

藉開放教科書提昇城市開放度 —香港一項計劃方案

李錦昌

香港公開大學

摘 要

一個城市的開放度有賴於也反映在其教育的開放度中，本文藉分享一個與地區或本地教育的開放度密切相關個案，探討及分析在香港的新項目—「開放教科書計劃」。文章首先追溯近年有關開放教學資源的發展趨勢，並闡述開放教科書的性質、特點和相關理論。教育界已漸明白開放教材在提昇教學效能上的巨大潛力，因此，發展教學資源及在開放授權條款下發放教材已成為趨勢。本文探討在眾多城市中常見的共同教科書問題。教育界逐漸體會開放教科書不僅對傳遞教學內容尤其有用，更能一併解決教科書價格高昂、教材未能有效率地更新等問題。許多開放教科書項目因此應運而生。在探討香港發展開放教科書的背景後，本文闡述為香港所有學生、教師及有興趣參與人士開發的開放教科書項目，以及計劃及其現時發展。並且，本文概述開發教學資源的倡議不僅為了解決城市正面對的問題，還要配合數碼化時代的有效教學。本文還介紹及分析為滿足香港學校和大學需要而設的開放教科書項目各組成部分，以及評估其成效的可用準則。

關鍵詞：城市開放度、開放教學資源、開放教科書、教材發展、城市發展

李錦昌 香港公開大學 大學研究中心總監，E-mail: kcli@ouhk.edu.hk
(收件：2013年6月5日，修正：2013年9月9日，接受：2013年9月20日)

ISSN 2078-4279 print / 2078-4287 online © 2013 by Open University of Kaohsiung / Vol. 4, No. 2 / September 2013

Introduction

Openness shapes the culture of a city, its degrees of freedom, attractiveness and dynamism (Florida, 2002; Bodirsky, 2011) and it is associated closely with education (Peters, 2010; Li, 2010; Li, 2012; Veletsianos and Kimmons, 2012). This paper examines an initiative to bring a paradigm shift to textbooks through openness.

With the prevalence of digital cultures, wide adoption of information and communication technologies in education and the latest copyright practices, increasing serious attention are being paid to the snowballing momentum of the development and utilisation of educational materials that are openly shared and distributed over the Internet. Such materials have been commonly referred as open educational resources (OER), and are playing a role in shaping urban culture (Bossu, Bull, and Brown, 2012).

As a form of OER, ‘open textbooks’ (or ‘open access textbooks’) are basically digitized textbooks that can be accessible online at no cost, and also available in affordable-to-purchase printed copies. Growing number of educators have become aware of the many advantages that open textbooks offer. For example, Leung (2012) succinctly summarises that they are inexpensive to students, teachers and parents, allow rapid revision and timely updates of textbook contents, easy adaptation and modifications to cater for the students’ learning differences. Open access textbooks are increasingly seen as a viable solution to the existing issues related to traditional printed textbooks.

These benefits have attracted teachers of all education levels to incorporate open textbooks in their curriculum. Confronted with problems of traditional textbooks, Hong Kong has been exploring means to solve, and at least alleviate, the problems and seeking alternative forms of well-organised learning materials.

In the following, the OER movement will be outlined, and the nature and characteristics of open textbooks will be expounded. By summarizing the textbook problems in Hong Kong, it highlights the contextual niche and benefits of open

textbooks. It then gives an account of the plan to develop an open textbook system in the city of Hong Kong.

The OER movement

Free from city boundaries, OER are freely accessible online materials that can be used for educational purposes such as instruction, learning, assessment and research. They can be a set of curriculum document, notes, books, data or software, or learning objects, videos, software or others. They are open in the sense that they are distributed through the internet and offered for use, revision, and redistribution through an open license. The Organization for Economic Cooperation and Development (OECD) succinctly defines OER as the “digitized materials offered freely and openly for educators, students and self-learners to use and re-use for teaching, learning and research” (OECD and CERI, 2007:2).

OER allow their users to revise, reuse, remix and redistribute them under an open license (such as Creative Commons) that permits the authors to retain ownership of their contents, yet establish the rights under which the content may be used by others.

A range of ‘open’ movements and models have emerged as a result of various motivations, including sharing freely, avoiding restrictive copyright practices, promoting economic efficiencies and improving access to diverse groups of stakeholders (McGill, 2013).

The OER movement originated with the first major initiative coming from the Massachusetts Institute of Technology (MIT) (Goldberg and LaMagna, 2012:334). In 2002, MIT started its initiative, “Open CourseWare” (MIT OCW), the ultimate goal of which is to put all educational materials from their undergraduate- and graduate-level courses online, and to make them freely available through the internet. Such materials are offered under an open license allowing users of the materials to freely utilize and distribute them for non-profit-making purposes so long as the authors are

acknowledged.

MIT OCW serves part of MIT's mission to advance education and discovery through knowledge open to everyone. In 2005, MIT, along with other leading universities around the world, formed the Open CourseWare Consortium (OCW Consortium), the aims of which are to extend the reach and impact of open course materials, foster new open course materials and develop sustainable models for open course material publication (MIT OpenCourseWare, 2013). The OCW initiative encouraged a number of institutions worldwide to make their course materials available as open educational resources. The OCW Consortium is now a collaboration of more than 200 higher education institutions and associated organizations from over 20 countries. Like the MIT Open CourseWare project, similar initiatives have been developing fast in various parts of the world, bringing about the OER movement. Aiming to provide high quality teaching and learning resources to teachers and learners everywhere for free, the movement has been gaining momentum rapidly (Matkin, 2010).

Many educational organisations, especially universities around the world followed suit. In the United Kingdom, the OpenLearn initiative was launched by the Open University in the United Kingdom to make a selection of their materials available worldwide for free use by anyone accessing the site and to build communities of learners and educators around the content using a range of tools and strategies. The OpenLearn initiative complements the MIT by providing not only a collection of free course material but also a set of tools to help authors publish and support collaborative learning communities. It is organised in two ways: the LearningSpace which offers thousands of learning hours of materials for learning and a LabSpace where content can be downloaded, remixed, adapted and reused (Li, MacNeill, and Kraan, 2008:26).

In the United States, the Open Learning Initiative (OLI) was created in 2002 (Strader and Thille, 2012:203) at Carnegie Mellon University to offer online courses to anyone who wants to learn or teach, aiming to create high-quality courses and

contribute original research to improve learning and transform higher education (Learn more about OLI, 2013).

In 2006, the African Virtual University (AVU) released modules as OER under the Creative Commons license in order to make the material freely available, and an OER portal was launched in 2011, making AVU the leading African institution in producing and using OERs (OER@AVU, 2013).

In Asia, an OER portal was organized by University of Mumbai in 2011, which provides free resources for global learners on Micro Economics, Macro Economics and Soft Skills (MU OER portal, 2013). The China Open Resources for Education (CORE), a non-profit association promoting open sharing of educational resources, was established in 2003 (CORE, 2013). In addition to hosting quality open courseware developed by numerous Chinese universities, the association also translates into Chinese existing open courseware from around the world. By the end of 2010, courseware for over 3,700 courses had been developed.

As explained, OER may be organised systematically according to a curriculum as OCW. A set of OCW may be employed to run a course by an educational institution or organisation. With the advancement of information and communication technology, such online course based on OCW may be delivered to a large number of students at the same time. This has brought about the recent rise of massive open online courses (MOOCs). The term ‘MOOC’ was just coined in 2008 (Downes, 2008; 2010). MOOCs has received ample attention. A number of organisations offering MOOCs have attracted the world’s attention, of them popular ones include: Coursera (<https://www.coursera.org/>), edX (<https://www.edx.org/>), Udacity (<https://www.udacity.com/>) and Udemy (<https://www.udemy.com/>). Open textbooks, as a form of OER, could be used as OCW and employed in MOOCs as their learning materials.

