2005 Program Evaluation Findings Report

MIT OpenCourseWare

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MIT OpenCourseWare 2005 Program Evaluation Findings

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I. Executive Summary

A. About MIT OpenCourseWare

MIT OpenCourseWare (OCW) is a large-scale, web-based electronic publishing initiative, accessible on the Internet at ocw.mit.edu. Through OCW, MIT makes its core teaching materials—lecture notes, problem sets, syllabi, reading lists, simulations, etc.—openly available for non-commercial educational purposes. OCW publishes those materials in standards-based formats for anyone with access to the Internet.[1] OCW has a dual mission:

- To provide free access to virtually all MIT course materials for educators, students, and individual learners around the world.
- To extend the reach and impact of MIT OCW and the opencourseware concept.

Beginning in 2002, MIT OpenCourseWare has published 1,259 of MIT's approximately 1,800 courses to date. In addition, OCW has published 133 updated versions of previously published courses. MIT OpenCourseWare expects to have published 1,800 courses by 2008, and beyond that milestone will continue to update courses as an ongoing activity of the Institute.

B. Evaluation design and data sources

MIT OpenCourseWare organizes evaluation data according to the following three concepts:

- *Access* – Visitors educational roles and profiles, geographic location and the technical conditions under which they access the site.
- *Use* – Visitors educational goals in using the site, the materials that facilitate these goals and the levels of success visitors experience in accomplishing educational goals.
- *Impact* - The difference the site has made in the educational experiences of individual visitors and how has the site affected educational practices worldwide.

Data sources for this evaluation include web metrics; surveys of OCW users, MIT faculty, MIT students, and MIT alumni; e-mail feedback; OCW visitor interviews; and affiliate project data. The visitor survey, from which much of the data is drawn, includes responses from 4115 site visitors, has a margin of error of not more than 1.5%, and over-represents international users, returning visitors and visitor with older systems (which do not block pop-ups as efficiently). For more information, please see Appendix 3.

C. Major findings

- *Access:* Online access to MIT OpenCourseWare content continues to grow dramatically on ocw.mit.edu and on translation sites, with currently more than 1 million monthly visits to OCW content, and a 56% annual increase in visits.

- *Use:* The OCW site is being used by educators, students and self learners to successfully accomplish a wide range of educational objectives; and visitors are widely satisfied with the breadth, depth and quality of OCW content.

- *Impact:* Individual educators and learners report high levels of current impact on their learning goals, and expectations for even higher impact in the future; institutions worldwide are both using MIT OpenCourseWare materials and publishing their own materials openly—with more than 2,000 courses representing over 50 institutions currently available online.

[1] See Appendix 1 for more background information on the OCW initiative at MIT.

D. Summary of findings

1. Access

a. Online access to MIT OCW content has grown dramatically on the ocw.mit.edu site itself and on translation sites.

- 8.5 M visits to OCW content last year, a 56% annual increase
- 350+ courses translated and 70 mirror sites globally

(for more information, see page 5)

b. OCW materials are being widely distributed offline to secondary audiences.

- 18% of visitors distribute copies of OCW material to others
- 46% of educators reuse site contents; of those, 30% give students printed copies, 24% provide digital copies

(for more information, see page 8)

c. OCW is accessed by a broadly international population of educators and learners.

- 61% of OCW traffic is non-US; East Asia-22%, Western Europe-15%, South Asia-6%, Latin America-5%, other regions-13%
- 49% of visitors are self learners, 32% students, 16% educators

(for more information, see page 11)

d. Visits most often begin on the site directly and typically start at the site home page; average 9.2 page views and 9 minutes in length.

- 37% of visits are direct traffic, 26% come via search engines, 21% from MIT's web site, 16% other referrers
- Visits average 9.2 page views; 29% include 5 or more and 6% include more than 25

(for more information, see page 17)

e. Visitors are largely satisfied with the file formats for OCW print and video content, but would prefer more options.

- 98% of visitors find PDF suitable, and 26% prefer it; other formats requested include MS Office (36%) and HTML (16%)
- 82% of visitors to video pages are satisfied with RealMedia; 66% prefer to download rather than stream

(for more information, see page 20)

2. Use

a. OCW use is centered on subjects for which MIT is a recognized leader.

- EECS, Math, Management, Physics, Economics and Mechanical Engineering are 33% of OCW courses and attract 62% of traffic

(for more information, see page 24)

b. The OCW site is being successfully used by educators, students and self learners for wide range of purposes.

- Educator uses: planning a course (26%), preparing to teach a class (22%), enhancing personal knowledge (19%)
- Student uses: complementing a course (38%), enhancing personal knowledge (34%), planning course of study (16%)
- Self learner uses: enhancing personal knowledge (56%), keeping current in field (16%), planning future study (14%)
- 41% are completely successful; 51% are somewhat successful

(for more information, see page 25)

c. Nearly half of educators visiting the site have reused site content, and most expect to do so in the future.

- 46% of educators have adopted or adapted site content; 92% plan to in the future
- 62% combine OCW materials with other content; 38% adapt course syllabi; 26% adapt assignments or exams

(for more information, see page 35)

d. Visitors consider site materials to be up-to-date and are largely satisfied with site content breadth, depth and quality.

- 97% of visitors agree that OCW materials are up to date
- 93% of visitors are satisfied with site breadth; 87% are satisfied with depth of courses; 91% are satisfied with quality

(for more information, see page 42)

e. Visitors seeking video are most often students and frequent visitors to the site, watch entire video series for independent learning, and use non-video content in conjunction with videos.

- 44% of visitors seeking video content are students, 40% are self learners, and 14% are educators; 24% visit daily, as compared to 8% of all visitors
- 59% of visitors accessing video lectures do so for independent learning; 19% do so to complement a course they are taking
- 74% of visitors accessing video lectures use OCW non-video content in conjunction; 65% have viewed or plan to view an entire video lectures series

(for more information, see page 44)

f. The OCW site is widely used by the MIT community and is a significant influence on prospective students.

- 71% of students, 59% of faculty members and 42% of alumni use the site
- 35% of freshmen aware of OCW before deciding to attend MIT were influenced by it
- 69% of MIT students say OCW has positively impacted student experience

(for more information, see page 50)

g. Most MIT faculty contribute to the OCW site and many feel they have improved their classes through publication.

- 75% of MIT's faculty have published courses on OCW
- 49% of participating faculty have published 2 or more courses
- 32% agree publishing improves their teaching materials

(for more information, see page 55)

3. Impact

a. Visitors indicate that OCW has already had significant impact and expect even greater impact in the future.

- 80% of visitors rate OCW's impact as extremely positive or positive; 91% expect that level of future impact
- 96% of educators say the site has/will help improve courses
- 96% of visitors would recommend the site

(for more information, see page 61)

b. OCW is increasingly cited in professional and popular literature as an influential open educational sharing project.

- More than 300 articles in global media including CNN International, *The Times of India*, *Forbes*, and *The Chronicle of Higher Education*
- Student newspaper editorials at Harvard, Yale, Columbia, Duke, and Penn calling for OCWs at those schools

(for more information, see page 65)

c. Institutions internationally and in the US are publishing openly, creating a growing body of available courseware.

- 50 institutions worldwide openly publishing courses; 30 more with projects underway
- Over 2,000 courses openly published globally, one third from institutions other than MIT

(for more information, see page 67)

MIT OpenCourseWare continues to attract a global audience of educators, students and self learners. Nearly half of all educators visiting the site have incorporated OCW content into their own teaching materials. Students use the site both to supplement materials from courses they are taking and to study beyond the bounds of their formal course of study. Self learners find the site to be a valuable resource for informal study at nearly all stages of life, both prior to and after formal educational programs, and report the site allows them to update their professional skills. Site visitors are highly satisfied with the material they find on the site, indicate the site has already had a significant impact on their learning, and expect even greater impact in the future. In addition, the site is providing significant benefits to all constituencies of the MIT community, supporting the long-term sustainability of the project. In the past year, MIT OpenCourseWare has been joined by approximately 50 other institutions world wide who are openly sharing their educational resources, creating body of material from more than 2,000 courses and a diverse range of cultures. These findings demonstrate continued progress toward the fulfillment of OCW's mission and provide data with which we can guide program planning and decision-making.

II. Findings: Access

At the highest level, access data indicate:

- Online access to MIT OCW content has grown dramatically on the ocw.mit.edu site itself and on translation sites.
- OCW materials are being widely distributed offline to secondary audiences.
- OCW is accessed by a broadly international population of educators and learners.
- Visits most often begin on the site directly and average 9.2 page views.
- Visitors are largely satisfied with the file formats for OCW print and video content, but would prefer more options.

A. MIT OpenCourseWare access levels

MIT OpenCourseWare content is accessed by users through a range of channels both online and off. Online, users access our content directly on the ocw.mit.edu site, through sites hosting translations of our courses, and through mirror sites that make content more accessible in regions with bandwidth limitations or high international access costs. Offline, our content is accessed by visitors who have downloaded or printed our content and by secondary audiences who receive OCW materials in print or electronic form from site visitors.

1. Online access to OCW site content

Overall visits to MIT OpenCourseWare content

ACCESS: OVERALL ONLINE TRAFFIC LEVELS

- 8.5 M visits to OCW content last year
- 56% annual increase in visits

Visits[2] to MIT OpenCourseWare content—whether on ocw.mit.edu, translation partner sites,[3] or mirror sites—increased significantly during the evaluation period. As shown in Figure 1 below, total visits to ocw.mit.edu and translation sites increased from 5.4 million in the prior evaluation period to 8.5 million in the current evaluation period, a 56% increase. In addition to this traffic, an unknown number of additional visits were made to the more than 70 supported and unsupported[4] mirrors of the OCW site that exist around the world; preliminary indications are that these visits may number in the tens of thousands in total (see "Access to Mirror Sites" below).

Traffic at the beginning of the current evaluation period was influenced by the worldwide coverage the project received on CNN International, and traffic patterns continue to be influenced by the western academic calendar, with significant drops in traffic during the months of June, July and August. Traffic to translation sites continues to build as the number of translated courses available increases.

[2] A visit, both for the ocw.mit.edu site and affiliate sites, is defined as activity on the site from a unique visitor separated from any other activity from that same visitor by an interval of at least 30 minutes. If, for instance, a visitor comes to the site and views five pages, then leaves the site and returns 25 minutes later, all the activity is recorded as a single visit. If, in a similar scenario, the visitor returns 35 minutes later, the activity is recorded as two visits. Web analytic systems for the various sites identify unique visitors in different ways (typically either with cookie-based or IP address-based systems), and so produce slight variations in measurement.

[3] For more information on translation affiliates, see "Access to translated content" below.

[4] MIT OCW provides installation and updating support for some mirror sites; other have been published on the web independent of any assistance from MIT OCW.

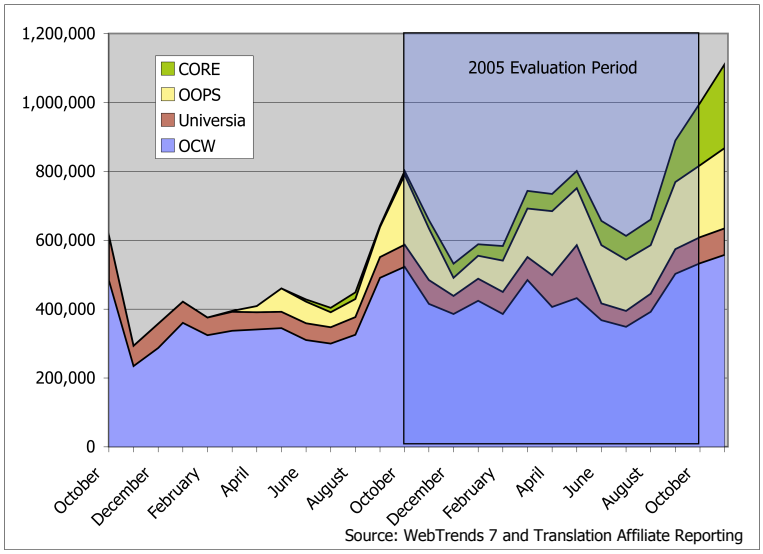


Figure 1. Monthly visits to MIT OpenCourseWare content, 10/2003-12/2005

Direct access to ocw.mit.edu

During the current evaluation period, 5 million visits to the main MIT OpenCourseWare site (ocw.mit.edu) were recorded, as compared to 4.2 million in the previous year, an increase of 22%. The site averaged 423,269 visits per month during the evaluation period, and ranged from 348,708 in July 2005 to 533,425 in October 2005. As with overall traffic to OCW content above, traffic to the main site was influenced in the early part of the evaluation period by the coverage received by the project on CNN International (see Figure 2 below).

ACCESS: OCW.MIT.EDU TRAFFIC LEVELS

- The main OCW site recorded 5 M visits last year
- The site averaged 423,000 visits per month

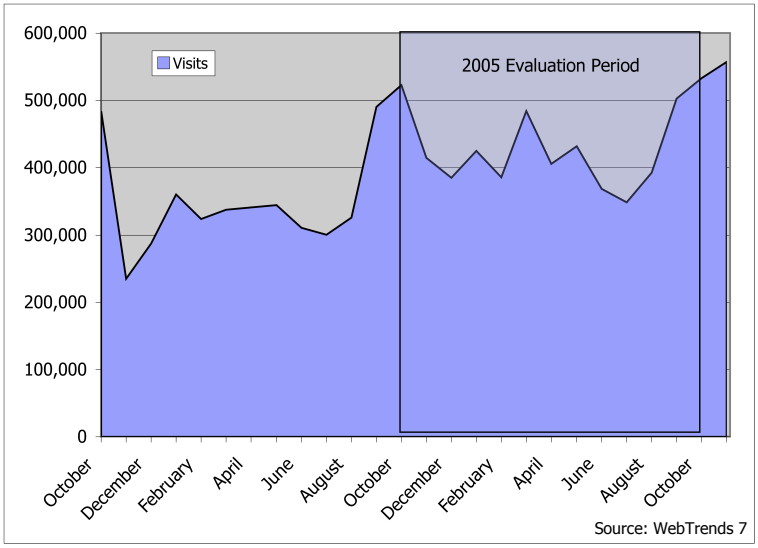


Figure 2. Monthly visits to ocw.mit.edu, 10/2003 - 12/2005

As with overall traffic, traffic to the main site exhibits fluctuations coinciding with the western academic calendar, including drops in traffic during June, July and August. A pattern of relatively stable traffic throughout the academic year (September through May) with dramatic increases at the start of each new academic year seems to be emerging, though several more years of traffic data will be required to confirm this pattern.

Access to translated OCW content

ACCESS: TRANSLATION TRAFFIC LEVELS

- OCW translations generated 3.4 M visits, 68% of the ocw.mit.edu site traffic
- Visits to translations increased 170% over last year

MIT OpenCourseWare has translation affiliate agreements with four organizations: Universia, which translates our content into Spanish and Portuguese; China Open Resources for Education (CORE), which translates our materials into simplified Chinese; Opensource Opencourseware Prototype System (OOPS), which translates our materials into traditional Chinese; and Chulalongkorn University in Thailand, which translates our content into Thai. The most dramatic increases in traffic to OCW content during the evaluation period occurred on these translation affiliate sites. 3.4 million visits were recorded to translations of OCW courses on our three affiliate sites, as compared to 1.3 in the previous year, representing an overall increase of 170% (see Figure 3 below).

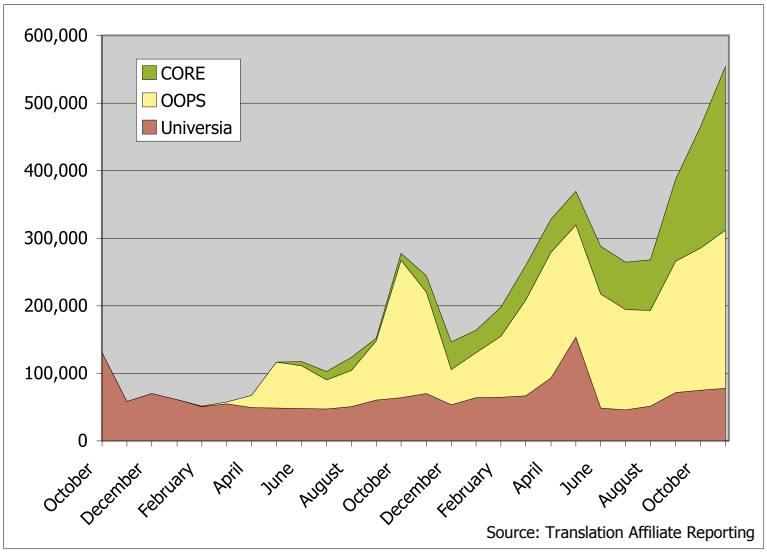


Figure 3. Monthly visits to translation affiliate sites, 10/2003 - 12/2005

Visits to translated content exhibit similar patterns to those described above, and also appear to be influenced by the increasing numbers of translated courses available. At the beginning of the evaluation period, a total of 162 courses had been translated. Universia had translated 79 courses into Spanish and 80 into Portuguese; CORE had translated 2 courses into simplified Chinese; and OOPS had translated 11 into traditional Chinese. By the end of the evaluation period, 236 total translated courses were available, with 94 in Spanish, 85 in Portuguese, 45 in simplified Chinese and 15 in traditional Chinese. Chulalongkorn University begin their translation project during the evaluation period, but has not completed any translations to date.

Access to mirror sites

ACCESS: MIRROR SITE ACCESS

- More than 70 locations around the world
- A single mirror site in Uganda currently records more visits than the OCW site receives from all of Sub-Saharan Africa

The MIT OpenCourseWare site is currently mirrored in more than 70 locations around the world, including Bangladesh, Brazil, China, Ghana, Indonesia, Mauritius, Nigeria, Pakistan, Sri Lanka, Taiwan and Uganda. These mirror sites have been established, with the cooperation of partner organizations and through direct contact between MIT OpenCourseWare and hosting institutions, largely to overcome local bandwidth constraints.

While a process for data collection on usage of these mirror sites is under development, early traffic figures for some mirrors indicate that these site copies have tremendous potential for providing wider access to OCW content. To date OCW has obtained regular traffic reporting from two of the mirror sites, one located at Makerere University in Uganda and one located at the University of Khartoum in Sudan. As illustrated in Figure 4 below, the Makerere site now generates more visits than the MIT OpenCourseWare site is estimated to generate from all of Sub-Saharan Africa.[5]

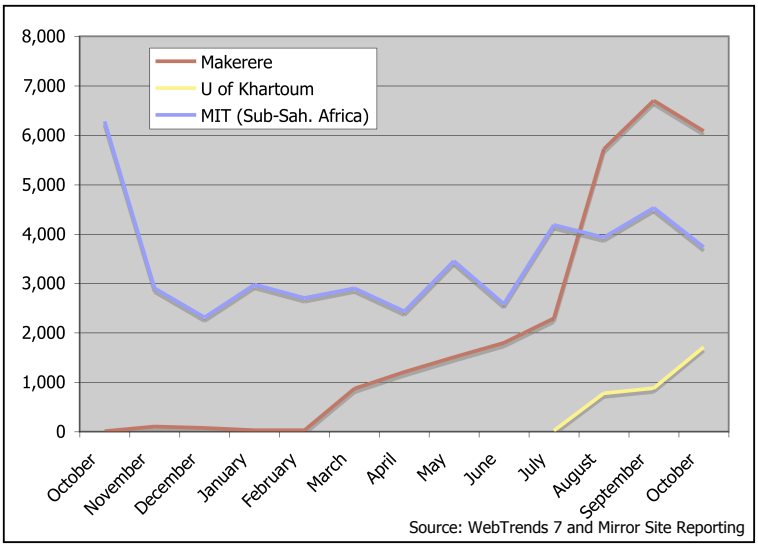


Figure 4. Monthly visits to MIT from Sub-Saharan Africa and visits to regional mirror sites, 10/2004 - 10/2005

There is no indication that mirror sites in Sub-Saharan Africa are decreasing direct access to the MIT OCW site, suggesting that they serve different audiences. Going forward, MIT OpenCourseWare will seek to standardize traffic reporting from mirror sites to better determine the impact of mirror sites in locations with issues of constrained bandwidth.

2. Offline access to OCW site content

In addition to accessing materials online, OCW visitors access materials offline through a variety of channels. Most frequently they access materials previously downloaded or printed directly from the site. Many visitors download or print site contents for the expressed purposed of providing those materials to secondary audiences who lack internet connections, and educators in large numbers redistribute unmodified site contents in print or electronic form to their students.

[5] MIT OCW gathers geographic data based on object hits, or calls to servers for individual files that constitute pages of content; a single page view typically generates 8-9 object hits, and a typical visit includes approximately 9 pages. Regional visit approximations are generated by applying the percent of hits received from the region to the overall visits to the OCW site received for the same period. These estimates do not account for proxy servers and other issues that may affect these ratios.

Downloaded content

As indicated in Table 1 below, More than two thirds of visitors say that they have downloaded individual files such as lecture notes or assignments from the OCW site, and over a third indicate they have printed site contents.

ACCESS: DOWNLOADED CONTENT

- 69% of visitors have downloaded individual OCW files; 38% have printed copies
- 49% those have done so to overcome internet limitations or costs
- 2% have adapted materials for use on mobile devices

Table 1. Levels of offline access to OCW content

Offline channel	%
Downloaded individual files to a local hard drive	68.7%
Printed paper copies of site contents	38.1%
Downloaded courses using "Download this course" option provided on some courses	26.5%
Other	7.4%
Downloaded portions of the site using Teleport Pro or similar web capture software	5.6%

Source: 2005 Visitor Survey

While many visitors indicate that they print content simply because they prefer to read on paper, or download content to create a personal archive, nearly half (49%) of those copying materials off the site indicate they download content to overcome internet limitations and costs, and 19% indicate they download content specifically to distribute to other who lack internet access. In free text responses, a small number of visitors also indicated they downloaded site contents out of concern that the site might become unavailable at some point.

.Zip file downloads

In response to user feedback, OCW initiated a pilot program to test the feasibility of providing .zip file downloads containing the full contents for entire courses. Starting in mid-July of 2005, 24 courses were instrumented with such files, and as of the end of the year, these 24 courses have generated more than 80,000 completed downloads. As shown in Table X above, 27% of users completing the survey indicated they have downloaded a course using this feature. Site visitors have expressed tremendous enthusiasm for the .zip download feature (see Table 2 below).

T bl 2 U : i d l d

"I would like to thank you for zipping the course contents into a single file, as this makes downloading much more convenient - and will ensure nothing is missed!" (Student, Canada)

"I find the zip file format for downloading whole courses very useful. I often study the materials on my laptop while away from internet access. If the entire course is not available as a single download which preserves the structure of the website it can be time consuming to download and also difficult to navigate." (Educator, United Kingdom)

"I think the ZIP file download feature is immensely useful. Self learners like me can use a high bandwidth link to download the content of the course and go through it later. This is especially important in countries where the penetration of the internet is still in its nascency. Thank you so much." (Self learner, India)

Source: 2005 Visitor Survey

2.3% of users downloading content indicate that they have adapted OCW material for use on mobile devices such as iPods, PDAs, and cell phones. Clear indications have emerged that this phenomenon goes beyond individual users and is a behavior shared by an emerging community. As illustrated in Figure 5 below, instructions specifically addressing how to download and adapt OCW content for offline viewing have been posted on sites such as all-streaming-media.com.

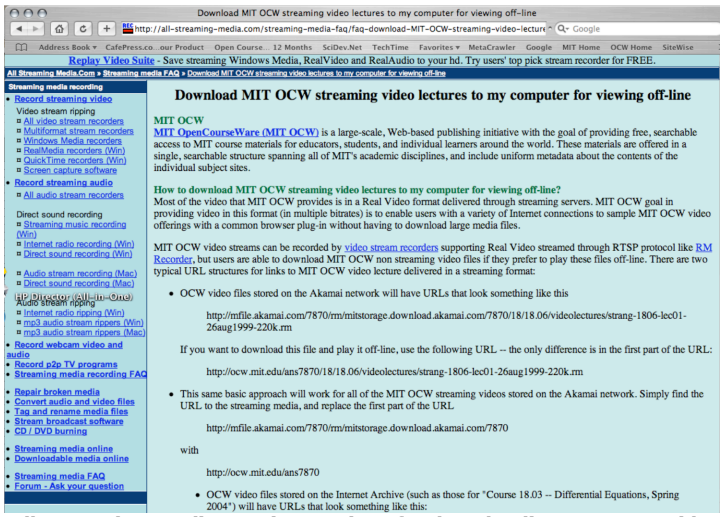


Figure 5. all-streaming-media.com instructions for downloading MIT OCW video content
Source: http://all-streaming-media.com

Individual users have also posted instructions for adapting OCW content for use on devices such as the Sony PSP and Apple iPod. Figure 6 below is a screenshot from the website of a self learner from the United States who has adapted OCW content for these devices and posted instructions for how to do so on his personal web site.

Figure 6. US self learner instructions for adapting OCW videos
Source: http://homepage.mac.com/rayfix/ocw_ipod/

Secondary offline distribution of OCW content

As noted above, 18% of visitors download or print site contents to distribute the materials to other who lack Internet access. Educators represent a key channel for the distribution of site materials to secondary audiences, primarily their students. In addition to frequently referring students directly to the site (66%), instructors who use site content often distribute printed copies (30%) of site materials or distribute electronic copies (24%) of unmodified site materials via e-mail, file sharing or learning management systems (see Table 3 below).

ACCESS: OFFLINE CONTENT REDISTRIBURION

- 18% of visitors download or print site contents to distribute to others
- 46% of educators reuse site contents; of those, 30% give students printed copies, 24% provide digital copies

Table 3. Educator recommendation/redistribution of site contents

Reuse mode	%
Recommended students go to the site directly for additional subject information	65.5%
Provided printed copies of unmodified site materials to students in class	29.5%
Provided electronic copies of unmodified site materials to students via e-mail, file sharing, or learning management system (e.g. BlackBoard, WebCT)	23.9%

Source: 2005 Visitor Survey

Educator qualitative descriptions (see Table 4 below) illustrate ways in which faculty redistribute OCW materials to their students.

Tabl 4 U : Ed t di t ib ti f OCW t t

"I use the material to prepare handouts for circulation in the class room. I plan to use the assignments and the exercise problems." (Educator, India)

"[I] reuse some drawings from lecture notes rewrite parts of text learn how to explain better some complex issues." (Educator, Italy)

"I usually download some lecture material for my students." (Educator, China)

y

B. OCW visitor characteristics

1. Visitor regional distribution

Web analytic data from the evaluation period indicate that 57% of visits to the site originated outside the United States (see Table 5 below). This measure is the best indication of the geographic distribution of visitors.[6]

ACCESS: VISITOR REGIONAL AND EDUCATIONAL ROLE DISTRIBUTION

- 61% of OCW traffic is non-US
- 49% of visitors are self learners, 32% students, 16% educators

Table 5. Visit distribution by region[7]

Region	Est. visit %	Region	Est. visit %
North America	42.9%	MENA	2.9%
Western Europe	21.2%	Pacific	1.3%
East Asia	15.1%	Sub-Sah. Africa	0.8%
South Asia	6.1%	Central Asia	0.6%
Latin America	5.0%	Caribbean	0.2%
Eastern Europe	3.9%	**Total**	**100.0%**

Source: WebTrends 7

[6] Sample bias in the survey responses makes the direct measure of visitor geographic origin (66% non-North American) from the survey less reliable. Visit distribution using the web analytic data does not, however, account for regional differences in visit frequency, as discussed in Section II.B.4 below, which would suggest the non-North American visitor population is somewhat less than 60% of the total visitor population. For more information on sample bias in the visitor survey, see Appendix 3.

[7] Regions based on World Bank reporting regions; MENA is Middle East and North Africa.

2. Visitor educational role

Visitors most frequently identify themselves as self learners (47%), studying outside the context of a formal educational program (see Table 6 at right). Students enrolled in formal educational programs make up just under a third of the OCW visitor population, and 16% of visitors identify themselves as educators. The remaining 5% generally identify themselves as having multiple roles, or as being professional trainers, consultants or researchers.

Table 6. Educational roles

Role	%
Educator	16.4%
Student	32.0%
Self learner	46.5%
Other	5.2%
Total	**100.0%**

Source: 2005 Visitor Survey

The educational role distribution of the OCW site population has remained relatively stable since the launch of the first 500 courses in September 2003, although the percentage of educators has increased by roughly one and a half percent a year in the past two years. In 2003, educators were measured at 13.1% of the visitor population, as compared to 15.3% in 2004 and 16.4% in 2005. This shift is within the margin of error for the surveys.

As shown in Table 7 below, regional variations exist in role distribution. Higher percentages of educators use the site in developing regions such as East Asia, Latin America, Eastern Europe, and the Middle East and North Africa. Self learner percentages continue to be highest in North America, East Asia and Western Europe. Taken together, these self learners represent over a third of all visitors to the OCW site (35.2%).

Table 7. Educational role distribution by region[8]

Region	Educator	Student	Self learner	Other	Total
North America	12.5%	28.0%	53.2%	6.3%	**100.0%**
East Asia	13.3%	34.5%	49.2%	2.9%	**100.0%**
Western Europe	19.8%	29.2%	45.8%	5.2%	**100.0%**
Latin America	26.9%	30.6%	37.3%	5.2%	**100.0%**
South Asia	15.7%	34.2%	43.0%	7.2%	**100.0%**
Eastern Europe	22.0%	45.9%	25.2%	6.9%	**100.0%**
MENA	24.2%	42.5%	29.2%	4.2%	**100.0%**
Pacific	14.9%	40.3%	43.3%	1.5%	**100.0%**
Sub-Sah. Africa	19.0%	32.8%	41.4%	6.9%	**100.0%**
Central Asia	21.4%	35.7%	42.9%	0.0%	**100.0%**
Caribbean	33.3%	16.7%	50.0%	0.0%	**100.0%**
All regions	**16.4%**	**32.0%**	**46.5%**	**5.2%**	**100.0%**

Source: 2005 Visitor Survey

The percentage of educators using the site in North America has increased in the past two years from 8.4% to the current 12.5% while remaining relatively stable in other regions; self learners as a percentage of North American traffic have dropped from 59.9% to 53.2% over the same period.

As was the case in last year's evaluation data, Latin America appears to be home to a disproportionate number of educators using the site—overall, 10% of OCW visitors are from the region, but among educators only that figure jumps to 17%.

3. Visitor field of study or interest

ACCESS: VISITOR FIELD OF INTEREST

- 51% of visitors list EECS, physics, mathematics, business or management as their primary field of study or interest

Visitors expressed fields of expertise or interest continue to focus on subjects for which MIT is a recognized field leader. As shown in Table 8 below, 51% of visitors to the site indicate electrical engineering and computer science, physics, mathematics, business or management as their primary field of study or interest. This figure is identical to that of the

[8] Figures in gray represent sample sizes less than 100.

previous evaluation. As was also the case in prior evaluations, interest in business and management is largely driven by self learner populations, who indicate these as areas of interest in markedly higher percentages than do students or educators.

Table 8. Visitor field of study or interest

Field	Educator	Student	Self learner	Other	All roles
Electrical Eng. and Computer Science	20.9%	28.0%	25.5%	20.0%	**25.3%**
Physics	8.8%	7.2%	5.6%	5.9%	**6.7%**
Mathematics	6.9%	6.6%	6.6%	3.4%	**6.5%**
Business	4.6%	4.7%	7.6%	5.4%	**6.1%**
Management	4.9%	4.3%	7.5%	6.8%	**6.0%**
Economics	4.9%	6.8%	5.6%	2.4%	**5.7%**
Mechanical Engineering	5.4%	6.2%	4.4%	3.9%	**5.1%**
Other	6.3%	5.5%	3.7%	7.3%	**4.9%**
Civil and Environmental Engineering	3.4%	2.7%	2.5%	6.3%	**2.9%**
Biology	2.8%	3.0%	2.1%	1.0%	**2.5%**
Science, Technology and Society	1.4%	1.6%	2.9%	4.9%	**2.3%**
Aeronautics and Astronautics	1.2%	2.3%	2.3%	5.4%	**2.3%**
Engineering Systems	1.8%	2.3%	2.2%	2.4%	**2.2%**
Chemistry	4.5%	2.1%	1.2%	1.5%	**2.1%**
Health Sciences and Technology	2.6%	1.5%	1.6%	3.4%	**1.8%**
Brain and Cognitive Sciences	1.8%	1.2%	1.7%	2.0%	**1.6%**
Material Science and Engineering	2.3%	2.0%	0.9%	1.5%	**1.5%**
Chemical Engineering	2.2%	1.2%	1.4%	1.5%	**1.5%**
Political Science	1.7%	1.5%	1.4%	2.0%	**1.5%**
Foreign Languages and Literatures	1.7%	0.9%	1.6%	1.0%	**1.4%**
Linguistics	2.0%	1.0%	1.0%	1.5%	**1.2%**
History	1.4%	0.3%	1.6%	0.5%	**1.1%**
Earth, Atmos. and Planetary Sciences	1.4%	0.8%	1.0%	2.9%	**1.1%**
Biological Engineering	0.5%	1.6%	0.9%	1.5%	**1.1%**
Philosophy	0.6%	1.0%	1.1%	1.5%	**1.0%**
Architecture	0.5%	1.0%	1.2%	0.0%	**1.0%**
Media Arts and Sciences	0.8%	0.5%	1.0%	2.0%	**0.9%**
Literature	1.1%	0.4%	0.9%	0.0%	**0.7%**
Writing and Humanistic Studies	0.5%	0.2%	0.9%	0.5%	**0.6%**
Ocean Engineering	0.8%	0.5%	0.5%	0.5%	**0.6%**
Anthropology	0.2%	0.5%	0.5%	0.0%	**0.4%**
Music	0.2%	0.1%	0.4%	1.5%	**0.3%**
Comparative Media Studies	0.0%	0.1%	0.3%	0.0%	**0.2%**
Nuclear Engineering	0.2%	0.2%	0.1%	0.0%	**0.2%**
Theater Arts	0.2%	0.1%	0.1%	0.0%	**0.1%**
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: 2005 Visitor Survey

4. Visit frequency and prior visits

New and returning visitors

In the current evaluation period, 3,497,029 unique visitors were identified as having visited the site; of those, 728,408 (20%) had visited the site prior to the start of the evaluation period.[9] In the 2004 evaluation, 282,668 visitors (11% of all visitors) were similarly identified as returning visitors. These data indicate a healthy maturation of the site, with strong increases in returning visitors over long periods of time. Prior visit data (see "Prior visits" below) support this characterization of visitor behavior.

Table 9. New and returning visitors

New/returning	% (survey)	% (analytics)
New	39.5%	70.9%
Return	60.5%	29.1%
Total	**100.0%**	**100.0%**

Source: 2005 Visitor Survey

As shown in Table 9 at left, the population responding to the 2005 Visitor Survey is significantly tilted toward returning visitors, as

[9] A small percentage of visitors counted in this category are visitors not accepting cookies.

has been the case in prior evaluations. 61% of those completing the survey indicate they've made one or more prior visits to the site, while web analytic data for the period of survey data collection would suggest the actual percentage was approximately half that figure (29%). For more information, see Appendix 3.

While the absolute ratio of new and returning visitors from regions are likely distorted somewhat by sample bias, the percentages of new and returning visitor survey respondents examined geographically does indicate which regions are generating new traffic to the site (see Table 10 at right).[11] Latin America, Western Europe and North America have the highest percentage of returning visitors, while Eastern Europe and East Asia have the highest percentages of new visitors.

Table 10. New and returning visitors by region[10]

Region	New	Return	Total
North America	39.5%	60.5%	**100.0%**
East Asia	46.2%	53.8%	**100.0%**
Western Europe	33.5%	66.5%	**100.0%**
Latin America	31.4%	68.6%	**100.0%**
South Asia	31.6%	68.4%	**100.0%**
Eastern Europe	46.9%	53.1%	**100.0%**
MENA	37.8%	62.2%	**100.0%**
Pacific	44.8%	55.2%	**100.0%**
Sub-Sah. Africa	57.6%	42.4%	**100.0%**
Central Asia	50.0%	50.0%	**100.0%**
Caribbean	42.9%	57.1%	**100.0%**
All regions	**39.4%**	**60.6%**	**100.0%**

Source: 2005 Visitor Survey

Prior visits

Among returning visitors to the site, over half have made 10 or more prior visits, including 18% who have made more than 50 visits to the site (see Table 11 below). As has been observed in previous evaluations, students tend to have made the most prior visits, with more than 22% reporting over 50 previous visits. This correlates with visit frequency data below, with students also being the visitors who come to the site with greatest frequency. Educators continue to report the fewest prior visits of all roles, also consistent with their lower visit frequency.

ACCESS: PRIOR VISITS AND VISIT FREQUENCY

- 72% of returning visitors have made 10 or more visits; 18% of those have made more than 50 prior visits
- 41% of returning visitors come at least weekly; 21% more visit at least monthly

Table 11. Prior visits by role

Prior visits	Educator	Student	Self learner	Other	All roles
Once	8.9%	7.0%	6.5%	6.7%	**7.0%**
2-5 times	26.4%	17.0%	21.8%	21.7%	**20.9%**
6-10 times	19.1%	18.5%	16.5%	15.0%	**17.5%**
11-25 times	18.9%	17.2%	21.6%	17.5%	**19.5%**
25-50 times	14.8%	18.3%	15.9%	20.8%	**16.8%**
< 50 times	11.9%	22.1%	17.7%	18.3%	**18.3%**
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: 2005 Visitor Survey

Visit frequency

Overall, 41% of returning visitors come to the site at least weekly (see Table 12 below). As in previous years, students continue to visit the site with greatest frequency, with more than 52% coming to the site at least weekly. Half of educators report visiting the site less than once a month. Visit frequency patterns are consistent with common scenarios of use reported by the different roles (see Section III.B), with educator scenarios often related to planning and advising tasks that occur with relatively low frequency throughout the academic year.

Table 12. Visit frequency by role

Frequency	Educator	Student	Self learner	Other	All roles
Daily	3.2%	11.4%	7.6%	10.1%	**8.3%**
Weekly	25.1%	41.2%	29.8%	25.2%	**32.6%**
Monthly	21.6%	18.1%	22.5%	26.9%	**21.1%**
Occasionally (< once/month)	50.1%	29.3%	40.0%	37.8%	**37.9%**
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: 2005 Visitor Survey

[10] Figures in gray represent sample sizes less than 100.

[11] OCW's web analytics system does not support analysis of new and repeat traffic by geographic regions.

As shown in table 13 below, regional visit patterns indicate the OCW site is used with greater frequency in developing regions. In East Asia, 48% of returning visitors come to the site weekly, as do 40% in Latin America, 55% in South Asia, and 57% in Eastern Europe. By comparison, this figure is 36% in North America and 30% in Western Europe.

Table 13. Visit frequency by region[12]

Region	Daily	Weekly	Monthly	Occas-ionally	Total
North America	7.4%	28.8%	21.8%	42.0%	**100.0%**
East Asia	10.3%	37.7%	16.3%	35.7%	**100.0%**
Western Europe	4.3%	25.4%	25.1%	45.1%	**100.0%**
Latin America	6.8%	32.7%	24.8%	35.6%	**100.0%**
South Asia	14.9%	39.8%	17.7%	27.7%	**100.0%**
Eastern Europe	9.4%	47.1%	20.0%	23.5%	**100.0%**
MENA	8.1%	33.8%	27.0%	31.1%	**100.0%**
Pacific	5.4%	21.6%	27.0%	45.9%	**100.0%**
Sub-Sah. Africa	12.0%	56.0%	8.0%	24.0%	**100.0%**
Central Asia	0.0%	35.7%	14.3%	50.0%	**100.0%**
Caribbean	25.0%	0.0%	25.0%	50.0%	**100.0%**
All regions	**8.3%**	**32.7%**	**21.1%**	**37.9%**	**100.0%**

Source: 2005 Visitor Survey

Regions with a high percentage of visitors coming to the site daily roughly correspond with regions that have above average student populations visiting the site.

5. Visitor organizational affiliations

At the highest level, web metrics indicate that 29% of visits to the OCW site originate in network domains (.net), 18% originate in commercial domains (.com, .biz), 12%% originate in educational domains (.edu, .ac), and 16% originate in other domains (.mil, .org, .gov, .arpa). A closer look at these domains provides insight into the breadth and depth of OCW use by businesses, educational institutions, the military and NGOs. See section III.C.3 for more information on institutional uses of OCW content.

