharing quality resources of learning contents will surely reduce the cost of production and realize the scale efficiency. Also, collaboration will definitely benefit all stakeholders.

4.1 Perspective for OER Development

With the development of OER, we can observe many new initiatives in higher education. For instance, the idea of Massive Open Online Courses (MOOCs) are being accepted by many institutions and many new operating model of consortium like edX, Coursera, and Udacity are being explored. Meanwhile, by using, revising and sharing OER, worldwide education has reached more people and open source platform has attracted much more higher education institutions to work together or link their hands to create consortium and accumulate wisdom and intelligence, where international communities of scholars can share experiences and insights, learners from different backgrounds may openly share their ideas and have discussions with others via the forum, which will surely give impetus to the development of higher education and offer a renewed learning experience to our students in the era of informatics. Further research will no longer be limited to creating knowledge and establishing collaborative mechanism of how to design quality resources, but more on exploring the way to organize and implement open learning. It is easier to solve the technical issue, but it is hard to change people's deep-rooted ideology. Therefore, our policy must be favorable to stimulating creating initiatives of faculty members and to lightening our staff and students' enthusiasm of proactive participation in open online learning. Meanwhile, we need to explore learning expectations from the general public, and try to solve the contradiction between producing quality resources and enabling open learning to really happen.

Institutions in mainland China have taken actions to respond to the challenges from outside. Peking University is now seeking for collaboration with relative MOOC platform, Shanghai Jiaotong University has decided to sign agreement with Coursera. Meanwhile, the Open University of China is now implementing its strategic plan to build some core online courses to satisfy students and social demands. As we observe the rapid progress of the outside world in diffusing, creating and sharing knowledge, we are converging ourselves into the mainstream of OER movement. We would keep our eyes on the new development and conduct research accordingly. We will not only assimilate the splendid world knowledge and spirit wealth, but also make tremendous contributions to the world culture heritage and educational innovation.

5 Conclusion

OER movement is a revolutionary initiative. It has evoked human beings to participate in the movement of diffusing, sharing and creating world knowledge. It has surged higher educational institutions onto the stage of reform and innovation. It has enabled all people and societies to enjoy quality educational resources and experience vast pool of the world culture. However, to establish a sustainable and scalable OER ecosystem needs our joint efforts. OER development in each country is connected to its infrastructure, human environment, national policy, institutional capacity, enthusiasms from the creators, skills of learners, concept of its education, and model of its operation. Further promotion of knowledge sharing in mainland China needs us to address on social demands, business model, collaborative mechanism, evaluation and quality as well as the organic combination between construction and application so that we can find ways out of OER with various kinds of channels to reach the ultimate goal of lifelong learning.

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