In Hong Kong, the Open University of Hong Kong (OUHK) also started to offer some OCW from its courses to the public free of charge (<http://freecourseware.ouhk.edu.hk/>) in 2007. The university found that offering free courseware was not only a sharing of resources for the common good, but also a useful tool to enable the

university to keep in touch with people interested in online learning, who might later become enrollees in OUHK's courses. The free course units serve as 'tasters' for our full sets of courses and programmes.

Many commercial open educational websites have been set up by 'non-academic' institutions. A notable example is Apple's iTunes U (<http://www.apple.com/education/itunes-u/>), which offers free educational content including course lectures, language lessons, lab demonstrations, and campus tours, all available for download in a way similar to music on the iTunes Store. Top universities and institutions such as museums, libraries and broadcasters around the world have begun to distribute their educational content on iTunes U to students, faculty and the public. From this site, contents can easily be searched, viewed, downloaded and played conveniently on mobile devices such as iPod, iPad or iPhone anytime, anywhere, in addition to their availability on a desktop PC. This has increased the ease and flexibility of accessing open educational resources for people all over the world. The OUHK joined iTunes U in August 2010 and is one of the first institutions in Asia Pacific to make its content available on the Apple website.

It might appear logical to assume that the more advanced a city in terms of education quality and technology infrastructure, the more they participate in the OER movement. Such an assumption is, however, wrong. As Li and Yuen (2012) point out, Hong Kong is an educational hub with a high level of technological development and therefore possesses favourable conditions for the development of OER. The current level of openness of Hong Kong's educational resources is still far from satisfactory. Education quality and technological readiness are no doubt necessary conditions for OER to become popular. Yet, they are not sufficient conditions for OER to thrive or prosper, as the relevant phenomenon of the city of Hong Kong suggests.

Atkins, Brown, and Hammond (2007) reviewed the OER movement and related projects. They put forward their "Theory of Action" as shown in Figure 1, which summarizes the motivations and course of actions regarding OER. The activities below the dotted line in the figure are relatively more recent initiatives. In addition,

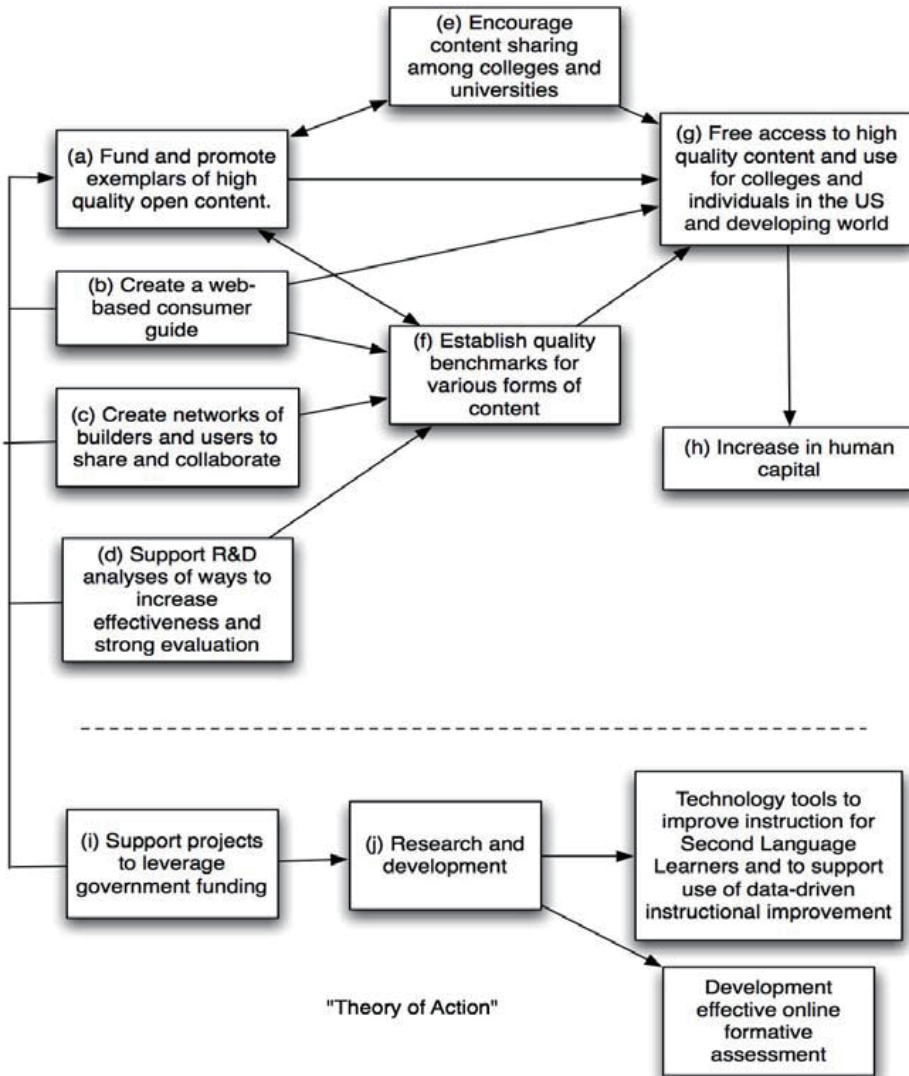


Figure 1. "Theory of Action" regarding OER (Atkins, Brown, and Hammond, 2007:2)

they sum up that a model of goals of OER. In it, OER projects are carried out for three interacting functions, namely removing barriers, sponsoring high-quality open contents, and understanding/stimulating use. These lead to equalizing access to educational resources.

OER, in a way, are bringing about a paradigm shift to access to knowledge and to education. Given that the access is equalized, for anyone who is connected to the internet. OER bring about democratization of knowledge, as the dissemination and acquisition of knowledge offered to common people, rather than the privileged or restricted groups or class of people (Veletsianos and Kimmons, 2012). This also leads to the democratization of education, as opportunities for learning, through access of educational material, is available to anyone and learners are in a position to manage or control their learning (Corrigan and Ng, 2012; Torres, 2013).

Open textbooks

As explained, being one type of OER, open textbooks are digitized texts written or organised for a curriculum. Though they are products of recently available technology and adoption of relatively new technology in education, they are highly compatible with conventional courses or traditional classroom instruction. They can be prepared and tailored for being printed out on demand, as and when required, by users and utilised like conventional textbooks. Also, they can be accessed and used on desktop computers and mobile devices. They can be used in any blended manner. For example, part of a book is printed out and used as conventional books for learners to write on at home, and another part of it is projected by the teacher's computer on the classroom screen. They can be used in flipped classrooms, or flipped teaching, in which students learn by studying online material such as video lectures at home, and doing assignments (traditional homework) in the classroom when the teacher may offer personalized guidance (Berrett, 2012; Tucker, 2012).

Open textbooks are freely available through an open license (ISKME, 2013).

They can be used as official textbooks for classrooms-based teaching and learning in universities, institutions and schools. They are completely accessible online and downloadable for offline usage at no cost. It is also common that they are available as affordable-to-purchase printed copies (Open Textbook, 2013). In other words, they are copyright-free versions of textbooks, which can be in a printed form (available at the cost of printing) and as e-version (available free of charge). Like other kinds of OER, their contents can be revised, reused, remixed and redistributed under an open license that permits the authors to retain ownership of their content, yet establish the rights under which the content may be used by others.