ACCESS: VISITOR ORGANIZATIONAL AFFILIATIONS

- 530,00 visits from educational domains last year, an annual increase of 31%
- 28,500 visits from Boeing, Intel, Raytheon, IBM and Motorola combined
- 21,000 visits from US military domains combined (navy.mil, af.mil, army.mil, and usmc.mil)

Visits from educational institutions

Visitors from educational institutions are using the site in increasing numbers. In the previous evaluation, only 9 institutions generated more than 3,000 visits to the OCW site; in the current evaluation period, 22 institutions generated more than 3,000 visits. A total of 527,322 visits were recorded from educational domains, a 31% increase over the previous year. Among the top 10,000 domains generating traffic to the site, visits were recorded from 1,535 domains using the .edu or .ac designations.[13] Table 14 below lists the top 100 .edu or .ac domains generating traffic to the OCW site.

[12] Figures in gray represent sample sizes less than 100.
[13] These figures do not include educational institutions not using these domain designations, such as those in Canada. Additionally, prior to a change in web metrics tools, OCW was able to analyze all domains generating traffic rather than just the top 10,000; in that evaluation, visits were recorded from over 3,100 .edu and .ac domains.

Table 14. Visits from educational domains, 11/04 - 10/05

Domain	Visits	Domain	Visits	Domain	Visits	Domain	Visits
mit.edu	124,119	clemson.edu	2,438	chula.ac.th	1,774	nmsu.edu	1,351
nus.edu.sg	9,883	nyu.edu	2,393	itu.edu.tr	1,770	ucdavis.edu	1,330
ntu.edu.tw	8,637	ox.ac.uk	2,342	iastate.edu	1,761	colostate.edu	1,317
harvard.edu	6,883	caltech.edu	2,296	huji.ac.il	1,760	brown.edu	1,303
stanford.edu	5,352	technion.ac.il	2,274	buffalo.edu	1,741	nd.edu	1,299
gatech.edu	5,216	wisc.edu	2,248	u-tokyo.ac.jp	1,711	unc.edu	1,295
purdue.edu	4,763	yale.edu	2,230	asu.edu	1,689	uc.edu	1,246
columbia.edu	4,681	metu.edu.tr	2,172	arizona.edu	1,686	usyd.edu.au	1,235
upenn.edu	4,380	stonybrook.edu	2,116	northwestern.edu	1,677	tufts.edu	1,226
cornell.edu	4,125	uci.edu	2,063	polyu.edu.hk	1,671	postech.ac.kr	1,225
berkeley.edu	4,093	msu.edu	2,018	colorado.edu	1,665	umr.edu	1,222
uiuc.edu	4,042	uta.edu	1,974	utah.edu	1,633	virginia.edu	1,202
kaist.ac.kr	4,006	ncsu.edu	1,969	leeds.ac.uk	1,628	rice.edu	1,199
umich.edu	3,873	vt.edu	1,954	kuleuven.ac.be	1,616	mtu.edu	1,192
cam.ac.uk	3,784	uchicago.edu	1,825	ncu.edu.tw	1,578	jhu.edu	1,172
tamu.edu	3,778	ucsd.edu	1,812	rpi.edu	1,560	soton.ac.uk	1,163
usc.edu	3,587	washington.edu	2,800	indiana.edu	1,480	fsu.edu	1,155
cuhk.edu.hk	3,124	cmu.edu	2,774	iitm.ac.in	1,478	uconn.edu	1,149
bu.edu	3,082	nthu.edu.tw	2,738	iit.edu	1,455	kyoto-u.ac.jp	1,138
utexas.edu	3,052	psu.edu	2,694	msstate.edu	1,455	ucsb.edu	1,132
ohio-state.edu	3,043	umd.edu	2,661	umass.edu	1,440	uiowa.edu	1,130
nctu.edu.tw	3,024	ufl.edu	2,556	tnrc.edu.tw	1,437	utdallas.edu	1,119
princeton.edu	2,925	duke.edu	2,538	uh.edu	1,395	Others	200,933
ucla.edu	2,919	ic.ac.uk	2,460	drexel.edu	1,384	**Total for 1,535**	**560,073**
umn.edu	2,919	wcc.edu.hk	1,804	bilkent.edu.tr	1,380		
rutgers.edu	2,918	bg.ac.yu	1,794	ucl.ac.uk	1,365		

Source: WebTrends 7

Visits from non-educational organizations

Commercial ISPs, including hinet.net, comcast.net, and aol.com produce the highest levels of traffic from any domain category, in part reflecting the high percentage of self-learners accessing the site for personal learning through their own personal internet connections. Beyond these domains, the non-educational domains generating the most traffic to the site (see Table 15 below) include those of the US military (20,736 combined visits) and companies focused on weapons systems and aeronautics (boeing.com, raytheon.com, northgrum.com), technology (intel.com, ibm.com, microsoft.com), other industry (ford.com, mmm.com, chsteel.com), finance (worldbank.org, bankofamerica.com, fidelity.com), and government (nasa.gov, nih.gov, nyc.gov).

Table 15. Visits from non-educational domains (ISPs removed), 11/04 - 10/05

Domain	Visits	Domain	Visits	Domain	Visits	Domain	Visits	Domain	Visits
navy.mil	8,388	lucent.com	1,427	adp.com	367	fidelity.com	676	gs.com	537
boeing.com	7,889	slb.com	1,346	defence.gov.au	367	ericsson.net	666	saic.com	533
af.mil	6,436	nokia.com	1,343	itt.com	364	citibank.com	661	tva.gov	528
intel.com	6,236	sun.com	1,212	delphi.com	362	xerox.com	651	csfb.com	527
raytheon.com	5,903	hp.net	1,134	abbott.com	362	pfizer.com	649	va.gov	518
army.mil	5,405	draper.com	1,090	teradyne.com	354	state.gov	637	mitre.org	516
ibm.com	4,347	erlm.siemens.de	1,063	mmm.com	351	sandia.gov	635	csc.com	511
motorola.com	4,083	hitachi.co.jp	949	harris.com	348	sony.co.jp	624	usmc.mil	507
microsoft.com	3,744	nortelnetworks.com	926	tiaa-cref.org	345	lanl.gov	601	gov.bc.ca	503
lmco.com	3,730	ford.com	903	oracle.co.uk	344	siemens.nl	587	gm.com	486
cisco.com	3,060	worldbank.org	837	lrz-muenchen.de	787	compaq.com	572	prudential.com	485
hp.com	2,589	bmwgroup.com	836	chsteel.com.tw	777	abb.com	566	agilent.com	481
northgrum.com	2,550	nih.gov	806	shell.com	763	sbc.com	566	sap-ag.de	464
nasa.gov	2,076	roche.com	801	ge.com	756	genuity.net	565	avantgo.com	456
oracle.com	1,767	st.com	799	dell.com	756	seagate.com	562	dupont.com	412
philips.com	1,613	kodak.com	402	merck.com	753	nec.co.jp	559	battelle.org	410
siemens.ca	1,550	cogentco.com	401	qualcomm.com	733	credit-suisse.com	557	llnl.gov	410
bosch.com	1,530	lilly.com	401	bankofamerica.com	717	cat.com	552	amat.com	409
honeywell.com	1,514	nyc.gov	400	sbi.com	707	fujitsu.co.jp	550	northropgrumman.com	406
ntl.com	1,432	pg.com	384	ms.com	683	ca.gov	545	gepower.com	403

Source: WebTrends 7

C. Visit characteristics

Visits to the OCW site are defined as activity by a unique user on the site delimitated by thirty minute or longer intervals of inactivity by that user. Visits are classified as either direct traffic or referred visits, based on the channel through which the visitor accessed the site. Direct traffic comes to the site when users type the site URL directly into the address bar of their browser, activate a stored bookmark to the site, click on a link in an e-mail message, or set the site as the home page for their browser. Referred visits come to the site from search engines results pages, links to OCW on other sites, and hyperlinks within online articles.

The first page accessed is the entry page for the visit and the last accessed page is the exit page. Each time the visitor moves to a new HTML page on the site, a page view is counted for the visit (PDF content is not counted in paged views). Visit duration is the interval between the first and last pages accessed.

1. Visit referral

Of visits generated by the top 1,000 referrers, 37% come to the OCW site directly, 26% come from search engines and 37% more come from a variety of other referring sources, including related sites and news articles (see Figure 7 at right). In absolute numbers, direct traffic is virtually identical (1,841,625 visits) to last year (1,841,770 visits).

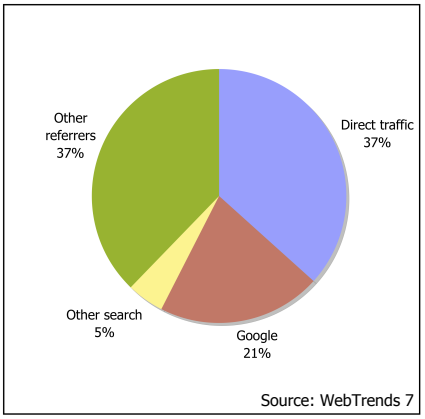


Figure 7. Visits by referral source

Search engine referral

Search engines have become an increasingly importance channel of site discovery for visitors. In the 2003 evaluation, only 10% of visits came to the site via search engines; by 2004, that figure had increased to 18%. Of the 26% that currently come from search engines, 21% come from the various Google sites around the world, demonstrating. the reach and importance of this particular engine

Search phrases used by visitors accessing the site provide insight into educational interests leading them to the site. In 2004, 22 of the top 100 search phrases were topic-based, rather than a variant of "MIT OpenCourseWare" or "free courses." As shown in Table 16 below, 29 of the top 100 phrases in 2004 were topic-based, with "economics" and "democracy" as the top two, generating just over 2,000 visits each.

Table 16. Top topic-based search phrases

Search phrase	Visits generated	Search phrase	Visits generated
economics	2,098	mathematics	642
democracy	2,086	batallas en el desierto	636
data communication	1,483	literature	629
product design	1,291	introduction to marketing	619
marketing strategy	1,254	artificial intelligence	592
computer system architecture	1,222	introduction to electronics	580
linear algebra	1,152	computer architecture	567
mechanical engineering	1,066	psycholinguistics	554
principles of macroeconomics	1,014	operations strategy	552
marketing management	974	turbulent flow	544
mechanics of materials	868	innovation process	537
introduction to psychology	831	technology strategy	537
negotiation	803	introduction to linguistics	518
complex variables	654	electromagnetic theory	518
financial accounting	646		

Source: WebTrends 7

Other referring sites

Referrers other than search engines provide insight into how awareness of the site is spreading through the educational community, communities of informal learners, and businesses. As illustrated in Table 17 below, many of the referring sites generating the most visits to OCW have direct relationships with the OCW project, including twocw.net, universia.net, creativecommons.org, mitocw.net, jocw.jp, opencontent.org, core.org.cn and many others. In addition, many unaffiliated educational sites and institutions are referring significant numbers of visits to the OCW site, including berkeley.edu, harvard.edu, kcl.ac.uk, and purdue.edu.

Beyond open learning projects and formal educational institutions, learners unaffiliated with formal programs are referring each other to the OCW site in large numbers through social bookmarking sites such as stumbleupon.com, digg.com, fatwallet.com and del.icio.us (which together generated nearly 62,000 visits), informal learning sites including kaifulee.com, slashdot.org, linuxforum.net, and others. Sites listing free electronic books on the web, such as e-book.com.au and theassayer.org, support informal and formal learning alike.

Finally, business intranets such as boeing.com, award sites such as webbyawards.com, blog sites such as blogspot.com and livejournal.com, and online press sites including nytimes.com all drive significant traffic to the OCW website, demonstrating the breadth of interest in the site throughout many online communities.

Table 17. Top 100 non-Google referring sites

Referring domain	Visits	%	Referring domain	Visits	%	Referring domain	Visits	%
mit.edu	1,173,760	23.34%	dlut.edu.cn	2,705	0.05%	myway.com	1,483	0.03%
yahoo.com	185,524	3.69%	u-bourgogne.fr	2,650	0.05%	nus.edu.sg	1,439	0.03%
stumbleupon.com	44,502	0.89%	lap.hu	2,496	0.05%	1educat.ro	1,399	0.03%
msn.com	25,279	0.50%	boeing.com	2,410	0.05%	geocities.com	1,399	0.03%
hidden-referrer	24,433	0.49%	sciscape.org	2,342	0.05%	akamai.com	1,391	0.03%
twocw.net	13,507	0.27%	scirus.com	2,331	0.05%	bb.com.br	1,379	0.03%
universia.net	10,609	0.21%	worldwidelearn.com	2,297	0.05%	infosys.com	1,322	0.03%
creativecommons.org	10,212	0.20%	webbyawards.com	2,236	0.04%	comcast.net	1,306	0.03%
e-book.com.au	9,542	0.19%	cursuri-online.ro	2,228	0.04%	theocw.net	1,283	0.03%
mitocw.net	9,078	0.18%	theassayer.org	2,222	0.04%	redflagdeals.com	1,279	0.03%
kaifulee.com	7,835	0.16%	dogpile.com	2,165	0.04%	educ.ar	1,271	0.03%
fatwallet.com	7,553	0.15%	vu.edu.pk	2,132	0.04%	circuitsage.com	1,245	0.03%
wikipedia.org	7,241	0.14%	linuxforum.net	2,130	0.04%	mywebsearch.com	1,241	0.03%
jocw.jp	6,855	0.14%	brudirect.com	2,114	0.04%	economicsnetwork.ac.uk	1,240	0.03%
opencontent.org	6,523	0.13%	livejournal.com	2,094	0.04%	physicsforums.com	1,233	0.03%
aol.com	6,477	0.13%	yandex.ru	2,046	0.04%	mot.com	1,215	0.02%
digg.com	6,409	0.13%	earthlink.net	2,038	0.04%	yahoo.co.jp	1,214	0.02%
core.org.cn	6,078	0.12%	web-books.com	1,941	0.04%	gametheory.net	1,175	0.02%
cocw.net	5,486	0.11%	inhumyc.com.mx	1,938	0.04%	insidehighered.com	1,148	0.02%
altavista.com	5,143	0.10%	http	1,922	0.04%	usu.edu	1,110	0.02%
fetp.edu.vn	5,117	0.10%	harvard.edu	1,910	0.04%	zzu.edu.cn	1,105	0.02%
naver.com	4,276	0.09%	about.com	1,894	0.04%	thedaily.com	1,079	0.02%
berkeley.edu	4,188	0.08%	3721.com	1,878	0.04%	shambles.net	1,070	0.02%
aaai.org	4,075	0.08%	dikti.org	1,803	0.04%	rfcafe.com	1,055	0.02%
edu.net.vn	3,999	0.08%	nytimes.com	1,798	0.04%	baidu.com	1,016	0.02%
keio.ac.jp	3,774	0.08%	persianblog.com	1,741	0.04%	putclub.com	1,014	0.02%
del.icio.us	3,744	0.07%	scientific-library.net	1,723	0.03%	alltheweb.com	979	0.02%
netscape.com	3,709	0.07%	kcl.ac.uk	1,721	0.03%	somethingawful.com	976	0.02%
universiabrasil.net	3,692	0.07%	biochemhub.com	1,687	0.03%	purdue.edu	972	0.02%
editme.com	3,666	0.07%	cenet.org.cn	1,656	0.03%	ltsn.ac.uk	968	0.02%
slashdot.org	3,442	0.07%	njust.edu.cn	1,656	0.03%	aol.co.uk	965	0.02%
blogspot.com	3,282	0.07%	qiji.cn	1,606	0.03%	ray.com	960	0.02%
aftonbladet.se	3,242	0.06%	gxtc.edu.cn	1,586	0.03%			
ask.com	3,040	0.06%	jerrypournelle.com	1,554	0.03%			

Source: WebTrends 7

2. Entry and exit pages

Visit entry and exit page data provides additional insight site usage (see Table 18 at right). For the evaluation period, 63% of visits began at the OCW site home page and only 28% ended there (19% of visits were single-page visits to the OCW home page). Conversely, 24% of visits began on pages containing course content, but 44% of all visits ended there and similarly 10% of visits began on OCW department home pages, while 22% ended there. This indicates a strong net flow of traffic to the course content on the site.

Table 18. Visit entry and exit pages

Page category	Entry %	Exit %
OCW home	62.6%	28.4%
Course list	2.9%	3.6%
Other global	1.2%	2.0%
Department home	9.8%	21.7%
Course pages	23.5%	44.3%
Total	**100.0%**	**100.0%**

Source: WebTrends 7

3. Page views per visit

Throughout the evaluation period, visits on average comprised 9.1 HTML page views. PDF documents, which contain the bulk of the content on the OCW site, are not instrumented for tracking under these page view counts, so much of the actual viewing of content is not captured in this measure.

The 9.1 page average is generated by a wide variation of page views per visit. As shown in Figure 8 at right, just over half of the visits to the OCW site registered one page view. Such one-page visits represent visitors who have come to the site and not found the resource useful for their needs, and also visitors that have deep-linked into the site to pages containing particular PDF or multimedia content on that page that doesn't register page views when accessed. As noted above, 19% of all visits were single-page visits to the OCW home page.

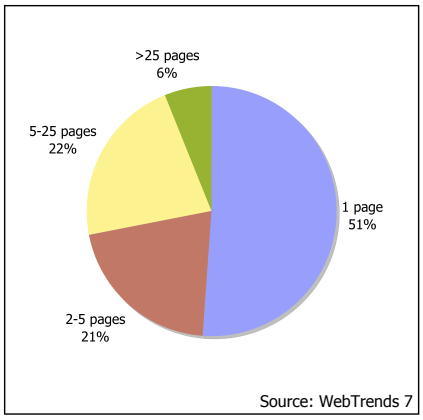


Figure 8. Visits by page views

27% of visits to the site included five or more page views, as compared to 19% in last year's evaluation, suggesting a growth in the number of visits in which users are actively attempting to accomplish an educational goals on the site.

4. Visit duration

For the evaluation period, visit duration averaged 10:51. (Single-page visits, which have a visit duration of 0:00, are excluded from this average.) The median duration for visits was 4:07, indicating a larger number of relatively short visits offset by a smaller number of much longer visits.

D. Visitor technical profiles and preferences

1. Visitor system profiles

As shown in Table 19 below, visitors continue to largely access the site on Windows-based platforms, using Microsoft Internet Explorer as a browser. A significant change in visitor technical profile over the past year is the emergence of Firefox as a preferred browser by OCW visitors. In the previous year, Firefox was used for no more than 9% of visits to the OCW site (OCW's web metrics system did not distinguish between Netscape, Mozilla and Firefox); this year, that number increased to 19% (see Table 20 below).

ACCESS: TECHNICAL PROFILES

- 93% of visits use Windows, 4% use Macintosh, and 3% use Linux
- 76% use MS IE as a browser, 19% use Firefox, and the remainder use other browsers

Table 19. Visits by platform

Platform	% of visits
Windows	93.4%
Macintosh	3.5%
Linux	2.6%
Other	0.5%
Total	**100.0%**

Source: WebTrends 7

Table 20. Visits by browser

Browser	% of visits
MS IE	75.8%
Firefox/Netscape	18.6%
Other	3.6%
Safari	2.0%
Total	**100.00%**

Source: WebTrends 7

This increase in the use of Firefox impacted data collection for the evaluation, probably due to Firefox's pop-up blocking capabilities. For more information in this impact, please see Appendix 3.

2. Visitor satisfaction with Portable Document Format

During the early stages of planning for project, OCW chose the Adobe Portable Document Format (PDF) as the best format for publishing MIT educational content given the formats in which such materials were initially created, the volume of materials to be published, and the desire to minimize the software required by visitors to view OCW content. A focus of this evaluation was to determine user satisfaction with PDFs, and determine what—if any—other formats OCW should consider.

Table 21. New and return visitor PDF suitability ratings

Suitability	New	Return	Both
Very suitable	56.9%	59.1%	**58.2%**
Suitable	40.1%	38.8%	**39.3%**
Unsuitable	2.2%	1.6%	**1.9%**
Very unsuitable	0.8%	0.5%	**0.6%**
Total	**100.0%**	**100.0%**	**100.0%**

Source: 2005 Visitor Survey

As shown in Table 21 at left, both new and returning visitors overwhelmingly indicate that PDFs are very suitable or suitable for their needs. The difference in new and returning visitor responses are within the margin of error, suggesting that PDF does not play a significant role in visitors likelihood of persistent site usage.[14]

When examined by educational roles, no significant differences emerge, although educators may be very slightly less likely to consider PDF as very suitable to their needs (see Table 22 below).

Table 22. PDF suitability ratings by educational role

PDF suitability	Educator	Student	Self learner	Other	All roles
Very suitable	55.8%	59.0%	58.8%	54.3%	**58.1%**
Suitable	42.2%	38.9%	38.6%	41.2%	**39.4%**
Unsuitable	1.5%	1.7%	2.0%	3.0%	**1.9%**
Very unsuitable	0.5%	0.4%	0.7%	1.5%	**0.6%**
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: 2005 Visitor Survey

A population of particular concern regarding PDF documents is that of educators reusing OCW materials, because PDFs are generally considered to be more difficult to manipulate than other formats. Educator ratings of PDF format, however, do not appear to bear a strong relationship to educator reuse, or interest in reuse, of OCW materials. As shown in Table 23 below, the suitability ratings for PDF among educators who have and have not reused OCW content are very similar, and both groups overwhelmingly consider the format to be very suitable or suitable. Educators who have not reused content are slightly less likely to rate PDFs as very suitable.

Educator ratings of PDF suitability do not appear to be a predictor of likelihood of future materials reuse either. Again, among those who did plan to reuse material in the future, those who did not, and those who were unsure, all groups overwhelmingly consider PDF to be very suitable or suitable. The very unsuitable or unsuitable rating among those who did not plan to reuse material was 6%, which is higher than the roughly 2% observed in other groups, but the sample size (n=35) in this group was so small as to make this difference statistically unreliable.

[14] In the visitor survey, the question regarding PDF suitability preceded the site exploration session for new visitors.

Among educators who were unsure if they would reuse materials in the future, 48% rated PDF as very suitable, as opposed to 60% of those who did plan to reuse material and 63% of those who did not.

Table 23. PDF suitability ratings by educator materials reuse[15]

PDF suitability	Have reused		Will reuse in future		
	Yes	No	Yes	No	Not sure
Very suitable	59.8%	52.9%	60.3%	62.9%	47.7%
Suitable	39.0%	44.5%	38.4%	31.4%	49.7%
Unsuitable	0.8%	2.3%	1.0%	5.7%	1.6%
Very unsuitable	0.4%	0.3%	0.3%	0.0%	1.0%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: 2005 Visitor Survey

The only significant differences in visitor ratings of PDF suitability emerge when the data are examined by geographical location of visitor. As has been observed anecdotally in previous evaluations, PDF is less widely used in East Asia than in other regions; 12% fewer visitors from East Asia rate PDF as very suitable than do all visitors, but this does not translate into wide dissatisfaction with the format (see Table 24 below). Only 4% of visitors from the region rate PDF as unsuitable or very unsuitable. No statistically significant differences emerge when the ratings of only new visitors from regions are examined, suggesting that PDF format may be a slight influence in visitor likelihood of return in East Asia, but is likely a less significant reason than language or connectivity costs.

Table 24. PDF suitability ratings by region[16]

Region	Very suitable	Suitable	Unsuitable	Very unsuitable	Total
North America	63.6%	34.2%	1.5%	0.7%	**100.0%**
East Asia	**45.6%**	**50.6%**	**3.5%**	**0.3%**	**100.0%**
Western Europe	60.7%	37.7%	1.0%	0.6%	**100.0%**
Latin America	71.2%	28.1%	0.5%	0.2%	**100.0%**
South Asia	53.3%	42.8%	2.8%	1.1%	**100.0%**
Eastern Europe	50.3%	47.8%	0.6%	1.3%	**100.0%**
MENA	66.9%	32.2%	0.8%	0.0%	**100.0%**
Pacific	61.2%	37.3%	0.0%	1.5%	**100.0%**
Sub-Sah. Africa	55.9%	44.1%	0.0%	0.0%	**100.0%**
Central Asia	46.4%	42.9%	7.1%	3.6%	**100.0%**
Caribbean	71.4%	14.3%	14.3%	0.0%	**100.0%**
All regions	**58.2%**	**39.3%**	**1.9%**	**0.6%**	**100.0%**

Source: 2005 Visitor Survey

Visitor alternative format preferences

Visitor preference for formats other than PDF provide additional context to the PDF suitability ratings in the previous section. As shown in Table 25 at right, when asked to name a format other than PDF that they would prefer, visitors of all educational roles and from all regions most frequently chose Microsoft Office (35%), none (indicating PDF was most preferred - 29%), or HTML (16%).

In these data, significant preference differences do emerge between new and returning visitors, with new visitors showing a much stronger preference for Microsoft Office formats (43%) than do returning visitors (31%). Returning visitors, conversely, more frequently prefer PDF

Table 25. New and returning visitor format preference

Format	New	Return	Both
Microsoft Office	42.8%	31.0%	**35.7%**
None (PDF)	22.5%	33.9%	**29.3%**
HTML	16.7%	15.3%	**15.9%**
Rich Text Format	9.7%	7.0%	**8.1%**
Other	3.2%	7.0%	**5.5%**
OpenOffice	3.1%	3.7%	**3.4%**
XML/MathML	1.9%	2.1%	**2.0%**
Total	**100.0%**	**100.0%**	**100.0%**

Source: 2005 Visitor Survey

[15] Figures in gray represent sample sizes less than 100.
[16] Figures in gray represent sample sizes less than 100.

(34%) than do new visitors (23%). This suggests that OCW may be able to convert more first time visitors to the site to return visitors by offering content in Microsoft Office formats when possible.

Format preferences by role

When examined by educational role, format preferences vary in ways worth noting (see Table X below). Educators more frequently express a preference for Microsoft Office formats (42%) than do students (33%) or self learners (36%); conversely, educators prefer PDF less frequently (26%) than the other two roles (32% and 30% respectively). Educators also less frequently express a preference for HTML content than do other educational roles. This again suggests that OCW should consider providing Microsoft Office formats where possible.

Table 26. Alternate format preference by educational role

Format	Educator	Student	Self learner	Other	All roles
Microsoft Office	41.8%	32.5%	35.6%	37.7%	**35.7%**
None	25.9%	31.5%	29.8%	23.0%	**29.4%**
HTML	13.8%	17.0%	15.5%	19.4%	**15.9%**
Rich Text Format	9.9%	7.7%	8.1%	4.7%	**8.1%**
Other	3.3%	5.5%	5.6%	11.5%	**5.5%**
OpenOffice	3.1%	3.8%	3.6%	1.6%	**3.5%**
XML/MathML	2.3%	2.1%	1.9%	2.1%	**2.0%**
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: 2005 Visitor Survey

E-mail feedback does provide anecdotal evidence that PDF is limiting for some faculty members attempting to manipulate OCW content (see Table 27 below).

Tabl 27 U : Ed t diffi lt ith PDF f t

"I'm trying to find the materials in a format which I can edit, to update the course contents. I'm starting with the Spanish translation in Universia, and updating changing materials as I see fit for my course. I'll publish my results, in agreement with the License, using Open Document format, as soon as they are ready. Nevertheless, I'd save much effort if the materials were available in a read/write format (say OpenOffice.org, or MSOffice) specially WRT the diagrams." (Educator, Spain)

Source: Site E-mail Feedback

Feedback from our translation affiliates[17] also indicates that PDF formats present difficulties in translation efforts. As with other visitor groups, translators largely also indicate a desire for Microsoft Office formats.

XML format

While not apparent in the data above, OCW has received anecdotal feedback suggesting broader use of XML as a publishing format, largely from a technically sophisticated and forward-thinking subset of our visitors—primarily educational technologists. Especially given the growing evidence that OCW content is being exported to a increasing variety of platforms (see Section II.A.2 above), and the likelihood that this pattern will continue in ways difficult to predict, OCW recognizes the potential of XML. However, the data regarding visitor format preferences do not suggest that broader audiences see significant advantage in the use of XML at the present time.

[17] See section IV.B.1 for more information on OCW translation affiliates.

Format preferences by region

As shown in Table 28 below, format preference data by region indicate Microsoft Office formats are strongly preferred in developing regions. 51% of visitors from East Asia and 43% of those from Latin America express a preference for Microsoft Office formats, as compared to 25% from North America and 29% in Western Europe. Visitors from developed regions more frequently express preference for PDF.

Visitors from both South Asia and the Middle East/North Africa more frequently selected "other" when asked what format the might prefer more than PDF. However, more than half of those who did so went on to indicate PDF as their more preferred format in qualitative responses.

Table 28. Alternate format preference by region[18]

Region	Rich Text Format	Microsoft Office	Open Office	HTML	XML/ MathML	None	Other	Total
North America	5.6%	24.8%	3.6%	16.2%	2.3%	43.1%	4.4%	**100.0%**
East Asia	10.8%	50.8%	2.8%	16.1%	1.1%	12.4%	6.1%	**100.0%**
Western Europe	4.9%	29.0%	6.3%	14.3%	3.5%	37.2%	4.7%	**100.0%**
Latin America	9.4%	42.6%	4.8%	16.0%	2.3%	19.8%	5.1%	**100.0%**
South Asia	11.3%	37.0%	2.6%	17.9%	0.9%	21.1%	9.2%	**100.0%**
Eastern Europe	8.6%	37.1%	0.7%	13.9%	2.0%	34.4%	3.3%	**100.0%**
MENA	7.0%	36.8%	0.0%	14.9%	0.9%	30.7%	9.6%	**100.0%**
Pacific	15.2%	18.2%	0.0%	13.6%	3.0%	45.5%	4.5%	**100.0%**
Sub-Sah. Africa	16.7%	50.0%	1.9%	11.1%	1.9%	13.0%	5.6%	**100.0%**
Central Asia	0.0%	40.0%	0.0%	28.0%	0.0%	24.0%	8.0%	**100.0%**
Caribbean	14.3%	28.6%	0.0%	28.6%	14.3%	14.3%	0.0%	**100.0%**
All regions	**8.1%**	**35.7%**	**3.4%**	**15.9%**	**2.0%**	**29.3%**	**5.5%**	**100.0%**

Source: 2005 Visitor Survey

3. Visitor technical improvement suggestions

Visitor free-text suggestions for technical improvement largely center on enhanced formats for delivery of content, including more audio and video, tools to support user interaction and provide feedback, and print and zip download options. OCW is currently exploring options to support many of these user requests. Examples of user technical suggestions are included in Table 29 below.

Table 29 Use cases: User suggestions for technical improvements

"You only need one thing to revolutionize the universe: MORE VIDEO LECTURES. (a thousand times more).." (Student, Brazil)

"Please include lecture-audio files..can be used as podcasting :)" (Self learner, Australia)

"More forum or interactive format would be better." (Self learner, China)

"Make written materials available at a reasonable cost in printed or DVD format" (Self Learner, United States)

"Mainly having the course available as a packge that could be downloaded as a whole. Many times I would like to go over the material but not have to be online to do so. I did notice some course were available as a zip file download but not all." (Self learner, United States)

Source: Site E-mail Feedback

[18] Figures in gray represent sample sizes less than 100.

III. Findings: Use

At the highest level, data related to use demonstrate:

- OCW use is centered on subjects for which MIT is a recognized leader.
- The OCW site is being successfully used by educators, students and self learners for wide range of purposes.
- Nearly half of educators visiting the site have reused site content, and most expect to do so in the future.
- Visitors consider site materials to be up-to-date and are largely satisfied with site content breadth, depth and quality.
- Most MIT faculty contribute to the OCW site and many feel they have improved their classes through publication.
- The OCW site is widely used by the MIT community and is a significant influence on prospective students.

A. Content use by subject

1. Use distribution by subject

Use of the OCW site continues to focus on subjects for which MIT is a recognized field leader. As shown in Table 30 below, courses from Electrical Engineering and Computer Science, Mathematics, Management, Physics, Economics and Mechanical Engineering together represent 33% of the published content on the site and attract 62% of the traffic. This traffic distribution is unchanged from the previous year.

USE: USE BY SUBJECT

- EECS, Math, Management, Physics, Economics and Mechanical Engineering are 33% of OCW courses and attract 62% of traffic

Table 30. Site use distribution by subject

Department	# pub'd	% pub'd	% visits	Department	# pub'd	% pub'd	% visits
Electrical Eng. & Comp. Sci.	117	9.2%	21.2%	Urban Studies & Planning	82	6.5%	1.5%
Mathematics	71	5.6%	13.6%	Nuclear Science & Eng.	24	1.9%	1.4%
Management	107	8.4%	10.6%	Linguistics & Philosophy	32	2.5%	1.4%
Physics	46	3.6%	8.9%	Anthropology	24	1.9%	1.1%
Economics	39	3.1%	4.2%	Ocean Engineering	17	1.3%	1.1%
Mechanical Engineering	39	3.1%	3.9%	Earth, Atmos. & Planet. Sci.	36	2.8%	1.0%
Aeronautics and Astronautics	42	3.3%	3.2%	Health Sciences & Tech.	21	1.7%	0.9%
Civil and Environmental Eng.	45	3.6%	2.9%	Media Arts and Sciences	27	2.1%	0.9%
Brain and Cognitive Sciences	67	5.3%	2.9%	Writing & Humanistic Studies	25	2.0%	0.9%
Foreign Lang. & Literatures	53	4.2%	2.4%	Science, Tech. & Society	19	1.5%	0.6%
Political Science	59	4.7%	2.0%	Biological Engineering	12	0.9%	0.6%
Materials Sci. and Eng.	26	2.1%	2.0%	Engineering Systems Division	10	0.8%	0.6%
Chemistry	22	1.7%	2.0%	Chemical Engineering	9	0.7%	0.5%
Architecture	56	4.4%	1.8%	Music and Theater Arts	14	1.1%	0.5%
Literature	53	4.2%	1.7%	Special Programs	8	0.6%	0.2%
Biology	19	1.5%	1.7%	Comparative Media Studies	3	0.2%	0.1%
History	43	3.4%	1.7%				

Source: WebTrends 7 and OCW Workflow Tracking

2. Course traffic levels

782 courses were published on the MIT OCW site for the entire period from October 1, 2004 through September 30, 2005. For the year, these courses averaged 7,333 visits, with a median of 4,554 visits. Visits to a single course ranged from 93,400 to 178. Both the average and median number of visits is somewhat lower than the same figures from last year (9,520 and 5,978), in part reflecting the increased number of courses across which the site traffic was distributed.

USE: COURSE TRAFFIC LEVELS

- Courses averaged 7,333 visits each for the year; the median number of visits was 4,554

B. Scenarios of use by role

1. Educator scenarios of use

USE: EDUCATOR USE

- Educator uses: planning a course (26%), preparing to teach a class (22%), enhancing personal knowledge (19%)
- 92% are completely or somewhat successful at achieving their goals

As shown in Table 31 below, educators continue to come to the site primarily to develop a course (26%), prepare to teach a specific class (22%), and to enhance personal knowledge (19%). These figures reflect a continuing increase in the use of the site by educators in preparation for teaching a specific class. In the 2003 evaluation, only 11% of educators indicated they used the site in this way; in the 2004 evaluation, this figure had increased to 18%.

Table 31. New and returning educator scenarios of use

Scenario	New	Return	Both
Developing or planning a course	26.1%	25.2%	**25.6%**
Preparing to teach a specific class	18.0%	25.7%	**22.4%**
Enhancing my personal knowledge	18.0%	20.1%	**19.2%**
Developing or planning curriculum for my department	15.1%	9.7%	**12.0%**
Learning about subject matter to enhance my research	11.6%	9.7%	**10.5%**
Planning or developing educational technology	4.9%	3.8%	**4.3%**
Advising students about their course of study	2.1%	3.8%	**3.0%**
Other	4.2%	2.1%	**3.0%**
Total	**100.0%**	**100.0%**	**100.0%**

Source: WebTrends 7

Educator free text descriptions of their goals in coming to the OCW site further contextualize these scenarios of use (see Table 32 below).

Table 32 Use cases: Educator goals for visiting the site

Plan or develop a course

"I am looking for updated topics and lectures for a Microeconomics course, for Industrial Engineering students." (Educator, Chile)

"I am planning a undergraduate course in applied quantum mechanics and wanted suggestions for textbooks." (Educator, United States)

Preparing to teach a specific class

"I am preparing presentation for my students about the way of proteins degradation." (Educator, Poland)

"To learn proper chemistry lab proper volumetric techniques." (Educator, Mexico)

Enhancing my personal knowledge

"I would like to see some available course of studies in logistics, quality management and international cooperation." (Educator, Cape Verde)

"Find information on learning about present theories of the structure of the nucleus." (Educator, United States)

y

In describing the impact the site has had on their teaching (see Table 33 below), educators detail their uses of the site and illustrate ways it supports course planning and delivery. Of note is the number of ways OCW content is either shown to students in class, or recommended to students as an additional resource.

Table 33 Use cases: Educator descriptions of site use

"OCW has enhanced my understanding of certain fundamental issues in specific areas of physics and thus made my lectures a lot better. It has also opened the eyes of my students to what a good physics education is…my students feel comfortable with OCW because the lectures are much clearer and explain basics in detail and also the applications of physics to various industries. I am sure that OCW will continue to form a large part of my teaching and research material." (Educator, South Africa)

"I used materials from your English Lit courses among others to show my students that relationship between work we were doing in our class and the work they would be expected to do in college." (Educator, United States)

"I have taught Structure of Materials, Characterisation of Materials, and Principles of Materials Science for engineering students since 1998. I always encourage my students to have a look at this website and solve some problems in classroom. They are pleased to know that we, here in Brazil, use this resource in the classroom, making the course more up-to-date. In the future, it is my expectation to have more contact with videos or simulations to present difficult concepts to be explained with words and static figures." (Educator, Brazil)

"I have previously used the tests in the introductory Physics classes as exercises for my students. I plan to find readings for them in the lecture notes and references. I see this as a way I can remain tied to college level Math and Physics will living in rural Kentucky." (Educator, United States)

"It helped me a lot to prepare my classes because it gave me a reference point about level I should ask for to the students and a lot of material very difficult to create by myself like simulations. The students learn a lot with them. The most I have time to make for them are figures in matlab, for example." (Educator, Spain)

y

Educators visiting the site for the first time less frequently indicate they are preparing to teach a specific class (18%) than do returning educators (26%), suggesting that educators come to the site for the first time more often during the planning stages of the teaching cycle, but once familiar with the site return during the term to find materials for teaching particular topics.

When examined by geographical distribution, educator scenarios of use also suggest interesting trends (see Table 34 below). Educators in Western Europe and Latin America are strikingly more likely to be using the site for course development, suggesting use of the site by individual educators to improve their own courses. In both North America and East Asia, educators are significantly more likely than the overall educator population to use the site for developing curriculum, suggesting uses that will have a broader institutional effect in these regions.

Table 34. Educator scenarios of use by region[19]

Region	Developing a course	Preparing to teach	Enhancing knowledge	Developing curriculum	Enhancing research	Developing ed tech	Advising students	Other	Total
North America	20.4%	21.0%	21.6%	18.5%	5.6%	4.9%	2.5%	5.6%	**100.0%**
East Asia	27.2%	16.0%	15.2%	17.6%	16.8%	3.2%	2.4%	1.6%	**100.0%**
West. Europe	35.9%	21.4%	22.3%	3.9%	6.8%	2.9%	2.9%	3.9%	**100.0%**
Latin America	30.0%	26.4%	16.4%	8.2%	5.5%	5.5%	6.4%	1.8%	**100.0%**
South Asia	15.5%	31.0%	12.1%	6.9%	25.9%	5.2%	3.4%	0.0%	**100.0%**
Eastern Europe	22.9%	37.1%	17.1%	8.6%	14.3%	0.0%	0.0%	0.0%	**100.0%**
MENA	32.1%	17.9%	25.0%	10.7%	7.1%	7.1%	0.0%	0.0%	**100.0%**
Pacific	10.0%	40.0%	10.0%	0.0%	0.0%	20.0%	0.0%	20.0%	**100.0%**
Sub-Sah. Africa	18.2%	9.1%	45.5%	9.1%	18.2%	0.0%	0.0%	0.0%	**100.0%**
Central Asia	16.7%	0.0%	50.0%	0.0%	16.7%	0.0%	16.7%	0.0%	**100.0%**
Caribbean	33.3%	0.0%	33.3%	33.3%	0.0%	0.0%	0.0%	0.0%	**100.0%**
All regions	**25.8%**	**22.4%**	**19.2%**	**11.8%**	**10.4%**	**4.3%**	**3.1%**	**2.9%**	**100.0%**

Source: 2005 Visitor Survey

[19] Figures in gray represent sample sizes less than 100.

