Johns Hopkins University

Bloomberg School of Public Health

A Case Study of the Production of OpenCourseWare

Prepared for the Organization for Economic Co-operation and Development

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General Background

The Johns Hopkins University, located in Baltimore, Maryland is composed of nine academic and research divisions, and numerous centers, institutes, and affiliated entities. The University currently enrolls approximately 18,200 students and has roughly 3,000 faculty. The most current figures show the University has a budget of $2.4 billion. It is probably best known as a research university. It was the first university in the United States founded to advance scholarship, and research continues to be a primary emphasis of the University. Approximately $1.4 billion of its annual budget is devoted to research. Illustrating its prominence in this area, Johns Hopkins ranks first among U.S. universities in receipt of federal research and development funds. Although more difficult to quantify, it is also highly respected for the quality of education it provides. Johns Hopkins' reputation draws students from all over the world.

Johns Hopkins University is a highly decentralized institution with the academic and research units operating relatively independently. Each unit is responsible for generating the funds necessary to support both its academic programs and its research. The Bloomberg School of Public Health is the unit that is involved with the OpenCourseWare project. The Associate Dean and Director, Center for Educational Resources at the University Library brought the information concerning the availability of the grant to the attention of the Dean of the School. The availability of Hewlett Foundation support and the congruence of the project with the School's mission to improve the health and prevention of disease and disability around the world were both important factors in the School's interest in participating. Also important in the decision to participate was the existing capacity of the Center for Teaching and Learning with Technology, which is located within the School, to provide the technical and design support necessary.

While participation in the OpenCourseWare project is under consideration in the Schools of Arts and Sciences and Engineering, the only faculty members contributing courses to the project are associated with the Bloomberg School.

The Bloomberg School of Public Health offers three Master's degrees (Master of Public Health - MPH, Master of Health Science - MHS, and Master of Science - ScM) and three doctoral degrees (Doctor of Philosophy – PhD, Doctor of Public Health – DrPH, and Doctor of Science (ScD). It is comprised of ten departments: Biochemistry and Molecular Biology; Biostatistics; Environment Health Sciences; Epidemiology; Health, Behavior and Society; Health Policy and Management; International Health; Mental Health; Molecular Microbiology and Immunology; and Population, Family and Reproductive Health. The website of the Bloomberg School of Public Health indicates that the school currently has close to 2,000 students from 84 countries, many from third world countries. In a self-study report written for reaccreditation, the Dean of the School noted that the diversity of nationalities within the student body is one of its greatest assets. Full-time faculty members number 485; there are 555 part-time faculty. It is the largest School of Public Health in the world. Mirroring the University, the Bloomberg

School of Public Health is first among all public health schools in research support from the U.S. government.

Selection of the Institution for Case Study

The Bloomberg School of Public Health at Johns Hopkins University was selected for study because it is significantly involved in offering open educational content. The project is supported in part by a grant from the Hewlett Foundation.

State of the Art of Content Production

As of October 1, 2006, the School had 35 OpenCourseWare (OCW) courses available. The courses offered cover a wide range of subjects relating to public health. A small sample of the course topics -- adolescent health and development, biostatistics, ethical issues, food and nutrition, problem solving immunization programs, psychiatric epidemiology, and tropical environmental health -- suggests the breadth of the OCW offerings. A complete list of the courses can be found at http://ocw.jhsph.edu/topics.cfm.

Materials on the OpenCourseWare website make clear that the courses are not available for credit and that the courses do not provide access to faculty members. The OCW courses are made available under a Creative Commons public license, which allows individuals to make use of the materials as long as they are used openly and freely for non-commercial purposes. Attribution must be given to the Johns Hopkins Bloomberg School of Public Health and to the faculty member who developed the course, if known. In addition when the materials are reused or distributed, their use must be governed by the identical license.

One factor critical to the project is the willingness of individual faculty members to make their courses, originally developed for Bloomberg School students, available as OCW. There have been some obstacles to faculty participation. In a School with over 1,000 full-time and part-time faculty members, communication about the project is clearly a problem. Beyond the difficulties of communication, some faculty members have been concerned about the possible misuse of content and the potential for misunderstandings because of the lack of an appropriate context for the material. Concern about copyright infringement, their own and others, troubles other faculty members. On the positive side, many faculty members are motivated to make their courses available by the opportunity OCW courseware provides to have an effect on improving the health of populations worldwide. Even before the project, some faculty were making courses available at particular universities via CD. Another reason for the support of faculty is the opportunity OCW provides for the large number of international students who earn degrees at the School to have access to materials to use in classrooms in their home countries and to help maintain currency in their fields. Among those faculty members who know about the project, there seems to be growing support for participation.