Generally, the minimum baseline rights allow users to use the textbook without compensating the author or the publisher, copy the whole or any part of the textbook, with appropriate credit to the author, redistribute the textbook or revised versions of it, and transform the textbook into another format (for example, from a printed to a digitized form) (Varied Characterizations of Open Textbooks, 2013).

Open textbook projects for higher education have been developed. As examples, successful ones are quoted as follows:

(a) *Connexions* (www.cnx.org) is a dynamic system consisting of an educational content repository of educational materials and textbooks. Approximately 20,000 learning objects or modules in various subject areas are available in the repository which is being accessed by over two million people of all ages per month. Materials and textbooks can be easily downloadable to almost any mobile device for use anywhere and anytime. Institutions and schools may also order low cost hard copy sets of the materials and textbooks.

(b) *College Open Textbooks* (www.collegeopentextbooks.org) is a collection of 29 educational organizations and is affiliated with more than 200 colleges. It aims to enhance awareness and advocacy for open textbooks, training teachers to adopt OER, conducting peer review, and growing online professional networks which support authors to share the resources. Its website contains hundreds of tertiary-level open textbooks. It also develops a detailed guide for adopting open textbooks and creating

associated teaching and learning materials.

(c) *The Open Access Textbooks project* (www.openaccesstextbooks.org) has been a two-year initiative to create a model for the sustainable discovery, production and dissemination of open access textbooks. Funded by a grant from the Fund for improving post-secondary education, this project has been building on lessons learned in open access textbook efforts across the United States and seeking to create a collaborative community to further sustain the implementation of open access textbooks.

(d) *CK-12 FlexBook* (www.ck12.org) is a non-profit organization aiming to reduce the cost of textbooks for the market of Kindergarten to Grade 12 both in the United States and worldwide. Using an open-content and web-based collaborative model, CK-12 intends to create re-mixable texts packed in open textbooks for high schools.

(e) *Flat World Knowledge* (www.flatworldknowledge.com) claims to be the world's largest publisher of free and open college textbooks. Its books are written by leading experts and are peer-reviewed, edited and highly developed. They are supported by test banks, Powerpoint notes, instructor manuals, print desk copies, and knowledgeable service representatives. Its whole stock is completely free online. The texts come with integrated audio, video, interactive features, and powerful search capabilities.

Limitations of conventional textbooks

The emergence of and switch to open textbooks have been to a large extent due to dissatisfaction with conventional textbooks. Conventional ones are print-based. They have a long history and good track record of serving as a core component in the process of teaching and learning. There are however limitations, or problems, of them. While the limitations are universal, the problems appear especially serious in Hong Kong. When discussing the limitations of conventional textbooks, the problems

will be exemplified with the case of Hong Kong.

1. High prices

Prices of textbooks for schools and universities have been found unreasonably high over the past decades. In the United States, for example, Perry (2012) notes that there has been an increase by 812% in the price of college textbooks since 1978, while the consumer price index increase by 250% only. Kamenetz (2010) was of the view that the high cost of textbooks is not a technological problem, but a business model problem. Textbooks are still ‘the Hummer of higher education’, but people now notice that there are a vast number of open education resources that educators and learners can tap for free. OER can be organized and presented in the form of textbooks – open textbooks.

In Hong Kong, textbook prices have been an acute public concern for many years. Take the last two years for example. The average increases on secondary and primary textbooks in 2011 were 3.8% and 4.3% respectively. These increases exceeded the 3.3% rise in Composite Consumer Price Index (CCPI). The price increase of commonly used primary school textbooks classified by subjects was from 3.2% to 4.8%. (Consumer Council, 2011). In 2012, the average textbook expenditure was still on the increase though to a lesser extent, a 2.2% for primary level and 2.5% for secondary level. (Consumer Council, 2012).

2. Inflexibility in revision or updating

The contents of printed textbooks are relatively static, and costly to update, and become even more expensive when bundled with multimedia elements. By nature, these textbooks are not flexible enough to cater for the students’ learning differences as they cannot be customised for different learning objectives and contexts. The traditional publishing industry finds it increasingly difficult to keep pace with the rapid curricular development without significant increase in production costs, and consequent charges to students and parents.

In Hong Kong, there are growing demands for active and flexible learning that traditional printed textbooks may not be able to meet. In the last few decades, there were often complaints that publishers revised textbooks too often, making it difficult for textbooks to be reused and pushing parents to purchase new textbooks, rather than used ones. The general public commonly believe that publishers use textbook revisions as a means to increase prices and to prevent students from using second-hand books. In view of these, the government set up a "three-year rule of no revision" in 2003 (Textbook Committee, Education Committee, 2008). Under the textbook review mechanism, all textbooks that have been reviewed by the Education Bureau and are recommended to be put on the "Recommended Textbook List" are not eligible for revision within three years. Publishers may improve a textbook no less than three years after its publication. In 2009, this three-year directive became a five-year rule (Hong Kong Education Bureau, 2009:64), though textbook publishers may provide schools with printed pamphlets on necessary revisions of textbook revisions free of charge.

This, however, poses problems relating to the suitability of each textbook. It is essential that textbook contents are up-to-date, match the school curriculum well and reflect the latest status of the world or real life. Textbook revisions are vital and indispensable. According to a survey conducted in 2009, the Consumer Council compared the new and old editions of nine volumes of secondary textbooks, including three on Chinese History, four on Chinese Language and two on Mathematics. It also invited experts in the education field to give comments on the necessity of the revisions and justifications for changes to the contents, chapter sequence and design of the textbooks. The survey found that the sampled textbook revisions were either necessary or quite necessary (Consumer Council, 2009).

3. Distorted market operations

In normal business, the buyer is the one who decides what to purchase. In the case of textbooks, the business model is entirely different. Teachers make decisions

on which textbooks to use and students or their parents pay for them. If there are any gifts or benefits to be offered, they are given to teachers.

The problem appears especially serious in Hong Kong as the competition in the textbook market is keen. School teachers are normally given complimentary copies of the textbooks they have chosen for their classes. In addition to textbooks, they are usually given supplementary teaching materials, which include the teacher's edition of the textbooks with answers, wall charts, worksheets, CD-ROMs with additional teaching materials, data files for project study, presentation files for use in lessons, assessment tasks, and assessment item banks. In addition, there may be supporting websites for teachers' access only to provide them with further materials to complete their teaching duties. It is understandable that the cost of these items is one of the key factors which cause the prices of textbooks to become unreasonably high. Since schools have different needs on teaching materials, such free provision of uniform sets of teaching materials by publishers, without doubt, result in wastage of various degrees. (Education Bureau, 2009:33) The cost of such additional materials inevitably raises the textbook prices (Education Bureau, 2009:58).

This is also closely linked to the marketing strategy of the publishers. To introduce textbooks to teachers and encourage them to adopt them for their classes, publishers often run promotional functions (such as talks to introduce their textbooks and useful pedagogical methods related to their textbooks) in expensive hotels, and offer teachers small gifts and large items (such as computing equipment), besides providing them with complimentary copies of the textbooks. (Apple Daily, 2008; Legislative Council Secretariat, 2011) Publishers may sometimes even offer cash grants to schools for the purchase of equipment or teaching aids to be used jointly with particular textbooks or series of textbooks, and may provide funding for school functions, sponsorships for school publications as advertisements, speech day floral baskets, or scholarships. The government has already called a halt to these and sent official guidelines to schools making clear that these are not acceptable (Education Bureau, 2010).