Hemalatha Thiagarajan first discovered MIT's OpenCourseWare Web site several years ago during an Internet search for materials on artificial intelligence. A professor of mathematics and computer science at the National Institute of Technology Tiruchirappalli, in Tamil Nadu, India, Thiagarajan was dissatisfied with the traditional textbook on artificial intelligence, and was hoping to find materials to supplement her lectures.

The MIT OCW materials she found for Course 6.825 – Techniques in Artificial Intelligence were just what she was looking for, and she quickly adapted several PowerPoint presentations and lectures to fit her syllabus. To her surprise, however the materials didn't just improve the content of her lectures; they also allowed her to cover more material in the same number of classes. "I used to spend a lot of class time drawing the pictures on the board," Thiagarajan confesses. "In data structures, for example, I need to show a lot of pictures of data trees and structures, and I had to draw all of them. Here, with the click of a button, I can show them something which has been very neatly and very beautifully done."

Initially, Thiagarajan notes, the students were not entirely happy with her new approach. "For the first month," she recalls, with evident amusement, "many of them felt that the course was moving too fast. Obviously, when I have to write everything on the board, I go more slowly, so they get a lot of time to follow the whole thing. When I use the slides, everything moves more quickly."

In the end, though, Thiagarajan received rave reviews from her students—both on the amount of material she was able to cover, and the quality of the MIT materials.

Thiagarajan also has found that MIT OCW is a valuable resource for students who would benefit from a deeper look at a particular topic. In her own teaching, Thiagarajan is constrained by a rigid university syllabus. So when a topic emerges in class that she cannot spend enough time on, she is quick to steer her students to MIT OCW. "I've told my students that some of the OCW courses would be very, very useful for them. Things like, for example, database management, or microprocessors. I can't cover these topics fully enough, but they're important to the students. And when the students do follow up, and look at the material, they find it very useful."

As shown in Table 36 below, both new and returning educators are widely successful at accomplishing their educational goals in visiting the site. Across all scenarios 92% of new visitors and 93% of return visitors are completely or somewhat successful at achieving their educational goal in visiting the site. While sample sizes for educators make analysis of success by scenario by new and return populations somewhat unreliable, no broad variations in success emerge. The most significant difference is in the success of new versus return visitors in using the site for to enhance research, but the lower success rate for new visitors does not appear to cause significantly lower level of use for this purpose by returning visitors.

Table 36. New and return educator success rates by scenario[20]

	New				Return			
Scenario	**Completely successful**	**Somewhat successful**	**Not successful**	**Total**	**Completely successful**	**Somewhat successful**	**Not successful**	**Total**
Developing or planning a course	40.5%	52.7%	6.8%	**100.0%**	37.2%	51.1%	11.7%	**100.0%**
Preparing to teach a specific class	41.2%	47.1%	11.8%	**100.0%**	45.3%	48.4%	6.3%	**100.0%**
Enhancing personal knowledge	41.2%	54.9%	3.9%	**100.0%**	44.0%	48.0%	8.0%	**100.0%**
Developing curriculum	64.3%	31.0%	4.8%	**100.0%**	47.2%	52.8%	0.0%	**100.0%**
Enhancing research	46.9%	37.5%	15.6%	**100.0%**	33.3%	61.1%	5.6%	**100.0%**
Developing educational technology	21.4%	71.4%	7.1%	**100.0%**	64.3%	35.7%	0.0%	**100.0%**
Advising students	16.7%	83.3%	0.0%	**100.0%**	35.7%	64.3%	0.0%	**100.0%**
Other	25.0%	58.3%	16.7%	**100.0%**	25.0%	75.0%	0.0%	**100.0%**
All scenarios	**42.9%**	**48.9%**	**8.2%**	**100.0%**	**41.9%**	**51.3%**	**6.7%**	**100.0%**

Source: 2005 Visitor Survey

2. Student scenarios of use

Significant differences are apparent in the ways that new and returning student visitors make use of the site (see Table 37 below). Overall, students use the site most frequently to find materials that complement a course they are taking (38%), to enhance personal knowledge (34%), and to plan their course of study (16%). Students coming to the site for the first time, however, are significantly more likely than returning students to be planning a course of study (22% versus 13%) and less likely to be finding specific materials to complement a course (29% versus 44%). This suggests that students are more likely to come to the site while making educational planning decisions, and—once familiar with the site—return to use resources in conjunction with courses they are taking.

USE: STUDENT USE

- Student uses: complementing a course (38%), enhancing personal knowledge (34%), planning course of study (16%)
- 92% are completely or somewhat successful at achieving their goals

Table 37. New and returning student scenarions of use

Scenario	New	Return	Both
Complementing a course	29.3%	43.5%	**38.3%**
Enhancing personal knowledge	36.1%	32.9%	**34.1%**
Planning course of study as a student	21.8%	12.8%	**16.1%**
Substitute for a particular course not offered	8.8%	8.5%	**8.6%**
Other	4.0%	2.3%	**2.9%**
Total	**100.0%**	**100.0%**	**100.0%**

Source: 2005 Visitor Survey

Student free text descriptions of their goals in coming to the OCW site further contextualize these scenarios of use (see Table 38 below).

Tabl 38 U S d l f i i i h i

Complementing a course

"I use the MIT OCW in addition to my regular class lectures. I hope to gain more insight and knowledge than I currently receive." (Student, Brazil)

y

[20] Figures in gray represent sample sizes less than 100.

T bl 38 U : St d t l f i iti th it (ti d)

Complementing a course
"I am seeking extra materials, especially problems for practice, to aid in studying for a test in real analysis." (Student, United States)
Enhancing personal knowledge
"Find useful lectures which can improve my mathematics background or other lecture concerning mainly financial or econometric topics..." (Student, Italy)
"To download course Materials for several computer science courses so that I can study them offline over the University break." (Student, Australia)
Planning course of study
"Comparing MIT's courses with my own courses at [my] university." (Student, Denmark)
"To see the graduate course list for the purpose of pursuing future research." (Student, India)

y

Student descriptions of the site's impact on their education reveal the range of ways students use the materials, often in multiple ways to meet multiple needs (see Table 39 below).

Tabl 39 U S d d i i f i

"When I'm looking for information on subjects concerning my studies, before I go to google, I check OCW. OCW mostly gives me a very good introduction (and sometimes more) to the subject. Without OCW I would spend much more time seeking for information I need." (Student, Poland)
"The lecture notes especially fill the holes in my current courses material. It is also interesting to 'read ahead' to more involved coursework and see what lies ahead. This site is a great tool for anticipation." (Student, United States)
"From OCW, I can get very practical study materials such as lecture notes, homework solutions, video lectures, etc. The study materials have extended my knowledge on my major field. Even though I'm math major, I'm interested in business. But I can't take business courses easily in my university. OCW has provided me wide range of business courses." (Student, South Korea)
"Currently, I am in the process of researching a possible grad school. Getting access to potential teaching materials helps in two ways: 1) As a refresher for material learned as an undergrad 2) As a mechanism to judge possible future courses in a grad-school program." (Student, United States)
"I am beyond impressed with ocw. It has been an amazing supplement to my coursework over the last year, as it has provided me with alternate explanations of many concepts as well as extra problems with solutions to practice for exams. Before I returned to school, I used ocw to review topics that I hadn't studied in years, and to introduce myself to new ones. Even just seeing a syllabus is useful as a recommendation for a text, but being able to supplement that with course notes, hints and solutions to problems, and other resources has been enormously helpful. I am better prepared for many of the courses I am currently enrolled in and have a better understanding of some topics that I have not studied formally as a direct result of your site. Keep up the great work!!!" (Student, United States)

y

Tabl 40 U S d d

A metallurgical engineering graduate of the Central University of Venezuela, Rogelio Morales has some unusual entries on his resume. For one thing, he is a licensed commercial diver, and once worked as a professional diver for eight months with Titan Maritime, and as the trainer for commercial Diving with the Divers Institute of Technology, in Seattle, Washington.

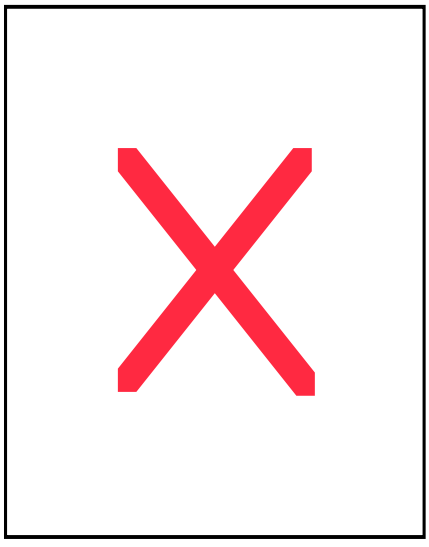
Morales loved his underwater work, but quickly decided that he was more interested in underwater inspection than in commercial diving. This led him back home, to a master's program at Central University of Venezuela in non-destructive testing. "It's a less-invasive method of testing," Morales explains. "You don't have to destroy something to see if it is warped. You can use different methods, like X-rays, testing magnetic particles, and ultrasonic. It fits in well with my background in metallurgical engineering."

Morales first encountered MIT's OpenCourseWare when he was looking on the Internet for information on stereoscopic vision, which has enormous potential for divers encountering turbid water conditions. Morales was able to find helpful information on MIT OCW, especially in Course 9.537 – Special Topics in Vision Science. The projects for Course 13.017 – Design of Ocean Systems I, also provided Morales with a wealth of new and useful concepts.

Morales acknowledges that some of the same ideas he has found on MIT OCW are probably also available in the Central University library, in books or journals. "But with books," he argues, "it's much harder to find this information in a timely fashion. And with OCW, you also know that it's new information."

Morales has been quick to share information about MIT OCW with other students — and professors — in his program. "I often download information from the Web site in different topics," he explains, "and give it to a professor in my faculty. Sometimes we discuss the information, other times they use the slides from the site in class. It's a great resource."

Morales also feels that MIT OCW has a broader potential in Venezuela. "Not everybody in Venezuela has the opportunity to go to college," he points out. "It's really hard to get into university, so OCW is a great option. For example, there's a program here called New Neighborhood. They use OCW to download information for poor people on technology, or humanities, or other areas. This has allowed a lot of people to access this information who might otherwise have been unable to do so. OCW has enormous potential for our country."



Geographically, students in East Asia use the site less often to complement materials from a course they are taking than the overall student visitor population (29% versus 38%), and more often plan their course of study (20% versus 16%) or use the site as a substitute for a course not available to them (13% versus 9%). This usage pattern is consistent with the high percentage of new visitors coming to the OCW site from East Asia, as discussed in Section II.B.4. above.

Table 41. Student scenarios by region

Region	Comple-menting a course	Enhancing personal knowledge	Planning course of study	Substitute for course	Other	Total
North America	41.0%	34.2%	13.1%	7.1%	4.6%	**100.0%**
East Asia	28.8%	36.7%	19.8%	12.8%	1.9%	**100.0%**
Western Europe	45.9%	36.5%	8.1%	6.8%	2.7%	**100.0%**
Latin America	37.9%	32.3%	21.8%	4.8%	3.2%	**100.0%**
South Asia	36.1%	35.2%	18.9%	7.4%	2.5%	**100.0%**
Eastern Europe	36.6%	32.4%	19.7%	9.9%	1.4%	**100.0%**
MENA	54.0%	16.0%	14.0%	14.0%	2.0%	**100.0%**
Pacific	53.8%	23.1%	15.4%	7.7%	0.0%	**100.0%**
Sub-Sah. Africa	42.1%	31.6%	21.1%	5.3%	0.0%	**100.0%**
Central Asia	50.0%	50.0%	0.0%	0.0%	0.0%	**100.0%**
Caribbean	0.0%	100.0%	0.0%	0.0%	0.0%	**100.0%**
All regions	**38.3%**	**34.1%**	**16.1%**	**8.6%**	**2.9%**	**100.0%**

Source: 2005 Visitor Survey

As with educators, both new and return students are widely successful in accomplishing their educational goals in coming to the site, with 90% of new students and 94% of returning students completely or somewhat successful (see Table 42 below). No variations in success rates by scenario between new and returning students appear to influence the likelihood that new students will return to the site.

Table 42. New and returning student success rates by scenario

	New				Return			
Scenario	Completely successful	Somewhat successful	Not successful	Total	Completely successful	Somewhat successful	Not successful	Total
Complementing a course	43.9%	46.2%	9.8%	**100.0%**	36.8%	57.1%	6.1%	**100.0%**
Enhancing personal knowledge	39.3%	50.9%	9.8%	**100.0%**	41.4%	52.1%	6.5%	**100.0%**
Planning course of study	54.1%	37.8%	8.2%	**100.0%**	49.0%	45.1%	5.9%	**100.0%**
Substitute for course not offered	32.5%	50.0%	17.5%	**100.0%**	41.2%	52.9%	5.9%	**100.0%**
Other	35.3%	58.8%	5.9%	**100.0%**	66.7%	33.3%	0.0%	**100.0%**
All scenarios	**43.1%**	**46.9%**	**10.0%**	**100.0%**	**40.9%**	**53.0%**	**6.0%**	**100.0%**

Source: 2005 Visitor Survey

3. Self learner scenarios of use

Both new and returning self learners use the site primarily to enhance personal knowledge (56%), or to keep current in professional field developments (16%), figures consistent with prior evaluation results (see Table 43 below). Self learners new to the site are more frequently planning a future course of study (18% versus 11%) suggesting either that such self learners over time become students, or return to the site for other learning activities.

USE: SELF LEARNER USE

- Self learner uses: enhancing personal knowledge (56%), keeping current in field (16%), planning future study (14%)
- 92% are completely or somewhat successful at achieving their goals

Table 43. New and returning self learner scenarios of use

Scenario	New	Return	Both
Enhancing personal knowledge	54.2%	57.6%	**56.3%**
Keeping current in field developments	15.2%	16.2%	**15.8%**
Planning future course of study	17.9%	10.9%	**13.7%**
Substituting for a course not available	6.9%	10.2%	**8.9%**
Other	3.6%	3.2%	**3.4%**
Developing educational technology	2.2%	1.8%	**2.0%**
Total	**100.0%**	**100.0%**	**100.0%**

Source: 2005 Visitor Survey

Self learner free text descriptions of their goals in coming to the OCW site further contextualize these scenarios of use (see Table 44 below).

Table 44 Use cases: Self learner goals for visiting the site

Enhancing personal knowledge
"Looking up the courseware on Strategic Management to improve my grasp of the subject." (Self learner, India)
"Search for material on communications theory as it is related to communications satellite transponders." (Self learner, United States)
Keeping current in professional field
"The OCW has been of extreme importance in my continued learning of multiple engineering subjects. Combined with my professional experience, it has provided me with an exceptional edge over my peers." (Self learner, Japan)
"My goal is to stay current in the latest trends and teachings in operations research and math. I primarily use MIT OCW courses to grow laterally in multi-discipline knowledge areas." (Self learner, United States)
Planning future course of study
"I am considering returning to school to complete a PhD. It has been four years since I left school and I wanted to see how much I have forgotten." (Self learner, United States)
"Gather information for plotting an individual self-learning course." (Self learner, Italy)

Source: 2005 Visitor Survey

Self learner descriptions of how the site has impacted their professional and personal lives further illustrates the multiple ways the site is used in informal learning contexts (see Table 45 below).

Tabl 45 U : S lf l d i ti f it

"OCW is the fastest and easiest way I have found to access the works of such writers as Macchiavelli, Shakespeare or Thoreau. Often when reading books from my local library I use OCW to gain perspective on external references. Specifically today I am reading The Poems of John Keats and used the site to explore the works of Spenser whom he mentions frequently in his poetry." (Self learner, United States)
"I had a customer who works in the field of spectroscopy. As an electrical engineer I had little exposure to analytical chemistry. I was able to quickly find a reference explaining the theoretical background for their instrumentation; now that I understand how it works and what it is used for, I will be better able to converse with him/her." (Self learner, United States)
"OCW was useful in preparing company internal training as well as learning financial/accounting analysis tools for my job. It also will help me plan for my future study as variety of courses are available." (Self learner, Japan)
"When I run into situations at work where a deeper knowledge helps, I use material from this site. An example: I am a SAP analyst. I maintain data for a multinational company. One major concern about the data I maintain is the effect on revenue. I found the material extremely helpful in understanding the issues." (Self learner, United States)
"I am learning Chinese online with you, other resources online, with instant messenger and email language partners, and with textbooks and audio files. Your course and materials are incredible and they really help me learn language and cultures quickly with a great deal of depth." (Self learner, United States)

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Tabl 46 U : S lf l t d

Based at the San Diego Naval Station, the Southwest Regional Maintenance Center (SWRMC) provides maintenance support and maintenance training to more than 50 surface ships, aircraft carriers, and submarines of the U.S. Navy and Coast Guard. This is a weighty responsibility for Captain Kevin Gannon, Commander of the SWRMC—as is the complement of roughly 3,000 sailors and civilians under his command.

Captain Gannon, who describes himself as a "lifelong learner," holds an undergraduate degree from Tulane University in mathematics, an MS in Mechanical Engineering from the Naval Postgraduate School in Monterey, and an MS in Systems Engineering from University of Virginia. But he is quick to point out that his education is not confined to formal schooling; in each of his positions in the Navy, Gannon has worked to keep abreast of new developments in his fields of expertise.

Gannon describes his main responsibilities at SWRMC as overseeing lots of industrial processes (anything from fixing a pump to overhauling a gun)—and he is constantly looking for ways to streamline these processes. This quest led him to MIT's OpenCourseWare several years ago, while browsing for information on lean manufacturing.

"Lean is a tool that industry has been using for the last couple of years," explains Gannon, "focusing on process improvement, and minimizing waste. I was looking generically for lean information, and stumbled across OCW. I was really impressed. This site is a true intellectual gem. They have a couple of lean classes in the engineering section, such as Course ESD.60 – Lean/Six Sigma Processes, that were very useful."

MIT OCW has also proved helpful in other areas of Gannon's job. For example: leadership training for the sailors under his command is one of his major concerns. So, soon after discovering the MIT OCW Web site, Gannon browsed through the MIT Sloan School courses on OCW to see if any of these courses could be helpful. "The Leading Organizations course [Course 15.322] has turned me on to all sorts of useful references," Gannon says. "We've used a bunch of books mentioned in the syllabus. And the lecture notes are also an important tool. They include documents on the problems and prospects of a changing organizational world, and models of organizational change. We've used these for our discussion and our teaching here."

"OCW has definitely accelerated our ability to train," Gannon continues. "As far as I'm concerned, these courses are already tried-and-true. They've worked with a high-performing group. They're a nicely bundled package, and they're free. How can you beat that?"

Geographically, self learners in East Asia and South Asia more frequently use the site for planning a future course of study than do self learners from other regions (see Table 47 below).

Table 47. Self learner scenarios of use by region[21]

Region	Enhance personal knowledge	Keeping current in field	Planning course of study	Substitute for a course	Other	Developing educational technology	Total
North America	60.1%	15.4%	10.9%	6.9%	**5.0%**	1.8%	**100.0%**
East Asia	54.5%	13.3%	18.9%	9.3%	**1.7%**	2.3%	**100.0%**
West. Europe	59.2%	20.6%	6.9%	9.5%	**1.5%**	2.3%	**100.0%**
Latin America	54.7%	16.5%	10.6%	12.9%	**4.1%**	1.2%	**100.0%**
South Asia	48.3%	16.7%	18.9%	11.7%	**2.2%**	2.2%	**100.0%**
Eastern Europe	40.8%	24.5%	14.3%	10.2%	**6.1%**	4.1%	**100.0%**
MENA	59.0%	5.1%	25.6%	5.1%	**5.1%**	0.0%	**100.0%**
Pacific	63.3%	3.3%	20.0%	10.0%	**3.3%**	0.0%	**100.0%**
Sub-Sah. Africa	37.0%	29.6%	25.9%	7.4%	**0.0%**	0.0%	**100.0%**
Central Asia	33.3%	25.0%	25.0%	8.3%	**0.0%**	8.3%	**100.0%**
Caribbean	66.7%	0.0%	0.0%	33.3%	**0.0%**	0.0%	**100.0%**
All regions	**56.3%**	**15.8%**	**13.7%**	**8.9%**	**3.4%**	**2.0%**	**100.0%**

Source: 2005 Visitor Survey

More than 91% of new and 92% of returning self learners report being completely or somewhat successful at achieving their goals for visiting the site (see Table 48 below). As with other roles, success rates by scenario for new and returning visitors do not vary significantly.

Table 48. New and returning self learner success rates by scenario[19]

	New				Return			
Scenario	Completely successful	Somewhat successful	Not successful	Total	Completely successful	Somewhat successful	Not successful	Total
Enhancing personal knowledge	40.4%	51.6%	7.9%	**100.0%**	37.7%	54.5%	7.8%	**100.0%**
Keeping current in field developments	37.0%	50.4%	12.6%	**100.0%**	41.2%	49.7%	9.0%	**100.0%**
Planning future course of study	41.7%	48.2%	10.1%	**100.0%**	42.5%	47.8%	9.7%	**100.0%**
Substituting for a course not available	39.6%	52.8%	7.5%	**100.0%**	44.8%	48.0%	7.2%	**100.0%**
Other	37.9%	51.7%	10.3%	**100.0%**	59.0%	35.9%	5.1%	**100.0%**
Developing educational technology	22.2%	77.8%	0.0%	**100.0%**	38.1%	61.9%	0.0%	**100.0%**
All scenarios	**39.6%**	**51.5%**	**8.9%**	**100.0%**	**40.2%**	**51.8%**	**7.9%**	**100.0%**

Source: 2005 Visitor Survey

C. Materials usage

1. Visitor material type preferences

When asked to indicate the three types of materials on the site most useful to accomplishing their educational goals (see Table 49 below), visitors most often cited lecture notes (66%), full text readings (47%), and lecture videos (30%). These three types of materials, plus reading citations, are the primary materials on the site that supply visitors with the substance—or subject matter—addressed in courses.

USE: MATERIAL TYPE PREFERENCES

- Visitors most frequently cite lecture notes (66%), full text readings (47%), lecture videos (30%), and assignments (27%) as among the most valuable types of content

Learning activities materials, which document how students in the class developed or demonstrated understanding of the subject matter, are diverse—including assignments and solutions, exams and solutions, projects and labs. These learning activities materials, though more numerous, were each rated as valuable by between 15% and 20% of visitors.

[21] Figures in gray represent samples sizes less than 100.

The overall plan or structure of courses is provided through syllabi and calendars; as in previous evaluations, visitors frequently cited syllabi as a valuable type of content (26%), while rarely indicating calendars were helpful (5.5%). Educators exhibit markedly different materials preferences than students and self learners, expressing lower value for lecture videos and higher emphasis on syllabi.

Table 49. Materials type preference by role

Material Type	Educator	Student	Self learner	Other	All roles
Lecture notes	66.6%	66.7%	65.5%	65.4%	**66.1%**
Full text readings	42.2%	44.5%	50.4%	44.4%	**46.8%**
Lecture videos	23.2%	33.5%	30.5%	22.0%	**29.9%**
Assignments	28.8%	28.7%	26.3%	19.5%	**27.1%**
Syllabi	33.2%	23.9%	24.3%	28.8%	**25.9%**
Tools (e.g. simulations, example code)	17.2%	18.0%	20.3%	19.5%	**19.0%**
Assignment solutions	14.3%	19.9%	18.7%	17.1%	**18.3%**
Exams	20.5%	22.4%	15.1%	14.6%	**18.3%**
Reading citations	16.9%	18.2%	17.7%	15.1%	**17.6%**
Projects	17.7%	15.9%	16.8%	16.1%	**16.6%**
Exam solutions	15.8%	20.0%	12.1%	14.6%	**15.4%**
Project examples (sample student work)	13.7%	14.9%	15.8%	14.1%	**15.1%**
Related links	7.7%	9.1%	10.7%	11.7%	**9.8%**
Labs	10.6%	9.0%	7.5%	8.3%	**8.5%**
Calendars	4.5%	6.1%	5.3%	7.3%	**5.5%**
Other	1.8%	1.6%	2.9%	6.8%	**2.5%**

Source: 2005 Visitor Survey

In the 2004 evaluation, video lectures were ranked behind syllabi and assignments, with only 21% of visitors indicating they were among the most valuable types of content. This growth in interest in OCW video content coincides with a significant increase in the number of courses including full lecture videos, from 7 in 2004 to 15 at the end of 2005. In addition, OCW has implemented navigational elements to assist visitors in locating video resources.

2. Special focus: Materials repurposing

Educators remain an audience of special interest to MIT OpenCourseWare, as previous evaluations indicate educators improve the effectiveness of their own instruction through interaction with the site, and expose significant secondary audiences of students to OCW content. Data gathered in 2005 provide a richer picture of how educators both supply OCW content directly to their students and also create their own derivative works using OCW materials.

Rates of educator materials reuse

USE: MATERIALS REUSE

- 46% of educators visiting the OCW site have adopted or adapted site content; 92% expect to do so in the future
- 62% combine OCW materials with other content; 38% adapt course syllabi; 26% adapt assignments or exams

As compared to prior evaluations, an increasing percent of educators visiting the site have already reused OCW materials in their teaching. Likewise, increasing numbers of educators plan to use—or are considering using—OCW materials for their own instruction. In 2004, 31% of educators reported having adopted or adapted OCW materials for use in their teaching; as shown in Table 50 below, 46% of educators responding to this year's survey have adopted or adapted OCW content. Similarly in 2004, 57% said they planned to adopt or adapt materials in the future, and another 32% were considering doing so. In 2005, these figures are 63% and 32%. The percentage who did not plan to reuse OCW content in the future dropped over that period from 11% to the current 6%.

Among the 46% adopting or adapting content, 66% indicated they had recommended the site directly as an additional resource for their students, demonstrating the importance of educators as an awareness building channel among student audiences (see Table 51 below). 41% said they had adapted OCW content in developing the structure of a course, 37% had incorporated OCW notes, simulations or tools into preexisting course materials, and 26% had adapted OCW assignments or exams.

Table 50. Educator current and future reuse of site materials

Materials reuse	Current	Future
Yes	46.2%	62.8%
No	53.8%	5.7%
Not sure	—	31.5
Total	**100.0%**	**100.0%**

Source: 2005 Visitor Survey

In addition to these adaptations, 30% of educators report providing printed copies of unmodified site materials to students in class, and 24% had provided electronic copies via e-mail, file sharing or learning management systems. This highlights the extent to which OCW materials are shared in offline versus online contexts.

Table 51. Scenarios of OCW reuse by educators

Reuse scenario	%
Recommended that students go to the site directly for additional subject information	65.5%
Adapted syllabi or other content in developing the structure of a course	40.5%
Incorporated OCW lecture notes, simulations or tools into preexisting course materials	36.7%
Provided printed copies of unmodified site materials to students in class	29.5%
Adapted MIT OCW assignments or exams	25.8%
Provided electronic copies of unmodified materials to students via e-mail, file sharing, or LMS	23.9%
Other	1.9%

Source: 2005 Visitor Survey

Educator free text descriptions of these types of uses and adaptations further contextualize the ways in which OCW content is being redistributed to secondary audiences (see Table 52 below)

Tabl 52 U : Ed t d ti d f OCW t i l

Direct recommendation

"Students gain extra information or different approaches to emphasis the topics which is covered in the lecture time." (Educator, Cyprus)

"Use video lectures as a requirement prior to attending class and spend time problem solving in class." (Educator, United States)

Syllabus adaptation

"I plan to adopt the sequencing of topics and adapt course activities and student assignments to suit local constraints." (Self learner, Philippines)

"Adapt course on innovation in military organization for teaching on defense transformation, adapt material in culture." (Educator, United States)

Lecture note adaptation

"Reuse some drawings from lecture notes rewrite parts of text learn how to explain better some complex issues." (Educator, Italy)

"For augmenting own notes in terms of content, diversity and clearer presentation." (Educator, India)

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Types of modifications made to OCW content

USE: MATERIALS MODIFICATION

- 41% adjust the academic level of the material
- 30% update the content
- 26%maket technical changes
- 23% adapt the material to better suit their culture

86% of educators reusing OCW content report making one or more types of modifications to the materials. Educator characterizations of the types of modifications to OCW materials made prior to reuse provide more insight into the challenges faced in repurposing educational content. As shown in Table 53 below, nearly 62% of educators indicate that they incorporate OCW material with material from other sources, suggesting that educators in large numbers are creating derivative works suited to their particular local needs.

Educators most frequently report making adjustments to OCW content to account for differences between the academic level of their students and the MIT student population (41%); 30% of educators say they have altered OCW materials to account for recent developments in their field; and less frequently, educators indicate altering OCW content to adjust for technical format differences (26%) or cultural differences such as language or the appropriateness of examples (23%).

Table 53. Types of modifications to OCW by educators

Modification type	%
Incorporation of MIT OCW content with materials from other sources	61.7%
Adjustments for differences in academic level	41.3%
Adjustments to update content that does not reflect most current field developments	29.9%
Adjustments for technical format differences	25.8%
Adjustments for cultural differences such as language and appropriateness of examples	23.1%
Other	2.3%

Source: 2005 Visitor Survey

Response rates to questions regarding materials reuse by educators were not high enough for reliable analysis by geographic region.

Incorporation of MIT OCW content with materials from other sources

Nearly 62% of educators reusing OCW content indicate they combine MIT materials with materials from other sources. Educator free text descriptions of modifications provide examples of such content combination (see Table 54 below).

T bl 54 U : Ed t i ti f OCW t i l ith th

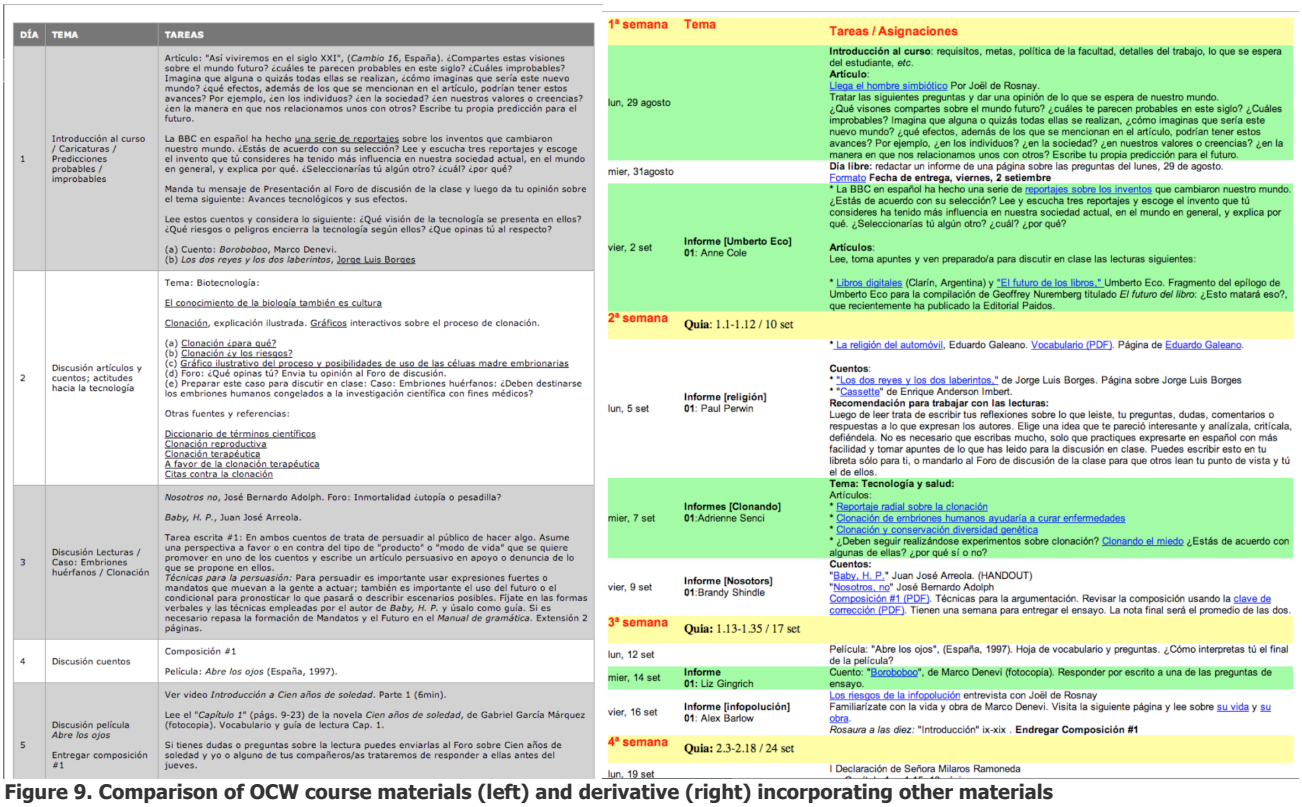
"Correlate these with other existing material - use OCW materials as a reference, for example." (Educator, India)

"Lectures notes and videos as additions to the material I teach (for better understanding/visualization)." (Educator, Israel)

"Adapting materials according to the current curricula, in certain topics covered by our academic program, such as insertions of explanations, examples or interactive demos." (Educator, Mexico)

A further example of such content mixing was provided by a US educator, who based his Spanish course on the MIT OCW course 21F.711 *Advanced Spanish Conversation and Composition: Perspectives on Technology and Culture,* Spring 2005. As shown in Figure 9 below, the educator used the OCW course as a starting point for the structure of the course, adding and deleting readings according to preference. The resulting derivative materials are marked as available for reuse according to the OCW Creative Commons license.[22]

[22] See www.creativecommons.org for more information about Creative Commons licenses.



DÍA	TEMA	TAREAS
1	Introducción al curso / Caricaturas / Predicciones probables / improbables	Artículo: "Así viviremos en el siglo XXI", (*Cambio 16*, España). ¿Compartes estas visiones sobre el mundo futuro? ¿cuáles te parecen probables en este siglo? ¿Cuáles improbables? Imagina que alguna o quizás todas ellas se realizan, ¿cómo imaginas que sería este nuevo mundo? ¿qué efectos, además de los que se mencionan en el artículo, podrían tener estos avances? Por ejemplo, ¿en los individuos? ¿en la sociedad? ¿en nuestros valores o creencias? ¿en la manera en que nos relacionamos unos con otros? Escribe tu propia predicción para el futuro. La BBC en español ha hecho una serie de reportajes sobre los inventos que cambiaron nuestro mundo. ¿Estás de acuerdo con su selección? Lee y escucha tres reportajes y escoge el invento que tú consideres ha tenido más influencia en nuestra sociedad actual, en el mundo en general, y explica por qué. ¿Seleccionarías tú algún otro? ¿cuál? ¿por qué? Manda tu mensaje de Presentación al Foro de discusión de la clase y luego da tu opinión sobre el tema siguiente: Avances tecnológicos y sus efectos. Lee estos cuentos y considera lo siguiente: ¿Qué visión de la tecnología se presenta en ellos? ¿Qué riesgos o peligros encierra la tecnología según ellos? ¿Que opinas tú al respecto? (a) Cuento: *Boroboboo*, Marco Denevi. (b) *Los dos reyes y los dos laberintos*, Jorge Luis Borges
2	Discusión artículos y cuentos; actitudes hacia la tecnología	Tema: Biotecnología: El conocimiento de la biología también es cultura Clonación, explicación ilustrada. Gráficos interactivos sobre el proceso de clonación. (a) Clonación ¿para qué? (b) Clonación ¿y los riesgos? (c) Gráfico ilustrativo del proceso y posibilidades de uso de las células madre embrionarias (d) Foro: ¿Qué opinas tú? Envía tu opinión al Foro de discusión. (e) Preparar este caso para discutir en clase: Caso: Embriones huérfanos: ¿Deben destinarse los embriones humanos congelados a la investigación científica con fines médicos? Otras fuentes y referencias: Diccionario de términos científicos Clonación reproductiva Clonación terapéutica A favor de la clonación terapéutica Citas contra la clonación
3	Discusión Lecturas / Caso: Embriones huérfanos / Clonación	*Nosotros no*, José Bernardo Adolph. Foro: Inmortalidad ¿utopía o pesadilla? *Baby, H. P.*, Juan José Arreola. Tarea escrita #1: En ambos cuentos de trata de persuadir al público de hacer algo. Asume una perspectiva a favor o en contra del tipo de "producto" o "modo de vida" que se quiere promover en uno de los cuentos y escribe un artículo persuasivo en apoyo o denuncia de lo que se propone en ellos. *Técnicas para la persuasión:* Para persuadir es importante usar expresiones fuertes o mandatos que muevan a la gente a actuar; también es importante el uso del futuro o el condicional para pronosticar lo que pasará o describir escenarios posibles. Fíjate en las formas verbales y las técnicas empleadas por el autor de *Baby, H. P.* y úsalo como guía. Si es necesario repasa la formación de Mandatos y el Futuro en el *Manual de gramática*. Extensión 2 páginas.
4	Discusión cuentos	Composición #1 Película: *Abre los ojos* (España, 1997).
5	Discusión película *Abre los ojos* Entregar composición #1	Ver video *Introducción a Cien años de soledad*. Parte 1 (6min). Lee el "*Capítulo 1*" (págs. 9-23) de la novela *Cien años de soledad*, de Gabriel García Márquez (fotocopia). Vocabulario y guía de lectura Cap. 1. Si tienes dudas o preguntas sobre la lectura puedes enviarlas al Foro sobre Cien años de soledad y yo o alguno de tus compañeros/as trataremos de responder a ellas antes del jueves.

1ª semana	Tema	Tareas / Asignaciones
lun, 29 agosto		**Introducción al curso**: requisitos, metas, política de la facultad, detalles del trabajo, lo que se espera del estudiante, *etc.* **Artículo**: Llega el hombre simbiótico Por Joël de Rosnay. Tratar las siguientes preguntas y dar una opinión de lo que se espera de nuestro mundo. ¿Qué visones compartes sobre el mundo futuro? ¿cuáles te parecen probables en este siglo? ¿Cuáles improbables? Imagina que alguna o quizás todas ellas se realizan, ¿cómo imaginas que sería este nuevo mundo? ¿qué efectos, además de los que se mencionan en el artículo, podrían tener estos avances? Por ejemplo, ¿en los individuos? ¿en la sociedad? ¿en nuestros valores o creencias? ¿en la manera en que nos relacionamos unos con otros? Escribe tu propia predicción para el futuro.
mier, 31agosto		**Día libre:** redactar un informe de una página sobre las preguntas del lunes, 29 de agosto. Formato **Fecha de entrega, viernes, 2 setiembre**
vier, 2 set	**Informe [Umberto Eco]** **01**: Anne Cole	* La BBC en español ha hecho una serie de reportajes sobre los inventos que cambiaron nuestro mundo. ¿Estás de acuerdo con su selección? Lee y escucha tres reportajes y escoge el invento que tú consideres ha tenido más influencia en nuestra sociedad actual, en el mundo en general, y explica por qué. ¿Seleccionarías tú algún otro? ¿cuál? ¿por qué? **Artículos**: Lee, toma apuntes y ven preparado/a para discutir en clase las lecturas siguientes: * Libros digitales (Clarín, Argentina) y "El futuro de los libros," Umberto Eco. Fragmento del epílogo de Umberto Eco para la compilación de Geoffrey Nuremberg titulado *El futuro del libro*: ¿Esto matará eso?, que recientemente ha publicado la Editorial Paidos.
2ª semana	**Quia**: 1.1-1.12 / 10 set	
lun, 5 set	**Informe [religión]** **01**: Paul Perwin	* La religión del automóvil, Eduardo Galeano. Vocabulario (PDF). Página de Eduardo Galeano. **Cuentos**: * "Los dos reyes y los dos laberintos," de Jorge Luis Borges. Página sobre Jorge Luis Borges * "Cassette" de Enrique Anderson Imbert. **Recomendación para trabajar con las lecturas:** Luego de leer trata de escribir tus reflexiones sobre lo que leiste, tu preguntas, dudas, comentarios o respuestas a lo que expresan los autores. Elige una idea que te pareció interesante y analízala, critícala, defiéndela. No es necesario que escribas mucho, solo que practiques expresarte en español con más facilidad y tomar apuntes de lo que has leído para la discusión en clase. Puedes escribir esto en tu libreta sólo para ti, o mandarlo al Foro de discusión de la clase para que otros lean tu punto de vista y tú el de ellos.
mier, 7 set	**Informes [Clonando]** **01**:Adrienne Senci	**Tema: Tecnología y salud:** Artículos: * Reportaje radial sobre la clonación * Clonación de embriones humanos ayudaría a curar enfermedades * Clonación y conservación diversidad genética * ¿Deben seguir realizándose experimentos sobre clonación? Clonando el miedo ¿Estás de acuerdo con algunas de ellas? ¿por qué sí o no?
vier, 9 set	**Informe [Nosotors]** **01**:Brandy Shindle	**Cuentos:** "Baby, H. P." Juan José Arreola. (HANDOUT) "Nosotros, no" José Bernardo Adolph Composición #1 (PDF). Técnicas para la argumentación. Revisar la composición usando la clave de corrección (PDF). Tienen una semana para entregar el ensayo. La nota final será el promedio de las dos.
3ª semana	**Quia:** 1.13-1.35 / 17 set	
lun, 12 set		Película: "Abre los ojos", (España, 1997). Hoja de vocabulario y preguntas. ¿Cómo interpretas tú el final de la película?
mier, 14 set	**Informe** **01**: Liz Gingrich	Cuento: "Boroboboo", de Marco Denevi (fotocopia). Responder por escrito a una de las preguntas de ensayo.
vier, 16 set	**Informe [infopolución]** **01**: Alex Barlow	Los riesgos de la infopolución entrevista con Joël de Rosnay Familiarízate con la vida y obra de Marco Denevi. Visita la siguiente página y lee sobre su vida y su obra. *Rosaura a las diez:* "Introducción" ix-xix . **Endregar Composición #1**
4ª semana	**Quia:** 2.3-2.18 / 24 set	
lun, 19 set		I Declaración de Señora Milaros Ramoneda

Figure 9. Comparison of OCW course materials (left) and derivative (right) incorporating other materials

Adaptations to address technical issues

While the formats of OCW materials are widely accepted by site visitors (see Sections II.D.2 and 3 above), these formats cannot always exactly match local technical needs, especially for educators reusing contents. Just over a quarter (26%) of educators reusing site contents report making technical adjustments to the content. These adjustments are made for a range of reasons from simple preference, to alignment with the file formats of other materials, to overcoming bandwidth constraints.

