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ONE MONGOLIA: BUILDING AN OPEN NETWORK FOR EDUCATION IN MONGOLIA

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Abstract

Since the transition from a planned economy to a market-based democracy in the early 1990s, Mongolian higher education has experienced rapid expansion. Between 1992 and 2007, the number of tertiary education institutions has increased more than four-fold and enrollment more than six-fold. But despite this growth, many Mongolians believe the quality of education remains poor, although the costs of higher education are increasing. Introducing and adapting open educational resources (OER) for the Mongolian higher education sector could help reverse these trends.

One possible strategy that the Ministry of Education could consider is the adoption of a learning technology-based pedagogy that might enable a fairly rapid transformative process while at the same time improve on the quality of content as well as create a population of instructors, teachers and learners familiar and comfortable with using web-based open educational resources.

The International Development Research Center (IDRC) Canada, through the DREAM IT project has supported the development of an emerging open education strategy for Mongolia. The ONE Mongolia initiative, discussed in this paper, will become the successor to DREAM IT project with the goal of supporting Mongolia's emergence as a learning nation with a knowledge economy based on open development principles.

Keywords: Mongolia, open educational resources, open development, policy advocacy

ONE MONGOLIA: BUILDING AN OPEN NETWORK FOR EDUCATION IN MONGOLIA

Introduction

Mongolia is a developing nation in Asia, with Russia on its northern border and China on its southern, eastern and western borders. Mongolia had a democratic revolution in the early 1990s that led to a multi-party system, a new constitution in 1992, and transition to a market economy. The country continues to develop rapidly.

Mongolia has a well-developed system of education from primary to tertiary levels including institutions for technical and vocational education and training (TVET). There are 750 general education schools with about half a million students and about 150,000 higher education (HE) students in Mongolia. The Ministry of Education oversees the development and progress of education and training at all levels (Weidman, 2002; Steiner-Khamsi, 2007).

The Mongolian education system has several components:

- Preschool and kindergarten
- 4 years of primary education, beginning at age 8
- 4 years of lower secondary education, with compulsory education ending after Grade 8
- 2 years of upper secondary education
- Post-secondary and higher education
- Technical education and vocational training (Weidman, 2002)

The reforms of Mongolian education have evolved it from a system of education based on the Russian model to a more flexible system, including improving the efficiency and effectiveness of education at all levels through rationalization and decentralization. Since the 1990s, there has been a relaxation of state control over curriculum in Mongolia with efforts at diversification based on local community needs and shifting from a teacher-centered to a more student-centered curriculum (Weidman, 2002).

The TEVT component comprises specialized upper secondary schools as well as post-secondary diploma programs housed in higher education institutions. Non-formal and distance education activities cut across the entire system (Government of Mongolia, 1999; Weidman, 2002).

Since the transition from a planned economy to a market-based democracy in the early 1990s, Mongolian higher education has experienced rapid expansion. Between 1992 and 2007, the number of tertiary education institutions has increased more than four-fold and enrollment more than six-fold. But despite this growth, many Mongolians

believe the quality of education remains poor, although the costs of higher education are increasing.

In addition, the government has allowed the development of a private higher education sector that is approaching half of the total students in Mongolian higher education. Commerce and business administration degree programs enroll the largest numbers of students in private institutions, and more students are studying law in private than public sector higher education institutions (Weidman and Bat-Erdene, 2002).

A recent proposal at educational reform has considered a revisit of the 2-year upper secondary education program by reducing the time spent in this component to just one year. Such a reform would result in two things:

1. The reduction of the total number of years in school before post-secondary education to nine years [post pre-school]
2. A revision of the upper secondary curriculum and its subsequent impact on the higher education curriculum.

The Ministry of Education has been grappling with both of the above and related issues. Among the difficulties encountered are:

- The transformation of the curriculum into a syllabus.
- The creation of learning materials to support the syllabus
- The induction of teachers to deliver the courses, and
- The retraining of teachers for new educational models

All of these are challenging but especially challenging are items 1 and 2 which would determine among other things both the quality of the outcomes of change and the richness of the teaching and learning environment.

One possible strategy that the Ministry of Education could consider is the adoption of a learning technology-based pedagogy that might enable a fairly rapid transformative process while at the same time improve on the quality of content as well as create a population of instructors, teachers and learners familiar and comfortable with using web-based open educational resources.