Open textbook as a solution

With the distinctive combination of strengths open textbooks enjoy, they are increasingly seen as a solution to the above-mentioned limitations with conventional textbooks. Li, Yuen, Cheung, and Tsang (2012) summarize the strengths as six advantages of open textbooks. First, open textbooks are portable and can be carried around and used anywhere with a notebook, computer or reader device. This makes learning ubiquitous. Second, like software updating through the internet, contents of open textbooks can be updated conveniently by connecting to the publisher or the source. Third, open textbooks are distributed and obtained through open licenses. They usually involve no costs. Students and their teachers may simply access their desired texts via the internet free-of-charge, no matter whether the textbook is written or compiled by their teachers. Students and their parents therefore typically pay nothing or very little for online access and use of open textbooks. They therefore serve well the potential solution to the high prices of textbooks (Baker and Hood, 2011; Leung, 2012). Fourth, for those who need a paper version or a book in a specific digitised format, a range of formats are available at affordable costs. The cost is normally a small fraction of the expense of a traditionally published text. In addition, the business model and market structure motivate publishers to develop their business by offering a wider range of products at fair prices (Allen, 2010). Fifth, students as well as their teachers and parents may freely print the whole or part of them, or have them printed, as hardcopies for use. This means that the need for students and teachers to adjust to a new form of textbook is minimized. Sixth, since no single textbook fits a curriculum well for all student groups, under open licenses, a teacher may freely select parts from different open textbooks and compile his or her textbook or adapt substantially an existing one for his or her class. This, being impossible with conventional textbooks, is fully permissible and encouraged with

Table 1. Distinctive advantages of open textbooks

Positive features	Advantages of open textbooks
Portable	Ubiquitous learning
Content renewable via internet	Convenience to update contents timely
Open license	Free-of-charge download and use
Other forms available on demand	Different modes of use catered to
Conventional paper version possible	No need for reader devices or any dramatic change in conventional ways of using textbooks
Remixing and revision allowed	Content tailoring for effective school/class/group-based learning

Source: Li et al. (2012).

open textbooks.

These advantages, as listed in Table 1, explain why open textbooks are welcomed by teachers, students and parents, and why an increasing number of people in many parts of the world are switching to open textbooks. Open textbooks have proved themselves to be a promising solution to the problems of conventional textbooks.

The system being built for Hong Kong

As an advanced metropolitan, Hong Kong appears to be an ideal place for implementing this solution. Hong Kong has a high internet penetration rate (68.7% as of December 31, 2011) (Internet World Stats, 2012), and schools have necessary ICT infrastructure and the Government has already launched the Internet Learning Support Programme to help low-income families to acquire affordable computers and Internet access services (GovHK, 2012). In addition, the government has been investing substantially on ICT applications to learning and teaching. For example, “a one-off grant of \$200 million in 2008 was provided for schools to replace and

upgrade their IT facilities and provided another one-off grant of \$50 million in 2010 for schools to purchase e-learning resources” (Legislative Council Secretariat, 2013).

Higher education in Hong Kong has taken on a leading role in Asia and has built up a good reputation and recognition globally. Five universities from Hong Kong ranked in the top 200 globally while three ranked in the top 50 (QS World University Rankings: Overall in 2011). Also, universities in Hong Kong have taken three of the top five seats among Asian universities (QS Asian University Rankings: Overall in 2012). Relatively young universities, such as the Open University of Hong Kong (OUHK) and the University of Science and Technology (HKUST), have both made distinguished achievements and received worldwide recognition in various ways.

Capitalizing on the advancement, the OUHK has launched an open textbook initiative only to solve problems confronting the city now, but also to assist the city achieve effective teaching and learning in the digital era. In this section, four components of open textbooks, which are designed to address the needs of Hong Kong schools and universities, are analyzed. The first component is a platform for hosting open textbooks. The second component is the open textbooks and teaching materials. The third component is a system for assuring the quality of books. The fourth component is the support for continuous cultural building and capacity building.

1. Open textbook platform

The platform is built for online access. It provides a repository for hosting the textbook contents, courseware, teaching materials and resources (such as links to online contents which are available overseas). Teachers can select appropriate textbook contents, teaching materials and resources, and customize them to meet specific teaching needs. Second, this platform supports a two-way, interactive and iterative process, whereby teachers can download, revise, re-create and upload contents. The built-in architecture anticipates and accommodates an on-going growth of contents driven by the bottom-up involvement of an ever-expanding body of users,

stakeholders and volunteers.

In addition, it allows users to download and print out the selected and customized textbook contents. It also allows teachers and students to send online requests to printing houses for mass printing of the textbooks. Besides, electronic versions of the selected customized textbooks are available to support online and mobile learning. The platform also enables schools and teachers to generate an individual school site to house the selected and customized textbooks and resources.

The platform is comprised of two core servers, namely an open learning resource server and a media server. A learning management system (LMS) and content management system (CMS) operate on them, supporting users to teach and learn via the platform. Through an open learning objects retrieval engine, LMS and CMS obtain relevant data from repositories such as databases of learning object, users profile, media repository and metadata. These data are organized and formatted to become as open learning XML Courseware. The structure of XML being flexible,

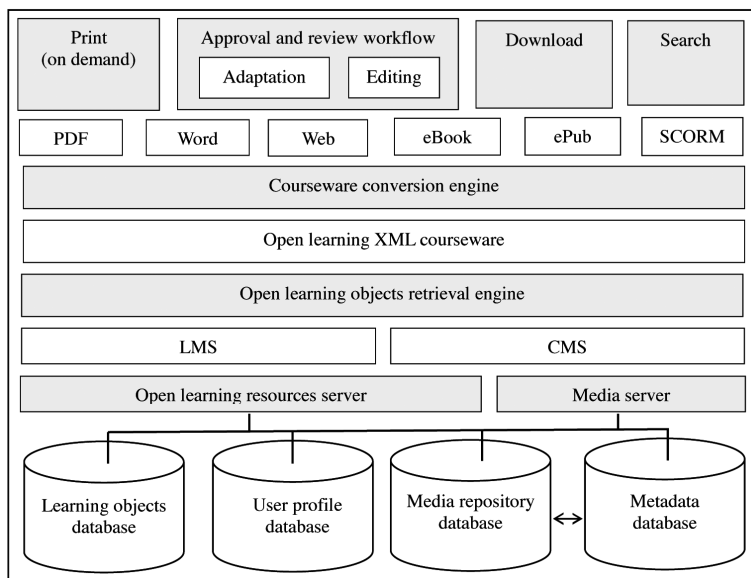


Figure 2. Framework of platform

courseware can be exported to common formats for reading and interactive use, including Web, Word, PDF, SCORM, eBook, and ePub. The platform supports the workflow of courseware review and approval, in addition to basic features such as download, search, and printing (including printing on demand). Teachers can perform editing and adaptation on the course contents, and the revised contents are uploaded and stored, ready for review and approval. Only the approved contents are available to teachers, students as well as other users.