Figure 10. Earth Science Australia
Source: http://earthsci.org/

One example that emerged during the 2005 evaluation, Earth Science Australia (http://earthsci.org), illustrates technical changes made to incorporate OCW content into materials already in HTML format. The site administrator also describes a number of other reasons for converting content to HTML, including the ability of the format to run on any system and in low bandwidth environments. He details a some disadvantages of the Adobe Reader, including frequent updates that "lock up" computers, and a tendency for Adobe to load spyware. Table 55 below provides further information about the project.

"Earth Science Australia is a not-for-profit student website that has supplied free earth science resources for rural and remote students since 1996. Currently we receive in excess of 1 million visitors per year (the country's population is 20 million). The site receives no regular support from mining, industry, government or education. We exist on a whiff of petrol in cyberspace and live the life of a gypsy as an alias on surplus corporate server space. The site is run out of hours, out of pocket, after tax by a high school teacher. We really appreciate access to such wonderful material, though the PDF format takes so much time to convert to HTML using our less than efficient freeware converter program. The freeware used is a program called PDFtoHTML it converts the text but not the formatting. Images must be copied across individually and inserted back into the text.

"Currently we are looking at adapting material on Geobiology, Geophysics - essentials and Tropical Cyclones to suit a high school students and the southern hemisphere. The Geobotany (12.007 Geobiology, Spring 2003) we will condense and simplify but keep the meaning largely intact. The Geophysics (12.110 Sedimentary Geology, Fall 2004) will be used as a general overview of the discipline. Both topics are deficient on our current web site. The Tropical Cyclone material (12.811 Tropical Meteorology, Spring 2005) will be incorporated into our existing section on Tropical Cyclones - some of your descriptions are clearer and some of your images are better than what we currently offer. The down side is that these changes will on be on site for some time as my teaching load is very heavy this year. I hope to give your excellent material priority but have a backlog of 60 megs of activities and ideas yet to be converted to HTML." (Educator, Australia)

Adaptations to address academic issues

Over 41% of educators reusing site contents indicate they make adjustments to OCW materials to account for differences between the academic level of their students and the students for which the materials were originally developed. As shown in Table 56 below, educators describe making such adaptations in free text responses.

Tabl 56 U : Ed t d i ti f d i dj t t t OCW t t

"[I] pull some material into lecture notes; use other material as a starting point for developing related material appropriate to my setting (community college engineering program)." (Educator, United States)

"I will choose some related background information and adapt them to suit my needs. Such as divide some important ideas and tools into several parts, which makes my students easy to understand and take in." (Educator, China)

"I like being able to look at the macrostructure of the curriculum which I can then adapt in my own teaching. In terms of content, my students are not quite at this level yet, but it is helpful for me to situate their learning in the greater context of math as a whole." (Educator, United States)

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Adaptations to address cultural issues

23% of educators reusing OCW materials make adjustments related to cultural appropriateness of site contents, including language and relevancy of examples used. Translation is probably the single most frequent type of cultural adaptation made, based on an analysis of educator free text descriptions of changes made. Table 57 below provides examples of these descriptions.

Tabl 57 U Ed l l dj OCW i l

"Translating to Spanish, changing the contents for our culture and context." (Educator, Ecuador)

"I would modify the contents to fit into the Chinese culture while maintaining the spirit of the original." (Educator, China)

"Translate the material to Spanish and distribute to students." (Educator, Peru)

"Will translate 2/3 of one course and augment it with my own materials for creating a new course at my university." (Educator, Canada)

"Change the terminology to suit the conditions in New Zealand." (Educator, New Zealand)

"Adapt for cultural differences in citing examples or illustrations. Use localised examples to elaborate on concepts." (Educator, India)

Experiences reported by our translation affiliates also shed light on the cultural challenges that may arise in reusing OCW content, whether in translation or in English. A forthcoming book chapter by Grace Lin, a volunteer translator for OCW translation affiliate OOPS,[23] documents numerous examples of cultural content problematic to many non-US users. An excerpt from the chapter is included in Table 58 below.

Table 58 Use case: Translator difficulties with cultural adaptation

Puns and idioms

Puns and idioms are always very difficult to translate without jeopardizing the original nuance. One of our favorite examples comes from a course in physiology and unconsciousness: "Oh no, I have an exam tomorrow, and it is very impotent for my grades!" (thread # 376, Lin's italics) How does one translate this in Chinese? Idioms are not any easier. With an example like "[T]he sketch is only as good as the witness" (thread #522), the translators have to first comprehend the meaning within the context of the course as well as the American culture, before they can produce a translation that would be easily understood by Chinese/Taiwanese audience. As seen from these examples, the issues of the content translation are closely related to the translators' familiarity with daily lives of American students on which the course content is based.

Everyday lives

Understanding the cultural context of the course contents proved to be a crucial aspect of the translation process. Jianhua, a college instructor teaching marketing and business English in China posted many questions about different food items he had encountered in the course materials. During the month of June 2004, he posted several questions to the online forum seeking help with translations for terms such as Strawberry Daiquiri (thread #232), chocolate-frosted Wheaties (thread #252), Fruit Roll-ups and Burrito Bandit (thread #253). These were examples used in the course to demonstrate how different products distinguish themselves by anchoring different consumer population and therefore positioning themselves in terms of marketing and pricing. In some discussions, other translators were able to provide the descriptions of the food items. Cases are not limited to food items. For example, Jianhua also asked the following question in June 2004, "what is Tivo service?" (thread #290). After reading others' descriptions of the item and suggestions for the translation, Jianhua concluded that "[I]t seems China does not have such an item" and decided to leave the term in English, following the suggestion offered by many others. It is not intuitive for translators to quickly guess that the initial B.H. refers to a professor named William (thread # 409). These examples show just a tip of the iceberg of the difficulties that the translators face during the translation process. It appears that in many cases, the confusion arises due to the fact that these "everyday" American consumer goods simply did not exist in everyday lives of the translators.

(From: Lin, M., & Lee, M. (2006). "E-Learning Localized: The Case of the OOPS Project." In A. Edmundson (Ed.), *Globalization in Education: Improving Education Quality through Cross-Cultural Dialogue* (pp. 168-186): Idea Group.

[23] Opensource Opencourseware Prototype System; see section IV.B.1 for more information on OOPS.

3. Special focus: Institutional use of OCW content

While still early in the process, signs are appearing that use of OCW content is being incorporated into institutional practice. Respondents to the visitor survey were asked to describe in free text any institutional or organizational uses of OCW content they were aware of. While the vast majority were unaware of any such uses, and many who were described uses directly associated with OCW (such as our translation affiliates), a number of intriguing examples did emerge.

Educational institution usage

In educational institutions, such incorporation is often as a trusted resource for instructors seeking to improve their teaching skills or materials; for students, the site is providing opportunities for credit-bearing self-directed study in subject areas not otherwise available at their institution (see Table 59 below).

Table 59 Use cases: Uses of OCW content by educational institutions

"Indian Institute of Information Technology, Allahabad, India strongly encourages its students to go through OCW. The Institute plans to keep a discussion hour once a week to discuss what has one learnt new at the OCW." (Student, India)
"In my university some teachers are in the process of strongly considering using the course outlines for their courses, so they can increase the quality of education for students at a reasonable cost." (No role specified, United Arab Emirates)
"I know, here in Colombia that some Universities are beginning to use OCW materials in their courses (for example EAFIT University at Medellin)." (No role specified, Columbia)
"Tecnoeje is a Network of 23 mexican universities and we are promoting OCW use." (Educator, Mexico)
"Undergrads [at my college] are afforded the opportunity to write educational "contracts" with faculty. This is where a student or a group of students write and sign a contract defining our learning objectives and means of accomplishing them with faculty for credit. Last year, I was part of a group of students who received credit for completing the linear algebra course on OCW and making weekly presentations to our faculty." (Student, United States)
"New York City high school teachers have indicated your website as a standard for teaching physics to young graduate assistants." (Educator, United States)

Source: 2005 Visitor Survey

Chinese University uses of MIT OCW materials

The most dramatic example to date of educational institutions using MIT OCW content comes from China, through a program organized by our translation partner, CORE[24] (see Table 60 below).

Tabl 60 U Chi i i f OCW

In July 2005 CORE formally initiated the program of the use of MIT OCW in its Lead universities. To date, there are 170 MIT OCW [courses] being adopted, adapted or absorbed in teaching, and 150 professors and 5,000 students from the Lead universities have involved themselves in teaching and studying. In the meantime, 90 MIT OCW [courses] have been incorporated to the teaching repository of CRTUV, which has linked to 2,000 teaching centers in China with 500,000 students. The number of MIT OCW [courses] in CRTUV's repository will be doubled and the number of students who use MIT OCW through CRTUV's repository will be more than 1 million by the end of 2006.

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[24] China Open Resources for Education; for more information on CORE, see section IV.B.1.

Uses of MIT OCW materials by For-profit and Non-profit organizations

In the for-profit and not-for-profit sectors, again, early indications of use to achieve organizational goals can be seen. In for-profit organizations, this use largely appears to be in providing training to employees (see Table 61 below). Non-profit organizations with training or education focuses appear in some cases to be adopting OCW as part of the content they deliver to their clients

Tabl 61 U F - fi d - fi i i l f OCW

For profit

"I am looking into using it as a review or discussion material for Engineers in my group at Xerox." (Self learner, United States)

"Several companies in underdeveloped countries use this site as a reference point." (Self learner, Spain)

"Raytheon encourages employees to access and use the site." (Self learner, United States)

"I have mentioned OCW to one of our bank's executives and they have utilized some of the OCW's resource for educating their new MBA grads." (Self Learner, United States)

Non-profit

"We have a joint with a non-governmental organization to teach a poor people in Ecuador, using technology and any other sources." (Educator, Ecuador)

"My Non-Profit Corporation uses your material in the classroom." (Educator, Columbia)

"My very own company, Pump International:- we provide short courses on pumps in local institutions of higher learning." (No role specified, Malaysia)

Government

"Personally, I work at the DIAPE, the information analysis and strategy planning office of the Dominican Presidency". (Self learner, Dominican Republic)

"MIT OCW materials make the air-officers in The Royal Thai Air Force have self-study experiences." (self learner, Thailand)

Source: 2005 Visitor Survey

D. Visitor satisfaction and suggestions for improvement

1. Visitor perceptions of materials currency

USE: MATERIALS CURRENCY

- 97% of visitors agree that OCW materials are up to date

MIT OpenCourseWare began publishing courses in 2002, and our plan for publishing updated versions of courses allows for each course to be updated approximately every four years on average.[25] As courses begin to approach the end of their lifecycle, user perception of the currency of materials on the site is a concern.

As shown in Table 62 below, however, both new and returning visitors widely agree that materials on the site are current with respect to recent developments in their field. Retuning visitors tend to agree materials are current slightly more strongly than new visitors, suggesting that currency may have some small effect on new visitors'

[25] To date, OCW has published 133 updates to courses previously published.

likelihood of return. Changes to this perception in future evaluations will inform OCW's plan for updating courses.

Although sample size makes such analysis difficult, few significant variations by field were observed in currency ratings. 6.7% of respondents identifying Brain and Cognitive Sciences as their field of interest disagreed or strongly disagreed that the site materials were up to date, more than double the percentage of all visitors rating materials this way. This rating is likely influenced by the rapid development of that field and by the fact that many of the OCW Brain and Cognitive Sciences courses were published early in the project, and are approaching the end of their planned lifespan.

Table 62. Materials currency rating

Currency rating	New	Return	Both
Strongly agree	35.1%	38.3%	**37.1%**
Agree	62.1%	58.5%	**59.9%**
Disagree	2.5%	2.9%	**2.7%**
Strongly disagree	0.3%	0.3%	**0.3%**
Total	**100.0%**	**100.0%**	**100.0%**

Source: 2005 Visitor Survey

No significant variations in visitor ratings of materials currency emerge when examined by role. However, while nearly all educators perceive the site materials to be current, they nonetheless often report updating the material when they reuse them in their own teaching. As further discussed in section III.C.2. above, among educators who have reused OCW content in their own instruction, 30% report making modifications to OCW site materials to reflect the latest developments in their field.

2. Visitor success at achieving educational goals

Both new and returning visitors are widely successful in achieving their educational goals in visiting the site (see Table 63 below). Overall 91% of new and 93% of returning visitors are completely or somewhat successful at achieving their educational goals.

Table 63. New and returning visitor success ratings

Success rating	New	Return	Both
I was completely successful	41.2%	40.7%	**40.9%**
I was somewhat successful	49.6%	52.2%	**51.2%**
I was not successful	9.1%	7.1%	**7.9%**
Total	**100.0%**	**100.0%**	**100.0%**

Source: 2005 Visitor Survey

For more information on success by role and scenario of use, please see Sections III.B.1, 2 and 3 above.

USE: VISITOR SUCCESS AND SATISFACTION

- 41% of visitors are completely successful at achieving their educational goals in visiting the site; 51% are somewhat successful
- 93% of visitors are satisfied with site breadth; 87% are satisfied with depth of courses; 91% are satisfied with quality

3. Visitor satisfaction with site breadth, depth and quality

As shown in Table 64 below, site visitors in very high percentages are very satisfied or satisfied with the breadth of subjects covered on the site, the depth of content within courses on the site, and the quality of course materials. These satisfaction ratings have increased significantly over the prior evaluation's measures, which were 81% for breadth, 72% for depth, and 89% for quality.

Table 64. Site aspect satisfaction ratings by role (% very satisfied or satisfied)

Aspect	Educators	Students	Self learners	All roles
Breadth	93.8%	92.9%	93.7%	**93.4%**
Depth	91.0%	86.4%	87.0%	**87.3%**
Quality	93.8%	89.3%	90.5%	**90.6%**

Source: 2005 Visitor Survey

Patterns of response similar to those observed in prior evaluations are evident in the 2005 ratings. Educators continue to rate the quality of the material most highly, and students express the least satisfaction with depth of content within courses.

4. Suggested content improvements

Visitor free-text suggestions for content improvement include requests for more courses and more content within courses, better consistency of content among courses, the inclusion of more full text readings, more solutions to assignments and exams, and more translations. Examples of user content suggestions are included in Table 65 below.

Table 65. Use cases: Visitor suggestions for content improvements

"The current level of content is somewhat inconsistent. The level of content (i.e. lecture notes, exams, and assignments (with answers)) are not consistent across all of the courses which I have seen. It would be very useful to bring all of the class content up to a specific level (where all material for given classes were available at the same level of detail, format etc)." (Self learner, United States)

"Publish more textbooks. I don't know if it would be easier than posting video lectures, but textbooks are definitely the very basic material required to learn a new subject. Many times, in public libraries, college-level textbooks are not readily available. This would pose people who do not attend college but extensively make use of OCW at a disadvantage." (Student, Singapore)

"Many of the Aeronautics courses offer problems, but no solutions. One of the main benefits I found was the ability to see different approaches to, and techniques for, solving problems." (Student, United States)

"Continued expansion of courses to provide more depth in some areas. Encourage lecture notes to be posted in more courses, even if they are student notes and not lecturer notes." (Self learner, United States)

"I would increase the translate to other languages like Spanish." (Educator, Ecuador)

E. Special use topics

1. Special focus: Use of video content

USE: VISITOR VIDEO ACCESS

- 44% of visitors seeking video content are students, 40% are self learners, and 14% are educators
- 24% of visitors seeking video visit daily, as compared to 8% of all visitors

Video content on the OCW site has been of special interest to MIT OpenCourseWare, its funders, and its visitors. Video content presents significant learning opportunities for visitors, and challenges for OCW—not the least of which is its cost to produce and host. A focus of this evaluation is to better understand the benefits and relative value of video to OCW visitors. In addition, this evaluation seeks to better understand OCW visitor satisfaction with the current OCW video formats and delivery. Results below are based on responses from 517 visitors to OCW pages containing video content surveyed between 12/5/2006 and 12/23/2006. For more information on this data source, please see Appendix 3.

Table 66. Video visitors and all visitors role distribution

Role	Visitors seeking video	All visitors
Educator	13.7%	**16.4%**
Student	43.8%	**32.0%**
Self learner	40.1%	**46.5%**
Other	2.3%	**5.2%**
Total	**100.0%**	**100.0%**

Sources: 2005 Visitor and Video Surveys

Visitors accessing video

Of 517 visitors to pages containing video surveyed, 299 (60%) indicated they had come to the site seeking video content (see Table

66). This subset of the OCW audience contains a markedly different educational role distribution, with students as the most frequent role type (44%), followed by self learners (40%), and educators (14%).

The geographic distribution of OCW visitors seeking video content also varies from the overall visitor population, with significantly fewer visitors seeking video from Latin America, and a remarkably higher number seeking video from the Middle East and North Africa (see Table 67 at right).

Table 67. Video visitors and all visitors regional distribution

Region	Visitors seeking video	All visitors
North America	33.3%	33.4%
East Asia	21.6%	23.1%
Western Europe	13.3%	13.1%
Latin America	5.1%	10.2%
South Asia	11.2%	9.1%
Eastern Europe	2.4%	4.0%
MENA	6.7%	3.0%
Pacific	1.6%	1.7%
Sub-Sah. Africa	1.3%	1.5%
Central Asia	3.2%	0.7%
Caribbean	0.3%	0.2%
Total	**100.0%**	**100.0%**

Sources: 2005 Visitor and Video Surveys

Visit frequency and prior visits

Returning visitors seeking video content on the OCW site are typically among the most frequent visitors to OCW, with two third visiting on a daily or weekly basis as compared to 41% of all visitors (see Table 68 below).

Table 68. Video visitors and all visitors visit frequency

Frequency	Visitors seeking video	All visitors
Daily	24.4%	8.3%
Weekly	42.9%	32.6%
Monthly	12.9%	21.1%
Occasionally	19.8%	37.9%
Total	**100.0%**	**100.00%**

Sources: 2005 Visitor and Video Surveys

Table 69. Video visitors and all visitors prior visits

Prior visits	Visitors seeking video	All roles
Once	4.1%	7.0%
2-5 times	15.2%	20.9%
6-10 times	20.3%	17.5%
11-25 times	20.3%	19.5%
25-50 times	17.1%	16.8%
> 50 times	23.0%	18.3%
Total	**100.0%**	**100.0%**

Sources: 2005 Visitor and Video Surveys

However, as shown in Table 69 above, visitors seeking video have generally not made more prior visits than the overall OCW population.

Video technical access conditions and format preferences

The vast majority (92%) of OCW visitors accessing video do so using high-speed connections, including broadband and local area network connections (see Table 70 below). Prior evaluations indicate that 14% of the overall OCW visitor population uses a dial-up connection, indicating that connection speed is a constraint on access to video content.

Table 70. Video visitors connection types

Connection type	%
Dial Up	5.6%
Broadband (cable, DSL)	71.2%
Local Area Network	20.5%
Other	2.7%
Total	**100.0%**

Source: 2005 Video Survey

Table 71. Video visitors rate preferences

Rate preference	%
56 Kb/sec	12.5%
180 Kb/sec	14.5%
200 Kb/sec	51.2%
Don't know	21.8%
Total	**100.0%**

Source: 2005 Video Survey

As shown in Tables 72 and 73 below, 83% of visitors to video pages are very satisfied or satisfied with RealMedia, and only 6% report being very unsatisfied by the format; two thirds, however, prefer downloading to streaming.

Table 72. Video visitor satisfaction with RealMedia format

Satisfaction	%
Very satisfied	31.1%
Satisfied	51.5%
Unsatisfied	11.2%
Very unsatisfied	6.1%
Total	**100.0%**

Source: 2005 Video Survey

Table 73. Video visitor streaming versus downloading preference

Preference	%
Streaming content	33.4%
Downloading content	66.6%
Total	**100.0%**

Source: 2005 Video Survey

Although the format has detractors within the OCW visitor population (see Table 74 below), RealMedia-formatted videos are largely well accepted by visitor to video pages.

T bl 74 U : Vi it di ti f ti ith R lPl f t

"I am a visual learner and I appreciate the video lectures. However I think the streaming choice of realplayer needs re evaluating." (Self learner, United Kingdom)

"Real media is a very limited format. WMV or Flash would be easier to access. The military blocks real media to all it's AF bases due to security concerns and the way RM updates it's software." (Educator, United States)

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When asked to identify their most preferred formats for both streaming and downloading of video content, visitors to video pages identified RealMedia most frequently in both cases (see Table 75 at right). 47% identified RealMedia as most preferred for streaming, and 39% identified RealMedia as most preferred for downloading.

Table 75. Video visitor format preference for streaming and downloading

Format	Streaming	Downloading
RealPlayer	46.9%	39.2%
Windows Media	22.9%	23.8%
MPEG	10.7%	16.1%
AVI	5.7%	10.4%
Quicktime	8.9%	7.4%
Other	4.9%	3.7%
Total	**100.0%**	**100.0%**

Source: 2005 Video Survey

Offline use of MIT video content

While video content on the OCW site is designed for streaming use, it is possible with the correct technical skills or through using instructions posted on the site to download the video files to a local computer. The strong preference for downloading versus streaming among visitors to video pages can also be seen in the rates at which these users download video content. As shown in Table 76 below, 22% of visitors to video pages have downloaded video from the OCW site using the instructions on the FAQ page and 19% have done so on their own. Eliminating the overlap in these groups, a total of 38% of visitors to pages containing video have downloaded video content.

Table 76. Video visitor download behavior

Offline use of video content	%
Downloaded OCW videos to a local computer using the instructions on OCW FAQ page.	21.6%
Downloaded MIT OCW videos to a local computer without assistance	19.2%
Adapted MIT OCW videos for use on a portable device such as a PDA, iPod or cell phone	3.0%
Converted OCW videos to audio only for use on device such as PDA, iPod or cell phone	2.3%

Source: 2005 Video Survey

A small percentage (2.3%) of visitors to OCW video pages indicated they have reformatted OCW videos for use on mobile devices such as PDA, cell phones or iPods. For more information on such use, see section II.A.2.

Video introduction use

The MIT OpenCourseWare site contains a range of video types, but most commonly videos either include the lectures from a course or provide a video introduction to the course materials, typically in the form of an interview with the faculty member or members. This evaluation seeks to better understand the use of these two types of video.

USE: VIDEO INTRODUCTION USE

- 68% of visitors accessing course video introductions do so in preparation for self study on the site
- 88% of visitors using course video introductions feel they contribute to an understanding of how to self study with course materials

Among visitors to video pages who indicated they accessed a video introduction, nearly two-thirds indicate they did so in order to prepare for self-study using the materials (see Table 77 below). A further 24% indicate they are attempting to better understand the subject matter as it relates to a course they are taking at another institution. 11% report they are developing a better understanding of pedagogies used in the MIT course while developing a similar course at another institution.

Table 77. Video introductions scenarios of use

Video intro scenarios of use	%
To better understand the MIT OCW course structure in preparation for self-study using MIT OCW course materials	64.9%
To better understand the subject matter of the MIT OCW course as it relates to a course I am taking at another institution	24.3%
To better understand the course pedagogy while designing a similar course I will teach	10.8%
Total	**100.0%**

Source: 2005 Video Survey

Visitors accessing video introductions were asked to rate how significantly the videos contributed to their understanding of various aspects of the course design and content (see Table 78 below). While visitors in high percentages reported that the video introductions contributed very significantly or significantly to their understanding of all aspects presented, they indicated most strongly that the videos helped them understand how the course fits into the larger curricular structures at MIT and how the materials on the course site might best be used for self study (88% reporting very significant or significant contributions in these cases).

Table 78. Video introduction contribution to understanding course design

Course aspect	Very signif-icantly	Signif-icantly	Insignif-icantly	Very insignif-icantly	Total
How the course was developed by the MIT instructor	41.7%	36.7%	10.0%	11.7%	**100.0%**
How learning activities (homework, projects, exams) are designed to develop understanding of the subject matter	34.0%	43.4%	15.1%	7.5%	**100.0%**
How the course fits into the larger curriculum in its department	33.3%	54.2%	8.3%	4.2%	**100.0%**
Practical or real-world applications of course concepts	40.4%	40.4%	17.0%	2.1%	**100.0%**
How the various course materials published on the course site might be best used for self study	46.9%	40.8%	10.2%	2.0%	**100.0%**

Source: 2005 Video Survey

Due to the high costs associated with producing and hosting video, OCW is particularly interested in understanding the relative value of video content to our visitors. As shown in Table 79 at right, 64% of visitors to video introduction content rated the introductions as significantly more valuable or more valuable than other content on the site, and the remaining 36% rated the video introductions as equally valuable.

Table 79. Video intro. relative value rating

Value rating	%
Significantly more valuable	44.1%
More valuable	20.3%
Equally valuable	35.6%
Less valuable	0.0%
Significantly less valuable	0.0%
Total	**100.0%**

Source: 2005 Video Survey

Video lecture use

USE: VIDEO LECTURE USE

- 59% of visitors accessing video lectures do so for independent learning; 19% do so to complement a course they are taking

As with those accessing video introductions, visitors accessing video lecture content most frequently indicate they do so in the context of independent learning (59%) and in conjunction with courses they are taking at another institution (19%) (see Table 80 below). Relatively smaller percentages indicate using the videos to improve their own teaching skills (6%) or to solve a particular professional challenge (6%). 3% of visitors accessing video lectures indicate they displayed the content as part of a formal course or training session, and a like percentage indicated their primary goal was to improve their English language skills.

Table 80. Video lecture scenarios of use

Scenario of use	%
Viewed videos to independent of any formal learning program	59.1%
Viewed videos to improve understanding of course I am taking	18.5%
Viewed videos to improve my teaching/lecturing skills	6.3%
Seeking a solution to a particular professional problem	5.9%
Other	4.7%
Displayed videos as part of a formal learning program I teach	2.8%
Viewed videos to improve my English language skills	2.8%
Total	**100.0%**

Source: 2005 Video Survey

As shown in Table 81 below, the majority of visitors accessing lecture video content (60%) expect to view the entire series of lectures available for the course, illustrating the value placed in these complete series as opposed to exemplary lectures. Smaller percentages expect to view a subset of other lectures from the same series (23%) or limited sections of other lecture videos.

Table 81. Video visitor viewing patterns

Viewing pattern	%
I have viewed/expect to view the entire series of lectures from this course	59.9%
I have viewed/expect to view a few other complete lecture videos	23.0%
I have viewed/expect to view limited sections of other lecture videos	12.5%
I have not viewed/do not expect to view additional video content	4.7%
Total	**100.0%**

Source: 2005 Video Survey

Use of non video materials with video lectures

USE: VIDEO AND NON-VIDEO CONTENT USE

- 74% of visitors accessing video lectures use OCW non-video content in conjunction with video content

A significant finding is the level at which visitors accessing video lectures make use of associated non-video content. As shown in Table 82 below, 40% of visitors accessing lecture videos report reviewing associated lecture notes, 31% have attempted to complete related assignments or projects, 20% have attempted exams or quizzes. Overall, a strong majority of visitors accessing video lectures have made use of non-video content, with only 26% reporting no use of non-video content at all. This points to a significant added value in posting video with associated materials in the OCW format.

Table 82. Non-video materials usage

Usage type	%
I have reviewed lecture notes while watching video lectures	39.7%
I have attempted to complete assignments/projects in addition to viewing video lectures	30.8%
I have not used OCW non-video content	26.4%
I have attempted to complete course exams or quizzes in addition to viewing video lectures	20.3%
I have used non-video materials to improve my own materials in addition to viewing videos	20.3%
I have used non-video materials to improve my teaching skills in addition to viewing videos	8.4%

Source: 2005 Video Survey

When asked to identify the materials most useful in conjunction with lecture videos (see Table 83 below), most visitors express a strong preference for materials providing additional subject matter information, including lecture notes (82%) and full text readings (39%); as well as materials that allow them to asses their understanding of course concepts, including assignments (47%) and assignments solutions (41%), and exams (37%) and exam solutions (31%).

Table 83. Complementary materials preference for video lecture visitors

Materials type	%
Lecture notes	82.3%
Assignments	46.8%
Assignment solutions	41.4%
Full text readings	39.1%
Exams	36.7%
Exam solutions	30.8%
Tools (e.g. simulations, example code)	21.9%
Projects	21.3%
Syllabi	17.8%
Labs	17.8%
Reading citations	16.6%
Related Links	10.1%
Calendars	8.9%

Source: 2005 Video Survey

Not surprisingly, most visitors accessing video lectures (76%) find them to be significantly more valuable or more valuable than other types of content (see Table 84 below). As noted in Section III.C.2 above, 30% of the overall visitor population ranked video lectures as being among the three most valuable types of content. This suggests that while visitors preferring video lectures are a minority audience, their preference for video is a strong one. This strong preference for video is seen in the popularity if the video index page—currently the 4th ranking entry page into the site and the starting page for nearly 6,000 visits a month—as well as the user feedback received regarding video (see Table 85 below).

Table 84. Video lecture relative value rating

Value rating	%
Significantly more valuable	55.5%
More valuable	20.7%
Equally valuable	19.8%
Less valuable	2.6%
Significantly less valuable	1.3%
Total	**100.0%**

Source: 2005 Video Survey

Table 85 Use cases: User feedback regarding video lectures

"I have been using Walter Lewin's physics lectures with my AP C students at Msgr. Donovan High School, Toms River, NJ. He and his lectures are an inspiration to us. What a different learning experience to able to watch a master teacher over and over until his messages click. What an awesome experience to be allowed to enter MIT's lecture halls by way of video. I always knew that MIT was great academically, but your generosity touches me to my depths." (Educator, United States)

"Dr. Strang has virtually saved my mathematical life. His videos are wonderful. I've used them to supplement my Linear Algebra course at [my university], which seems so abstract. Dr. Strang clarifies concepts in a concrete manner I can understand. It is great watching the videos at night, taking notes, pausing and replaying as needed, and listening as Dr. Strang makes it enjoyable while removing the confusion and mystery. I found a copy of his 1980 book, and just love how he explains things in a detailed, meaningful way. I wish our univ. would adopt his text, and I know that my instructor would enjoy using his book for the course instead of the current one. I would like to e-mail Dr. Strang and thank him personally for all of his help, and to let him know what a significant difference his videos have made in my learning of linear algebra." (Student, United States)

Source: E-mail feedback

This evaluation has also sought to assess user acceptance of formats other than our currently configured video for distributing lecture content, including transcripts, audio recordings with and without associated lecture notes, and videos with captioning. As shown in Table 86 below, 54% of visitors accessing video lectures indicate that transcripts of lectures would be equally valuable or more valuable than video lectures; 40% indicate that audio lectures alone would be equally or more valuable; and 59% indicate that audio lectures with synchronized lecture notes would be equal or more valuable than video lectures. 40% of visitors accessing video lectures indicate that English captioning would add value, and 17% indicate that captioning in another language would add value.

Table 86. Video lecture alternate format preferences

Alternate format rating	Significantly more valuable	More valuable	Equally valuable	Less valuable	Significantly less valuable	Total
Transcripts of lectures	8.6%	12.0%	33.0%	29.2%	17.2%	**100.0%**
Audio recordings of lectures alone	3.9%	12.2%	23.9%	40.5%	19.5%	**100.0%**
Audio with unsynch. lecture notes	3.4%	11.8%	18.2%	48.3%	18.2%	**100.0%**
Audio with synch. lecture notes	11.2%	15.0%	32.5%	34.5%	6.8%	**100.0%**
Videos w/ English-language caption	16.8%	23.1%	34.1%	17.8%	8.2%	**100.0%**
Videos w/ caption in other language	7.6%	9.1%	31.8%	26.3%	25.3%	**100.0%**

Source: 2005 Video Survey

Video use success rates

As shown in Table 87 below, visitors accessing video introductions or video lectures report complete success in achieving their educational goals more frequently (54%) than does the overall OCW visitor population (41%).

USE: VIDEO USE SUCCESS RATES

- Visitors to video pages report complete success at meeting their educational goals more frequently (54%) than does the overall visitor population (41%).

Table 87. Video page visitor success rating

Success rating	Video pages	All visitors
I was completely successful	53.8%	**40.9%**
I was somewhat successful	40.7%	**51.2%**
I was not successful	5.5%	**7.9%**
Total	**100.0%**	**100.0%**

Sources: 2005 Visitor and Video Surveys

2. Special focus: Use by the MIT community

USE: MIT COMMUNITY ACCESS

- 71% of students, 59% of faculty and 42% of alumni use the site

MIT OpenCourseWare views use of the site by the MIT community to be key to both the sustainability of the project at the Institute, and to meeting the second half of the project's mission—encouraging other institutions to openly share their educational materials in a similar fashion. Surveys and interviews of various MIT populations including students, faculty and alumni indicate that in the past three years, OCW has become a resource widely used by all of these constituencies, and is seen as adding value to the teaching and learning experience, and enhancing the reputation of the institution.

The MIT community is widely aware of the OCW project, with single-digit percentages of most populations reporting no awareness at all (alumni are the exception, with 78% indicating awareness of the site). As shown in Figure 11 below, MIT community members in high percentages are using the site to achieve one or more educational goals as well. As further discussed in the following sections, prospective students are using the site to aid in their decision to attend MIT; students at the Institute use the site to complement courses they are taking, to study beyond the bounds of their enrolled courses and to plan their course of study; faculty members are improving their courses through publication of their own materials and access to those of their peers; and alumni are accessing materials from both courses they took at the Institute and those they did not, and keeping up with the current teaching of favorite instructors.

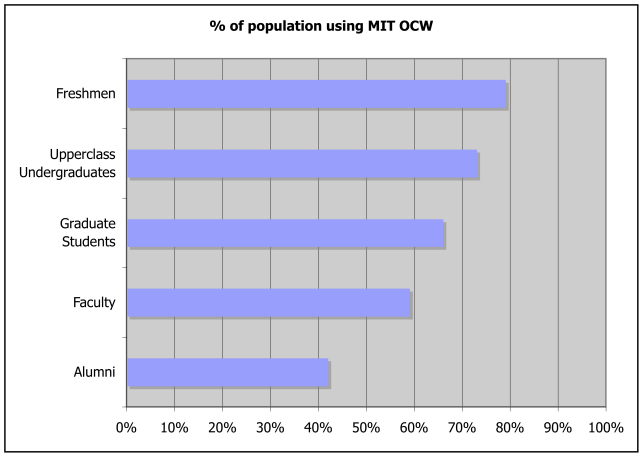

Figure 11. MIT community use of the OCW site
Source: 2005 Student, Faculty and Alumni Surveys

Traffic to the OCW site from the MIT domain has increased dramatically in the past year (see Figure 12 below). At peak, traffic to the site from the MIT domain in the Fall 2005 semester over 6,000 visits, as compared to 3,200 in Fall 2004, an increase of 88%.

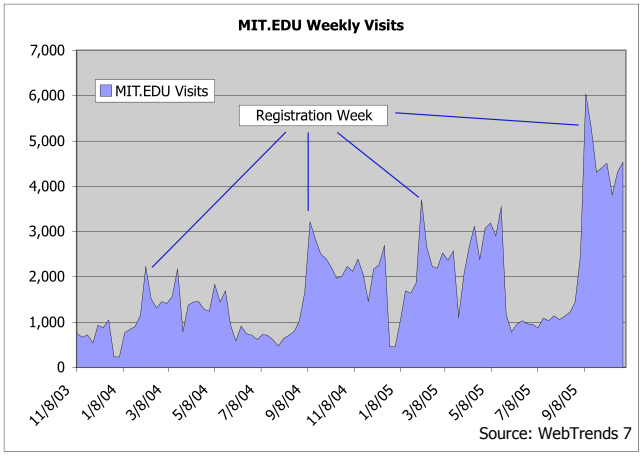

Figure 12. Weekly visits to OCW from the MIT domain

In all semesters for which the OCW site was available, the heaviest use from the MIT domain coincides with registration week, suggesting heavy use of the site by students for selecting classes. Additional traffic spikes occur during mid-term and finals weeks, suggesting use of the site by students in preparation for examinations. As shown in Table 88 below, student indications of use scenarios complement this picture of MIT traffic to the site.

MIT student use

The OCW site is widely used among MIT students of all levels. The number of freshmen aware of the site has increased dramatically in the past year, from 53% in the 2004 survey to 95% in 2005. Freshmen also use the site in higher percentages than do other student groups. Nearly 80% of freshmen report using the OCW site in one or more ways, as do 73% of upperclass undergraduates and 68% of graduate students (see Table 88 below).

Table 88. MIT student site usage levels

	Freshmen	UG Upper-classmen	Graduate Students
Yes	79.0%	73.2%	67.8%
No	21.0%	26.8%	32.2%
Total	**100.0%**	**100.0%**	**100.0%**

Sources: 2005 Student surveys

Prospective student use

Significantly, as shown in Table 89 below, 95% of freshmen responding to an October survey were aware of the OCW site, up from 53% in a survey administered in the previous year. Significantly, 31% of freshmen became aware of the site prior to making their decision to apply to MIT.

USE: MIT STUDENT USE

- 35% of freshmen aware of OCW before deciding to attend MIT were influenced by it in choosing which school to attend

Table 89. Freshmen awareness of the OCW site

Freshmen awareness	%
Became aware prior to decision to apply to MIT	30.7%
Became aware after decision to apply but before attending	18.1%
Became aware after I began attending MIT	45.6%
Unaware of the OCW site	5.5%

Source: 2005 Freshmen Survey

Among freshmen who did become aware of the site prior to deciding to apply, 35% indicated that the OCW site was a very significant (5%) or significant (30%) influence on their choice of school (see Table 90 below).

Table 90. Site influence on prospective students[26]

	Very significant	Significant	Insignificant	Very Insignificant
Became aware prior to decision to apply	5.1%	29.7%	44.9%	20.3%
Became aware after decision to apply but before attending	2.8%	6.9%	61.1%	29.2%
Total	**4.2%**	**21.1%**	**51.1%**	**23.7%**

Source: 2005 Freshmen Survey

As shown in Table 91 below, the site appears to influence prospective student decision-making in a range of ways, including by demonstrating the quality of MIT's materials (24%), teaching approaches (22%) and programs (19%), as well as illustrating unique aspects of MIT's community and culture (15%).

Table 91. Site influence modes

Site influence	%
Demonstrated quality of teaching materials used at MIT	24.4%
Provided insight into teaching approaches at MIT	21.9%
Provided insight into programs at MIT	18.9%
Illustrated unique aspects of the MIT community/culture	15.3%
Other	11.1%
Highlighted the work of particular professors of interest to you	8.3%

Source: 2005 Freshmen Survey

Further, qualitative responses to the above question indicate that the commitment to open sharing of educational resources that the OCW site embodies is itself a persuasive factor for prospective students (see Table 92 below).

Tabl 92 U I fl f h i i d h l h i

"I was impressed at how true it was that MIT really considers educating the public as its highest priority, and not merely being exclusive to its own students. I knew I wanted to come to a school that truly valued learning over anything else." (Electrical Engineering/Computer Science undergraduate)

"Showed MIT's willingness to engage globally and collaborate/share globally." (Electrical Engineering/Computer Science undergraduate)

Source: 2005 Student Survey

[26] Figures in gray represent sample sizes less than 100.