The second factor critical to the project is the existence of technology to support the effort. In this, the School is particularly fortunate. The School houses an extensive and sophisticated Center for Teaching and Learning with Technology (CTLT) which is comprised of instructional designers, Web application developers, technical writers, medical illustrators, multimedia specialists, audio producers, and quality-control staff. The mission of the CTLT is to provide assistance with utilizing technology and instructional design to help the School's faculty design their courses and use technology effectively in both classroom and online teaching. CoursePlus is the School's online resource system for on-campus courses. Both this system and the School's distance education course delivery platform were developed in-house and tailor-made for School faculty. OCW benefits from the existence of both systems, which promote collaboration between the faculty and the Center in developing courses for Bloomberg School students, be they on-campus, online, or viewing OCW courses. The existence of the rich infrastructure provided by the CTLT was key to the School developing the OCW project.

Since courses are already available on the course platforms, with an exception discussed below, very little modification is needed to make them available as OpenCourseWare. The portal for each of the courses is uniform. The home page contains an attractive picture and a course description. The available links vary, depending on what the faculty want to include in the course shell. All include the course syllabus, schedule, and lecture notes. Some include links for supplementary readings and additional resources. The link to lecture notes provides access to the content of the course. Almost all lecture notes consist of PowerPoint slides. Faculty also have the option of recording lectures and making them available as MP3 files on the course website. Two OCW courses provide lectures delivered via MP3 files.

While there are few technical issues involved in converting the courses for OpenCourseWare, the major problem the School has encountered is assuring there is no violation of copyright law. United States copyright law includes a fair use provision that allows limited use of copyrighted materials to be used in a classroom without prior permission, so it is very common for faculty members to include copyrighted material in their lectures. However, further use of these materials outside of the classroom would be considered copyright infringement. This presents a real potential liability to the School and the University. As a result, each course made available as OpenCourseWare must first be fully reviewed to ensure there are no materials included that could lead to copyright infringement. Reviews are painstaking and time consuming. All materials must be examined by the faculty member and a staff member in the Center for Teaching and Learning with Technology. In come cases, clearing the course of potential copyright violations involves getting permission from the owner to use the material, which could entail costs. In other cases, it involves changing the course content.   A good portion of the grant provided by the Hewlett Foundation supports that staff of the Center responsible for copyright clearance.

The School collects a good deal of data about the access to the OCW website and the courses. These data show clearly that the number of people accessing the website and courses is growing. To illustrate this trend the School provided data comparing access in

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June 2005 and June 2006. The table below reformats data taken from a summary provided by the school.

Comparison of Visits and Visitors to OCW Website
June 2005 – June 2006

	Monthly Report June 2005	Monthly Report June 2006	Percentage Change
Visits Average per Day	13,345	28,200	+111.32%
Average Visit Length	8:48 minutes	16:37 minutes	+111.71%
Percentage International Visits	11.78%	12.86%	+9.17%
Percentage Visits U.S.	63.96%	63.82%	-.22%
Percentage Visits Unknown	24.26%	23.32%	-3.87%
Unique Visitors	8,804	17,134	+94.62
Visitors Once	7,544	14,710	94.99%
Visitors More Than Once	1,260	2,424	+92.38%

Clearly, most visitors to the OCW website were from the United States in both June 2005 and June 2006. However, a survey of visitors shows that visitors from 71 different countries including the United States accessed the website in June of 2006. The majority of visitors, 32%, indicated their status as prospective student; 19% indicated healthcare professional; 23%, self-learner; and 7%, educator. A total of 13% reported that they were students, 3% of which were Hopkins students. Most of those who completed the survey, 54%, stated they were interested in a degree program; 15% stated they were interested only in the OpenCourseWare.

The survey also invited participants to provide any comments they had concerning the OCW project at the School. A very few selected comments from the many included in report are:

Your course is very rich in content and in both theory and practice. I hope I will have become a bioethicist by the end of the training program. Please, keep up the good work.

Would like coverage of clinical trials.

Wishing for more courses form johns hopkins (sic), especially on neuroscience.

Very good opportunity for students who want to acquire more knowledge and skills in public health but do not have the means to do so.