While the open textbook platform built by OUHK intends to offer services on a completely free basis, it has potentials to serve further functions for its sustainability in the future when the funding for setting it up dries up. As Frith (2009:1) notes, a wide array of platforms for open textbooks have been published. DynamicBooks platform, as an example, is available for students who pay a US\$20 per term fee and enable them to highlight, annotate, search, print page-by-page and easily navigate through their customized DynamicBooks. Using the DynamicBooks editing tool, instructors can revise content, add or delete chapters or sections and include audio, video and course notes to make the textbooks more current and more relevant for their students. Students can access DynamicBooks online, download the books to their computer, print up to 10 pages at a time (DynamicBooks and College Open Textbooks, 2010)

2. Open textbooks and teaching materials

The platform houses textbook include both newly developed open access textbooks and those open textbooks and OER which are already available elsewhere for possible adaptation by teachers and students. These materials include:

- Open textbooks at degree and associate degree levels which are already available elsewhere will be included in the system for possible adoption by teachers and students. OUHK's selected courses will make use of such a provision and they will pioneer the adoption of open textbooks as far as applicable. Other universities and tertiary institutions in Hong Kong will be encouraged to benefit from the platform for their teaching and learning.

- It is planned that the electronic versions of the course materials of seven core subjects of the Yi Jin project (already developed at senior secondary level) will be uploaded to this platform for all Yi Jin students to enjoy free access, if the relevant authority agrees.

- A complete set of open textbooks for the English subject at both secondary and primary school levels, covering the Education Bureau's prescribed syllabi, as well as associated teaching and learning materials, will be developed and provided on the platform. It is envisaged that the number of subjects will increase with future development of the project.

- Exemplary courseware at degree level of exemplary course units adapted from the OUHK's existing courses will also be included. The University, being one of the first local institutions to collaborate with Apple to host its learning materials on the iTunes U platform for free download, already has substantial experience in the development and provision of similar courseware.

A textbook development team will be formed for each textbook to be developed. The team will consist of an author, an instructional designer, and co-authors who also take the role of peer reviewers. A combined strategy will be employed to provide the contents and ensure that they can be made available within a reasonably short timescale and that they cost substantially less than traditional publishing and production. The modus operandi consists of:

- aggregating and selecting from the Web relevant and usable resource materials. This saves users tremendous time and effort that would be spent on sifting through the massive amount of information online and removes uncertainty as to the relevance to students' teaching and learning.

- borrowing and adopting 'off-the-shelf' open textbooks from abroad offered freely for reuse, revision and redistribution under the Creative Commons Licenses. Many such open textbooks are specifically developed, comprehensive and complete for teaching and learning, albeit for somewhat different curricular and national

standards. They can be translated, easily modified and adapted as a fast-track and economical way of content development.

- enlisting the support of experienced practitioners, especially teachers, to cooperate and collectively develop texts and associated material for individual or common needs. According to published information, a substantial number of schools and institutions in Hong Kong are already engaged in creating teaching materials in-house. The opportunity for mutual cooperation offered by this Open Textbook programme will provide extra incentives, and reduce the workload of single-handed development by individuals who are scattered among various educational organizations.

- deploying and recruiting professionals and experts to create original content where necessary.

- fostering partnerships with local and overseas institutions and organizations to jointly develop and exchange textbooks and supplementary materials for mutual use or other targets in respective regions.

The textbook contents at the primary and secondary levels will be designed in close alignment with the curricula set forth by the EDB, and to students' interests, needs and expectations, with the aim to encourage active and flexible learning. Hence, the open textbooks will not be restricted to either traditional print or modern digital formats. In order to enrich students' learning experience, interactive learning contents will also be offered, and useful and appropriate online resources will be selected and hyperlinked, or linked using Quick Response (QR) codes in the case of printed texts. Although students' preferences and reading habits are yet to be investigated, overseas experiences have indicated the need to offer a number of formats. So, print-on-demand books, e-readers, downloadable e-texts and even mobile versions will be offered for a small fee.

Students can read the digital version of the textbook online free of charge using either a desktop PC or a handheld device, while Internet access is guaranteed by ubiquitous local ISP services and government subsidy. Students can opt for a printed



Figure 3. Homepage of Open Textbooks for Hong Kong

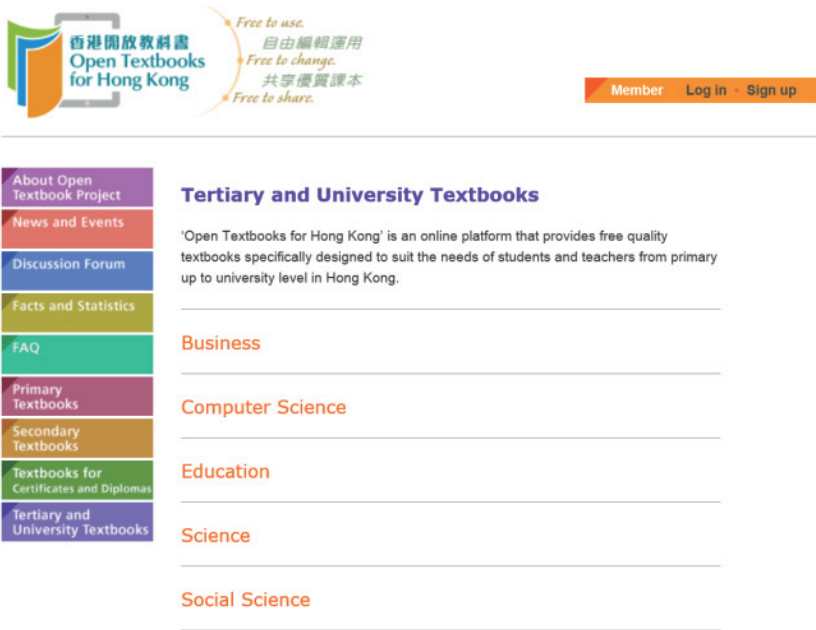


Figure 4. Tertiary and University Textbook Section of the Website

copy, order a soft-cover bound book or e-reader versions.

3. Quality assurance system

A quality assurance system should be set up and overseen by a team of subject experts, editors and education technologists to monitor the textbook development process, assess the quality of textbooks, and review each item admitted to the system. These professionals take the role of co-authors as well as gate-keepers for the quality of the textbooks. This is especially important to alleviate the worries and scepticism over the quality of free learning resources, since there is often misassumption that the free materials are of low quality. The textbook contents would be continually reviewed, updated, improved and enriched with reference to the ratings and feedback gathered online and offline. Apart from internal quality procedures, the following recourses will be in place:

(a) Peer review. Where appropriate, the developed contents are forwarded to individual peers or groups from professional organizations, by voluntary or paid service. Peer review of open textbooks and other learning content provides the quality assurance necessary for making knowledge sharing viable. Experts contribute to peer reviews by selecting appropriate content for review, evaluating the content based on standard criteria, and sharing their feedback (Hood, 2013).

(b) Government review panels. In case of open access textbooks for primary and secondary education, the final products would be submitted for assessment by Government's review panels of school textbooks.

(c) Open review and rating. There should provide an opportunity for teachers, educators and other users to review and rate the open access textbooks in an open way. Such transparency helps identify shortcomings, ensure the effectiveness of the particular resources and in turn further bolster the quality. Robert Stewart, a professor of oceanography at Texas A&M University, cites the benefit of quality control of open access textbooks. He regularly receives comments relating to errors of fact, typographical errors and suggestions for improvement from his students and

colleagues. Such information helps him in identifying areas to address for the next publication of his textbook (Florida's Orange Grove Repository: A Sustainability Case Study, 2010).

(d) Systematic evaluation and research. There are institutions and schools which have the necessary expertise to carry out systematic studies and timely research to evaluate the outcomes and assess the level of satisfaction.