MIT student visit frequency

In addition to visiting the site in largest percentage (see Figure 11 above), freshmen also visit the site more frequently than other student groups. As shown in Table 93 at right, half of all freshmen coming to the site visit on a daily or weekly basis, as compared to 24% of undergraduate upperclassmen and 13% of graduate students.[27] Future evaluations will seek to determine if this increased level of use carries through to the upperclass years of this freshman class.

Table 93. MIT student visit frequency

	Freshmen	UG Upper-classmen	Graduate Students
Daily	4.4%	1.7%	1.6%
Weekly	45.7%	22.5%	11.0%
Monthly	20.5%	20.3%	16.1%
Occasionally	19.4%	38.3%	51.2%
Never	10.0%	17.2%	20.1%
Total	**100.0%**	**100.0%**	**100.0%**

Sources: 2005 Student surveys

MIT student scenarios of use

As shown in Table 94 below, undergraduate and graduate students at MIT exhibit markedly different usage profiles. Undergraduate students access the site much more frequently in search of materials directly related to a course they are taking or to plan their course of study, whereas graduate students are more frequently accessing the site to enhance their own knowledge outside of the context of courses.

Table 94. MIT student scenarios of use

	Freshmen	UG Upper-classmen	Graduate Students
Complement a course I am taking	83.8%	77.8%	34.5%
Enhance personal knowledge	26.8%	29.0%	33.8%
Planning my course of study	37.1%	44.8%	26.8%
Review materials from courses completed	17.4%	37.3%	21.9%
Other	4.7%	6.9%	5.4%

Sources: 2005 Student surveys

Undergraduate and graduate MIT student populations also indicate different material preferences, reflecting the differences in how they use the site. As shown in Table 95 below, undergraduates emphasize the importance of exams, assignments, and their solutions—materials most applicable to success in a specific course; graduates on the other hand more highly value lecture notes, syllabi and full text readings—materials most useful for self study and their own teaching.

Table 95. MIT student materials preferences

Materials Type	Freshmen	UG Upper-classmen	Graduate Students
Exam Solutions	52.8%	57.5%	22.1%
Lecture notes	52.2%	52.9%	77.8%
Assignment Solutions	48.4%	51.0%	34.1%
Exams	56.3%	43.4%	18.9%
Assignments	38.9%	34.2%	34.6%
Syllabi	25.0%	26.4%	41.7%
Lecture videos	40.2%	23.2%	19.8%
Full text readings	13.0%	17.8%	30.4%
Calendars	5.1%	7.1%	5.0%
Projects	2.8%	6.0%	6.9%
Tools (e.g. simulations, example code)	7.0%	5.8%	11.1%
Labs	3.2%	4.2%	3.1%
Reading citations	3.5%	3.5%	13.9%
Related Links	0.3%	1.9%	5.8%
Other	0.0%	0.8%	0.7%

Sources: 2005 Student surveys

[27] In part, this may a reflection of the dates of survey administration (the freshmen survey was administered several months after the upperclassmen and graduate surveys).

Undergraduate student descriptions of materials preferences further contextualize the above data (see Table 96 below).

Table 96 Use cases: MIT undergraduate student descriptions of materials preferences

"I go there to get practice exams. I also like looking at previous projects. I go there to check out assignments to help me with mine that I'm doing." (Electrical Engineering/Computer Science undergraduate)

"Lecture notes are most useful. They give me a feeling of a professor's style and it gives an idea of what will be covered in class. It also serves as a good review and supplement for other classes." (Materials Science and Engineering undergraduate)

"Projects completed by students in the past. It's like having a whole new library that is more accessible than most other resources (the graduate theses in Barker are nice, but it's much harder to find what you are looking for)." (Electrical Engineering/Computer Science undergraduate)

ys

All MIT student populations report high levels of positive impact. 69% of freshmen, 54% of upperclass undergraduates and 57% of graduate students characterize the site's impact as extremely positive or positive; a further 30-40% of each population reports the impact as moderately positive or somewhat positive (see Table 97 below).

Table 97. MIT student site impact ratings

Student experience impact	Freshmen	UG Upper-classmen	Graduate Students
Extremely positive/positive	69.1%	54.2%	57.4%
Moderately/Somewhat positive	29.2%	40.9%	39.6%
No positive	1.7%	4.9%	3.0%
Total	**100.0%**	**100.0%**	**100.0%**

Sources: 2005 Student surveys

Student free text descriptions of the site's impact illustrate ways in which OCW enhances student experience (see Table 98 below).

Tabl 98 U MIT d f i i

"I actually have some material on the OCW site (instructional chemistry videos) and I'm currently taking notes for an anthropology class site. I think it's good to get this information out there for both prospective students, current students, and people who perhaps don't have ready access to a top-notch education - and I think this altruism is what makes OCW worthwhile and meaningful to me." (Anthropology undergraduate)

"It has definitely helped me out [with] the classes I'm taking currently, esp. when the teacher doesn't thoroughly explain items. I can generally come here to find out info. that the lecturer failed to offer. Additionally, it's a great way to check out courses that you plan to take or are interested in; it's also a great review for past courses." (Biology undergraduate)

"I've been using OCW several years before coming to MIT, and I can tell you that OCW was one of the main reasons why I decided to come here and not other university--it was simply no risk at all: I knew the contents of the courses, had a look to the materials, and a good understanding of what I was going to get ... that's the reason why I ended here, and not in Stanford or Columbia." (Engineering Systems graduate)

"It gives moral support to know the MIT community is really out there to help not only its own community but the rest of the world too. No other school is really so nice to everyone so it's touching to know I'm part of that nice-ness." (Management undergraduate)

"1. OCW has given me countless materials that have inspired me for projects, helped me complete related projects, and helped me understand course material. 2. My 6.111 report was posted on the OCW site. Since then, a student in Chile contacted me about it and we've been able to communicate across countries." (Electrical Engineering/Computer Science undergraduate)

MIT faculty publication participation and site use

MIT faculty publication participation

A manual audit of MIT faculty by OCW staff indicates that 75% of those currently teaching have published materials on OCW. Survey results suggest similar levels of participation (see Table 99 below).

USE: MIT FACULTY PARTICIPATION

- 75% of MIT's faculty have published courses on OCW
- 49% participating have published 2 or more courses
- 32% agree publishing improves their teaching materials

Table 99. MIT awareness and participation levels

Faculty awareness and participation	%
Unaware of OCW	0.0%
Aware of OCW project but have not visited or contributed content	9.4%
Visited the site but not contributed content	12.3%
Not visited the site but am contributing/have contributed content	9.4%
Both visited the site and am contributing/have contributed content	68.8%
Total	**100.0%**

Source: 2005 Faculty survey

When asked to identify reasons for non-participation, faculty members most often cited insufficiently polished materials, lack of time, and concerns over the effect of OCW publication on the marketability of a book in progress (see Table 100 below). The 10 "Other" responses to this question were generally unrelated situation-specific issues, though several addressed third-party copyright difficulties.

Table 100. MIT faculty reasons for non-participation[28]

Nonparticipation reason	%
Materials are not sufficiently polished, but may publish in the future	44.0%
Other	40.0%
Do not have time to participate in OCW	32.0%
Working on a book, and don't to affect marketability	28.0%
Do not wish to contribute my course materials	24.0%
Do not understand the process by which materials are published	12.0%
Have not been asked to contribute	12.0%
Heard colleagues describe negative experiences with OCW participation	0.0%

Source: 2005 Faculty survey

As shown in Table 101 below, faculty who do participate generally contribute more than one course, with 57% contributing two or more. Faculty members most frequently report spending less than five additional hours to openly publish a course beyond the time normally invested to prepare the course for instruction (see Table 102 below).

Table 101. Courses published by participating faculty

Courses published	%
0 (Will publish in the near future)	14.2%
1	37.2%
2	20.4%
3	16.8%
4	7.1%
5 or more	4.4%

Source: 2005 Faculty survey

Table 102. Faculty time commitment

Hours per course	%
< 5 hours	45.6%
5-10 hours	25.2%
11-20 hours	16.5%
> 20 hours	12.6%

Source: 2005 Faculty survey

Once faculty have published materials openly on the OCW site, they report a number of benefits to having open versions of their course content. As shown in Table 103 below, nearly two-thirds of faculty with courses

[28] Figures in gray represent sample sizes less than 100.

published on OCW have referred colleagues inside or outside MIT to the material, another 42% have referred current students to the material, and 22% have used materials from their OCW site in preparing for an upcoming class. One faculty member reports referring prospective students to the site.

Table 103. MIT participating faculty publication benefits

Publication benefits	%
Referred colleagues either inside or outside MIT to my OCW site	64.9%
Referred current students to my OCW site	41.6%
Used materials directly from my OCW site in preparing for an upcoming course	22.1%
Used my live OCW site in the classroom while teaching a subsequent class	6.5%
Other	5.2%

Source: 2005 Faculty survey

Few unintended negative consequences of open publication for MIT faculty have emerged. While some non-participating faculty express concern about the impact of OCW publication on the potential marketability of a book they plan to publish (see above), no faculty who've actually published materials associated with a book report any impacts—positive or negative—of having done so. See Table 104 below for faculty qualitative responses related to the issue.

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"The book I plan to write is in the early stages of preparation so I have not reached this point. I do not anticipate it being a problem." (Aeronautics and Astronautics faculty)

"I already had a contract for the book. So OCW has not changed anything. The publisher approved the publication of certain book materials through OCW." (Electrical Engineering/Computer Science faculty)

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As shown in Table 105 below, a small number of faculty reported that they felt OCW participation reduced the amount of effort they could apply to developing teaching innovations.

"I feel the need to make the material more polished for publication on OCW. I see this as a obstacle for rapid improvement of my lecture material." (Music faculty)

"Having highly polished course materials be the norm discourages innovation in the curriculum." (History faculty)

MIT faculty site use

In addition to the benefit deriving from the open publication of their own materials, the MIT faculty benefit from access to the published materials of their peers. As shown in Table 99 above, 84% of MIT faculty members report visiting the site. 59% of MIT faculty members indicate that they have used the site to accomplish one or more educational objectives. As shown in Table 106 below, 39% report using the site to revise existing courses, 36% use the site to advise students, and 35% use the site for their own learning. Faculty members also use the site for a broad array of other purposes.

USE: MIT FACULTY USE

- 59% of MIT faculty use the OCW site
- 39% use the site to update courses; 39% to advise students; 35% to enhance and inform teaching

Table 106. MIT faculty scenarios of use

Faculty use	%
Revising/updating an existing course in my department that I have taught before	39.1%
Advising students about plans for which courses to take	39.1%
Learning about a specific subject matter to inform and enhance teaching activities	34.8%
Finding specific course materials for use in courses that I am currently teaching	26.1%
Developing an existing course that I have NOT taught before	20.3%
Advancing my research by accessing data and information	14.5%
Developing or planning curriculum for my department	13.0%
Creating a new course for my department or program	13.0%
Other	10.1%
Developing better contact with researchers within my area of specialization	7.2%

Source: 2005 Faculty survey

In accomplishing the above educational objectives, MIT faculty members make use of the full spectrum of content types available on the site, but most frequently report lecture notes, syllabi and assignments as among the three most valuable type of content (see Table 107 below)

Table 107. MIT faculty materials usefulness ratings

Faculty materials use	%
Lecture notes	72.8%
Syllabi	69.9%
Assignments	53.4%
Full text readings	17.5%
Reading citations	15.5%
Tools (e.g. simulations, example code)	15.5%
Projects	14.6%
Assignment solutions	13.6%
Exams	11.7%
Calendars	10.7%
Exam solutions	9.7%
Lecture videos	7.8%
Labs	5.8%
Other	1.9%
Related Links	1.0%

Source: 2005 Faculty survey

As shown in Table 108 below, faculty members express wide satisfaction with site content breadth, depth and materials quality. Satisfaction levels among MIT faculty members continue to be lower than those for external audiences (93% satisfaction for breadth, 87% for depth, and 91% for quality), probably reflecting in part the MIT faculty's greater awareness of materials actually used in class as opposed to those published on the site.

Table 108. MIT faculty site satisfaction

Satisfaction statements	Strongly Agree	Agree	Disagree	Strongly Disagree
I am satisfied with the range of content areas and courses available	11.8%	75.3%	9.7%	3.2%
I am satisfied with the depth of content within individual OCW courses	10.5%	55.8%	29.1%	4.7%
I am satisfied with the quality of materials on OCW	11.9%	66.7%	19.0%	2.4%
OCW reflects positively on MIT	60.4%	36.5%	1.0%	2.1%

Source: 2005 Faculty survey

Professor Karen Willcox, a member of the MIT faculty since 2001, has been teaching a required course in aeronautics and astronautics to MIT juniors every year since she arrived at MIT. In her first year, Willcox was surprised — and disappointed — to find that many of her students were less proficient in math than she expected, and she has been working ever since both to better understand this phenomenon, and to counteract it.

"I really had the impression coming here that all the students would just be fantastic in math," explains Willcox. "When I realized this was not the case, the first thing I did was to try to understand the source of the problem. I started talking to the math faculty, and I realized that there was this huge disconnect between the math department and the engineering department – who are the downstream users of the material that's taught in the math classes. For example, even though I relied heavily on material from Course 18.03, I had no idea how it was being taught -- or for that matter, what was being taught."

Her students were "falling into this gap a little bit," continues Willcox. "So one part of the solution -- and of course, the materials on OCW were very helpful for this -- was to really understand exactly what was in those courses, and for those professors to also understand how that material would be used by their downstream colleagues, and get some context for teaching it."

Once Willcox better understood the relationships between her course and related math department classes, she realized she needed to make these connections clear to her students. "The next step," she explains, "was to make these links explicit for the students. I got started on this last fall. So in my first lecture, I'd say, 'This is what we're talking about today in aeronautics, and this is directly related to what you learned in this math class.' And then with the pointer, I could show them the OCW website, and the lecture, and the problem sets related to what we're learning."

Wilcox has already seen improvements – but in her opinion, it's only the beginning. "I think there are even more opportunities in this direction," she explains. "Down the line, I'd like to bring more of the technology into the classroom, so that while I was giving a lecture, I could give them a flashback to something they had seen in a previous course -- a visual reminder up on the screen of something that they would have seen in their math class, or a little clip of a video. My sense is that this will really enable us to create better linkages, and to fully integrate the learning experience. Our students will have the opportunity to look broadly across their education, and that will have enormous implications for learning."

MIT faculty members indicate they believe the site is a useful tool for themselves, their students and for people outside the MIT community. 40% of faculty believe the site has helped or will help them develop their teaching and improve their course. In even larger percentages (61%) believe the site is of help to their students, and most faculty (94%) believe the site is valuable resource to those outside the MIT community (see Table 110 below).

Table 110. MIT faculty site usefulness ratings

Usefulness ratings	Strongly Agree	Agree	Disagree	Strongly Disagree
Has helped/will help develop my teaching and improve my courses	4.2%	35.8%	52.6%	7.4%
Has helped or will help me in professional activities other than teaching	2.1%	28.9%	58.8%	10.3%
OCW has helped or will help students in my courses	10.3%	50.5%	33.0%	6.2%
OCW is a valuable resource to people outside the MIT community	48.5%	45.5%	3.0%	3.0%

Source: 2005 Faculty survey

In qualitative response, faculty members described some of these benefits in greater detail (see Table 111 below).

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"It has greatly enhanced my awareness of what is being taught elsewhere at MIT. This directly improves my own teaching, because it provides examples of good pedagogy and because it puts me in touch with what my students are seeing elsewhere in their MIT experience." (Mathematics faculty)

"Fair educational value for MIT students and very good PR with outside world." (Economics faculty)

"It provides a convenient way to find out in detail what material is covered in classes related to those I teach (especially pre-requisites)." (Music faculty)

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Alumni use

MIT alumni are largely aware of the OCW site (78%) and more than half report having visited the site at least once (see Tables 112 and 113 below).

USE: MIT ALUMNI USE

- 78% of alumni are aware of the OCW site
- 42% use the site for one or more purposes
- 83% believe the site enhances MIT's reputation

Table 112. Alumni awareness

Awareness	%
Yes	78.1%
No	21.9%
Total	**100.0%**

Source: 2005 Alumni survey

Table 113. Alumni prior visits

Prior visits	%
0	46.3%
1-5	40.0%
6-15	9.6%
16-30	1.9%
>30	2.4%
Total	**100.0%**

Source: 2005 Alumni survey

As shown in Table 114 at right, MIT alumni report using the site in a range of ways, both related to maintaining a connection to the Institute (viewing materials from not taken as well as those they have taken, viewing materials from specific instructors) and to self learning (enhancing knowledge, keeping current in field developments).

Table 114. Alumni scenarios of use

Scenario	%
View materials from courses not taken	26.0%
Enhance personal knowledge	24.3%
Review material from course previously completed	19.4%
View materials from a specific instructor	14.8%
Keep current in field developments	8.0%
Other (please specify)	7.3%
Total	**100.0%**

Source: 2005 Alumni survey

A strong majority of MIT alumni (83%) believe the OCW site greatly enhances or enhances MIT's reputation, and only 2% believe the site detracts from the school's reputation (see Table 115 below).

Table 115. Alumni rating of impact on MIT reputation

Effect on MIT reputation	%
Greatly enhances	26.4%
Enhances	57.0%
Neither enhances nor detracts	14.6%
Detracts	1.1%
Greatly detracts	0.8%
Total	**100.0%**

Source: 2005 Alumni survey

Alumni free-text descriptions of impact on MIT's reputation further demonstrate how alumni believe site has affected world opinion of the Institute (see Table 116 below).

Table 116 Use cases: Alumni statements of site positive impact on MIT's reputation

"Far ahead of peer universities in terms of recognizing the disparity of opportunities available to bright minds around the world - this is a small, but very important and extremely admirable, step in rectifying that." (Alum)

"I am a professor at the "equivalent" French university and OpenCourseWare was definitely noticed (and is being emulated)" (Alum)

"I think it unambiguously places MIT at the head of the pack of leading institutions that are prepared to make course materials available. In doing this, MIT helps to define the standards for the future of education." (Alum)

"It's a wonderful gift to the world, and speaks to the non-proprietary and open nature of MIT: that the knowledge is there for the taking and is not hoarded. It's one among many things that has made me proud of the Institute over the years… MIT is willing to stick its neck out and lead on many issues that are important to both science and society." (Alum)

"It is important not to be exclusive in the access to education. Anyone can go to a public library and use the internet, so with OCW, anyone can get the same information as an MIT student. Obviously, it is not the same as taking an actual course at MIT, but if a person really wants to learn something, the resources to get started are there for him/her." (Alum)

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Less than 2% of alumni indicated they believe the site has had a negative impact on the school's reputation. Their views can largely be divided into either the belief that the site does not go far enough in providing access to the MIT educational experience or going too far in doing so. Examples of these views are provided in Table 117 below.

Table 117 Use cases: Alumni statements of negative impact on MIT reputation

"Part of the value of an MIT education lies in the resources it makes available only to its students. If some of these materials are made available as public commodities, of course the dollar value of an MIT education will diminish slightly, but it will also spread MIT's name and reputation far and wide. With human curiosity worldwide as the primary driver, I think OpenCourseWare will spread MIT's strong reputation in the sciences more quickly than it will diminish the actual "in-class" dollar value of an MIT." (Alum)

"The class sites are hit and miss. A good site clearly enhances the school's reputation. A sloppy one makes OCW look like nothing more than a partial repository of class documents." (Alum)

"'Cheapens' the MIT experience; other students can take advantage of excellent classes (positive), but taken out of context and/or without proper instruction gives a poor idea of what can be learned." (Alum)

Source: 2005 Alumni Survey

IV. Findings: Impact

At the highest level, data related to impact demonstrate:

- Visitors say that OCW has already had significant impact and expect even greater impact in the future.
- OCW is increasingly cited in professional and popular literature as an influential open sharing project.
- Institutions internationally and in the US are publishing openly, creating a growing body of available courseware.

A. Visitor perceptions of impact

1. Visitor current and future impact ratings

MIT site visitors overwhelmingly agree that the site is having a positive impact on their educational situation or scenario (see Table 118 below). Among all visitors, 80% characterize that impact as extremely positive or positive, and a further 18% characterize it as moderately positive or somewhat positive. These figures are comparable to impact ratings from previous evaluations.

IMPACT: VISITOR PERCEPTIONS

- 80% of visitors rate OCW's impact as extremely positive or positive; 91% expect that level of future impact
- 96% of educators say the site has/will help improve courses
- 96% of visitors recommend the site

Table 118. Site visitor current impact ratings

Impact rating	Educator	Student	Self learner	Other	All roles
Extremely positive/Positive	80.1%	80.6%	79.7%	76.1%	79.9%
Moderately/Somewhat positive	15.8%	18.4%	18.4%	21.7%	18.2%
No positive	4.1%	1.0%	1.9%	2.2%	2.0%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: 2005 Visitor Survey

Visitor expectations for future site impact have increased somewhat in the past year, from 88% rating the future impact expectation as extremely positive or positive last year to 92% rating the site similarly in the current evaluation (see Table 119 below).

Table 119. Site visitor future impact ratings

Impact rating	Educator	Student	Self learner	Other	All roles
Extremely positive/Positive	89.7%	92.7%	91.5%	89.1%	91.5%
Moderately/Somewhat positive	9.7%	7.4%	9.1%	11.4%	8.7%
No positive	0.6%	0.6%	0.6%	1.6%	0.7%
Total	**100.0%**	**100.0%**	**100.0%**	**100.0%**	**100.0%**

Source: 2005 Visitor Survey

2. Visitor perceptions of impact on educational experience

Visitors widely agree that the site has provided motivation and assistance to them in learning, and nearly all educators (96%) indicate the site has helped or will help them improve their courses (see Table 120 below). 96% of all visitors indicate they would recommend the site to others.

Table 120. Visitor perceptions of impact of educational experience

Statement	Strongly agree	Agree	Disagree	Strongly disagree	Total
Has or will help me be more productive and effective	40.9%	54.1%	4.1%	0.9%	**100.0%**
Has or will help me learn	48.4%	49.3%	1.6%	0.7%	**100.0%**
Was/will be able to improve my courses (Educators)	41.9%	54.2%	3.2%	0.7%	**100.0%**
Increased my motivation and interest in learning	44.8%	46.8%	7.2%	1.1%	**100.0%**
I would recommend OCW to others	52.1%	43.9%	3.3%	0.7%	**100.0%**
Total	**46.7%**	**48.5%**	**4.0%**	**0.9%**	**100.0%**

Source: 2005 Visitor Survey

Educator free text descriptions of the site's impact provide further insight into how OCW helps them improve their course materials and teaching skills (see Table 121 below).

Table 121 Use cases: Educator descriptions of impact on teaching materials and skills

"OCW has a positive impact on my teaching methodology. It gave me new ideas in presentation of the subject matter to students. It also provided an insight to the new developments in the relevant field of study." (Educator, India)
"We have learnt from this - I also use some of the material to teach younger children who have an interest in science, but their school curriculum is somewhat limiting. Would love to have labs here - so they could see experiments being performed." (Educator, India)
"This semester, I have often provide my students with links to use some of the tools in the Calculus with Applications course. The tools are wonderfully done, and students like the fact that they are using something from MIT. Although our community college is one of the best in the nation, our students often feel a little insecure about whether they are really learning material that is equivalent to what they would learn at a university. Providing them with access to materials from a school like MIT helps alleviate some of this insecurity. I plan to use materials from other courses I will teach in the future." (Educator, United States)

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Learner free text descriptions of the site's impact provide further insight into how OCW provides motivation for future study (see Table 122 below).

Table 122 Learner description of impact on motivation for future study

"It is exciting to know that the information that I am looking for is out there and is put out by a highly reputable source. This makes me more inclined to learn and makes it easier for me to return and use the forum for the multitude of things I am interested in finding out about." (Student, Canada)
"I quit high school a long time ago, but always had an interest in mechanics, electronics and programming. Ten years had passed since then (I am twenty-six years old now), and I would like to finish high school, and then go to university. But in the meanwhile I like to access OCW to be aware of what that lies in a superior education environment, and to encourage myself to pursue an education here where I live." (Self learner, Mexico)
"It was VERY important and encouraging to compare my level to that of MIT… High quality of presented materials provided the necessary motivation to study MORE… There are so many courses that I definitely will download and 'study'!" (Student, Russian Federation)
"After a gap of many years I was trying to come back to mathematics. It could otherwise have been a very frustrating task, one that I may even have given up but for OCW. The fact that all the necessary information was available at one site and in the form that could be accessed and worked at, made the difference." (Self learner, India)

Source: 2005 Visitor Survey

3. Visitor intent to return

Visitor intent to return to the site is a strong indicator of perceived impact. As shown in Table 123 below, 76% of first time visitors and 88% of returning visitors indicate that thy will definitely return to the site; a further 31% of new visitors and 12% of returning visitors indicate they will probably return to the site.

Table 123. New and return visitor intent to return

Return intent	New	Return	Both
Definitely will return	67.4%	87.8%	**79.8%**
Probably will return	31.3%	11.5%	**19.3%**
Probably will not return	1.2%	0.4%	**0.7%**
Definitely will not return	0.1%	0.3%	**0.2%**
Total	**100.0%**	**100.0%**	**100.0%**

Source: 2005 Visitor Survey

B. Translation and redistribution of MIT OpenCourseWare content

1. Translations

The translation efforts of MIT OCW affiliates and individuals have helped to expand access of OCW materials to non-English speaking users around the world. For example, China Open Resources for Education (CORE), one of MIT OCW's translation affiliates, has translated and adapted over 100 courses into Simplified Chinese. These course translations are currently being incorporated into the teaching materials of faculty from universities all over China. As shown in Table 124 below, more than 320 translations of OCW courses are currently available.

IMPACT: TRANSLATIONS OF MIT OCW CONTENT

- More that 320 translations of OCW courses are available
- 3.4 M visits recorded to translated courses, equal to 67% of traffic to the main OCW site

Table 124. MIT OCW courses translated as of 12/05

Affiliate	Done	In progress
Universia (Spanish)	95	3
Universia (Portuguese)	92	0
OOPS	25	435
CORE	109	0
Chulalongkorn University	0	15
Total	**321**	**453**

Source: Affiliate Reporting

The effort and resources applied to these projects by these organizations is a direct indication of the value they see in MIT OCW materials. Opensource Opencourseware Prototype System (OOPS), for instance, has organized a body of more that 16,000 volunteer translators around the world, who all generously donate their time to translating MIT OCW content to Traditional Chinese. The impact of these organizations and individuals is acknowledged by MIT OCW users. To date, MIT OCW has received approximately 200 emails from users who have used the translations, requested additional translations, or generously offered their services to help with translation work.

Participants in a recent UNESCO-sponsored online forum on Open Educational Resources (OER)[29] also recognized the positive impact of MIT OCW translations, as well as translations of other OERs. The forum, which included 480 OER experts and individuals from 90 countries, discussed translation as an effective strategy for overcoming contextual access barriers. In particular, the forum discussants felt that the translation and localization of MIT OCW and other OER materials serves as an effective catalyst for educators in the developing world to create original OERs in their own languages and share their approaches to teaching and learning with others. See Section II.A.1 for information on traffic to OCW translations.

Universia.net

For the past three years, MIT OCW has partnered with Universia.net to translate MIT materials into Spanish and Portuguese. Universia.net, headquartered in Madrid, was founded with the support of Grupo Santander, a major Spanish bank, to provide new channels for information related to universities, support the development of new technologies in education, and to encourage educational and technological innovation and the emergence of new platforms of communication within the Spanish and Portuguese-speaking university communities. Today, Universia is active in 10 countries (Argentina, Brazil, Colombia, Chile, Spain, Mexico, Peru, Portugal, Puerto Rico, and Venezuela), and includes more than 825 member universities. It reaches more than 12 million university and high school students, alumni, teachers, and administrators around the world. In addition to MIT OCW, Universia counts the Wharton School of Business and Stanford University among its institutional partners in North America.

[29] Archive available at http://www.unesco.org/iiep/virtualuniversity/forums.php

China Open Resources for Education

The mission of China Open Resources for Education (CORE) is to promote closer interaction and open sharing of educational resources between Chinese and U.S. universities, which CORE envisions as the future of world education. Supported by the IET Foundation, a foundation focused on improving education in China, CORE is working with the Chinese Ministry of Education and 10 of the leading universities in China to translate MIT materials into Simplified Chinese.

In addition to translating MIT course materials, CORE is working with Chinese faculty on the open publication of courses from universities in China, providing a framework for Chinese universities to actively participate in the shared network of advanced courseware alongside MIT and other top U.S. universities. In addition to the 10 leading Chinese universities, CORE will serve 500-plus universities in China, eventually reaching more than 10 million users throughout China.

Opensource Opencourseware Prototype System

The Opensource Opencourseware Prototype System (OOPS) is a volunteer-based initiative which translates MIT OCW course materials into Traditional Chinese. OOPS translations are completed by volunteers distributed throughout the world, reviewed by an editor and proofread, and finally approved by the OOPS review board, which is composed of content experts in the field, before being published on the site. In addition to MIT OCW materials, OOPS is in the process of translating OCW materials from Johns Hopkins University, Utah State University, and the Japan OCW Alliance.

Chungalongkorn University

MIT OCW recently formed a partnership with the Faculty of Engineering at Chulalongkorn University to translate MIT materials into Thai. Chulalongkorn University is the oldest university in Thailand, established in 1917. The Faculty of Engineering, widely regarded as the top engineering school in Thailand, includes 12 different engineering departments. Their plan is to expand their translation efforts by leading a consortium of groups such as the Government Pension Fund (GPF) of Thailand, who will assist with the translation work.

2. Mirror sites

There are currently over 70 mirror sites, or local copies, of the MIT OCW site in locations around the world, including Iraq, Kenya, Sudan, Vietnam, and Zambia. To date, these mirror sites have shown to be effective at increasing access to MIT OCW materials by overcoming limitations in Internet connectivity, bandwidth, and cost. For more information on early indications of traffic to mirror sites, see Section II.A.1.

IMPACT: MIRRORS SITES

- More than 70 locations around the world
- A single mirror site in Uganda currently records more visits than the OCW site receives from all of Sub-Saharan Africa

With MIT OCW mirror sites installed on university campuses ranging from Iraq to Sudan, it is likely that the impact of this program will continue to grow over the next few years. Early traffic data from the mirror sites already gives an indication that these sites are helping to significantly expand awareness of and access to MIT OCW materials in developing regions throughout the world.

MIT AITI/AVU Collaboration

In collaboration with African Virtual University (AVU) and MIT Africa Internet Technology Initiative (AITI), MIT OCW installed mirror sites at University of Nairobi and Addis Ababa University. A survey of 110 mirror site users (85 educators and 25 students) demonstrated the impact of the mirror site on these universities. For

example, when asked whether the MIT OCW mirror site would increase their motivation to learn, improve their learning, and whether they would recommend the site to others, 99% of the users responded positively. In Table 125 below are some additional comments provided by the survey respondents:

Table 125 Use case: AVU student and educator impact statements

"It is the best opportunity to get reference materials for teaching…So, it is much appreciated."
"I plan on using the site to better my MSc. Education for the coming year."
"Now MIT OCW knowledge is no more a monopoly of a few academics"
"That was really a great job. I didn't believe that I have access to MIT's course materials. Thanks a lot"
"It's a very fantastic approach to help instructors, researchers and students… to upgrade our textbook–based knowledge and acquaint ourselves to new ideas in a tailor-made form. Thanks a lot for such initiation"

ITI/ y

Obafemi Awolowo University

Another mirror site was installed at Obafemi Awolowo University (OAU) in Nigeria. According to the Director of OAU's Information Technology and Communication Unit, "The MIT OCW initiative is definitely one of the most original and revolutionary ideas in tertiary education in the last decade. I have no doubt that the faster access to OCW materials which this mirror will have a deep and positive impact on how we teach and learn here in OAU."

C. MIT OpenCourseWare in popular and professional literature

MIT OpenCourseWare continues to be cited in both popular and professional literature as in influential open sharing and educational technology project. This level of popular and critical attention demonstrates the impact the project is having as a model for providing open access to educational resources.

IMPACT: OPENCOURSEWARE IN THE PRESS

- More than 300 articles in global media including CNN International, *The Times of India*, *Forbes*, and *The Chronicle of Higher Education*
- Student newspaper editorials at Harvard, Yale, Columbia, Duke, and Penn calling for OCWs at those schools

1. MIT OpenCourseWare in the popular press

In the three years since MIT OpenCourseWare launched its pilot project with 32 courses, the initiative has been covered in more than 300 media outlets around the world -- including CNN, *U.S. News & World Report*, *Wired Magazine*, c|Net, the *Guardian of London*, the *Saigon Times Daily* of Vietnam, and the *Economic Times of India*.

Online news articles, in particular, have driven considerable traffic to the site. For example, the article from a Czech news site pictured in Figure 13 below generated more than 3,200 visits in the last week of February 2006.

Figure 13. Article about MIT OpenCourseWare on Czech news site, 2/21/2006

2. Student newspaper articles advocating opencourseware projects

In addition to a wide appeal to general audiences of learners, the OCW project has had particular impact on the thinking of students enrolled in formal programs of study. Student newspapers at leading US institutions including Harvard University, Yale University, Columbia University, Duke University and the University of Pennsylvania have all run editorials urging those schools to share their teaching materials openly (see Figure 14 below).

Figure 14. Student newspaper article urging adoption of opencourseware sharing

3. OCW in professional literature

MIT OpenCourseWare has also stimulated discussion among educators, academic administrators and educational thought leaders. Articles have appeared in trade press, including *The Chronicle of Higher Education, University Business,* and *Campus Technology*. The project has been included in congressional testimony, and in testimony to the US Department of Education. In the fall of 2005, OCW was featured in an online discussion of open educational resource hosted by UNESCO and including more than 450 educators worldwide.

D. Adoption of the opencourseware concept

Adoption of opencourseware sharing practices has increased remarkably in the past year, with more than 50 institutions worldwide now sharing their course materials openly. OCW projects have been launched in East Asia, North America and Western Europe, and MIT OCW has received inquiries from groups in Latin America, Central and South Asia, and Latin America exploring the possibility of starting additional projects.

IMPACT: OTHER OPENCOURSEWARE PROJECTS

- 50 institutions worldwide openly publishing courses; 30 more with projects underway
- Over 2,000 courses openly published globally, one third from institutions other than MIT

1. Total available OpenCourseWare content

In total, materials are available from more than 2,000 courses worldwide, more than a third of which come from institutions other than MIT. Courses have been published by various institutions in English, Simplified Chinese, French, and Vietnamese. Table 15 below illustrates the growth in courseware available on the web.

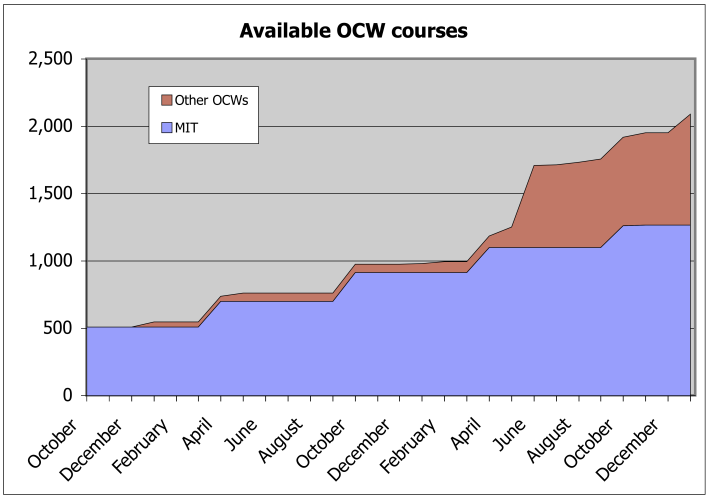

Figure 15. Total opencourseware courses available, 10/03 – 1/06

2. OpenCourseWare initiatives

More than 50 institutions worldwide are currently publishing some open course content in an opencourseware model (see Table 126 below for a listing of the major opencourseware publications). Institutions in countries including United States, China, Japan, France, and Vietnam all have content openly published, and courseware is available currently in English, Simplified and Traditional Chinese, Japanese, Spanish, Portuguese, and Vietnamese. MIT OpenCourseWare has been in contact with approximately 40 additional institutions with projects underway.

Table 126. Institutions supporting OpenCourseWare projects

Institution	Country	URL
Beijing Hang University	China	http://www.core.org.cn/cn/jpkc/index_un_en.html
Beijing Jiaotong University	China	http://www.core.org.cn/cn/jpkc/index_un_en.html
Beijing Normal University	China	http://www.core.org.cn/cn/jpkc/index_un_en.html
Beijing Science and Technology University	China	http://www.core.org.cn/cn/jpkc/index_un_en.html
Central Radio and TV University	China	http://www.core.org.cn/cn/jpkc/index_un_en.html
Central South University	China	http://www.core.org.cn/cn/jpkc/index_un_en.html
China Mining University	China	http://www.core.org.cn/cn/jpkc/index_un_en.html
China People's University	China	http://www.core.org.cn/cn/jpkc/index_un_en.html
China Science and Technology University	China	http://www.core.org.cn/cn/jpkc/index_un_en.html
Dalian University of Technology	China	http://www.core.org.cn/cn/jpkc/index_un_en.html
Fu Dan University	China	http://www.core.org.cn/cn/jpkc/index_un_en.html
International Business and Economics University	China	http://www.core.org.cn/cn/jpkc/index_un_en.html
Nanjing University	China	http://www.core.org.cn/cn/jpkc/index_un_en.html
North-East University	China	http://www.core.org.cn/cn/jpkc/index_un_en.html
North-West University	China	http://www.core.org.cn/cn/jpkc/index_un_en.html
NorthWestern Polytechnical. University	China	http://www.core.org.cn/cn/jpkc/index_un_en.html
Peking University	China	http://www.core.org.cn/cn/jpkc/index_un_en.html
Shanghai Jiaotong University	China	http://www.core.org.cn/cn/jpkc/index_un_en.html
Sichuan University	China	http://www.core.org.cn/cn/jpkc/index_un_en.html
Tianjin University	China	http://www.core.org.cn/cn/jpkc/index_un_en.html
Tsinghua University	China	http://www.core.org.cn/cn/jpkc/index_un_en.html
Xi'an Jiaotong University	China	http://www.core.org.cn/cn/jpkc/index_un_en.html
Zhejiang University	China	http://www.core.org.cn/cn/jpkc/index_un_en.html
Keio University	Japan	http://www.jocw.jp/sub2.htm
Kyoto University	Japan	http://www.jocw.jp/sub2.htm
Osaka University	Japan	http://www.jocw.jp/sub2.htm
Tokyo Institute of Technology	Japan	http://www.jocw.jp/sub2.htm
United Nations University	Japan	http://www.onlinelearning.unu.edu/index.php?option=com_content &task=view&id=115&Itemid=119
University of Tokyo	Japan	http://www.jocw.jp/sub2.htm
Waseda University	Japan	http://www.jocw.jp/sub2.htm
Fulbright Economics Teaching Program OCW	Vietnam	http://ocw.fetp.edu.vn/home.cfm
Johns Hopkins School of Public Health	United States	http://ocw.jhsph.edu/
Massachusetts Institute of Technology	United States	http://ocw.mit.edu/
Sofia	United States	http://sofia.fhda.edu/
Tufts University	United States	http://ocw.tuft.edu
Utah State University	United States	http://ocw.usu.edu
Agronomie	France	http://www.core.org.cn/cn/jpkc/index_un_en.html
Arts et Me_tiers	France	http://www.core.org.cn/cn/jpkc/index_un_en.html
Chimie Paris	France	http://graduateschool.paristech.org/?langue=EN
Eaux et Forets	France	http://graduateschool.paristech.org/?langue=EN
Ecole des Mines de Paris	France	http://graduateschool.paristech.org/?langue=EN
Ecole Polytechnique	France	http://graduateschool.paristech.org/?langue=EN
Physique-Chimie	France	http://graduateschool.paristech.org/?langue=EN
Ponts et Chausse	France	http://graduateschool.paristech.org/?langue=EN
Statistiques et Economie	France	http://graduateschool.paristech.org/?langue=EN
Techniques Avance	France	http://graduateschool.paristech.org/?langue=EN
Telecom Paris	France	http://graduateschool.paristech.org/?langue=EN

Source: OCW consortium tracking

OpenCourseWare projects in the United States

In the United States, OpenCourseWare projects have been launched at schools including Johns Hopkins Bloomberg School of Public Health, Tufts University, and Utah State University. In addition, the Center for Open and Sustainable learning at Utah State University has created and open source content management system for open publication, eduCommons.[30]

China Quality Resources

Through the Chinese Ministry of Education, Chinese universities have begun openly publishing courses selected for their outstanding quality. Currently 451 course are available in Simplified Chinese, and a total of 750 will be available by the end of February 2006. 126 of the currently available courses were created at CORE universities (see above for more information on CORE), and CORE will be selecting 10 courses for translation into English in the coming months.