Supporting Open Development Practices in Mongolia

The International Development Research Centre of Canada (IDRC) has been active in Mongolia for over 20 years and has invested in information and communication technology (ICT) research through its IT for Development (IT4D) program and more recently through its Information Networks (IN) program. The IDRC research program in Mongolia is coordinated by a project team responsible for *Development Research to*

Empower All Mongolians through Information and Communications Technologies(DREAMIT – <http://dreamit.mn>).

Over the past two years, the DREAMIT project has been active in capacity-building initiatives to introduce and demonstrate a range of open practices, including open government, open data and open access publishing. Most recently DREAMIT has focused some of its research activities specifically at demonstrating open practices in the government, research and education sectors. Some example projects are discussed in the sections that follow.

Open government

One focus of IDRC-funded research has been open government initiatives through a project called *Engaging citizen e-participation in the Parliamentary legislative process*. The Mongolian Parliament opened its website in 1998. The website www.parliament.mn contained a range of information on the activities of Parliament, such as transcripts of the Parliament sessions, proposed bills before Parliament, archives, photo galleries, information about Parliament members, and plans about Parliament sessions and discussion about them.

Citizens, businesses, government and non-governmental organizations (NGOs), and international organizations have used information and resources from the website. Parliament has established “promotion centres” in 20 *aimag* centres (province-like administrative units in Mongolia) and in the 7 districts of the capital, Ulaanbaatar, to serve as access points for citizens to gain access to information and resources from Parliament. However, the Parliament website had been transferring a one-way flow of information and communication (i.e. from Parliament to citizens), and had not been making use of new social technologies to improve bi-directional communication flows.

The *Engaging citizen e-participation in the Parliamentary legislative process* research project was implemented during 2009-2010 by the Secretariat of the Parliament of Mongolia under the supervision of the DREAM IT project. The objective of the project was to understand the factors that motivate or inhibit citizens from using the Parliament website. The project studied the accessibility of the Parliamentary website for citizens of Mongolia regardless of gender, age, education, geography or socio-economic status, and in particular, it focused on citizens who lived in rural parts of Mongolia and specifically those of underserved communities.

A roundtable meeting, supported by IDRC to discuss the outcomes of the project, was held on March 29, 2012 in Parliament House in Mongolia. More than 30 people attended the roundtable discussion, among them members of the Parliament of Mongolia, the director of the Mongolia Voter Education Centre, World Bank representatives and other representatives of civil society in Mongolia, as well as 10 media agencies. Interest in open government and open data practices continues to grow

in Mongolia through efforts of the DREAMIT project to promote open practices at all levels of society.

Open research and open access publishing

DREAMIT has supported research in environmental science through a number of projects including, *Collaborative learning for co-management of natural resources in Mongolia*, and *Reading the weather: ICTs for climate risk management and herders' livelihoods improvement in Mongolia*.

The principle researcher for the environmental science projects has made an effort to openly publish the findings from his first DREAMIT project using a Creative Commons share-alike (CC-BY-SA) license that allows for download of the book and reuse of the material with appropriate attribution.

It is expected that research from the second project on climate risk management will also be openly published using CC licenses.

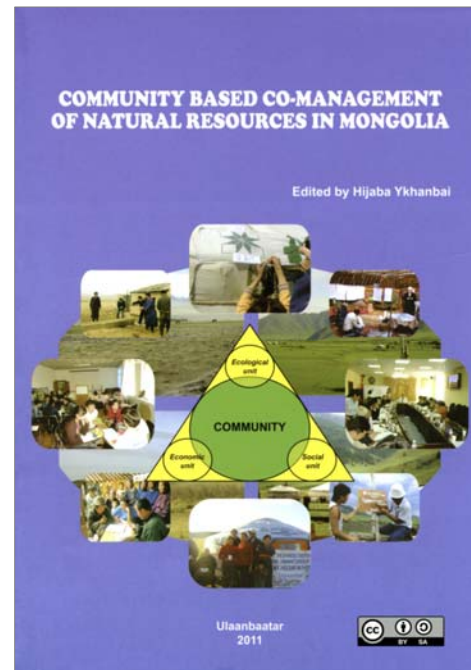


Figure 1. Research published as a book licensed using a Creative Commons CC-BY-SA license

Open educational resources

Starting in 2010, the DREAMIT project brought consulting expertise from Canada to Mongolia to introduce models of practice associated with open educational resources (OER). The consulting visits were also designed to stimulate local interest in OER research projects in Mongolia, with a focus on exploring and investigating potentially transformative education strategies for the country.