4. Continuous culture and capacity building

The open textbook project can hardly be useful unless its textbooks are widely adopted in the city's teaching and learning. These necessitate nurturing a culture of using open textbooks and building up the community's (especially teachers') ability to use them. Coherent groups of potential contributors and beneficiary schools and organizations, which subscribe to the spirits and principles of OER, should therefore be established to share expertise, input manpower, coordinate efforts, and spread the knowledge in support of the continuous development of open access textbooks and resources at societal level. At the individual level, those interested and qualified authors, editors, teachers from primary and secondary schools, and professors from tertiary institutions could join the developers and contributors of open access textbooks at different levels.

Increasing institutional involvement can build OER movement and attain its sustainability (Frydenberg and Matkin, 2007:26). Institutions should provide training and development for their teaching staff, and both recognise and reward teachers who develop and publish good OER (Badarch, Knyazeva, and Lane, 2012:36). Training provided to teachers and professors should mainly be on the teaching practices with the use of open textbooks and other learning resources. The training can help them master the skills to produce these open access textbooks and learning resources. It can nurture their abilities to search, filter and select appropriate and legitimate learning resources on the Internet as well as to write, edit and digitize materials for textbook contents. It can also explain what good instructional design is, how quality is upheld

and what tools and techniques should be used.

In addition, groups of parents, teachers, students and others should be invited to study the use of digitized materials. The more the key stakeholders become informed about the nature and extent of digitized and open-learning resources, the easier it will be to insert these resources effectively into the teaching/learning process (Matkin, 2009). There should be a public platform providing services primarily to teachers and students, and any other users with the enthusiasm to collaboratively contribute to the textbook contents, whether by way of authoring, editing, enriching, commenting, amending or remixing. The expanding community and capacity thus generated would ensure a clear understanding of quality standards and requirements, and provide ample energy, relevant experiences and favourable conditions for the continuous improvement of the programme and achievement of successful outcomes.

Sustainable development of open textbook system

The project is now at the beginning stage. The platform is being built and the first batch of open textbooks to be provided are being developed from scratch or collected elsewhere after thorough formal reviews. The open textbook has been given a substantial funding for its development. To ensure that the system will keep on benefiting the community, sustainability should be well planned. The successful adoption of open textbooks depends on at least three factors, namely, contributors of textbook contents, high quality of textbooks, and the culture of sharing education resources. Strategic measures should be in place in order to sustain its long-term development. This section outlines possible measures in the steering, governance, community, culture and capacity building, and the on-going development and maintenance of open access textbooks.

(a) *To garner public support of open access textbooks.* A group of supporters is required. Institutional supports should be solicited. The government or an institution such as MIT provides, updates, and otherwise maintains collections of

materials; these entities do so because the content is either a public good or it is in the best interests of the institution to provide on-going support (Casserly and Smith, 2008:274). Public seminars should be arranged in order to raise public awareness and to promote the use of open access textbooks. It is believed that substantial savings and flexibility to adjust to students' learning needs, arising from open access textbooks, is a strong motivation for users' participation as well as a vehicle to obtain public support.

(b) *To form a group of volunteers.* There is much anecdotal evidence showing that it is possible for volunteerism alone to drive a massive project, such as Wikipedia, and Linux. It is believed that the vision of social equity and the motivation of knowledge sharing as well as the benefits of widened dissemination would be sufficiently strong drivers to enlist volunteers to participate as authors, editors and reviewers to offer services for non-monetary rewards and recognition. Groups of teachers cooperating on developing material in their subject areas, parents active in searching for instructional resources, or cross-sectional teams assigned specific goals are all examples of groups that might be formed in anticipation of a convergence on digital technologies in schools (Matkin, 2009).

(c) *To solicit philanthropic and community support.* Some local and overseas foundations, charitable bodies or commercial organizations have pledged their support to sustain OER projects. Some open and free online services, such as Wikipedia, manage to survive and flourish with mass donations from individuals. Some foundations sponsor open text creation by providing funds for open textbook workshops, peer reviews, and repositories (Baker and Hood, 2011). In the long-term, it is necessary to solicit philanthropic and community support for open access textbook development.

(d) *To provide training for teachers.* Improving teaching is necessary to any form of OER (Frydenberg and Matkin, 2007). Training workshops would be provided to teachers and practitioners, mainly on the use of open access textbooks, the associated teaching materials and other OER. These aim to nurture teachers'

abilities to select appropriate and legitimate open access textbooks and other learning resources, and write, edit, revise, remix and digitize the contents. Instructional design and quality assurance practices would be covered.

(e) *To launch a forum for practitioners of open textbooks.* Online forums for teachers and practitioners of open textbooks would be organized. It serves to provide a 7x24 platform for teachers and practitioners to share views, express opinions and discuss issues on open access textbooks and OER. Like the Community College Open Textbook (CCOT) Project launched by the Community College Consortium for Open Educational Resources (CCCOER), its collection of open textbooks currently under consideration for review, as listed in MERLOT (<http://www.merlot.org/merlot/viewPortfolio.htm?id=334314>), provides educators with an opportunity to share their own reviews and to find reviews submitted by others (Baker, 2009:31).

(f) *To sustain the open textbook platform.* On-going maintenance of the platform, including technical system administration, account administration, and regular system updates, for the platform is essential to ensure its proper and smooth running. On-going technical and user support, such as hotline and helpdesk, is also required for answering technical queries from end-users.

(g) *To maintain the quality of open textbooks.* On-going maintenance of the developed textbooks, including annual evaluation, review and revision, is also required in order to assure the quality of textbooks. As multiple versions of an open access textbook are allowed, versioning need to be properly controlled. Reviews would be done both by experts, users and peer review groups.

(h) *To review the scope and identify the need for new open access textbooks.* From time to time, reviews would be carried out on the scope of available textbooks, and the need of new textbooks should be identified. On-going enhancement of the developed open access textbooks is equally important. This includes major revision, and addition of OER associated with the open access textbooks.

Open textbooks, as a tool for enhancing the openness of education, which in turn can serve as a vehicle to social transformation for a more open city. The success

of open textbooks in bringing forth increased educational openness can be evaluated in terms of the freedom of educators and learners to access educational materials, and manage their teaching/learning, and transparency of relevant policy formation and evaluations themselves (Andersen, 2007; Peters, Liu, & Ondercin, 2012). In addition, the usage extent of the material, which reflects how widespread the open culture is, should be a criterion to consider too.

Conclusion

To enhance a city's openness, one effective means is to improve openness in its education. Openness not only helps nurture an open culture towards which has been a global trend, but also through the use of open textbooks, it brings solid benefits in terms of costs, flexibility, empowering stakeholders to use, repurpose, adapt, remix and share learning materials.

This paper has outlined the development of OER and introduced the distinctive advantages of open textbooks. It has briefly explained the textbook problems confronting Hong Kong and why open textbooks could be a solution to the problems.

As the use of open textbooks means somewhat major changes to existing education practices, successful adoption implies a number of anticipated challenges, such as soliciting the contributors of textbook contents, assuring the quality of textbooks, and establishing a culture of sharing education resources. Continuous public support and user participation are crucial in order to sustain the long-term development of open access textbooks.