[30] For more information, see http://cosl.usu.edu/projects/

Japan OpenCourseWare Alliance

In May 2005, six of the leading universities in launched the Japan OpenCourseWare Alliance, with a portal site linking to OCW sites for each of the member schools. In total, JOCW sites contain materials from over 130 courses, most in both Japanese and English. In October 2005, three additional leading Japanese universities joined JOCW.

ParisTech OpenCourseWare

ParisTech, an alliance of 11 Grand Ecoles in Paris, launched a portal organizing 135 open courses from member institutions in January 2006. The ParisTech site represents the first Francophone opencourseware content available.

3. The OpenCourseWare Consortium

In February 2005, representatives of schools with live opencourseware sites and projects underway met in Cambridge, Massachusetts to launch activities of the OpenCourseWare Consortium. Representatives of affiliate organizations, including translation partners, attended as well. The goals of the consortium are to extend the reach and impact of existing opencourseware content, encourage other institutions to adopt opencourseware sharing practices, and to develop sustainable models for open publication. The consortium met again in September 2005 in Logan, Utah, to establish Consortium priorities and organize consortium activities. For more information on participation in consortium activities or upcoming meetings, please see http://www.ocwconsortium.org or contact MIT OpenCourseWare Senior Strategist Stephen Carson at scarson@mit.edu.

E. Development of an open educational resources movement

MIT OpenCourseWare, other OpenCourseWare projects, and the OpenCourseWare Consortium have been developing contemporaneously with a range of other initiatives to develop open educational content, tools, and implementation resources. The term "Open Educational Resources" was first adopted at UNESCO's 2002 Forum on the Impact of Open Courseware for Higher Education in Developing Countries funded by the William and Flora Hewlett Foundation.

IMPACT: OTHER OPEN EDUCATIONAL RESOURCES PROJECTS

- MIT OpenCourseWare and other opencourseware projects are developing contemporaneously with a range of other open educational resource projects

Open Educational Resources are digitized materials offered freely and openly for educators, students and self-learners to use and re-use for teaching, learning and research. Open educational projects include the Sakai Project (www.sakaiproject.org), eduCommons (cosl.usu.edu/projects/), Creative Commons (www.creativecommons.org), MERLOT (www.merlot.org), Connexions (cnx.org), and the Open Learning Initiative (www.cmu.edu/oli/). These projects serve to reinforce each others' efforts in a global movement toward open sharing of educational resources. A conceptual diagram of this movement is shown in Figure 16 below.

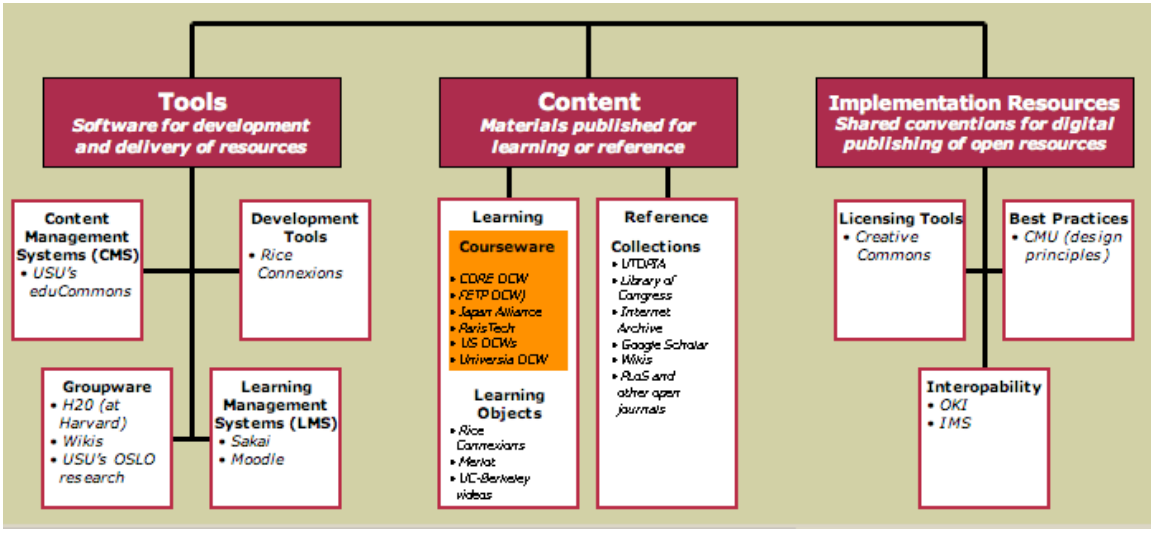

Figure 16. Open educational resources movement conceptual map

Appendix 1 - Background on MIT OCW

Overview

First announced in April 2001, MIT OpenCourseWare (MIT OCW) is a large-scale, Web-based electronic publishing initiative. Its goals are 1) to provide free access to virtually all MIT course materials for educators, students, and individual learners around the world and, 2) to extend the reach and impact of MIT OCW and the "opencourseware" concept.

MIT's mission is to advance knowledge and educate students in science, technology, and other areas of scholarship that will best serve the nation and the world. MIT OCW is an exemplary manifestation of the MIT faculty's deep commitment to this ideal. Through MIT OCW, anyone may access and freely use MIT course materials for non-commercial educational purposes.

MIT OCW is being developed with generous support from the William and Flora Hewlett Foundation, the Andrew W. Mellon Foundation, Massachusetts Institute of Technology, and the MIT Faculty.

"OpenCourseWare looks counterintuitive in a market-driven world. But it really is consistent with what I believe is the best about MIT. It is innovative. It expresses our belief in the way education can be advanced — by constantly widening access to information and by inspiring others to participate."

— Charles M. Vest, President Emeritus of MIT

Current status

History: Ultimately, MIT OCW will include the materials for approximately 1,800 undergraduate- and graduate-level courses taught in all five of the Institute's schools (School of Architecture and Planning; School of Engineering; School of Humanities, Arts, and Social Sciences; Sloan School of Management; School of Science). MIT announced the MIT OCW project in April 2001, and publication began with the MIT OCW Pilot — 32 courses introduced on the MIT OCW Web site at http://ocw.mit.edu in September 2002. One year later, September 2003 marked the official launch, with 500 courses published.

Course publication and MIT OCW site: MIT OCW offers access to the materials from courses from all of MIT's academic disciplines, including Aeronautics and Astronautics; Anthropology; Architecture; Biology; Brain and Cognitive Sciences; Chemical Engineering; Civil and Environmental Engineering; Comparative Media Studies; Earth, Atmospheric, and Planetary Sciences; Economics; Electrical Engineering and Computer Science; Engineering Systems Division; Foreign Languages and Literatures; Health Sciences and Technology; History; Linguistics and Philosophy; Literature; Materials Science and Engineering; Mathematics; Mechanical Engineering; Media Arts and Sciences; Nuclear Engineering; Physics; Political Science; the MIT Sloan School of Management; Urban Studies and Planning; and Writing and Humanistic Studies.

The materials for a typical course include at least a syllabus, course calendar, and lecture notes. Most courses also have one or more additional categories of material such as assignments, exams, problem/solution sets, labs, projects, hypertextbooks, simulations, demonstration/learning tools, tutorials, and video lectures.

With 1250 courses now published, MIT OCW is more than two-thirds — and on target — toward completing initial publication of virtually all MIT course by the end of 2007. Quality of published courses, measured primarily in terms of completeness, is high and continues to improve as we refine content acquisition tactics. We also continue to add or improve site features and user services, often based on feedback from the educators and learners around the world who use MIT OCW.

Publication process. MIT OCW is fully staffed with an outstanding team of dedicated individuals. Publication production processes and systems are in place and working well, and we continue to improve them as ideas and opportunities present themselves.

External outreach. Beginning in 2004, we have turned more attention to external outreach. We have invested considerable time and energy in promoting the opencourseware concept to other institutions and facilitating their adoption of it, all in an effort to elevate opencourseware from an MIT initiative to a broad-based "movement." We have implemented a "How To" Web site — available online at http://ocw.mit.edu/OcwWeb/HowTo/index.htm — with more than 1,000 pages of information on organizing and implementing an opencourseware effort, dealing with intellectual property issues, supporting users, evaluating results, and other topics. We have begun work to establish an OpenCourseWare Consortium of leading institutions working toward their own implementations.

Meanwhile, we have also established relationships with a number of other external partners to extend the reach and impact of MIT OCW. These include several translation affiliates that are making MIT course materials accessible to non-English speakers around the world in such languages as Chinese, Portuguese, and Spanish. We also now offers our users access to more than 200 "Discussion Groups" where MIT OCW users can interact around MIT OCW course materials, allowing users to establish their own affinity groups around individual courses to support each other in their learning and use of the materials.

Using MIT course materials

MIT OCW materials are organized by course within MIT's existing department structure. However, MIT OCW incorporates a rich "metadata tagging" scheme so that it is easy to search and retrieve materials across disciplines according to criteria specified by the user. MIT OCW is designed with educators, students, and self-learners in mind, striving to anticipate the ways in which these audiences would use the materials.

MIT offers the materials under an open "Creative Commons" license that:
Grants users the right to use and distribute the materials either as-is, or in an adapted form

Allows users to create derivative works
Edit
Translate
Add to
Combine with or incorporate into other materials

Obliges users to meet certain requirements as a condition of use:
Use must be non-commercial
Materials must be attributed to MIT and to original author/contributor
Publication or distribution of original or derivative materials must be offered freely to others under identical terms ("share alike")

Accordingly, educators may adopt whole courses into their curricula, or they may adapt just those parts that fit well with local purposes. Students, self-learners, and researchers may use the materials as a supplement to other educational resources available to them.

World reaction

Electronic "visitors" to MIT OCW have come from every corner of the globe, with well over 11 million unique visitors to the site since October 1, 2003. Traffic to the MIT OCW Web site has come from more than 215 countries, territories, and city states around the world, including Iraq, Afghanistan, North Korea, and Antarctica.

MIT OCW has received thousands of unsolicited messages in support of the initiative. Some examples:

"Let me tell you in this 1st feedback on this Sept 30 2002 that today is a Historic Day. It's the Big Bang of the Knowledge Universe." **— Algeria**

"I think this pilot program is very easy and helpful, especially for those living in developing countries like Vietnam who are unable to study in the land of America." **— Vietnam**

"Once completed, the MIT OpenCourseWare will be akin to Gutenberg's creation in importance. It is the boldest thing done in the name of freedom of knowledge in many years." **— Britain**

"Your free-of-charge MIT OCW is something Brilliant — and unfortunately, very rare — in this commerce and money driven world of ours… [MIT OCW] is returning to the very fundamental academic values of information open for all!" **— Spain**

"I have to say this is one of the most exciting applications of the Internet to date. I look forward to taking advantage of this opportunity to 'take a dip' in MIT's enormous reservoir of human intellect." **— Nigeria**

"The MIT OCW site is the coolest thing on the Internet. It may very well be the coolest thing in human history…. This is the start of something big." **— Seattle**

Conclusion

MIT OCW provides a new model for the dissemination of knowledge and collaboration among scholars around the world. It contributes to the "shared intellectual commons" in academia, which fosters cooperation and synergy across MIT and among scholars everywhere. MIT is publishing the materials for all its courses through MIT OCW because this effort:

Advances MIT's fundamental mission

Reflects and embraces faculty values and provides an instrument for realization of faculty goals

Stimulates innovation

Counters the privatization of knowledge and champions the movement toward greater openness for the benefit of society.

MIT OCW encourages educators and learners to take full advantage of these materials to support teaching and spread knowledge throughout the world. MIT OCW also encourages other institutions to adopt their own open courseware programs in this same spirit, and we are happy to share information about the systems, methods, and processes we have used to implement MIT OCW at MIT.

"Everybody knows that the way to make progress in science is by using the best results of others — 'standing on the shoulders of giants' is one way of expressing this idea. That's why we publish scientific results. OCW lets the same thing happen in education."

— ***MIT Professor Paul Penfield Jr.***

For more information about MIT OCW, please contact:

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http://ocw.mit.edu

Appendix 2 – Evaluation Logic Model

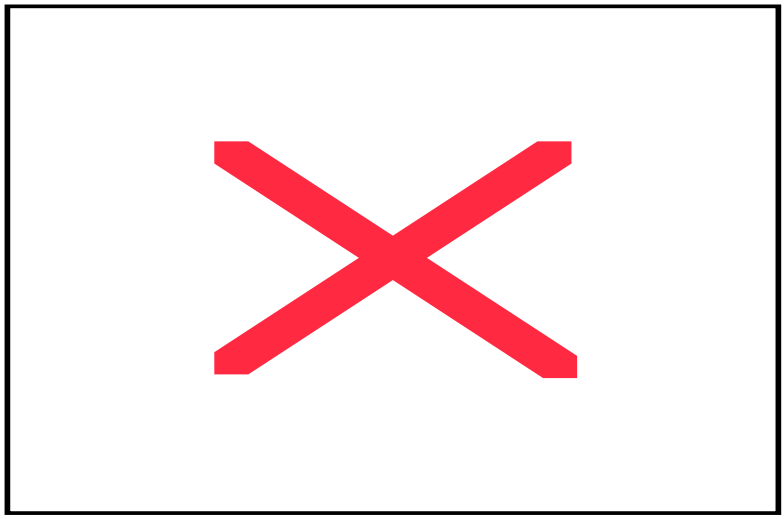
A. Goals

OCW's mission and goals flow from MIT's core mission, which is to:

- Advance knowledge and educate students in science, technology, and other areas of scholarship to best serve the nation and the world.

OCW has refined our goals for 2004-2005 to better align our annual goal-setting with the aims of our dual mission. The following diagram shows how the OCW mission and goals cascade from the underlying mission of the Institute, and how the OCW dual mission is supported by our publication, outreach and sustainability goals.

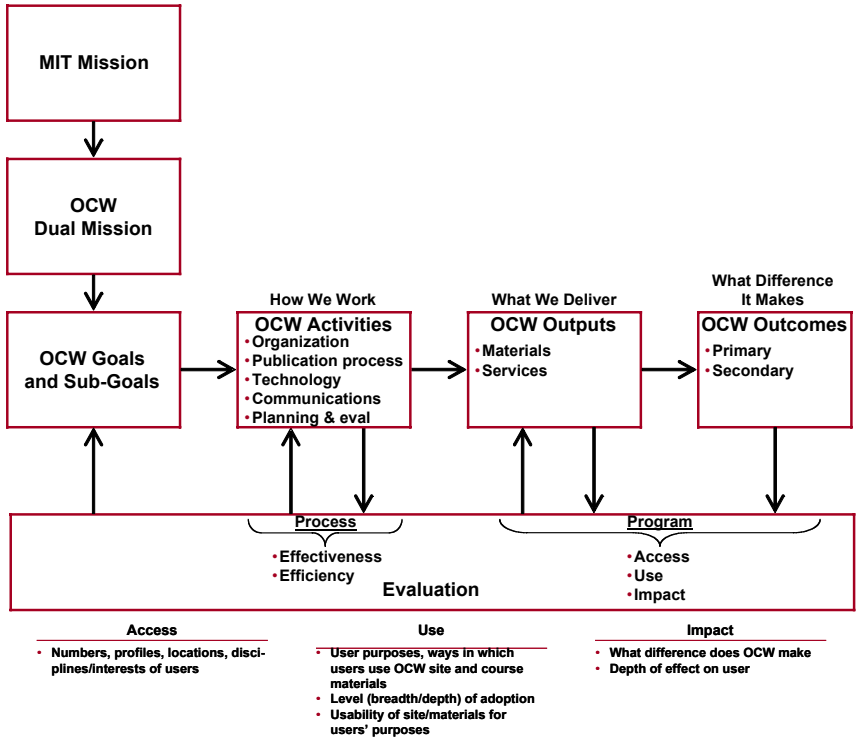
Table 127. Summary of OCW mission and goals



B. Logic model

The logic model links OCW goals to the questions and indicators that guide the design of the evaluation strategy. The model explains the reasoning behind the data we seek to collect. It drives our initial hypotheses, and informs our choices of instrumentation. At the highest level, the logic model ties every element of the evaluation back to MIT's educational mission and OCW's role in advancing it. The following graphic depicts the overall model:

T able 128. Evaluation logic model



C. Key questions and scenarios

The concepts of access, use and impact continue to structure our program evaluation and organize our key questions, while our new goal structure allows us to also align the program data with our publication and outreach goals. All the data collection methods and instruments (described in section III below) are designed to collect varying sets of profile data associated with respondents, so that it will be possible to differentiate results by educational role of the user (faculty, student, self learner, other), by educational context, by socio-geographic context, and by other dimensions. Appendix C details the specific indicators for each question and also relates the indicator back to the evaluation method(s) (section III below) that will be used to probe it.

- Access. OCW materials are meant to be accessible to users across geographies using various web browsers accessing the Internet through high- and low-bandwidth connections. OCW intends that every user encounter a reliable technical infrastructure, and has technical access to the full range of content on the site. OCW has made, and will continue to make, efforts to improve access by providing translations, improving search functionality, and employing the techniques of "user centered design." OCW also engages in an ongoing communication effort (newsletter, press relations) in an effort to make people aware of the site. The evaluation will measure the accessibility of OCW to users, and provide general demographic data about users that will help to identify and address gaps in accessibility. Key questions for evaluation of *access* include:
  - Who is accessing OCW?
  - Where, geographically, are OCW users coming from? (OCW geographic reach)
  - What is the educational profile of the users?
  - What are the technical contexts through which people access OCW?

- How well does OCW technical architecture perform in enabling people to access desired content and materials?
- How usable is the OCW site?
- What is triggering awareness of and access to OCW?
- Into what other online and offline contexts do users migrate OCW content and why?

- Use. Educators, students, and self-learners around the world are free to use OCW content for non-commercial educational purposes. By the terms of the OCW Creative Commons license,[31] users may adopt course materials as-is or adapt them to their own needs by editing, translating, adding material, and incorporating them into their own materials. Given this flexibility, OCW hypothesizes that the site and its materials will be particularly useful for the purposes (scenarios of use) shown in Figure 3 below.

  The site is specifically designed to support these scenarios. The evaluation will measure the degree to which the site is successful in that regard, and it will inventory other, hitherto unanticipated uses of OCW. Key questions for evaluation of *use* include:

  - What are people attempting to accomplish by interacting with OCW?
  - What do people expect from OCW?
  - How are people using OCW?
  - What are the general patterns of online use and interaction?
  - What areas and aspects of OCW draw the most/least interest and use?
  - How do people use/reuse OCW content offline/outside of OCW?[32]
  - How effective is the OCW site and content for users?
  - What cultural, academic and technical adaptations do educators make to OCW content to facilitate reuse in educational contexts?
  - How well does OCW support people in achieving their goals and completing their scenarios and tasks?
  - How useful is OCW?

Educator Scenarios

9. Scenarios of Use Error!

- Curriculum development. Establishing or revising overall curriculum organization and content; establishing or improving course offerings within disciplines.
- Course development. Planning, developing or improving a course. Developing or enhancing methods and techniques for teaching particular content; establishing or revising course syllabi, calendars, etc.
- Course delivery. Integrating new materials into an existing course; adding elements (demonstrations, problems sets, assignments, etc.) to a course or specific class.
- Advising students. Providing feedback to students about courses of study and curriculum options.

[31] Terms of the license are summarized in the background document in appendix A. For the full license, see the Legal Notices page at www.ocw.mit.edu.
[32] This can be addressed qualitatively as well as using an adoption>>adaptation dimension to understand and measure use/reuse (e.g., are people adopting courses, course elements, learning objects, etc. wholesale or are they repurposing/adapting them or some combination.) Understanding this can inform decisions about content priorities and publishing formats, as well as provide rich case studies to inform communications to promote increasing use/adoption of OCW.

• Advancing research. Understanding current state of knowledge in a research subject area; connecting with colleagues with shared interests and research agendas. • Subject matter learning or reference. Exploring new areas or gaining new insights; understanding the current state of knowledge in an area of interest; connecting with academics who have similar interests; using OCW as a reference tool. • Educational technology development. Planning or developing an educational web site or related technology initiative using OCW content.
Student Scenarios
• Subject matter learning in support of current studies. Gaining new and complementary insights and alternative study materials related to a subject currently being studied. • Subject matter learning in support of courses that are not available. Providing access to course materials that are not provided or otherwise available through the current program in which they are enrolled. • Personal interest subject matter learning or reference. Exploring new areas or gaining new insights; re-learning or reviewing materials from previous educational interactions; using OCW as a reference tool. • Planning courses of study. Exploring the range of subject matter in a particular discipline; making personal decisions about academic path. • Advancing research. Understanding current state of knowledge in a research subject area; finding links to information related to a research topic.
Self-Learner Scenarios
• Personal interest or professional related subject matter learning or reference. Exploring new areas or gaining new insights; re-learning or reviewing materials from previous educational interactions; using OCW as a reference tool. • Subject matter learning in lieu of courses that are not available. Providing access to course materials that are otherwise not available to the learner. • Planning future courses of study. Exploring the range of subject matter in a particular discipline; making personal decisions about academic paths.

- Impact. Once people access and use OCW, the question becomes: what difference does it make? The heart of this evaluation is to understand and measure the various effects OCW has on its audiences of educators and learners. We wish to know how individuals' teaching and learning experiences change (if at all) through the use of the site. We also want to understand what broader effects OCW may have. Key questions for evaluation of *impact* include:
  - What is the impact of OCW on individual teachers and learners?
  - What is the impact of OCW on learning communities?
  - What is the impact of OCW on the open sharing of educational materials?

Appendix 3 – Data Sources

This evaluation used multiple data collection strategies (an integrated "portfolio approach") that included the following data sources:

- Web analytics. Akamai, OCW's web hosting and content distribution network provider, captures aggregate usage data such as page views, object views and user location. Akamai also offers a more sophisticated analytic tool called WebTrends 7 (previously SiteWise), which OCW employed starting November 1, 2003. Most web usage statistics in this report have been drawn from the WebTrends tool, with the notable exception of geographic traffic information, which is drawn from Akamai due to its greater accuracy. Unless otherwise noted, web statistics for this report cover the period of November 1, 2004 to October 31, 2005.

- Online intercept survey. Between October 19th and November 28th, 2005, a survey tool invited (via pop-up window) 121,484 of the 595,145 OCW visitors for the period to complete an online survey. Of those prompted, 13,541 people began the survey, and 4,115 completed it fully, with a dropout rate of 69.6% and an overall completion rate of 3.4%. The sample provides a margin of error of not more than 1.5%. Self-learners—as opposed to educators and students —were more likely to complete the survey once started.

  Notes on respondent bias:

  1) The sample significantly over represents returning as opposed to first time visitors. Returning visitors are 30.9% of OCW visitors for the period, and make up 60.5% of survey respondents. If new and retuning visitors are assumed to have been prompted at the same rate, then response rate for returning visitors only is 6.6%, and the response rate for new visitors is 1.8%.

  2) The sample probably over represents international respondents. For the period the survey was live, approximately 40% of visits originated in North America, based on Akamai reporting of hits by region (this measure does not account for proxy servers and caching, which influence these readings). Only 33.4% of respondents to the survey were from North America, and North Americans generally report a lower frequency of visits that those from other regions (see Table 13).

  3) The sample probably over represents visitors with older operating systems and browsers. Because the survey employs a pop-up window invitation, systems with robust pop-up blockers are more likely to prevent the prompting of visitors. In particular, the increasing use of Firefox seems to have influenced the respondent pool, as web metrics indicate that 21.0% of visitors during the period the survey was administered were using Firefox, while only 3.2% of survey respondents were using that browser (as detected by an automatic browser detection feature of the survey tool. This likely influenced the geographic origin of site visitors noted above, as use of Firefox is most prevalent in North America.

- Interviews. Interviews were conducted with a small subset of people in various target groups and geographies to gather textured qualitative data about the use and impact of OCW. Interviewees were selected from those whose responses sparked the curiosity of the evaluation team. Members of the OCW research team conducted approximately 30 in-depth interviews with willing participants from intercept survey respondents, distributed across several target regions and educational roles (educators, students and self-learners). The interview questions and protocol are included in Appendix 5.

- Site feedback. OCW has implemented a database to support the processing and analysis of user e-mail feedback. The system includes e-mail feedback collected since October 1, 2003. The feedback system allows users to self-identify role, geographic region and type of feedback; further, the system supports tagging of e-mail feedback by topic, correlation of feedback to related course sites, and full-text

searches of feedback messages. We have contacted users as appropriate to gather additional insight into access, use, and impact. Unless otherwise noted, e-mail feedback addressed in this evaluation is the 3,002 feedback messages collected from November 1, 2004 to October 31, 2005.

- MIT community surveys. In order to better understand the usefulness of OCW to MIT students, faculty and alumni as a window into the sustainability of opencourseware projects, OCW conducted a series of surveys with various MIT community populations.

  Freshmen Survey

  On November 10, 2005, 999 freshmen were invited by email to complete a survey; by December 5th, 397 students had completed it fully, for an overall completion rate of 39.7%. The margin of error for the results is calculated to be no greater than 3.8%. The text of the freshman survey is included in Appendix 3.

  Graduate Survey

  On March 1st, 2005, 5,768 graduate students were invited by email to complete a survey; by March 15th, 1,676 students had completed it fully, for an overall completion rate of 39.7%. The margin of error for the results is calculated to be no greater than 2.0%. The text of the graduate student survey is included in Appendix 3.

  Faculty Survey

  On November 28, 2005, 992 all MIT tenured and tenure track faculty members were invited by email to complete a survey; by December 31st, 133 had completed it fully, for an overall completion rate of 13.4%. The margin of error for the results is calculated to be no greater than 7.9%. The text of the faculty survey is included in Appendix 3.

  Alumni Survey

  On April 1, 2005, 4,641 MIT alumni from the 1983, 1988, 1993, 1998, and 2003 were invited by email to complete a survey conducted but the Office of Institutional Research at MIT, on which several questions about MIT OCW were asked; by April 30th, 1,972 had completed it fully, for an overall completion rate of 42.5%. The margin of error for the results is calculated to be no greater than 1.7%. The text of the faculty survey is included in Appendix 3.

The data sources employed for this evaluation provide a rich statistical picture of site usage through the web analytics and intercept survey, complemented by qualitative information from feedback e-mails and interviews, with no apparent contradictions.

Appendix 4 – Survey Questions

A. Visitor Survey Text

Note: The survey that follows will be implemented online with "research logic." This means that a given respondent will see only those questions that flow logically from the answers he/she gives to preceding questions.

MIT OCW Intercept Survey

Methodology:

1. **Java tagging**: tag all OCW pages (see WebEffective tagging methodology)

   [NOTE: to enable tracking of all entry and exit points and maximum flexibility for modifications to current research and implementation of various forms of future research

2. **Tracking: Track all** upon initial entry into MITOCW domain (including home page and other entry points)
   [NOTE/QUESTION: Can this be accomplished with WebEffective tracking/intercept methodology?]

3. **Intercept sampling**
   a. **Random sample from all initial entry points (across home page and any other entry points**
   [NOTE/QUESTION: Can this be accomplished with WebEffective tracking/intercept methodology?]
      i. **Intercept ratio: set to target 5000 completions over 21 day period**
4. **Research flow**

   1. Track all at entry
   2. Intercept invitation to random sample of visitors>
   3. pre-task survey questions (i.e., profile,) >
   4. User completes interactions with OCW >
   5. Post-task questioning (i.e., feedback, future intentions)>
   6. End

Intercept Survey invitation/intro and exit

[NOTE: the following text will appear on a pop-up invitation window]

Title: MIT OCW User Feedback
Online Survey

- [SURVEY DISPLAY NOTES:
- Display invitation in pop-up window (branded MIT OCW). If user indicates will complete, then display questions in frame, while continuing to display the initial OCW page that the visitor accessed.

Please take a moment to complete this survey. Your feedback will help us make improvements to MIT OpenCourseware.

This survey has two parts and takes 20 minutes to complete. Part 1 asks for background information, then invites you to explore OCW. Part 2 asks how effective you found the OCW site, and how valuable you find the MIT course materials you accessed. Of course, all information you provide is completely confidential.

INSTRUCTIONS: Click the Continue button below to begin. Answer each question, and click the next button to proceed through the survey. Please do not close the survey window. If you inadvertently close it, you can restart the survey, with your previous answers saved, by going to the WebEffective Control Window and clicking on the link **"Click here to open the survey window again."**

IF yes THEN continue with survey
IF no THEN close window

• [SURVEY DISPLAY NOTE: Display questions in frame, while continuing to display the initial OCW page that the visitor accessed]

{SURVEY EXIT – THANK YOU}

We appreciate your taking the time to complete this survey. Please feel free to provide additional thoughts by clicking on the "Feedback" button on the MIT OCW Web Site, or through the Contact Us link.

[SECTION I: ENTRY QUESTIONS]

---

1. Which of the following best describes your primary role in education and learning?

   1.a. Faculty (working within a formal educational institution or program)
   1.b. Student (currently enrolled in a formal educational institution/program)
   1.c. Self learner (independent learner not affiliated with/enrolled in a formal educational institution/program)
   1.d. Other. Specify: _____

Research logic

If 1.c. go to Question 5
If 1.d go to Question 5

---

2. Are you formally affiliated with MIT?

   2.a. Yes
   2.b. No

Research logic
If (1.a AND 2.a), then 3; if (1.b AND 2.a), then 4, else go to Question 6

---

3. {MIT Faculty only} OCW will conduct an MIT Faculty Survey this fall. We will obtain your feedback through that process, and therefore do not need to take your time today. You may also provide feedback through our site feedback page http://ocw.mit.edu/OcwWeb/jsp/feedback.jsp Thank you for your interest in helping OCW, and thank you in advance for responding to upcoming surveys. END

Research logic
EXIT (End survey)

---

4. {MIT Students only} MIT OCW periodically surveys MIT students throughout the year. We will obtain your feedback through that process, and therefore do not need to take your time today. You may also provide feedback through our site feedback page http://ocw.mit.edu/OcwWeb/jsp/feedback.jsp Thank you for your interest in helping OCW, and thank you in advance for responding to the upcoming surveys. END

Research logic
EXIT (End survey)

---

5. Are you an MIT Alumnus/a?

   5.a. Yes
   5.b. No

Research logic
Go to Question 6

---

6. What country/region are you currently located in? [Show comprehensive alphabetized drop down list used last year.]
   [Display list of countries]

Research logic
Go to Question 7

{Technical context and domain questions}

7. What are the OS's and browser types of people accessing OCW?

Research logic
Hidden Question
Go to Question 8

8. Describe your goal in visiting the MIT OCW Web site today.
   FREE TEXT: _____

Research logic
Go to Question 9

---

9. How often do you visit the OCW Web site

   9.a. This is the first time
   9.b. Daily
   9.c. Weekly
   9.d. Monthly
   9.e. Occasionally (less than once a month)

Research logic
If 9.a go to Question 11
Else go to Question 10

[Visit frequency question]

10. How many times have you visited the OCW Web site before today?

   10.a. Once
   10.b. 2-5 times
   10.c. 6-10 times
   10.d. 11-25 times
   10.e. 25-50 times
   10.f. More than 50 times

Research logic
Go to Question 14

---

11. What is the likelihood that you will visit the OCW Web site in the future?

   11.a. Definitely will return
   11.b. Probably will return
   11.c. Probably will not return
   11.d. Definitely will not return

Research logic
If 1.a go to Question 15
If 1.b go to Question 12
If 1.c go to Question 19
If 1.d (other) go to Question 19

[NOTE: Student profile questions]

12. Which of the following best describes the educational institution in which you are currently enrolled?

   12.a. Secondary school (e.g., "high school")
   12.b. 2 year college, junior college or the equivalent
   12.c. 4 year college or university or the equivalent
   12.d. Graduate school
   12.e. Technical or trade school
   12.f. Other. Specify _____

Research logic
Go to Question 13

---

13. Where is your educational institution located?
[Show comprehensive alphabetized drop down list from last year.]

Research logic
Go to Question 14

---

14. Which of the following best describes your major field of study? [Show drop down of all mid level educational departments/disciplines using MIT OCW org framework with "Other: Specify choice]

14.a. Aeronautics and Astronautics
14.b. Anthropology
14.c. Architecture
14.d. Biological Engineering Division
14.e. Biology
14.f. Brain and Cognitive Sciences
14.g. Business
14.h. Chemical Engineering
14.i. Chemistry
14.j. Civil and Environmental Engineering
14.k. Comparative Media Studies
14.l. Earth, Atmospheric, and Planetary Sciences
14.m. Economics
14.n. Electrical Engineering and Computer Science
14.o. Engineering Systems Division
14.p. Foreign Languages and Literatures
14.q. Health Sciences and Technology
14.r. History
14.s. Linguistics
14.t. Literature
14.u. Management
14.v. Materials Science and Engineering
14.w. Mathematics
14.x. Mechanical Engineering
14.y. Media Arts and Sciences
14.z. Music
14.aa. Nuclear Engineering
14.bb. Ocean Engineering
14.cc. Philosophy
14.dd. Physics
14.ee. Political Science
14.ff. Science, Technology, and Society
14.gg. Theater Arts
14.hh. Writing and Humanistic Studies
14.ii. Other

RESEARCH LOGIC:
Go to Question 21

[NOTE: Faculty profile questions]

15. What best describes the educational institution within which you are a faculty member?

15.a. Secondary school (e.g., "high school")
15.b. 2 year college, junior college or the equivalent
15.c. 4 year college or university or the equivalent
15.d. Graduate or professional school
15.e. Technical or other trade school
15.f. Other. Specify _____

Research logic
Go to Question 16

---

16. Where is your educational institution located?

[Show comprehensive alphabetized drop down list used last year]

Research logic
Go to Question 17

---

17. How many years have you worked as a faculty member?

    17.a. Less than one year
    17.b. 1-5 Years
    17.c. 6-10 Years
    17.d. 11-15 Years
    17.e. 16-20 Years
    17.f. More than 20 Years

Research logic
Go to Question 18

---

18. Which of the following best describes your primary field of expertise?
    [Show drop down of all mid level educational departments/disciplines using MIT OCW org framework with "Other: Specify choice]
    18.a. Aeronautics and Astronautics
    18.b. Anthropology
    18.c. Architecture
    18.d. Biological Engineering Division
    18.e. Biology
    18.f. Brain and Cognitive Sciences
    18.g. Business
    18.h. Chemical Engineering
    18.i. Chemistry
    18.j. Civil and Environmental Engineering
    18.k. Comparative Media Studies
    18.l. Earth, Atmospheric, and Planetary Sciences
    18.m. Economics
    18.n. Electrical Engineering and Computer Science
    18.o. Engineering Systems Division
    18.p. Foreign Languages and Literatures
    18.q. Health Sciences and Technology
    18.r. History
    18.s. Linguistics
    18.t. Literature
    18.u. Management
    18.v. Materials Science and Engineering
    18.w. Mathematics
    18.x. Mechanical Engineering
    18.y. Media Arts and Sciences
    18.z. Music
    18.aa. Nuclear Engineering
    18.bb. Ocean Engineering
    18.cc. Philosophy
    18.dd. Physics
    18.ee. Political Science
    18.ff. Science, Technology, and Society
    18.gg. Theater Arts
    18.hh. Writing and Humanistic Studies
    18.ii. Other

Research Logic
Go to Question 21

[Self-learner primary interest question]

19. Which of the following best describes **your primary field of interest**?
    [Show drop down of all mid level educational departments/disciplines using MIT OCW org framework with "Other: Specify choice]
    19.a. Aeronautics and Astronautics
    19.b. Anthropology
    19.c. Architecture
    19.d. Biological Engineering Division
    19.e. Biology
    19.f. Brain and Cognitive Sciences
    19.g. Business

19.h. Chemical Engineering
19.i. Chemistry
19.j. Civil and Environmental Engineering
19.k. Comparative Media Studies
19.l. Earth, Atmospheric, and Planetary Sciences
19.m. Economics
19.n. Electrical Engineering and Computer Science
19.o. Engineering Systems Division
19.p. Foreign Languages and Literatures
19.q. Health Sciences and Technology
19.r. History
19.s. Linguistics
19.t. Literature
19.u. Management
19.v. Materials Science and Engineering
19.w. Mathematics
19.x. Mechanical Engineering
19.y. Media Arts and Sciences
19.z. Music
19.aa. Nuclear Engineering
19.bb. Ocean Engineering
19.cc. Philosophy
19.dd. Physics
19.ee. Political Science
19.ff. Science, Technology, and Society
19.gg. Theater Arts
19.hh. Writing and Humanistic Studies
19.ii. Other

Research logic
Go to Question 20

---

20. How many years have you worked professionally in your field?

20.a. Less than 1 year
20.b. 1-5 Years
20.c. 6-10 Years
20.d. 11-15 Years
20.e. 16-20 Years
20.f. Greater than 20 years

Research logic
Go to Question 21

---

21. How suitable to your needs is the portable document format (PDF) used for much of the MIT OCW content?

21.a. Very suitable
21.b. Suitable
21.c. Unsuitable
21.d. Very unsuitable

Research logic
Go to Question 22

---

22. What formats might be better suited to your needs?

22.a. Rich Text Format
22.b. Microsoft Office
22.c. HTML
22.d. XML/MathML
22.e. None
22.f. Other: (Please specify) _____

Research logic
Go to Question 23

---

23. MIT OpenCourseWare encourages site users to copy and redistribute site materials for educational purposes, and we are eager to better understand the extent to which this is occurring. Which of the following best describe ways you have created offline resources or converted MIT OpenCourseWare materials to other formats (check all that apply).

    23.a. Printed out paper copies of site contents
    23.b. Downloaded individual files from the site to a local hard drive
    23.c. Downloaded portions of the site using Teleport Pro or similar web capture software
    23.d. Downloaded copied of courses using the "Download this course" option provided on some courses
    23.e. Adapted files for use on digital devices such as cell phones, PDAs, and mp3 players
    23.f. Have not created offline resources or converted MIT OCW content into other formats
    23.g. Other. Please describe: _____

Research logic
Go to Question 24

---

24. Which of the following best describe the reason or reasons you chose for saving or converting site materials as indicated in the previous question (check all that apply).

    24.a. To overcome internet access limitations or costs that prohibit online viewing of materials
    24.b. To redistribute the materials to users who lack internet access
    24.c. To redistribute materials to users in offline contexts (such as classes or professional development sessions)
    24.d. To convert/adapt materials into new content for instruction in a classroom environment
    24.e. To convert/adapt materials into new content for computer-based instruction
    24.f. Other. Please describe: _____

Research logic
Go to Question 25

---

25. Please indicate which of the statements below best describes your awareness and use of discussion group forums on the MIT OCW site:

    25.a. I am unaware of the discussion forums on the OCW site
    25.b. I am aware of the discussion forums on the site but have not made use of them
    25.c. I have visited the forum site but not registered or participated in discussions
    25.d. I have registered on the discussion forum site, but not participated in discussions
    25.e. I have participated in discussions previously, but do not currently participate
    25.f. I am currently participating in discussions on the discussion forum site

Research logic
If 25.a go to 26, else go to Question 28

---

26. Please rate your agreement with the following statements (Strongly agree, Agree, Disagree, Strongly disagree, Not applicable):

    26.a. The discussion forum site is easy to register for and use
    26.b. The discussion forums have improved my understanding of MIT OCW materials
    26.c. I plan to use the discussion forums in the future

Research logic
Go to Question 27

---

27. {INSTRUCTIONS} Please continue your session on OCW. When you are done using OCW, click the "Next" button to continue with the second part of the survey.

    We will then ask you a few more questions to get your feedback about our Web site and the course materials you've found here.