The OCW has helped me to fully understand some of the concepts in Public Health, which were not thoroughly covered in my school.. I am looking forward to an opportunity to study at JSPH (sic).

The biostatistics course is my field of interest in the Msc programme while Toxicology will help me in lecturing my courses.

The data provided in the table and the comments present a good snap shot of the impact of OCW.

The Future of OCW at Johns Hopkins University and the Bloomberg School of Public Health

The 111% growth in the use of the OCW website during the first year of operation clearly suggests there is considerable interest in OpenCourseWare. Currently, the majority of individuals benefiting from the site are from the United States and speak English. The large percentage of users from the United States may be an unexpected outcome since the primary goal for OCW initiatives across all institutions participating is to spread knowledge around the world.

However, usage of OCW outside of the United States is likely to grow substantially as new courses are added and knowledge of the availability of these resources expands. The Bloomberg School of Public Health enrolls a large number of international students, many from third world countries. The expectation is that graduates will increasingly use the OCW made available by the Bloomberg School to keep up-to-date in their fields and as resources in their teaching.

Administrators of the Bloomberg School are committed to maintaining the OCW project. The current goal is to provide close to 100 OpenCourseWare courses within three years. They believe the project is an important means of carrying out the School's mission to improve health and prevention of disease and disability around the world. This commitment is not without some caveats, however.

Availability of funds is the most important of these. Given that all Johns Hopkins University Schools must raise the revenue needed to support themselves and contribute as well to the support of the overall University, it is difficult for the Bloomberg School to sponsor projects for which there is no revenue stream. The fact that the School had the very significant resources of the Center for Teaching and Learning with Technology made the OpenCourseWare Project possible. The Hewlett Foundation grant funds two staff of the Center who work with copyright issues. Once this grant expires, the School will have to find other ways to support this work that is absolutely necessary to the continuation of the project. Administrators suggested that this could be difficult depending upon the funds available at the time.

To fill this gap and enable expansion of the program, the School is encouraging faculty members to include funds for OCW in grant applications, particularly those for training grants.

Increasing faculty interest in participating in the project is key to expansion. The faculty reservations about the project, discussed above, appear to be mitigating, which is a positive sign. With over 1,000 faculty members, getting out the word to many more faculty members takes some time and considerable efforts at communication. As communication about the project continues, it is likely that there will be more faculty members interested in participating because there is strong support among the faculty for the mission of disseminating knowledge and information about public health worldwide. Many faculty agree that OCW offerings should be an integral part of the education the Bloomberg School offers. Beyond this many faculty members see OCW as a means of supporting their international graduates who need access to up-to-date information to support both teaching and practice.

Coupled with this culture of commitment, the services provided to faculty members by the CTLT mean that contributing courses to the OCW project does not add significantly to the workload of faculty.

Based on the information gained in the course of this case study, the Bloomberg School of Public Health is highly likely to continue its work in making OCW available.

Concluding Remarks

Based on the information gained in the course of this case study, there are three factors critical to initiating and maintaining an OpenCourseWare project from which there is no direct monetary return. The first is the degree to which the project is perceived as central to the mission of a university or entity within the university such as the Bloomberg School of Public Health. The second is the availability of the technical resources to launch and maintain the project. The third is the ability to integrate the project with work already being done. All of these factors are present within the Bloomberg School of Public Health.

Annexes

List of Persons Interviewed

Dr. James B.Yager
Senior Associate Dean for Academic Affairs
Project Coordinator
Bloomberg School of Public Health

Dr. Sukon Kanchanarasksa
Director
Center for Teaching and Learning with Technology
Bloomberg School of Public Health

Thea Glidden
Executive Director
Office of Communications and Public Affairs
Data Collection and Interface with the Public
Bloomberg School of Public Health

Candice Dalyrymple
Associate Dean and Director, Center for Educational Resources
Sheridan Libraries

Links to Further Information

Johns Hopkins University
 http://www.jhu.edu

Bloomberg School of Public Health
http://www.jhsph.edu

OpenCourseWare Portal
http://ocw.jhsph.edu

OCW Usage Reports
http://ocw.jhsph.edu/surveyresults.cfm

      The information contained in this report came primarily from interviews with the individuals listed above conducted on July 25, 2006. This was supplemented by material on the websites of Johns Hopkins University, the Bloomberg School of Public Health, and the OpenCourseWare portal. Data dealing with usage of OCW were drawn from WEBTRENDS, an online report dated July 24, 2006 and a usage report compiled on July 25, 2006.