Lessons others have learned (Baker, Thierstein, Fletcher, Kaur, & Emmons, 2009) from their open textbook projects should be worthy of attention. The open textbook trend, though new, is gaining massive evolutionary momentum. Given the promising prospect of alleviating the textbook problems, there are solid reasons supporting that Hong Kong should join the open textbook movement and the new form of textbooks will bring positive effects and benefits to education and openness

References

- CORE (2013). "About-CORE." CORE Cause of Rank and File Educator Website. <http://www.core.org.cn/a/About-CORE.html> (accessed March 10, 2013).
- Open Educational Resources by the African Virtual University (About OER@AVU) (2013). "African Virtual University Collaborative Methods of Developing Open Education Resources." OER@AVU Website. <http://oer.avu.org/about> (accessed March 10, 2013).
- Allen, N. (2010). "A Cover to Cover Solution: How Open Textbooks are the Path to Textbook Affordability (The Student PIRGs CSD5956)." Student PIRGs (Public Interest Research Groups) Website. http://www.studentpirgs.org/sites/student/files/reports/A-Cover-To-Cover-Solution_3.pdf (accessed September 20, 2013).
- Andersen, V. N. (2007). "Transparency and Openness: A Reform or Education Policy?" *Scandinavian Political Studies*, Vol. 30, No. 1:38-60.
- Apple Daily (2008). "Publishers Make Donations to Schools and Raise Textbook Prices (書商向學界捐款向學生加價)." *Apple Daily*. http://hk.apple.nextmedia.com/template/apple/art_main.php?iss_id=20080422&sec_id=4104&subsec_id=11867&art_id=11018229 (accessed February 5, 2012).
- Atkins, D. E., J. S. Brown, and A. L. Hammond (2007). *A Review of the Open Educational Resources (OER) Movement: Achievements, Challenges, and New Ppportunities*. Menlo Park: The William and Flora Hewlett Foundation.
- Badarch, D., S. Knyazeva, and A. Lane (2012). *CHAPTER Introducing the Opportunities and Challenges of OER: The Case of the Commonwealth of Independent States and the Baltic States*. Canada: Commonwealth of Learning.
- Baker, J. (2009). "It Takes A Consortium to Support Open Textbooks." *Educause Review*, Vol. 44, No. 1:30-33.
- Baker, J., and J. Hood (2011). "7 Things You Should Know about Open Textbook Publishing." Educause Learning Initiative Website. <http://net.educause.edu/ir/library/pdf/ELI7070.pdf> (accessed March 23, 2012).
- Baker, J., J. Thierstein, K. Fletcher, M. Kaur, and J. Emmons, (2009). "Open Textbook Proof-of-Concept via Connexions." *International Review of Research in Open and Distance Learning*, Vol. 10, No. 5:13-26.
- Berrett, D. (2012). "How 'Flipping' the Classroom can Improve the Traditional Lecture." The Chronicle of Higher Education Website. http://moodle.technion.ac.il/file.php/1298/Announce/How_Flipping_the_Classroom_Can_Improve_the_Traditional_Lecture.pdf. (accessed September 1, 2013from).
- Bodirsky, K. (2011). "Culture for Competitiveness: Valuing Diversity in EU-Europe and the 'Creative City' of Berlin." *International Journal of Cultural Policy*, Vol. 18, No. 4:455-473.

- Bossu, C., D. Bull, and M. Brown (2012). "Opening up Down Under: The Role of Open Educational Resources in Promoting Social Inclusion in Australia." *Distance Education*, Vol. 33, No. 2:151-164.
- Casserly, C. M., and M. S. Smith (2008). "Revolutionizing Education Through Innovation: Can Openness Transform Teaching and Learning?" In T. Iiyoshi and M. S. V. Kumar (eds.), *OpeningUp Education: The Collective Advancement of Education Through Open Technology, Open Content, and Open Knowledge* (pp. 261-275). Cambridge, MA: MIT Press.
- Consumer Council (2009). "Annual Survey Gives the Green Light to All Revised Textbooks Sampled." Consumer Council Website. http://www.consumer.org.hk/website/ws_en/news/press_releases/p39705.html (accessed March 15, 2012).
- _____ (2011). "Textbook Prices Increase Accelerates." Consumer Council Website. http://www.consumer.org.hk/website/ws_en/news/press_releases/p41703.html (accessed February 15, 2013).
- _____ (2012). "Considerable Variation in Textbook Expenditure among Schools." Consumer Council Website. http://www.consumer.org.hk/website/ws_en/news/press_releases/p43104.html (accessed September 10, 2013).
- Corrigan, J. A. and A. F. N. Ng (2001). "Mobilizing Curriculum Studies in a (Virtual) World: Open Access, Edupunks, and the Public Good." *Canadian Journal of Education*, Vol. 35, No. 2:58-76.
- Downes, S. (2008). "Places To Go: Connectivism and Connective Knowledge." Academia.edu Website, Vol.5, No. 1. http://www.academia.edu/2869475/Places_to_go_Connectivism_and_connective_knowledge (accessed September 1, 2013).
- Downes, S. (2010). "Learning Networks and Connective Knowledge." In H. Yang, and S. Yuen (eds.), *Collective Intelligence and E-Learning 2.0: Implications of Web-Based Communities and Networking* (pp. 1-26). Hershey, PA: Information Science Reference.
- DynamicBooks and College Open Textbooks (2010). "DynamicBooks and College Open Textbooks Partner." EdNet Insight Website. <http://www.ednetinsight.com/news-alerts/higher-ed-market-headlines/dynamicbooks-and-college-open-textbooks-partner.html> (accessed February 15, 2013).
- Hong Kong Education Bureau. (2009). "Working Group on Textbooks and e-learning Resources Development Main Report." Hong Kong Education Bureau Website. http://www.edb.gov.hk/FileManager/EN/Content_689/wg%20final%20report.pdf (accessed April 5, 2013).
- _____ (2010). "Information Note of Legislative Council." Education Bureau Website. <http://www.legco.gov.hk/yr10-11/english/panels/ed/papers/ed0214cb2-1249-1-e.pdf> (accessed April 5, 2013).
- OnCoRe Blueprint (2010). "Florida's Orange Grove Repository: A Sustainability Case Study." *OnCoRe Blueprint*. http://www.oncoreblueprint.org/_doc/OGSustain2.pdf (accessed September 12, 2013).

- Florida, R. (2002). *The Rise of the Creative Class and How It's Transforming Work, Leisure, Community and Everyday Life*. New York: Basic Books.
- Frith, J. (2009). "The Open Revolution An Environmental Scan of the Open Textbook Landscape." NC State University Website. http://www.academia.edu/402432/E_Open_Revolution_An_Environmental_Scan_of_the_Open_Textbook_Landscape (accessed April 5, 2013).
- Frydenberg, J. and G. W. Matkin (2007). "Open Textbooks: Why? What? How? When?" The William and Flora Hewlett Foundation Website. <http://www.hewlett.org/uploads/files/OpenTextbooks.pdf> (accessed April 1, 2013).
- Goldberg, E. J. and M. LaMagna (2012). "Open Educational Resources in Higher Education: A Guide to Online Resources." *College & Research Libraries News*, Vol. 73, No. 6:334-337.
- GovHK (2012). "What's New." Internet Learning Support Programme Website. <http://www.gov.hk/en/theme/ilearnathome/news/> (accessed March 25, 2012).
- Hood, J. (2013). "Review." College Open Textbooks Community Website. <http://colleogeopentextbooks.ning.com/page/review-2> (accessed March 14, 2013).
- Internet World Stats (2012). "Asia Marketing Research, Internet Usage, Population Statistics and Facebook Information." Internet World Stats Website. <http://www.internetworldstats.com/asia.htm> (accessed March 31, 2012).
- Kamenetz, A. (2010). "Get Rid of Print and Go Digital." *New York Times*. <http://www.nytimes.com/roomfordebate/2010/07/25/the-real-cost-of-college-textbooks/eliminate-print-textbooks-go-digital> (accessed September 5, 2013).
- Learn More About OLI (2013). "Learn More About OLI." Open Learning Initiative Website. <http://oli.cmu.edu/get-to-know-oli/learn-more-about-oli/> (accessed March 10, 2013).
- Legislative Council Secretariat (2011). "Minutes of Meeting of the Panel on Education of the Legislative Council held on 11 April 2011 (Legislative Council Paper No. CB(2)1984/10-11)." Legislative Council of the Hong Kong Special Administrative Region of the People's Republic of China Website. <http://www.legco.gov.hk/yr10-11/english/panels/ed/minutes/ed20110411.pdf> (accessed March 5, 2013).
- _____ (2013). "Officials Record of Proceedings for Council's Meeting on 20 February 2013." Legislative Council of the Hong Kong Special Administrative Region of the People's Republic of China Website. <http://www.legco.gov.hk/yr12-13/english/counmtg/hansard/cm0220-translate-e.pdf> (accessed September 10, 2013).
- Leung, C. M. (2012). "Open Textbooks are A Solution to Publishers' Costly, Bundled Schoolbooks." South China Morning Post Website. <http://oer.ouhk.edu.hk/SCMP-20120211.pdf> (accessed April 5, 2013).
- Li., J. (2012). "World-Class Higher Education and The Emerging Chinese Model of The University." *Prospects*, Vol. 42, No. 3:319-339.
- Li, K. C. and K. S. Yuen (2012). "Development of Open Educational Resources in Hong Kong: A Status Analysis." Wawasan Open University Website. <http://www.oerasia.org/oersymposium> (accessed September 9, 2013).