Research logic
Resize/minimize WebEffective question frame (display horizontally at the top of the page and make it very narrow)
Show the web page from where the user was intercepted
When participant clicks Next button
Go to Question 28, resize maximize WebEffective question frame

----

[SECTION II: Exit questions: USE – SCENARIOS, TASKS, SITE/CONTENT EFFECTIVENESS]

{Scenarios of use}

{Faculty scenario list}

28. Please indicate the educational scenario, situation, or challenge that best describes why you visited OCW today.

    28.a. Developing or planning curriculum for my department
    28.b. Developing or planning a course
    28.c. Preparing to teach a specific class
    28.d. Advising students about their course of study
    28.e. Learning about subject matter to enhance my personal knowledge (not directly related to my teaching)
    28.f. Learning about subject matter to enhance my research
    28.g. Planning or developing an educational Web site or related technology
    28.h. Other: please describe _____

Research logic
Go to Question 29

{Student scenario list)

29. Please indicate the educational scenario, situation, or challenge that best describes why you visited OCW today.

    29.a. Planning my course of study as a student
    29.b. Learning about subject matter to complement a course I am currently taking
    29.c. Learning about subject matter as a substitute for a particular course not offered at my educational institution
    29.d. Learning about subject matter to enhance my personal knowledge
    29.e. Other: please describe _____

Research logic
Go to Question 30

{Self learner/other scenario list}

30. Please indicate the educational scenario, situation, or challenge that best describes why you visited OCW today.

    30.a. Planning my future course of study as a student
    30.b. Learning about subject matter as a substitute for a course not available to me
    30.c. Learning about subject matter to enhance my personal knowledge
    30.d. Planning or developing an educational web site or related technology initiative
    30.e. Keeping current in professional field developments
    30.f. Other: please describe _____

Research logic
Go to Question 31

---

31. Please select the THREE types of materials that were most important to the completion of your objectives today in using the OCW site.

    31.a. Syllabi
    31.b. Calendars
    31.c. Reading citations
    31.d. Full text readings
    31.e. Lecture notes
    31.f. Lecture videos
    31.g. Assignments
    31.h. Assignment Solutions
    31.i. Exams
    31.j. Exam Solutions
    31.k. Projects
    31.l. Labs
    31.m. Tools (e.g. simulations, animations, example code)
    31.n. Related Links
    31.o. Other. Please specify: _____

Research logic
Go to Question 32

---

32. Were you able to successfully accomplish your objectives today using the OCW web site?

    32.a. I was completely successful

32.b. I was somewhat successful
32.c. I was not successful

Research Logic
Go to Question 33

---

33. Please rate your satisfaction with the following aspects of the OCW site (Very Satisfied, Satisfied, Unsatisfied, Very Unsatisfied)

33.a. Breadth of course and discipline subjects covered on the site
33.b. Depth of materials available within individual courses
33.c. Quality of existing materials available within individual courses

Research Logic
Go to Question 34

---

34. How strongly would you agree or disagree that the materials on the MIT OCW site are up-to-date with respect to current developments in your field of interest?

34.a. Strongly agree
34.b. Agree
34.c. Disagree
34.d. Strongly disagree

Research Logic
Go to Question 35

---

35. We are eager to understand the impact of OCW and the difference it makes for the educators and learners who access it. Please indicate the degree of **positive impact** that the OCW Web site has already had on the educational scenario, situation, or challenge that you identified earlier.

35.a. 5: Extremely positive impact
35.b. 4: Positive impact
35.c. 3: Moderately positive impact
35.d. 2: Somewhat positive impact
35.e. 1: No positive impact

Research logic
Go to Question 36

---

36. Please indicate the degree of positive impact that you expect the OCW Web site to have in the future on the educational scenario, situation, or challenge that you identified earlier.

36.a. 5: Extremely positive impact
36.b. 4: Positive impact
36.c. 3: Moderately positive impact
36.d. 2: Somewhat positive impact
36.e. 1: No positive impact

Research logic
Go to Question 37
---

37. Please explain your ratings for the previous two questions. Be specific—elaborate on the impact OCW has had or will have on you.

FREE TEXT: _____

Research logic
Go to Question 38

---

38. Do you agree with the following statements as they apply to the OCW web site? (Strongly agree, Agree, Disagree, Strongly Disagree)

38.a. OCW has or will help me be more productive and effective
38.b. OCW has or will help me learn
38.c. As an educator, I was/will be able to improve my courses using OCW
38.d. OCW has increased my motivation and interest in learning
38.e. I would recommend OCW to others

Research logic
If (1.a) go to Question 39, else go to Question 44

---

39. MIT is making these course materials freely available for non-commercial educational purposes, and encourages their use according to the "open" license terms in our legal notices page. Have you adopted or adapted any of the materials or pages from OCW for use in any courses that you teach?
    39.a. Yes
    39.b. No
    39.c. Not applicable (I don't teach and do not anticipate teaching in the near future)

Research logic
If (41.b OR 41.c) go to Question 42, else go to Question 40

---

40. Which of the following best describe ways you have made use of or adapted site materials for classes you teach (check all that apply).

    40.a. Recommended students go to the site directly for additional subject information
    40.b. Provided printed copies of unmodified site materials to students in class
    40.c. Provided electronic copies of unmodified site materials to students via e-mail, file sharing, or learning management system (e.g. BlackBoard, WebCT)
    40.d. Adapted syllabi or other content in developing the structure of a course
    40.e. Incorporated MIT OCW lecture note materials simulations or tools into your preexisting course materials
    40.f. Adapted MIT OCW assignments or exams
    40.g. Other. Please describe: _____

Research logic
Go to Question 41

---

41. Which of the following best describe types adaptations you have made in using site contents in your own classes? (check all that apply)

    41.a. Incorporation of MIT OCW content with materials from other sources
    41.b. Adjustments to update content that does not reflect most current field developments
    41.c. Adjustments for technical differences between formats of materials as they appear on the site and the formats in which you use them
    41.d. Adjustments for differences in the academic level of the materials on the site and the academic level of your student population
    41.e. Adjustments for cultural differences such as language and appropriateness of examples
    41.f. Other. Please describe: _____

Research logic
Go to Question 42

---

42. Do you expect to adopt or adapt any of the materials or pages from OCW for use in any courses that you will teach in the near future?

    42.a. Yes
    42.b. No
    42.c. Not sure
    42.d. Not applicable (I don't teach and do not anticipate teaching in the near future)

Research logic
If (39.a) or (42.a), go to Question 45, else go to Question 46

---

43. Please describe how you might possibly adopt or adapt these materials for use in a teaching context.
    FREE TEXT: _____

Research logic
Go to Question 44

---

44. Do you think OCW could be changed to make it more effective, useful and valuable to you?
    44.a. Yes
    44.b. No

Research logic
If (44.b) Go to Question 45
ELSE go to Question 46

---

45. Please describe what you would change to improve OCW.
FREE TEXT: _____

Research logic
Go to Question 46

---

46. Please describe any institutional efforts you are aware of by schools, non-governmental organizations, business or other groups to use MIT OCW materials in a structured way to further their goals.
FREE TEXT: _____

Research logic
Go to Question 47

---

47. What reasons can you think of that OCW might NOT be adopted as a resource by educators or institutions in your region?
FREE TEXT: _____

Research logic
Go to Question 48

---

48. How positively or negatively do you believe OCW reflects on MIT?
48.a. Very Positively
48.b. Positively
48.c. Neither positively nor negatively
48.d. Negatively
48.e. Very Negatively

Research logic
Go to Question 49

---

49. Please explain your rating: _____

Research logic
Go to Question 50

---

50. May we contact you in the future to learn more about your experiences using MIT OCW?

If you are willing to be contacted, please provide your email address below.

As described in our privacy policy, we will not share your contact information with anyone. Providing your email address does not obligate you to participate in future surveys.

If you do not wish to be contacted, simply click on the "Done" button below

_____

Research logic
Display Survey Exit (Thank You message after this)

B. MIT Faculty Survey

Email Text

Dear Colleague:

As you know, MIT has made a commitment to OpenCourseWare and the concept of open knowledge sharing. Through the generosity and hard work of our faculty, OCW has published the materials from over 1,250 of the approximately 1,800 MIT courses.

As OCW enters the homestretch of its effort to publish materials from all 1,800 courses, the OCW team is seeking to better understand the benefits and unintended negative consequences of the project to date for the MIT faculty. The purpose of this particular evaluation is to understand faculty satisfaction with the site and publication process; to identify the negative effects and benefits of publication; and to assess the overall impact of OCW on the MIT community.

I am writing to ask that you respond to this short (10-15 minute) online survey, whether or not you have contributed your materials or even visited the OCW web site (http://ocw.mit.edu). This is a programmed survey that will take you to appropriate questions based on your preceding answers.

As a thanks for providing feedback, four randomly chosen respondents will receive a $50.00 gift certificate from the MIT Press Bookstore.

[Welcome Message and Instructions]
Welcome to the OCW Faculty Survey! Your feedback will help us make improvements to MIT OpenCourseWare.
INSTRUCTIONS: Click the Continue button below to begin. Answer each question, and click the next button to proceed through the survey. Please do not close the survey window. If you inadvertently close it, you can restart the survey by clicking on the link in the original email survey information.

[Goodbye Message]
We appreciate your taking the time to complete this survey. Please feel free to provide us with any additional thoughts by clicking on the "Feedback" button that appears on OCW, or through the Contact Us link.

1. Which of the following best describes your interactions with the MIT OpenCourseWare project?

   1.a. I am unaware of the MIT OpenCourseWare project.
   1.b. I am aware of the MIT OpenCourseWare project, but have not visited the site or contributed content to the site.
   1.c. I have visited the site but not contributed content.
   1.d. I have not visited the site but am contributing/have contributed content.
   1.e. I have both visited the site and am contributing/have contributed content.

RESEARCH LOGIC:

If 1.b. or 1.d., go to Question 2; else go to Question 3

Non-visitor question

---

2. Which of the following best describe reasons why you have not visited the site? (Please check all that apply)

   2.a. I am unaware of what the site has to offer.
   2.b. I do not have time to make use of the site.
   2.c. I do not believe the site has content that can support my teaching, research, administrative activities, or professional development.
   2.d. Other. Please specify: _____

RESEARCH LOGIC:

Go to question 3

General questions

---

3. Which of the following activities have you engaged in?

3.a. Informal sharing of teaching materials (syllabi, assignments, lecture notes) with other faculty members at MIT.
3.b. Informal sharing of teaching materials (syllabi, assignments, lecture notes) with other faculty members beyond MIT.
3.c. Open sharing of teaching materials via an unprotected personal web site (not MIT OCW).
3.d. Informal sharing of preprints or postprints of publications with colleagues.
3.e. Open sharing of preprints or postprints of publications via an unprotected personal web site (not MIT OCW).

RESEARCH LOGIC:

Go to question 4

---

4. Please rate your agreement with the following statements (Strongly agree, Agree, Disagree, Strongly disagree)

4.a. I am comfortable openly sharing my teaching materials online.
4.b. I am comfortable with others developing teaching materials using my own.
4.c. I am comfortable with student work from my classes being openly shared online with student permission.
4.d. I am comfortable with audio recordings of my lectures, discussions, and classroom activities being shared openly online.
4.e. I am comfortable with video recordings of my lectures, discussions, and classroom activities being shared openly online.
4.f. I am comfortable with OCW sharing audio content for a majority of courses on the site.
4.g. I am comfortable with OCW sharing video content for a majority of courses on the site.

RESEARCH LOGIC:

If 1.a., go to Question 30;

If 1.d. or 1.e, go to Question 6; else go to Question 5

Non-participant questions

---

5. What are your reasons for NOT publishing course materials on OCW? (Please check all that apply)

5.a. I have not been asked to contribute course materials to OCW.
5.b. I do not understand the process by which OCW course materials are published.
5.c. I do not have time to participate in OCW publication.
5.d. My materials are not sufficiently polished for publication, but I may publish in the future.
5.e. I have heard colleagues describe negative experiences with OCW participation.
5.f. I do not wish to contribute my course materials.
5.g. Other. Please specify: _____

RESEARCH LOGIC:

If 1.c, go to Question 22; else go to Question 30

Participant questions

Please provide feedback on your experience in publishing course materials through OCW.

---

6. How many courses do you currently have published on the OCW site?
6.a. 0 (I am working with the OCW staff to publish one in the near future)
6.b. 1
6.c. 2
6.d. 3
6.e. 4
6.f. 5 or more

RESEARCH LOGIC:

Go to Question 7

---

7. Please indicate if your OCW courses contain any of the following: (Check all that apply)

7.a. Materials I (or my TA) created specifically for the OCW site.
7.b. Materials created by the OCW staff for the OCW site.
7.c. Audio or video recordings of class lectures, discussions or activities.
7.d. Lecture notes or other content related to a book I plan to publish or have published.

RESEARCH LOGIC:

Go to Question 8

---

8. Please rate your agreement or disagreement with the following statements about the OCW publishing process: (Strongly agree, Agree, Disagree, Strongly disagree)

8.a. I understand the process by which course materials are published on OCW.
8.b. The publishing process is easy and straightforward.
8.c. The OCW staff is responsive and helpful.
8.d. OCW publication has helped me to improve my teaching materials.
8.e. I would be interested in contributing additional materials to OCW.

RESEARCH LOGIC:

Go to Question 9

---

9. Please estimate the amount of time you spent preparing a single course for publication beyond the time you would have put in anyway to develop/revise that course for your classroom teaching.

9.a. Less than 5 hours.
9.b. 5-10 hours.
9.c. 11-20 hours.
9.d. Over 20 hours.

RESEARCH LOGIC:

Go to Question 10

---

10. Do you think that OCW should be changed in any way to make the publication process more efficient?

10.a. Yes
10.b. No

RESEARCH LOGIC:

If 10.a., go to Question 11; else go to Question 12

---

11. If yes, please briefly describe what you would change to improve the publication process.

FREE TEXT: _____

RESEARCH LOGIC:

Go to Question 12

---

12. Prior to participation in OCW, how interested were you in the following activities? (Very interested, Interested, Uninterested, Very uninterested)

12.a. Using openly licensed or public domain teaching materials as opposed to proprietary materials.
12.b. Publishing in open access journals (journals that make their content freely available on the web).
12.c. Openly sharing scientific/scholarly tools such as data sets and research materials.
12.d. Developing/using open alternatives to commercial text books.

RESEARCH LOGIC:

Go to Question 13

---

13. What effect has your participation in OCW had on your interest in the following activities? (Significantly increased, Increased, Decreased, Significantly decreased)

13.a. Using openly licensed or public domain teaching materials as opposed to proprietary materials.
13.b. Publishing in open access journals (journals that make their content freely available on the web).
13.c. Openly sharing scientific/scholarly tools such as data sets and research materials.
13.d. Developing/using open alternatives to commercial text books.

RESEARCH LOGIC:

If 6.a. and 1.e., go to Question 22;

If 6.a. and 1.d. go to Question 30;

else go to Question Go to Question 14

We would like to better understand the benefits and unintended negative consequences of OCW participation for MIT faculty members.

---

14. Have you taught any courses again after you published materials from a previous version of the same course on OCW?

14.a. Yes
14.b. No

RESEARCH LOGIC:

If 14.b. and 7.d. go to Question 21;

If 14.b. and NOT 7.d. and 1.d., go to Question 30;

If 14.b. and NOT 7.d. and 1.e., go to Question 22;

else go to Question 15

---

15. Please indicate any ways you have made use of YOUR OWN materials published on the OCW site: (Check all that apply)

15.a. Referred current students to my OCW site.
15.b. Referred colleagues to my OCW site.
15.c. Used my OCW site materials in preparing for an upcoming course.
15.d. Used my OCW site in the classroom while teaching a subsequent class.
15.e. Other. Please specify: _____

RESEARCH LOGIC:

Go to Question 16

---

16. Please estimate the number of e-mails regarding your OCW course(s) you receive directly in your MIT e-mail account each month from OUTSIDE the MIT community.

    16.a. 0
    16.b. 1-5
    16.c. 6-10
    16.d. 11-25
    16.e. More than 25

RESEARCH LOGIC:

Go to Question 17

---

17. Please rate your agreement with the following statements about e-mail you've received from outside the MIT community. (Strongly agree, Agree, Disagree, Strongly disagree)

    17.a. OCW user e-mail has helped me to improve my course materials.
    17.b. OCW user e-mail has demonstrated the value of open sharing to me.
    17.c. OCW user e-mail has generated professional opportunities for me.
    17.d. I welcome OCW user feedback.
    17.e. I understand the process by which I notify the OCW staff of unwelcome OCW user e-mail.

RESEARCH LOGIC:

Go to Question 18

---

18. Please describe any specific professional contacts, opportunities for collaboration or other means of furthering your professional goals that have resulted from publication of your materials on the OCW site.

    FREE TEXT: _____

RESEARCH LOGIC:

Go to Question 19

---

19. Please rate your agreement with the following statements about the impact of your OCW site on subsequent offerings of the same course. (Strongly agree, Agree, Disagree, Strongly disagree)

    19.a. My OCW site has decreased attendance in subsequent courses.
    19.b. My OCW site is a valuable supplemental resource for my current students.
    19.c. My enrollment levels have increased in subsequent classes.
    19.d. My OCW site has decreased the effort required to prepare for subsequent classes.

RESEARCH LOGIC:

Go to Question 20

---

20. Please describe any impact, positive or negative, your OCW site has had on subsequent courses you've taught.

    FREE TEXT: _____

RESEARCH LOGIC:

If 7.d., go to Question 21;

If NOT 7.d. and 1.d, go to Question 30;

else go to Question 21

---

21. Please describe any impact, positive or negative, your OCW site has had on your ability to publish your book and/or on sales of your published book.

    FREE TEXT: _____

RESEARCH LOGIC:

If 1.d., go to Question 30;

else go to Question 22;

Use questions

We would like to gather some feedback on your experience using OCW to access and view course materials already published (whether your own or others').

---

22. How have you used OCW? (Please check all that apply)

    22.a. Developing or planning curriculum for my department.
    22.b. Revising/updating an existing course in my dept/program that I have taught before.
    22.c. Adapting an existing course that I have NOT taught before.
    22.d. Creating a new course for my department or program.
    22.e. Learning about a specific subject matter to inform and enhance my teaching activities.
    22.f. Finding specific course materials for use in courses that I am currently teaching.
    22.g. Advising students about their course of study.
    22.h. Advancing research by accessing data and information
    22.i. Developing my network of researchers within my area of specialization.
    22.j. Other. Please specify: _____

RESEARCH LOGIC:

Go to Question 23

---

23. Please select the THREE types of materials that are most important to the uses of the OCW site you just identified.

    23.a. Syllabi
    23.b. Calendars
    23.c. Reading citations
    23.d. Full text readings
    23.e. Lecture notes
    23.f. Lecture videos
    23.g. Assignments
    23.h. Assignment Solutions
    23.i. Exams
    23.j. Exam Solutions
    23.k. Projects
    23.l. Labs
    23.m. Tools (e.g. simulations, animations, example code)
    23.n. Related Links
    23.o. Other. Please specify: _____

RESEARCH LOGIC:

Go to Question 24

---

24. Please rate your agreement or disagreement with each of the following statements as they apply to the OCW web site and/or course materials. (Strongly agree, Agree, Disagree, Strongly disagree)

    24.a. OCW has helped or will help me develop my teaching and courses.
    24.b. OCW has helped or will help me in professional activities other than teaching.
    24.c. OCW has helped or will help students succeed in my courses.
    24.d. OCW is a valuable resource to people outside the MIT community.
    24.e. I am satisfied with the range of content areas and courses available on OCW.
    24.f. I am satisfied with the depth of content WITHIN individual OCW courses.
    24.g. I am satisfied with the quality of materials on OCW.
    24.h. OCW reflects positively on MIT.

RESEARCH LOGIC:

Go to Question 25

---

25. Do you think that OCW should be changed in any way to make it more valuable to you?
    25.a. Yes
    25.b. No

RESEARCH LOGIC:

Go to Question 26

---

26. Please describe what you would change to improve the usefulness and value of OCW.

    FREE TEXT: _____

RESEARCH LOGIC:

Go to Question 27

---

27. Please describe any specific positive impact the OCW site as a whole (rather than your own materials on OCW, if any) has had on your experience as a faculty member at MIT.

    FREE TEXT: _____

RESEARCH LOGIC:

Go to Question 28

---

28. Please describe any specific negative impact the OCW site as a whole (rather than your own materials on OCW, if any) has had on your experience as a faculty member at MIT.

    FREE TEXT: _____

RESEARCH LOGIC:

Go to Question 29

---

29. Please describe any potential positive or negative impacts you believe the OCW site may have in the future.

FREE TEXT: _____

RESEARCH LOGIC:

Go to Question 30

---

30. To be eligible for the gift certificate drawing, you must provide an e-mail address below. We would also like to follow up on selected survey responses by conducting interviews. Please indicate if you are NOT interested in being contacted for a follow-up interview.

FREE TEXT: _____

Research logic

EXIT (End survey)

(Goodbye message will display now.)

C. Student Survey Texts

1. Institutional Research Freshman Survey Questions

1. Are you aware of the MIT OpenCourseWare web site?
   1.a Yes
   1.b No

2. How did you become aware of the MIT OpenCourseWare web site?
   2.a peer
   2.b teacher
   2.c offline media (newspaper, magazine, television, radio)
   2.d online media (online news article, link, search engine)
   2.e materials you received from MIT/the MIT web site

3. How many times have you visited the MIT OpenCourseWare web site?
   3.a 0
   3.b 1-5
   3.c 5-15
   3.d 15-30
   3.e 30+

4. Did the MIT OpenCourseWare site influence your decision to attend MIT?
   4.a Yes
   4.b No

(Note: Questions 5 and 6 were instrumented incorrectly on the IR survey and did not generate useful data.)

5. If so, in what way(s)? (check all that apply)
   5.a demonstrated quality of teaching materials used at MIT
   5.b provided insight into teaching approaches/programs at MIT
   5.c highlighted the work of particular professors of interest to you
   5.d illustrated unique aspects of the MIT community/culture
   5.e other

6. Do you anticipate using the MIT OpenCourseWare site for any of the following while you are a student? (check all that apply)
   6.a learning about subject matter to complement a course you are taking
   6.b learning about subject matter for personal knowledge beyond materials covered in courses you take
   6.c reviewing materials from courses you've completed previously
   6.d planning your course of study/deciding what subjects to register for
   6.e other

2. MIT OpenCourseWare Undergraduate/Graduate Survey

1. Which of the following is your major field of study?
   - 1.a Course 1
   - 1.b Course 2
   - 1.c Course 3
   - 1.e Course 4
   - 1.f Course 5
   - 1.g Course 6
   - 1.h Course 7
   - 1.i Course 8
   - 1.j Course 9
   - 1.k Course 10
   - 1.l Course 11
   - 1.m Course 12
   - 1.n Course 13
   - 1.o Course 14
   - 1.p Course 15
   - 1.q Course 16
   - 1.r Course 17
   - 1.s Course 18
   - 1.t Course 21A
   - 1.u Course 21F
   - 1.v Course 21H
   - 1.w Course 21L
   - 1. x Course 21M
   - 1. y Course 21W
   - 1.z Course 22
   - 1.aa Course 24
   - 1.bb Course BEH
   - 1.cc Course CMS
   - 1.dd Course CSB
   - 1.ee Course ESD
   - 1.ff Course HST
   - 1.gg Course MAS
   - 1.hh Course SP
   - 1.ii Course STS

Research logic
Go to Question 2
---
2. Please indicate your class rank.

   - 2.a Undergraduate
   - 2.b Graduate

Research logic
Go to Question 3
ACCESS

---
3. Are you aware of the MIT OpenCourseWare web site?
   - 3.a Yes
   - 3.b No

Research logic
If 3.a go to Question 4, else go to Question 15.
---
4. How did you become aware of the MIT OpenCourseWare web site?
   - 4.a peer
   - 4.b teacher
   - 4.c offline media (newspaper, magazine, television, radio)
   - 4.d online media (online news article, link, search engine)
   - 4.e materials you received from MIT/the MIT web site

Research logic
Go to Question 5
---

5. How often do you visit the OCW Web site?
5.a Daily
5.b Weekly
5.c Monthly
5.d Occasionally (less than once a month)
5.e Never

Research logic
If 5.e go to Question 15, else go to Question 6
---

6. Have you recommended the OCW site to any of the following? (choose all that apply)
6.a Other students
6.b Instructors
6.c Professional associates
6.d Family/friends
6.e Other

Research logic
Go to Question 7

USE

7. Which of the following best describe ways that you use the MIT OpenCourseWare site? (check all that apply)
7.a learning about subject matter to complement a course I am taking
7.b learning about subject matter for personal knowledge beyond materials covered in courses I take
7.c reviewing materials from courses I've completed previously
7.d planning my course of study/deciding what subjects to register for
7.e other. Please specify: _____

Research logic
Go to Question 8
---

8. Please select the THREE types of materials that were most important to the completion of your objectives in using the OCW site.
8.a.Syllabi
8.b Calendars
8.c Reading citations
8.d Full text readings
8.e Lecture notes
8.f Lecture videos
8.g Assignments
8.h Assignment Solutions
8.i Exams
8.j Exam Solutions
8.k Projects
8.l Labs
8.m Tools (e.g. simulations, animations, example code)
8.n Related Links
8.o Study Materials
8.p Other. Please specify: _____

Research logic
Go to Question 9
---

9. Please rate your satisfaction with each of the following:
(Very Satisfied, Satisfied, Neutral, Unsatisfied, Very unsatisfied)
9.a Organization of the OCW web site
9.b Visual design or presentation of the OCW web site
9.c Performance of the web site (e.g., errors, responsiveness/speed, etc.)
9.d Subject matter and course areas covered on the OCW web site
9.e Types of course materials available for specific courses
9.f Quality or nature of the course materials provided for specific courses

Research logic
Go to Question 10
---

10. What is most interesting and useful to you on OCW?
FREE TEXT_____

Research logic
Go to Question 11
---

11. What is least interesting and useful to you on OCW?
FREE TEXT_____

Research logic
Go to Question 12
---

12. Please describe what you would change to improve the usefulness and value of OCW.
FREE TEXT _____

Research logic
Go to Question 13

IMPACT

13. We are eager to understand the impact of OCW and the difference it makes for the MIT students who access it. Please indicate the degree of positive impact that the OCW Web site has already had, or that you expect it to have, on your educational experience at MIT.

13.a 5: Extremely positive impact
13.b 4: Positive impact
13.c 3: Moderately positive impact
13.d 2: Somewhat positive impact
13.e 1: No positive impact

Research logic
Go to Question 14
---

14. Please explain your rating. Be specific—elaborate on the impact OCW has had on you.

FREE TEXT: _____

Research logic
Go to Question 15

PARTICIPATION

15. Please rate your agreement or disagreement with the following statement
(Strongly Agree; Agree; Neutral; Disagree; Strongly Disagree)
17.a I feel comfortable sharing my own original academic work on-line

Research logic
If 3.b END, else go to Question 16
---

16. Have you participated in the publication of course materials through OCW in any of the following ways? (check all that apply)
18.a I have contributed my own original academic work (e.g., a paper or project)
18.b I am working/have worked with the OCW staff to capture notes/materials from a class
18.c I have encouraged peers/faculty to publish course materials using OCW
18.d Other. Please specify:_____

Research logic
If 16.a or 16.b or 16.c or 16.d go to Question 17, else END
---

17. Please rate your agreement or disagreement with each of the following statements as they apply to the OCW web site and/or course materials.
(Strongly Agree; Agree; Neutral; Disagree; Strongly Disagree)
19.a Contributing my work to OCW is easy and straightforward
19.c The OCW staff is responsive and helpful
19.d The OCW site is useful to students
19.e I am satisfied with OCW

Research logic
Go to Question 18

---

18. May we contact you regarding the following? (Check all that apply)
18.a helping OCW to capture notes/materials from MIT classes
18.b participating in follow-up interviews and/or focus groups
18.c employment opportunities at OCW for recent graduates

Research logic
If 19.a and/or 19.b and/or 19.c go to Question 19, else END

19. Please provide your e-mail address in the space below.
FREE TEXT:_____

END

3. OCW Freshman Survey

1. Which of the following is your major field of study?
1.a Course 1
1.b Course 2
1.c Course 3
1.e Course 4
1.f Course 5
1.g Course 6
1.h Course 7
1.i Course 8
1.j Course 9
1.k Course 10
1.l Course 11
1.m Course 12
1.n Course 13
1.o Course 14
1.p Course 15
1.q Course 16
1.r Course 17
1.s Course 18
1.t Course 21A
1.u Course 21F
1.v Course 21H
1.w Course 21L
1. x Course 21M
1. y Course 21W
1.z Course 22
1.aa Course 24
1.bb Course BEH
1.cc Course CMS
1.dd Course CSB
1.ee Course ESD
1.ff Course HST
1.gg Course MAS
1.hh Course SP
1.ii Course STS

Research logic
Go to Question 2

---

2. Please indicate your class rank.

2.a Undergraduate
2.b Graduate

Research logic
Go to Question 3
ACCESS

---

3. Which of the following best describes your awareness of the MIT OpenCourseWare site?

3.a I became aware of the MIT OpenCourseWare site prior to my decision to apply to MIT
3.b I became aware of the MIT OpenCourseWare site after my decision to apply to MIT but before attending
3.c I became aware of the MIT OpenCourseWare site after I began attending MIT
3.e I am unaware of the MIT OpenCourseWare site

Research logic
If 3.e go to Question 24, else go to Question 4

--

4. How did you become aware of the MIT OpenCourseWare web site?

4.a peer
4.b teacher
4.c offline media (newspaper, magazine, television, radio)
4.d online media (online news article, link, search engine)
4.e materials you received from MIT/the MIT web site

Research logic
Go to Question 5

---

5. How significant an influence was the MIT OpenCourseWare site on your decision to attend MIT?

5.a Very significant
5.b Significant
5.c Insignificant
5.d Very insignificant

Research logic
Go to Question 6

---

6. In what way(s) did the site influence your decision to attend MIT? (check all that apply)

6.a demonstrated quality of teaching materials used at MIT
6.b provided insight into teaching approaches at MIT
6.c provided insight into programs at MIT
6.d highlighted the work of particular professors of interest to you
6.e illustrated unique aspects of the MIT community/culture
6.f other. Please specify:_____

Research logic
Go to Question 7

---

7 How many times did you visit the MIT OpenCourseWare site prior to your decision to attend MIT?

7.a 0
7.b 1-2
7.c 3-5
7.d 5-10
7.e 10-25
7.f >25

Research logic
Go to Question 8

---

8. How often do you currently visit the OCW Web site?

8.a Daily
8.b Weekly
8.c Monthly
8.d Occasionally (less than once a month)
8.e Never

Research logic
If 8.e go to Question 24, else go to Question 9
---

10. How many times have you visited the OCW Web site before today?

10.a 1
10.b 2-5 times
10.c 6-10 times
10.d 11-25 times

10.e 25-50 times
10.f More than 50 times

Research logic
Go to Question 11

---

11. How do you typically access the site?

11.a MIT LAN
11.b MIT Wireless
11.c MIT Dorm LAN
11.e Commercial ISP High-speed connection
11.f Commercial ISP Dial-up connection
11.g Other. Please specify: _____

Research logic
Go to Question 12

---

12. Which of the following best describe ways that you use the MIT OpenCourseWare site? (check all that apply)

12.a learning about subject matter to complement a course I am taking
12.b learning about subject matter for personal knowledge beyond materials covered in courses I take
12.c reviewing materials from courses I've completed previously
12.d planning my course of study/deciding what subjects to register for
12.e other. Please specify: _____

Research logic
Go to Question 13

---

13. Do you anticipate using the MIT OpenCourseWare site for any of the following while you are a student? (check all that apply)

13.a learning about subject matter to complement a course you are taking
13.b learning about subject matter for personal knowledge beyond materials covered in courses you take
13.c reviewing materials from courses you've completed previously
13.d planning your course of study/deciding what subjects to register for
13.e other Please specify: _____

Research logic
Go to Question 14

---

14. Please select the THREE types of materials that were most important to the completion of your objectives in using the OCW site.
14.a Syllabi
14.b Calendars
14.c Reading citations
14.d Full text readings
14.e Lecture notes
14.f Lecture videos
14.g Assignments
14.h Assignment Solutions
14.i Exams
14.j Exam Solutions
14.k Projects
14.l Labs
14.m Tools (e.g. simulations, animations, example code)
14.n Related Links
14.o Study Materials
14.p Other. Please specify: _____

Research logic
Go to Question 15

---

15. Please rate your satisfaction with each of the following:
(Very Satisfied, Satisfied, Unsatisfied, Very unsatisfied)

15.d Subject matter and course areas covered on the OCW web site

15.e Types of course materials available for specific courses
15.f Quality or nature of the course materials provided for specific courses

Research logic
Go to Question 16

---

16. What is most interesting and useful to you on OCW?
FREE TEXT_____

Research logic
Go to Question 17

---

17. What is least interesting and useful to you on OCW?
FREE TEXT_____

Research logic
Go to Question 18

---

18. Please describe what you would change to improve the usefulness and value of OCW.
FREE TEXT _____

Research logic
Go to Question 19

---

19. Please describe any specific benefits or opportunities you've received as a result of the OCW site that would otherwise not have been available to you?

FREE TEXT _____

Research logic
Go to Question 20

---

20. Please describe any specific negative consequences you've experienced as a result of the MIT OpenCourseWare site?

FREE TEXT _____

Research logic
Go to Question 21

---

21 We are eager to understand the impact of OCW and the difference it makes for the MIT students who access it. Please indicate the degree of positive impact that the OCW Web site has already had, or that you expect it to have, on your educational experience at MIT.

21.a 5: Extremely positive impact
21.b 4: Positive impact
21.c 3: Moderately positive impact
21.d 2: Somewhat positive impact
21.e 1: No positive impact

Research logic
Go to Question 22

---

22. Please explain your rating. Be specific—elaborate on the impact OCW has had on you.

FREE TEXT: _____

Research logic
Go to Question 23

---

23. Have you recommended the OCW site to any of the following? (choose all that apply)

23.a Other students

23.b Instructors
23.c Professional associates
23.d Family/friends
23.e Other

Research logic
Go to Question 24

---

24. Please rate your agreement or disagreement with the following statement
(Strongly Agree; Agree; Disagree; Strongly Disagree)

24.a I feel comfortable sharing my own original academic work on-line
24.b I would feel comfortable publishing my own student work on the MIT OpenCourseWare site

Research logic
Go to Question 24

---

25. May we contact you regarding the following? (Check all that apply)

25.a helping OCW to capture notes/materials from MIT classes
25.b participating in follow-up interviews and/or focus groups

Research logic
If 24.a and/or 25.b go to Question 26, else END

---

26. Please provide your e-mail address in the space below.

FREE TEXT:_____

END

D. Institutional Research Alumni Survey Text

1. Are you aware of the MIT OpenCourseWare site?

1.a Yes
1.b No

2. How did you first hear about the OpenCourseWare site?

2.a Online media (online news, search engine)
2.b Offline media (newspaper, magazine, TV)
2.c MIT materials/MIT website
2.d Colleague/Peer
2.e MIT Professor
2.f Other (please specify) _____

3. How many times have you visited the OpenCourseWare site?

3.a 0
3.b 1-5
3.c 6-15
3.e 15-30
3.3 >30

4. How frequently do you visit the OpenCourseWare site?

4.a Never
4.b Daily
4.c Weekly
4.d Monthly
4.e Occasionally (Less than once a month)

5. In what ways have you used the OpenCourseWare site? (Check all that apply)

5.a Keep current in field developments
5.b Enhance personal knowledge
5.c View materials from a specific instructor
5.d Review material from course previously completed
5.e View materials from courses not taken
5.f Other (please specify) _____

6. In your opinion, what is the impact of OpenCourseWare on MIT's reputation?
6.a Greatly enhances
6.b Enhances
6.c Neither enhances nor detracts
6.d Detracts
6.e Greatly detracts

E. Video Users Survey Text

Welcome text

Please take a moment to complete this survey regarding video content on MIT OpenCourseWare. Your feedback will help us make improvements to MIT OCW.

The page you just left contained video content. MIT OCW would like to learn more about how our visitors use videos and how valuable they find them to be. This survey takes 15 minutes to complete. Of course, all information you provide i will be used anonymously*.*

*INSTRUCTIONS: Click the Continue button below to begin. Answer each question, and click the next button to proceed through the survey. Please do not close the survey window. If you inadvertently close it, you can restart the survey, with your previous answers saved, by going to the WebEffective Control Window and clicking on the link "***Click here to open the survey window again.***"*

Exit text

We appreciate your taking the time to complete this survey. Please feel free to provide additional thoughts by clicking on the "Feedback" button on the MIT OCW Web Site, or through the Contact Us link.

[SECTION I: ENTRY QUESTIONS]

---
1. Which of the following best describes your primary role in education and learning?

1.a. Faculty (working within a formal educational institution or program)
1.b. Student (currently enrolled in a formal educational institution/program)
1.c. Self learner (independent learner not affiliated with/enrolled in a formal educational institution/program)
1.d. Other. Specify: _____

Research logic
Go to Question 2

---
2. Are you formally affiliated with MIT?

2.a. Yes
2.b. No

Research logic
Go to Question 3

---
3. Are you an MIT Alumnus/a?

3.a. Yes
3.b. No

Research logic

Go to Question 4

---

4. What country/region are you currently located in? [Show comprehensive alphabetized drop down list used last year.]
   [Display list of countries]

Research logic
Go to Question 5

---

5. Describe your goal in visiting the MIT OCW Web site today.
   FREE TEXT: _____

Research logic
Go to Question 6

---

6. How often do you visit the OCW Web site

   6.a. This is the first time
   6.b. Daily
   6.c. Weekly
   6.d. Monthly
   6.e. Occasionally (less than once a month)

Research logic
If 6.a go to Question 8
Else go to Question 7

7. How many times have you visited the OCW Web site before today?

   7.a. Once
   7.b. 2-5 times
   7.c. 6-10 times
   7.d. 11-25 times
   7.e. 25-50 times
   7.f. More than 50 times

Research logic
Go to Question 8

{Technical context and questions}

8. What are the OS's and browser types of people accessing OCW?

Research logic
Go to Question 9

---

9. Did you come to the MIT OpenCourseWare site specifically to access video formatted materials?

   9.a. Yes
   9.b. No

Research logic
Go to Question 10

---

10. Please select the description below that best reflects how you used OCW video content today:

    10.a. I viewed a video introduction to a course
    10.b. I viewed one or more limited sections of lecture videos covering a topics of interest
    10.c. I viewed, or attempted to view, a complete lecture video
    10.d. I did not view any video content

Research logic
If 10.d goto END
If 10.a goto 12
Else go to Question 11

---

11. Please select the response below that best describes how you have viewed or plan to view other video lectures **FROM THE SAME COURSE**.

    11.a. I have not viewed/do not expect to view additional video content
    11.b. I have viewed/expect to view limited sections of other lecture videos covering topics of interest
    11.c. I have viewed/expect to view a few other complete lecture videos
    11.d. I have viewed/expect to view the entire series of lectures from this course

Research logic
Go to Question 12

---

12. Please indicate the type of internet connection you typically use to access the internet:
    12.a. Dial Up
    12.b. Broadband (cable, DSL)
    12.c. Local Area Network
    12.d. Other. Please specify: _____

Research logic
Go to Question 12

---

13. Please indicate the bit rate of the video files you typically use on the MIT OCW site:
    13.a. 56K/b/sec
    13.b. 180Kb/sec
    13.c. 200Kb/sec
    13.d. Don't know

Research logic
Go to Question 12

---

14. Please rate your satisfaction with the RealMedia format used for most MIT OCW video content.

    14.a. Very satisfied
    14.b. Satisfied
    14.c. Unsatisfied
    14.d. Very unsatisfied

Research logic
Go to Question 12

---

15. Please indicate the streaming video format you prefer:

    15.a. RealPlayer
    15.b. Quicktime
    15.c. Windows Media
    15.d. AVI
    15.e. MPEG
    15.f. Other. Please specify: _____

Research logic
Go to Question 13

---

16. When downloading video files, which format do you prefer?

    16.a. RealPlayer
    16.b. Quicktime
    16.c. Windows Media
    16.d. AVI
    16.e. MPEG
    16.f. Other. Please specify: _____

Research logic
Go to Question 14

---

17. Please rate your satisfaction with the technical performance of the MIT OCW site in delivering streaming media.

    17.a. Very satisfied
    17.b. Satisfied
    17.c. Unsatisfied
    17.d. Very unsatisfied

Research logic
Go to Question 15

---

18. Please explain your rating for the previous question.
    FREE TEXT: _____

Research logic
Go to Question 16

---

19. Please indicate if you have done any of the following:

    19.a. Downloaded MIT OCW video content to a local computer using the instructions provided on the site Frequently Asked Questions page.
    19.b. Downloaded MIT OCW video content to a local computer without the assistance of the instructions on the site
    19.c. Adapted MIT OCW video content for use on a portable device such as a PDA, iPod or cell phone
    19.d. Converted MIT OCW video content to audio only for use on a portable device such as a PDA, iPod or cell phone

Research logic
If 10.a go to Question 17, else go to Question 20

{Video Intro Questions}

20. Please indicate the scenario that best describes why you accessed OCW course introduction video content today:

    20.a. To better understand the MIT OCW course structure in preparation for self-study using MIT OCW course materials
    20.b. To better understand the subject matter of the MIT OCW course as it relates to a course I am taking at another institution
    20.c. To better understand the course pedagogy while designing a similar course I will teach
    20.d. Other. Please specify: _____

Research logic
Go to Question 18

---

21. How significantly has the video course introduction enhanced your understanding of the following: (Very significantly, Significantly, Insignificantly, Very insignificantly)

    21.a. How the course was developed by the MIT instructor
    21.b. How the learning activities (homework, projects, exams) are designed to develop students' understanding of the subject matter
    21.c. How the course fits into the larger curriculum in its department
    21.d. The practical or real-world applications of course concepts
    21.e. How the various course materials published on the course site might be best used for self study

Research logic
Go to Question 19

---

22. Relative to other types of material on the MIT OCW site, how valuable do you find the course video introductions to be?