A national seminar on Open Educational Resources sponsored by DREAM IT and IDRC was held in Ulaanbaatar in October 2010. This seminar introduced Mongolian educators and government officials to OER projects worldwide and provided opportunities for in-depth discussion about the merits and mechanics of open education principles and practices. Information about the 2010 OER activities in Mongolia can be found at http://bit.ly/DREAMIT_OER_OCT2010. Following the seminar, DREAMIT made a call for proposals to Mongolian educational institutions and NGOs with an interest in conducting OER research projects. Three target topic areas were identified, including:

- Research about practice changes. When integrated into an existing educational practice, the adoption of an OER strategy might lead to new forms of practice. Research in Mongolia on the impact and benefits of OER on existing practices

- could be studied by analyzing how an OER strategy affects the efficiency of the educational materials development process. This study could provide a side-by-side comparison of existing and new models of practice.
- Research could also explore the capacity and ability of educational developers and teachers to quickly revise and redistribute updated or enhanced materials using network delivery technologies. Findings from such a study would benefit school operations and teacher training in Mongolia, and could be beneficial also in other developing countries.
 - OER may also enable qualitatively new practices and new approaches in organizing teaching and learning. These effects could also be studied, documented and evaluated through ongoing research in schools with teachers and students.

In September 2011, a follow-up workshop on open data, open government and OER was held (http://bit.ly/DREAMIT_OER_SEPT2011). At the 2011 workshop, research projects funded by IDRC through DREAMIT presented preliminary research results and demonstrated materials that each would make accessible as OER using CC licenses.

Davlagaa.mn (Education Wave), an NGO that was funded through DREAMIT to research the development of an open training and materials development strategy for pre-school teachers presented its work at the national seminar, and launched a book that it had developed separately with a publisher partner. Davlagaa made the book chapters openly available to the teachers, parents and the public through its website using a Creative Commons share-alike, non-commercial license (CC-BY-SA-NC). The work of the Davlagaa project team can be viewed at <http://www.davlagaa.mn>. Davlagaa has also experimented with user-generated videos produced by pre-school teachers that can be viewed or downloaded from its website along with other openly licensed resources designed for pre-school education.



Figure 2. The Education Wave (Davlagaa.mn) web site

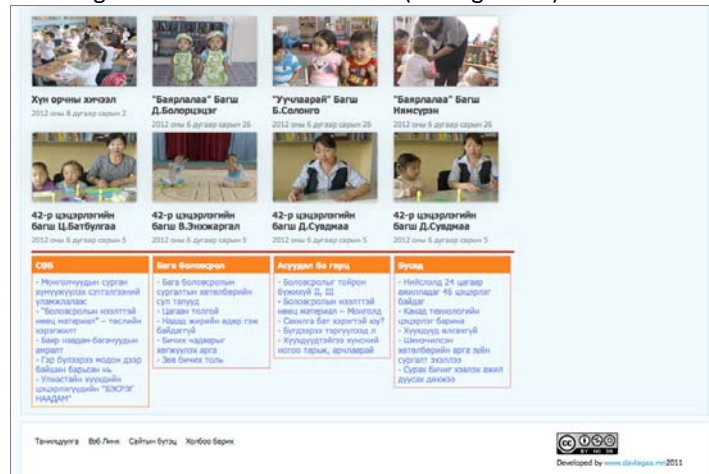


Figure 3. User-generated videos on the CC-licensed Davlagaa web site

Ramping up a Creative Commons (CC) Mongolia Affiliate as basic open infrastructure

As a result of the DREAM IT projects, there is growing interest across Mongolia for the use of Creative Commons licensed educational resources by instructors, institutions and government. CC licensed materials would provide a legal and technical infrastructure essential to the long-term success of OER. In addition, confidence in moving in this direction and the development of public policy would require localized versions of the Creative Commons licenses written in Mongolian. Currently, Mongolia is not among the more than 70 CC jurisdictions worldwide with an official CC affiliate, although the CC licenses have been in use since 2011.

IDRC Canada, through the DREAM IT project has supported the roadmap development for a CC Mongolia affiliate. A Creative Commons Mongolia affiliate is expected to expand upon initial OER activities as well as help boost human capital development and lifelong learning initiatives across Mongolia by working with education providers in both

the formal and informal sectors to promote knowledge and skill acquisition through the use and open licensing of learning resources.