- Li, K. C., K. S. Yuen, S. K. S. Cheung, and E. Y. M. Tsang (2012). "eVolution from Conventional Textbooks to Open Textbooks A Way Out for Hong Kong." In K. C. Li, F. L. Wang, K. S. Yuen, S. K. S. Cheung, & R. Kwan (eds.), *Engaging Learners Through Emerging Technology* (pp. 201-210). New York: Springer-Verlag Berlin Heidelberg.
- Li, L. F. (2010). "The Good Life: Criticism and Construction of Urban Meaning." *Social Sciences in China*, Vol. 31, No. 4:133-146.
- Li, Y., S. MacNeill, and W. Kraan (2008). "Open Educational Resources-Opportunities and Challenges for Higher Education." Jisc Cetis Website. http://publications.cetis.ac.uk/wp-content/uploads/2012/01/OER_Briefing_Paper_CETIS.pdf (accessed April 5, 2013).
- McGill, L. (2013). "What are Open Educational Resources." Open Educational Resources infoKit Website. <https://openeducationalresources.pbworks.com/w/page/24836860/What%20are%20Open%20Educational%20Resources> (accessed April 5, 2013).
- Matkin, G. W. (2009). "Open Learning: What Do Open Textbooks Tell Us about the Revolution in Education?" Center for Studies in Higher Education Website. <http://cshe.berkeley.edu/publications/docs/ROPs-Matkin-OpenLearning-03-31-09.pdf> (accessed March 31, 2012).
- _____. (2010). *The Open Educational Resources Movement: Current Status and Prospects*. Unpublished doctoral dissertation. University of California, Irvine, United States.
- MIT OpenCourseWare (2013.) "MIT OpenCourseWare." Wikipedia Website. http://en.wikipedia.org/wiki/MIT_OpenCourseWare (accessed March 15, 2013).
- MU OER Portal (2013). "Welcome To MU OER Portal Of University of Mumai." WikiEducator Website. http://wikieducator.org/MU_OER_PORTAL (accessed March 15, 2013).
- Open Textbook (2013). "Open Textbook." Wikipedia Website. http://en.wikipedia.org/wiki/Open_textbook (accesses March 29, 2013).
- Organization for Economic Co-operation and Development (OECD) and Centre for Educational Research and Innovation (CERI) (2007). *Giving Knowledge for Free: the Emergence of Open Educational Resources*. Paris: OECD Publishing.
- Perry, M. J. (2012). "The College Textbook Bubble and How the 'Open Educational Resources' Movement is Going Up Against the Textbook Cartel." AEIdeas Website. <http://www.aei-ideas.org/2012/12/the-college-textbook-bubble-and-how-the-open-educational-resources-movement-is-going-up-against-the-textbook-cartel/> (accessed February 15, 2013).
- Peters, M. A. (2010). "Three Forms of the Knowledge Economy: Learning, Creativity and Openness." *British journal of educational studies*, Vol. 58, No. 1:67-88.
- Peters, M. A. T. C. Liu and D. J. Ondercin (2012). "Learned Societies, Public Good Science and Openness in the Digital Age." *Open Education*, Vol.1:105-127.
- Strader, R. and C. Thille (2012). *The Open Learning Initiative: Enacting Instruction Online*. Louisville: Educause.
- Textbook Committee, Education Bureau (2008). "A Parental Guide to Textbook Matters." HKSAR Government Website. <http://www.edb.gov.hk/attachment/en/curriculum-development/7-learning-goals/about-7-learning-goals/inside-e.pdf> (accessed September 22, 2013).

- Institute for the Study of Knowledge Management in Education (ISKME) (2013). "What are open textbooks?" Connexions website. <http://cnx.org/content/m15226/latest/> (accessed April 5, 2013).
- Torres, N. P. M. (2013). "Embracing Openness: The Challenges of OER in Latin American Education." *Open Praxis*, Vol. 5, No. 1:81-89.
- Tucker, B. (2012). "The Flipped Classroom: Online Instruction at Home Frees Class Time for Learning." Education Next Website. <http://educationnext.org/the-flipped-classroom/> (accessed September 1 2013).
- Varied Characterizations of Open Textbooks (2013). "Varied Characterizations of Open Textbooks." Open Access Textbooks Website. <http://www.openaccesstextbooks.org/model/appendixA.html> (accessed April 7, 2013).
- Veletsianos, G. and R. Kimmons (2012). "Assumptions and Challenges of Open Scholarship." *The International Review of Research in Open and Distance Learning*, Vol. 13, No. 4:170-193.

Enhancing Openness of the City through Open Textbooks: A Hong Kong Initiative

Kam-Cheong Li

Abstract

How open a city is to a large extent relies and reflects on its educational openness. This paper shares a case study which is closely linked to regional or local educational openness. It reviews and analyzes the development of a valiant on-going project to develop an open textbook system for Hong Kong. This study first traces the recent open movement regarding educational resources, and explains the nature, characteristics and related theories of open textbooks. The movement to develop educational material and distribute them under an open license has gained momentum as educators have come to realize the immense potential of such open materials in enhancing educational effectiveness. This paper then examines the textbook problems which are common across a broad spectrum of cities. Educators have found that open textbooks are a particularly useful form of content delivery, and serve as a solution to the problems of high textbook prices and difficulties for efficient updating. This has led to the growth of many open textbooks projects. After examining the background for developing open textbooks in Hong Kong, this paper gives an account of the plan and development of an ambitious project to set up an open textbook system for all students, teachers and interested parties in the city of Hong Kong. It outlines an open textbook initiative which is intended not only to solve problems confronting the city now, but also to achieve effective teaching and learning in the digital era. The various components of the open textbook project, which are designed to address the needs of Hong Kong schools and universities will be introduced and analyzed and means to evaluate its success are outlined.

Keywords: city openness, open educational resources, open textbooks, material development, city development.

Kam-Cheong Li is director at University Research Centre of The Open University of Hong Kong, Hong Kong, China. <kcli@ouhk.edu.hk>