The specific objectives of Creative Commons Mongolia affiliate are:

- Support collaborations and partnerships to maximize government investments in education, including the sustainable development and distribution of educational materials and the sharing of digital resources by the public, parents and students across Mongolia
- Support government, institutions, and organizations in the open licensing of data sets, copyright works, research reports, statistics, photographic images, educational resources, and other digital resources
- Complement laws pertaining to copyright and fair use by enabling creators to assert rights and communicate permissions for use, reuse and distribution
- Enable innovative new business models in the public and private sectors using open data
- Support the revision of policy regulating the production and use of open educational resources for general education and other public services
- Contribute to raising awareness and adoption of open licensing frameworks for authors, educators, creators, and businesses
- Promote creative and innovative activities that can deliver social and economic benefits for Mongolia and Mongolians

The Creative Commons Mongolia affiliate has an initial starting base in the higher education sector. Currently, the four largest Mongolian universities, the Mongolian University of Science and Technology, the National University of Mongolia, the Health Sciences University and the Mongolian State University of Education are participating in this initiative and will invite participation from other public and private universities. It is expected that memorandum of understanding (MoU) between Creative Commons and representatives of Mongolian universities will be signed in October 2012.

Looking Ahead: Open Network for Education in Mongolia (ONE Mongolia)

What remains to be done is the development a framework for the use of open education resources (OER) to support innovative practice models for teaching and learning, and instructor training in all education institutions. Specifically a consortium of education institutions will need to address the following requirements going forward:

- Design a collaborative capacity-building process that will inform and train university faculty and instructors about the concepts and practices for using OER to support effective teaching and learning
- Develop collaborative technical infrastructure for creating training materials and sharing OER as examples of innovative practice for university educators

- Develop a set of standards and practices for the creation, maintenance and distribution of OER in higher education in Mongolia
- Develop a set of standards and practices for the translation and/or localization of externally developed OER for use in Mongolian higher education institutions and sources
- Identify other innovative research activities that will add value to existing and planned OER programs and contribute new knowledge about OER use to the wider academic community

At a 2012 national seminar in Ulaanbaatar, D. Enkhbat, Internet businessman and former parliamentarian introduced his vision for a ONE Mongolia project (Open Network for Education in Mongolia). The ONE Mongoliaprojectwill become the successor to DREAM IT project with the goal of supporting Mongolia's emergence as a learning nation with a knowledge economy based on open development principles and the use of open educational resources for education and public services.

Key to Enkhbat's vision for the One Mongoliaproject and consortium is the notion that it must be national in scope, collaborative in nature, bringing together all sectors of Mongolian society under a common vision, to model open development principles.

ONE Mongolia has been proposed with the following vision, objectives and partners.

1. Vision
 - Mongolia will become a learning nation with a knowledge economy based on open development principles.
2. General Objective
 - Advocate policy promoting the production and use of open educational resources for education and other public services
 - Support collaborations and partnerships for the development of open knowledge, and provide free access to OER to maximize government investments in education
 - Promote the sustainable development, access and distribution of open educational materials and digital resources in Mongolia by government, academia and industry
 - Build a research agenda based on critical needs
3. Specific objectives
 - Raise awareness about open licensing frameworks among authors, educators, creators, businesses
 - Promote the endorsement of the UNESCO OER Declaration (June 2012) by the Government of Mongolia, specifically including the principle that educational resources paid for with public funds should be openly licensed

- Establish a Creative Commons (CC) affiliate and open licensing framework for Mongolia
 - Build capacity among faculty, instructors and education practitioners to use and create open educational resources
 - Experiment with crowd-sourcing to build community and resources
4. Partners: Bring together influential partners from all sectors of society
- The Office of the President of Mongolia
 - Ministry of Education, Culture and Sciences
 - Mongolian Academy of Science
 - Public and private universities
 - Faculty, teachers and instructors
 - Members of Parliament
 - Business community and publishers
 - International donor organizations

Conclusion

The International Development Research Center (IDRC) Canada, through the DREAM IT project has supported the development of an emerging open education strategy for Mongolia. Initial successes have demonstrated willingness and an appetite on the part of education practitioners to consider OER as a transformative strategy in education. What remains, is for a consortium of key educational players in Mongolia to move forward toward policy advocacy and change through a countrywide initiative that demonstrates the potential and power of large-scale open development practices.

The ONE Mongolia project, briefly outlined in this paper, will become the successor to the DREAM IT project, with the goal of supporting Mongolia's emergence as a learning nation with a knowledge economy based on open development principles.

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