    22.a. Significantly more valuable
    22.b. More valuable
    22.c. Equally valuable
    22.d. Less valuable
    22.e. Significantly less valuable

Research logic
Go to Question 25

{Video Lecture Questions}

23. Please indicate the scenario that best describes why you accessed OCW lecture video content today:

    23.a. Viewed videos to improve my own understanding of concepts covered, independent of any formal learning program
    23.b. Viewed videos to improve my English language skills
    23.c. Viewed videos to improve understanding of concepts covered in a course I am taking at another institution
    23.d. Viewed videos seeking a solution to a particular professional problem or challenge
    23.e. Viewed videos to improve my teaching/lecturing skills
    23.f. Displayed videos as part of a formal learning program, such as a course or employee training session, that I am teaching
    23.g. Other. Please specify _____

Research logic
Go to Question 32

---

24. Please choose the responses below that best describe how you have used OCW non-video content at any time FROM THE SAME COURSE as the one from which you viewed lecture videos today (Choose all that apply):

    24.a. I have not used OCW non-video content
    24.b. I have reviewed lecture notes while watching video lectures
    24.c. I have attempted to complete course assignments or projects in addition to viewing video lectures
    24.d. I have attempted to complete course exams or quizzes in addition to viewing video lectures
    24.e. I have used non-video materials to improve my teaching skills in addition to viewing videos
    24.f. I have used non-video materials to improve my own course materials in addition to viewing videos
    24.g. Other. Please specify: _____

Research logic
If 21.a Go to Question 23, else go to Question 22

---

25. Please select the THREE types of non-video materials that were most important to the use(s) described in the previous question.

    25.a. Syllabi
    25.b. Calendars
    25.c. Reading citations
    25.d. Full text readings
    25.e. Lecture notes
    25.f. Assignments
    25.g. Assignment Solutions
    25.h. Exams
    25.i. Exam Solutions
    25.j. Projects
    25.k. Labs
    25.l. Tools (e.g. simulations, animations, example code)
    25.m. Related Links
    25.n. Other. Please specify: _____

Research logic
Go to Question 23

---

26. Relative to other types of material on the MIT OCW site, how valuable do you find the video lectures to be?

    26.a. Significantly more valuable
    26.b. More valuable
    26.c. Equally valuable
    26.d. Less valuable
    26.e. Significantly less valuable

Research logic
Go to Question 24

---

27. Relative to video lectures, how valuable would you find the same content in the formats listed below to be? (Significantly more valuable, More valuable, Equally valuable, Less valuable, Significantly less valuable)

    27.a. Printed transcripts of lectures

27.b. Audio recordings of lectures alone
27.c. Audio recordings of lectures with unsynchronized lecture notes
27.d. Audio recordings of lectures with synchronized lecture notes

Research logic
Go to Question 25

----

28. Were you able to successfully accomplish your objectives today using the OCW web site?

28.a. I was completely successful
28.b. I was somewhat successful
28.c. I was not successful

Research logic
Go to Question 26

----
29. How might video content on the MIT OCW site be improved?
FREE TEXT: _____

Research logic
Go to Question 27

----
30. May we contact you in the future to learn more about your experiences using MIT OCW video content?

If you are willing to be contacted, please provide your email address below.

As described in our privacy policy, we will not share your contact information with anyone. Providing your email address does not obligate you to participate in future surveys.

If you do not wish to be contacted, simply click on the "Done" button below

_____

Research logic
Display Survey Exit (Thank You message after this)

Appendix 5 – Interview Protocols

A. Site User Interview Protocol

What is an interview protocol?

Interview guides, or "protocols," are sets of high-level questions that the team will explore in interviews with research participants. Protocols are not rigid scripts. Rather, they are flexible tools that help researchers guide conversations. Often, research participants share significant perspectives and insights that researchers had not previously contemplated. Aided by the protocols, researchers adapt their inquiry to explore new topics as they arise. A protocol provides a baseline level of consistency across interviews and among researchers. At the same time, it is a living, evolving tool that facilitates thought and invites insight.

Interview objectives and methodology

This protocol was created to guide interviews with educators and learners outside of MIT about MIT's OpenCourseWare offering. It supports the overall goals and objectives of the 2003 OCW baseline evaluation, as outlined in the OCW evaluation plan. Interviews will be conducted with selected users of OCW to gather a textured understanding of how they use the tool and the impact it has on their learning and teaching. Interviews will provide a richer, deeper understanding of those issues than can be generated through other evaluation techniques, including surveys and Web analytics.

Interviewees will be selected from among respondents to the intercept and supplemental surveys who indicate a willingness to participate, and whose responses spark the curiosity of the evaluation team. Interviews will be conducted by the OCW research team as well as by OCW's partner organizations around the world. The latter will conduct interviews with target users of the site who are hard to reach (due to location, infrastructure constraints, etc.) and/or who require that interviews be conducted in languages other than English. OCW will conduct approx. 30 in-depth interviews, with participants distributed across several target regions (Latin America, Africa, Asia, Eastern Europe, North America) and groups (faculty, students, self-learners).

Note: A small number of interview participants will not be at all familiar with the OCW tool at the time of the interview. For those people, there is a brief Web site exploration session built into the protocol.

Sections of the protocol

In keeping with the evaluation logic model, the interviews will cover three main areas, and provide answers to the following questions:

I. ACCESS. Who is accessing OCW? Are users of the site educators, students, self-learners, or others? What are their disciplines or areas of interest? Where are they located? What are the technical parameters of their connection to OCW? How well does the OCW technical architecture perform in enabling people to access desired content and materials? What is triggering awareness of and access to OCW?

II. USE. What are the general patterns of online use and interaction? How do various types of people in diverse locations use OCW? Is OCW designed appropriately to facilitate their use? To what extent, and in what ways, do users of the site adopt MIT course materials for teaching and learning? How do people use/reuse OCW content offline/outside of OCW?

III. IMPACT. What benefits are being realized through the use of OCW? How does OCW change the experience of teaching and learning for the people who use it? What is the impact of OCW on learning communities? What is the impact of OCW on the open sharing of educational materials?

Addressing issues of Access, Use and Impact requires that we develop a set of lower-level, more specific questions that we will pose to interview participants. This document details those questions. As we undertake the evaluation and learn more about how target users access and use the site and the impact it has on their teaching and learning, we may update the protocol questions. This is a living document, intended to evolve as our knowledge expands.

Notes:

Time allocations (in parentheses) are based on a 60-75 minute interview. They are approximate and intended to provide the interviewer with guideposts for the conversation.

Text in blue represents guidance for the interviewer.

ACCESS (15 min)

- Background information (Note: when interview participants have already completed an intercept or supplemental survey, we may already have this background information, and be able to skip this section).
    - Please tell us a little bit about yourself (name, age, geographic location, educational background)
    - Please describe your role at the university
        - For students: year, course of study, intellectual and extra-curricular interests, educational goals, career goals
        - For faculty: area of specialization, title, length of time at the university, career history and trajectory, research focus
    - How often do you visit OCW? How long, approximately, are your visits to the site?

- Web site exploration session (Note: for interviewees with no prior knowledge of the OCW tool only).
    - Please take a few minutes to explore OCW Web site (http://ocw.mit.edu). Please review the homepage, and navigate to the site areas that are of most interest to you. (note: allow the interviewee to take ten minutes or so to focus on the site, especially if that person has never visited it).
    - Do any of the course materials here seem relevant to your pursuits?
    - How might you imagine using this site in the future?
    - Please leave the site open and refer to it over the next few minutes, as I ask you more detailed questions…

- Awareness (Note: this section may be of minimal relevance to interviewees with no prior knowledge of the OCW tool).
    - How did you first learn about MIT|OCW?
    - Can you recall other places where you have heard about or seen reference to OCW?
    - Where else would you expect to find information about OCW? (e.g. educational journals, other Web sites, professional publications, etc.)
    - Have you mentioned OCW to others, or referred others to the tool? Why? In what context? How did that person respond to the site?
    - When was the last time you heard someone mention MIT|OCW? In what context?
    - What has prompted your visits to the OCW site? What have you expected to find there? Has the site met those expectations?
    - For non-users who have heard of the site: What has kept you from visiting OCW?

- Technical specifications
    - How do you usually access OCW? From home? Work? School? What internet provider do you typically use to access OCW?
    - What kind of computer do you use? What is your internet browser of choice?
    - Please describe your internet connection (dial-up, broadband, LAN, etc.)
    - Do you ever have technical difficulties accessing OCW? If so, can you describe them? What do you do to fix these problems?
    - Describe the most recent technical difficulty you had connecting to OCW? What was the problem? And how did you solve it?

Use (30 min)

- Scenarios of use—Open-ended (Note: this set of questions is intended to query participants' use of OCW, with particular attention to the tasks and scenarios that are most important for them. The richest data comes directly from participants' personal experience of OCW; it is therefore desirable to linger on these few questions, and solicit as much unprompted feedback about how people use the tool as possible).

    - Please recall the last times you visited the OCW Web site. For each visit:
        - What were you trying to do on the site?
        - Were you able to accomplish your desired task?
        - Did you have any problems? What barriers prevented you from completing your task?
        - Were you satisfied with the outcome of your visit to the site? Why or why not?
        - What materials did you take away from the site, if any? How did you use/re-purpose them?

    - Do you plan to visit OCW in the near future? Why? What do you hope to accomplish using the site?

    - What do you regard as the most useful aspects of OCW? What could OCW do to improve the site and increase its usefulness? What do you see as the biggest hindrances on the site today?

- Scenarios of use—Specific (Note: this set of questions is intended to validate and expand upon some of the scenarios of use that we imagine may be of importance, and understand whether, why, and to what degree they apply for individual participants; some areas may have been covered in the section above, and interviewers will use their judgment — and take the participants' lead — to guide the interview towards the most fertile topics of conversions)

For research topic-focused interviews:

ZIP DOWNLOADS:

- In your survey, you indicated that you had downloaded a course using the "Download this course" function on the site. Tell me about the last time you did so.
  - What prompted you to do so?
  - What were you attempting to accomplish by downloading the materials?
  - Had the course not included an option to download all contents as a zip file, could you have accomplished your goal through other means?
  - Were you able to accomplish your goal in downloading the content? Why or why not?

- How useful are the zip downloads for your computer system or internet access conditions? Is it more convenient given your computer and internet access for you to download the entire course or to pick and choose files from within courses? Why? Did you encounter any technical problems while attempting to download the zip file? Have you encountered any technical problems with the site while attempting to do other things?

- In what ways have you used—or can you imagine using—the contents of the zip file you downloaded? How well would you be able accomplish these uses if the course materials were not zipped in a single file?

- What impact has the zip download feature had on your use of MIT OCW content? Have you sought out other courses that include the zip download feature? How has the zip download feature affected your perception of the MIT OCW project?

- If MIT OCW were to solicit voluntary donations to support the ongoing costs of running the site from users downloading zip files, how likely would you be to donate? How would such a solicitation affect your perceptions of the project?

CONTENT MIGRATION:

For general user interviews:

FACULTY ONLY:

- Tell me about the last time you solicited course materials — syllabi, readings, problem sets, etc. — from colleagues.
  - What prompted you to do so?
  - What were you looking to learn or do with those materials?
  - Did they satisfy your needs? Why or why not?

- Do you, or could you imagine, using the OCW site for **curriculum development** at your institution? How might OCW help you improve course offerings? Establish or revise overall departmental organization? What do you see as the limitations of OCW with regard to curriculum development? What should OCW do to improve its offering in this regard?

- Do you, or could you imagine, using OCW to improve your own **pedagogical practices or techniques**? How might OCW help you develop methods and techniques for teaching particular content? Integrate new course materials? Establish or revise course syllabi? Have you repurposed OCW content to meet your own teaching needs? What do you see as the limitations of OCW as a resource for improving pedagogy? What should OCW do to improve its offering in this regard?

- Do you, or could you imagine, using OCW as a tool to help you **learn about specific subject matter**? How might OCW help you expand your base of knowledge using published course materials? Re-learn or review materials on specific topics? Might OCW serve as a sort of reference tool for you? What do you see as the limitations of OCW as an educational tool? What should OCW do to improve its offering in this regard?

- Do you, or could you imagine, using OCW to help you **advise students** on their courses of study? Make learning and teaching more efficient? What do you see as the limitations of OCW as a tool for curricular advising? What should OCW do to improve its offering in this regard?

- Do you, or could you imagine, using OCW to **advance your research**? Might it help you understand the current state of knowledge in your area of research? Connect with colleagues who have similar research interests and research agendas? What do you see as the limitations of OCW as a tool to help you advance your research? What should OCW do to improve its offering in this regard?

- Do you, or could you imagine, using OCW as a **model of open sharing** in academia? Might it help you envision possibilities for leveraging technology to improve teaching and learning? What do you see as the limitations of OCW as model of open sharing? What should OCW do to improve its offering in this regard?

- What do you think of the format of the OCW course materials? How do you find working with pdfs as opposed to other file formats? What can OCW do to make downloads and learning objects more useful to you?

STUDENTS ONLY:

- Think back to your recent visits to OCW. What prompted them? Have faculty members or other students recommended it to you?
- Do you, or could you imagine, using OCW as a tool to help you **learn about specific subject matter**? How might OCW help you expand your base of knowledge using published course materials? Re-learn or review materials on specific topics? Might OCW serve as a sort of reference tool for you? Have you repurposed OCW content to meet your own learning needs? What do you see as the limitations of OCW as an educational tool? What should OCW do to improve its offering in this regard?
- Do you, or could you imagine, using OCW to help you **plan your course of study**? Make personal decisions about your academic path? What do you see as the limitations of OCW as a tool for curricular advising? What should OCW do to improve its offering in this regard?
- Do you, or could you imagine, using OCW to **advance your research**? Might it help you understand the current state of knowledge in your area or major? Connect with students and educators who have similar interests? What do you see as the limitations of OCW as a tool to help you advance your research? What should OCW do to improve its offering in this regard?
- What do you think of the format of the OCW course materials? How do you find working with pdfs as opposed to other file formats? What can OCW do to make downloads and learning objects more useful to you?

SELF-LEARNERS ONLY

- Think back to your recent visits to OCW. What prompted them?
- Do you, or could you imagine, using OCW as a tool to help you **learn about specific subject matter**? How might OCW help you expand your base of knowledge using published course materials? Re-learn or review materials on specific topics? Might OCW serve as a sort of reference tool for you? Have you repurposed OCW content to meet your own learning needs? What do you see as the limitations of OCW as an educational tool? What should OCW do to improve its offering in this regard?
- Do you, or could you imagine, using OCW to **advance your personal or professional endeavors**? Might it help you understand the current state of knowledge in your area of interest? Connect with academics who have similar interests? What do you see as the limitations of OCW in this regard? What should OCW do to improve its offering?
- What do you think of the format of the OCW course materials? How do you find working with pdfs as opposed to other file formats? What can OCW do to make downloads and learning objects more useful to you?

IMPACT (30 min)

- We are eager to understand the impact of OCW—the difference it makes for the teachers and learners who access it.
  - Think back over the times you've used OCW. Have their been instances when it has made a significant difference in your teaching/learning? Please describe those instances.
  - Are you aware of instances when OCW has made a difference for your friends or colleagues?
  - Do you see opportunities for OCW to develop or evolve so as to become more responsive to your needs?
  - Can you think of instances when OCW has made a difference…
    - In developing course materials and evolving your pedagogical approach
    - In helping you learn about topics within or outside your specific
    - In providing a model for on-line learning
  - Would you recommend OCW to others? To whom and why?
  - What else, in your opinion, can OCW do to get the word out and encourage usage by others?

- MIT is making these course materials freely available for non-commercial educational purposes, and encourages their use according to the "open" license terms in our legal notices page.
  - Have you used or do you expect to use any of the materials or pages from MIT OCW in any courses that you teach or will teach in the near future?
  - Have you shared any of these materials with friends or colleagues?
  - Have you used these materials to establish or engage with specific communities of learning?

B. MIT Faculty Interview Protocol

What is an interview protocol?

Interview guides, or "protocols," are sets of high-level questions that the team will explore in interviews with research participants. Protocols are not rigid scripts. Rather, they are flexible tools that help researchers guide conversations. Often, research participants share significant perspectives and insights that researchers had not previously contemplated. Aided by the protocols, researchers adapt their inquiry to explore new topics as they arise. A protocol provides a baseline level of consistency across interviews and among researchers. At the same time, it is a living, evolving tool that facilitates thought and invites insight.

Interview objectives and methodology

This protocol was created to guide interviews with MIT faculty about their experience with MIT OCW and about their perceptions of the OpenCourseWare offering. It supports the overall goals and objectives of the 2003 OCW baseline evaluation, as outlined in the OCW evaluation plan. Interviews will be conducted with selected MIT faculty members to gather a textured understanding of how they use the tool and the impact it has on their professional lives. Interviews will provide a richer, deeper understanding of those issues than can be generated through surveys alone.

Interviewees will be selected from among respondents to the MIT faculty survey who indicate a willingness to participate, and whose responses spark the curiosity of the evaluation team. The OCW evaluation team will conduct 4-6 in-depth interviews, with faculty members who have and have not participated in the publication of course materials.

Sections of the protocol

The interviews will cover three main areas, and provide answers to the following questions:

I. Publication experience. What do faculty members think about the publishing process? Is it clear and simple? How could it be improved? What is the level of effort connected to publishing courses? How helpful are the faculty liaisons? Other OCW staff? Do course sites meet faculty expectations, as set through various OCW communications? What are the primary motivations for participation? Non-participation? Why have some faculty chosen not to publish their course materials using OCW?

II. OCW site usage. How often do MIT faculty access OCW? What are their most common scenarios of use? How well does OCW support those scenarios?

III. OCW as a teaching tool. Do faculty find OCW to be a positive teaching tool? Are faculty satisfied with OCW as a presentation of their pedagogical style or approach? Do faculty use OCW in the course of teaching their own courses? Do they believe that OCW can be used by others to recreate their pedagogical approach?

Notes:
Time allocations (in parentheses) are based on a 60-75 minute interview. They are approximate and intended to provide the interviewer with guideposts for the conversation.

Text in blue represents guidance for the interviewer.

PUBLICATION (25 min)

- Background information (Note: we will have some of this information from the faculty survey responses).
  - Please tell us a little bit about yourself (name, department, research focus, teaching focus, length of time at MIT, career history)
  - What is your experience using educational technologies? What technologies have you used? What Learning Management Systems (Stellar, SloanSpace, WebCT, Blackboard, etc.)? Have your experiences been positive/negative? Why?

- Attitudes toward open sharing of academic materials

  Publication history
  - How much have you published in peer-reviewed journals?
  - Do you make preprints or postprints of articles available on the web or through other means?
  - Are you aware of—or concerned about—the rights retained by journals that publish your articles? Have you ever asked to have the terms of publication changed for an article to retain particular rights (e.g. digital publication rights)?

Use of copyrighted materials

- Do you regularly use third-party copyrighted materials in your instruction?
- How are these made available to students? Course pack? Photocopy? Digital copies (via restricted or unrestricted systems)?
- Do you believe these uses to be in accordance with existing copyright laws?
- How much do you know about recent changes in copyright law, including the DMCA and TEACH act?

Open sharing of academic materials

- What is your attitude about the open sharing of academic materials? Has it changed at all through your interactions with OCW?

- Awareness of OCW
  - How did you first learn about OCW?
  - Do you recall early communications about OCW? What did you hear? What were your first impressions of the program, its goals, and its activities?
  - At what point did you begin thinking about publishing your course(s) on OCW? What prompted you to think about it?

- Participation decision
  - What considerations were important to you in thinking about whether or not to publish your course materials?
  - Was there discussion among your colleagues about OCW? What were the lines of conversation and discourse that you heard?
  - What role (if any) did members of the OCW staff play in influencing or affecting your publication decision?

- For non-participators
  - What are your reasons for keeping your course materials off OCW?
  - What might prompt you to change your mind and publish your course materials?
  - Is there anything OCW can do differently to encourage your participation?

- For participators
  - What were your reasons for publishing course material on OCW? How important were the following in helping you make your decision: a desire to support OCW goals? the stipend? professional recognition? Departmental request for participation?
  - What are your impressions of the publication process? Was it clear and simple? What issues did you encounter in the course of publishing materials to OCW? How did you resolve those issues?
  - How well did OCW staff explain the process to you? Who did you turn to with questions? How helpful were the faculty liaisons? The department liaisons? Other OCW staff? How could the publication process be improved?
  - How much time did you devote to preparing your course for publication? How much time would you have spent preparing for the semester anyway, and how much additional time did you spend for OCW?
  - Did the published course site meet your expectations, as set through various OCW communications? Have you done anything to revise your course site after publication? How responsive was the OCW staff in helping you do so?

OCW SITE USAGE (15 min)

- What has prompted your visits to the OCW site? What have you expected to find there? Has the site met those expectations?

- What do you regard as the most useful aspects of OCW? What could OCW do to improve the site and increase its usefulness? What do you see as the biggest hindrances on the site today?

  - Tell me about the last time you solicited course materials — syllabi, readings, problem sets, etc. — from colleagues.
    - What prompted you to do so?
    - What were you looking to learn or do with those materials?
    - Did they satisfy your needs? Why or why not?

  - Do you, or could you imagine, using the OCW site for **curriculum development** in your department? How might OCW help you improve course offerings? What do you see as the limitations of OCW with regard to curriculum development? What should OCW do to improve its offering in this regard?

  - Do you, or could you imagine, using OCW to improve your own **pedagogical practices or techniques**? How might OCW help you develop methods and techniques for teaching particular content? Integrate new course materials? Establish or revise course syllabi? Have you repurposed OCW content to meet your own teaching needs? What do you see as the limitations of OCW as a resource for improving pedagogy? What should OCW do to improve its offering in this regard?

  - Do you, or could you imagine, using OCW as a tool to help you **learn about specific subject matter**? How might OCW help you expand your base of knowledge using published course materials? Re-learn or review materials on specific topics? Might OCW serve as a sort of reference tool for you? What do you see as the limitations of OCW as an educational tool? What should OCW do to improve its offering in this regard?

- Do you, or could you imagine, using OCW to help you **advise students** on their courses of study? Make learning and teaching more efficient? What do you see as the limitations of OCW as a tool for curricular advising? What should OCW do to improve its offering in this regard?

- Do you, or could you imagine, using OCW to **advance your research**? Might it help you understand the current state of knowledge in your area of research? Connect with colleagues who have similar research interests and research agendas? What do you see as the limitations of OCW as a tool to help you advance your research? What should OCW do to improve its offering in this regard?

IMPACT (10 min)

- OCW as a publication tool (for participators only)
  - What is the impact of OCW as a publication tool? What is the effect on you of making your course materials available to students and colleagues?

- OCW as a teaching tool
  - We are eager to understand the impact of OCW—the difference it makes for educators who access it. Think back over the times you've used OCW. Have their been instances when it has made a significant difference in your teaching? Please describe those instances.
  - Are you aware of instances when OCW has made a difference for your colleagues?
  - Do you see opportunities for OCW to develop or evolve so as to become more responsive to your needs?

- OCW overall
  - What other impacts do you imagine OCW having? Within the MIT context? More broadly?

Appendix 6 – Interview Notes

East Asia

Student, Indonesia

Triatno Yudo Harjoko has a long and close association with the University of Indonesia in Depok, Indonesia. A graduate of the institution, Harjoko has also been a professor of architecture at the school since 1979, and is currently head of the architecture department. In addition, Harjoko has designed several of the university's buildings, including the expansive Faculty of Engineering complex, and the stunning University Mosque.

Harjoko characterizes the learning atmosphere at the University of Indonesia as primarily a one-way street, in which professors are assumed to be knowledge-bearers, and students are expected to master a predetermined knowledge base. This approach, while typical of many Indonesian institutions, is something that Harjoko has been attempting to change in his department. Together with his colleagues, Harjoko is redesigning the teaching model, moving toward an active, student-centered learning process.

Harjoko describes the main goal in this transition as "encouraging students to learn by themselves, and to be both critical and creative."

In the redesign process, MIT's OpenCourseWare — to which Harjoko was introduced by a colleague several years ago — has served as an immense comparative database for Harjoko and his fellow professors. Rather than directly transposing MIT OCW syllabi to University of Indonesia courses, Harjoko and his colleagues have been scrutinizing MIT's courses to better understand how they were designed and developed. "We try to understand how the MIT courses are formulated," Harjoko explains, "and what the expected outcomes are. This gives us an important perspective on the learning process."

Two courses for which this approach has been particularly helpful, he adds, are architectural theory and structure.

"I was surprised and amazed that such a renowned university as MIT would freely give access to almost all of its educational information to the world," continues Harjoko. "This is important, because critical thinking and creativity demand the liberalization of learning and information. But I also believe that it's not simply the information that's valuable, but also the glimpse it offers into how MIT has structured its teaching and research to become such a prestigious institution."

Student, China

When Zhang Wenhua first visited MIT's OpenCourseWare online, he was hoping to find resources that would help him teach electrical technology to his students at Mudanjiang Medical College, in the Heilongjiang Province of China.

Zhang was not disappointed.

In fact, the MIT OCW materials on electrical technology transformed both the content of his courses and his approach to teaching. But to his delight, Zhang also found resources that helped his own research on motor control—a topic that had fascinated him for years.

Zhang first heard about MIT OCW in early 2004, through a program on Chinese national television. At the time, a limited amount of higher education information was available from Chinese universities, but Zhang was immediately intrigued by the possibility of getting additional material from MIT. He did an Internet search, and easily located the MIT OCW Web site.

"I teach the students electrical technology," Zhang explains, "including information on circuitry, and the basic principles of transformers and motors. On OCW, I found information on this subject that was very helpful. And in addition, I was able to find courses on motor control—microprocessors, and control theory. This is something I'm really interested in, and I wanted to do some big research, some application, try to put the technology of motor control in practice. MIT's OCW gave me the resources to do this work."

Zhang was also profoundly influenced by the pedagogical approach of MIT's professors. "When I first visited OCW," Zhang noted, "I watched several clips of demonstrations in electromagnetics and other subjects. I was amazed by the fact that the professors at MIT do quite a lot of experiments. They provide us with clips, short movies, about these experiments. I realized, watching these clips, that these experiments help the students to better understand the theory. This has changed my method of teaching. Since then, I have been trying to provide the students with more demonstrations, and to ask them to do their own experiments more carefully to understand the theory."

Educator, Malaysia

A secondary school mathematics teacher in Kuala Lumpur, Malaysia, Kian Wah Liew introduces his 18-year-old students to a range of complex concepts, such as matrices, determinants, and differential equations. Though his lessons are conducted in Mandarin, the students use an English textbook — which tends to make Liew's life more complicated, since his students possess a wide range of abilities in both English and mathematics.

Liew, who discovered MIT OpenCourseWare several years ago while searching the Internet for self-study resources in math and physics, sometimes uses MIT OCW video lectures to supplement his teaching. Because the topics are difficult, and the students' grasp of spoken English imperfect, Liew finds that he often has to narrate the videos as they play.

"Since a few lectures in the introductory level courses on OCW are similar to our syllabi, and because I like the way the lecturers conduct their lessons," Liew explains, "I sometimes use the lectures in the classroom. I let the students watch a lecture — for example, the 18.03 differential equations video — accompanied by my own explanations."

Liew readily admits that the MIT OCW video lectures are sometimes too difficult for his students to fully grasp. But at the very least, he believes, the lectures introduce students to another approach to education. "OCW provides a chance for the students, who never learned in an English-speaking environment, to get an idea of how it would be when studying abroad," he explains. In addition, Liew sometimes steers his most gifted students to other courses on the site to supplement their education. For example, he recently introduced a talented student to Course 18.06 – Linear Algebra.

The students are not the only beneficiaries. Liew, whose own education took place in Malaysia and Taiwan (a bachelor's of science in mathematics in Taiwan, and a master's of science in statistics in Malaysia), also appreciates MIT OCW because it allows him to experience a Western approach to teaching: "The Western style spends more time on 'ideas' than 'examples.' Here, we spend 20 percent of the time introducing ideas and 80 percent in demonstrating these ideas through examples. At MIT, most of the time is spent on clarifying the ideas, and very few examples are given during the lectures."

Liew has only limited freedom to change his teaching approach, due to the tight syllabus-related constraints that he must work within. Even so, he says, OCW has been a very important resource to him: "The impact on my mind," he concludes, "has been great."

Eastern Europe

Student, Latvia

A 20-year-old physics major at the University of Latvia in Riga, Peteris Krumins chose to pursue physics in college because, he says, he's "really interested in how things work in nature." It is an interest he also indulged in high school at the Riga English Grammar School, where he took (and excelled at) a course in physics in 10th grade.

Krumins first came across MIT's OpenCourseWare during this formative period. "I was really interested in video lectures in high school," Krumins explains, "and I was Googling around, and I came across OCW. I opened it up, and searched for video lectures, and there they were, in different categories like physics, and mathematics, and even the English language. They were pretty cool!"

Krumins was preparing for his high school physics exam at the time, so he watched the entire set of Walter Lewin's video lectures of Course 8.01 – Physics I to help him improve his skills. It worked: he admits, when pressed, that he did very well on his high school physics exam. Encouraged by this success, Krumins decided to watch Gilbert Strang's lectures on Linear Algebra, as well. These lectures were harder for him to grasp, as he had not been exposed to the material in high school. But he still enjoyed them… and years later, when taking linear algebra at the University of Latvia, Krumins returned to the video lectures to give them another try.

Krumins has also revisited the Lewin lectures while at the University of Latvia. "The very first term," he explains, "we had a mechanics course in our university which followed MIT's Course 8.01 pretty closely. It was really great: I listened to the lectures at our university, and then I went home, opened up the media player, and watched the lecture again. It had really great demonstrations, some of which we had in our course, and some of which we didn't. It was also great to get more familiar with the terms in English."

On several occasions, Lewin's demonstrations have helped clarify topics that Krumins had been struggling with. "I think every student has difficulty understanding subjects like torque and angular momentum," Krumins explains, "and the examples in Walter Lewin's lectures really made these easier to understand. On torque, for example, he did a very clear demonstration with the wheel that showed that if he turned the wheel to the left, the motion will be in the opposite direction if he stands on a rotating wheel."

Krumins admits, happily, that he has barely scratched the surface of what MIT OCW has to offer him. "We have electricity and magnetism next year," he says. "OCW offers this course, as well, and I look forward to watching it."

Latin America

Educator, Guatemala

For more than 300 years, since its establishment in 1676, the University of San Carlos has served as the center of higher education in Guatemala. In the past half century, it has also been a place where alternative opinions can be voiced, and new realities envisioned.

But the institution also has limitations, many related to its age and relative isolation. Waleska Aldana Segura, a professor of physics at San Carlos, runs up against these limitations in the thermodynamics class she offers for physics instructors. "When you try to teach certain subjects and you don't have labs, or equipment, or any kind of visualization," she explains, "the students end up lacking the expertise necessary for their future success as physics professors."

Segura therefore found herself looking for resources to supplement her teaching. Her first Internet explorations led her to the International Center for Theoretical Physics E-journal service in 2001, and the Los Alamos National Laboratory Web site, but these resources often proved too highly specialized for her students' needs.

Then, three years ago, she discovered MIT's OpenCourseWare initiative through a Google search—and the effects of that discovery have been transformative. In Segura's thermodynamics class, for example, the students regularly use simulations from MIT courses to explore complex physical phenomena. For the first time, Segura's students can actually see what's happening, even without access to a high-tech laboratory. This past semester, Segura also used the syllabus and exams from MIT OCW's Course 3.00 – Thermodynamics of Materials and Course 3.205 –

Thermodynamics and Kinetics of Materials for her own thermodynamics class. Some of Segura's indigenous students balk at using course materials in English; in these cases, Universia's Spanish language resources have provided a crucial alternative.

Segura is also involved in a long-term initiative to implement a faculty of education at the University of San Carlos—and in this context, too, MIT OCW is proving an invaluable resource. Guatemala's mountainous terrain makes travel arduous—and underscores the potential importance of online communication. Segura hopes to implement a site similar to MIT OCW at the University of San Carlos, to allow students from all over Guatemala to access the university without the difficulty and expense of daily travel. This concept has the potential to transform education in Guatemala—and according to Segura, MIT OCW is an important inspiration as the program moves forward. "The fact that MIT provides these materials, from so far away, without cost," she says, "is simply extraordinary."

Student, Venezuela

A metallurgical engineering graduate of the Central University of Venezuela, Rogelio Morales has some unusual entries on his resume. For one thing, he is a licensed commercial diver, and once worked as a professional diver for eight months with Titan Maritime, and as the trainer for commercial Diving with the Divers Institute of Technology, in Seattle, Washington.

Morales loved his underwater work, but quickly decided that he was more interested in underwater inspection than in commercial diving. This led him back home, to a master's program at Central University of Venezuela in non-destructive testing. "It's a less-invasive method of testing," Morales explains. "You don't have to destroy something to see if it is warped. You can use different methods, like X-rays, testing magnetic particles, and ultrasonic. It fits in well with my background in metallurgical engineering."

Morales first encountered MIT's OpenCourseWare when he was looking on the Internet for information on stereoscopic vision, which has enormous potential for divers encountering turbid water conditions. Morales was able to find helpful information on MIT OCW, especially in Course 9.537 – Special Topics in Vision Science. The projects for Course 13.017 – Design of Ocean Systems I, also provided Morales with a wealth of new and useful concepts.

Morales acknowledges that some of the same ideas he has found on MIT OCW are probably also available in the Central University library, in books or journals. "But with books," he argues, "it's much harder to find this information in a timely fashion. And with OCW, you also know that it's new information."

Morales has been quick to share information about MIT OCW with other students — and professors — in his program. "I often download information from the Web site in different topics," he explains, "and give it to a professor in my faculty. Sometimes we discuss the information, other times they use the slides from the site in class. It's a great resource."

Morales also feels that MIT OCW has a broader potential in Venezuela. "Not everybody in Venezuela has the opportunity to go to college," he points out. "It's really hard to get into university, so OCW is a great option. For example, there's a program here called New Neighborhood. They use OCW to download information for poor people on technology, or humanities, or other areas. This has allowed a lot of people to access this information who might otherwise have been unable to do so. OCW has enormous potential for our country."

Middle East and North Africa

Self learner, Bahrain

An operations manager for CitiGroup in Manama, Bahrain, Kushal Duneja has spent many years in the financial services field, working for Ernst & Young, PricewaterhouseCoopers, and CDC Capital Partners as an auditor, investment analyst, and private equity analyst. Duneja — who grew up in India, Tanzania, Zambia, and South Africa — holds degrees from the University of London, the University of Delhi, and the University of South Africa.

Duneja came across MIT OpenCourseWare several years ago while surfing the Internet for information on financial engineering. "It was sometime back," he recalls, "and I remember it was on my Blackberry, so it was really tiny… but when I started to scroll down, I was really excited. I thought to myself, 'Wow, this is great, I've been looking for stuff like this!' So I went back and looked at it on a full screen, and downloaded some courses."

Duneja has found a wide range of useful materials, including information on real estate investing. In addition, somewhat to his surprise, he has found Course 15.280 – Communications for Managers, to be a very helpful tool. "I haven't done many of the hard skill courses," Duneja explains. "But some of the softer skill courses have been very helpful. 'Communications for Managers' is an excellent presentation of how managers can improve communication, and how we tend to use our credibility instead of the subject matter when trying to sell ideas. It also had some very useful tips on preparing presentations. That was something I could use and apply immediately.

"I thought this material was so helpful," Duneja continues, "that I've also downloaded some of the stuff and shared it with my colleagues. Their feedback was very positive – they really thought it was quite insightful."

Duneja is not the only one in his family who has benefited from MIT OCW. "My wife actually discovered OCW without me ever mentioning it to her – it was quite funny!" he explains. "One day I got home and she was looking at MIT's Web site, and downloading stuff, and I said, 'Hey, what are you doing, how did you find this?' She's a lecturer in computer applications, and she found OCW on the Web, and started to use material from the site."

Duneja is an experienced consumer of information on the Web, and ¬— in his opinion — MIT OCW stands apart from other sites. "I think OCW certainly one of the most diverse and comprehensive collection of courses on the net," Duneja says. "I haven't yet come across any other

university site or public institution site that provides that sort of information. You can get all the stats from the Federal Reserve and other places, but nothing as comprehensive as what exists on MIT."

Self-learner, Iran

Nader Dehesh, head of design engineering at Saravel Corporation — a prominent air conditioner manufacturer in Iran — has firsthand experience with the U.S. educational system. He received an undergraduate degree in physics from Allegheny College in Pennsylvania, a second undergraduate degree in mechanical engineering from the University of Pittsburgh, and a master's degree in metallurgical engineering from the same institution.

Since his return to Iran in 1994 to join Saravel Corporation — a family-owned business that had been taken over by the government after the 1979 Iranian Revolution, and returned to the family in 1994 — Dehesh has stayed in touch with engineering schools in the U.S. via the Internet. It is a hobby that allows him to keep abreast of new developments and review the basics in his field. And among the sites that he visits regularly is MIT OpenCourseWare.

"My primary incentive in visiting OCW is to read up on things I have already learned," explains Dehesh, "but which I have had to put aside due to the managerial aspects of my work, which often pull me away from the technical side. Through OCW, I can refresh fundamentals, as well as explore new courses on design and manufacturing.

"Unfortunately," Dehesh continues, "living in Iran can be somewhat limiting due to the speed of the Internet and long download times." When Dehesh first visited OCW, he tried to download Professor John Leinhard's textbook from Course 2.51 – Intermediate Heat and Mass Transfer, but he was unable to do so due to the size of the file. In the end, he had to ask a friend in the U.S. to download the file and burn it on a CD for him. "I think videotaped lectures by professors may be the best route for Third World nations which do not have high speed Internet connections," Dehesh adds.

Despite these technological drawbacks, MIT OCW has been an important gateway for Dehesh, allowing him to keep up to date with new developments in his field. "I think OCW is a wonderful tool and can serve practicing engineers all over the world," he says.

MIT OCW has also made the Institute more real to Dehesh, clearing up some long-held misconceptions about MIT. "Prior to my inquiry on OCW, I had a notion of MIT as an assembly line of self-operating, whiz-kid automatons," Dehesh explains. "The introductory remarks for Course 2.737 – Mechatronics, debunked that notion. The students are instructed on when to attend the lab and the procedures they should follow, and even the fine for non-return of the equipment! I realized that pedagogy is the driving force, rather than experimental investigation; that instructions are needed for the gifted students as well as the ordinary ones. This certainly was myth-breaking for me!"

Student, Pakistan

Saud Khan, currently in the final year of a Masters program in Telecommunications Engineering at Mohammad Ali Jinnah University in Pakistan, has been using the resources of MIT's OpenCourseWare for several years now. Khan, who is specializing in digital signal processing and adaptive filters, is about to begin a thesis on adaptive beam-forming, a process that has applications in radar, speech, and acoustic signal processing, and which distinguishes between the spatial properties of signal and noise.

Khan was first introduced to MIT OCW by Dr. Shoaib Ahmed Khan, one of his professors during his undergraduate study at the National University of Sciences and Technology. Dr. Khan, formerly a visiting professor at the University of Massachusetts, knew of Khan's interest in digital communications, and suggested that he look over MIT OCW's offerings on the subject.

Khan found the site incredibly useful, especially as a supplement to his existing courses. At the time, he was taking a difficult course on electromagnetics, and the lecture notes he found on MIT OCW (including Course 6.013 – Electromagnetics and Applications) helped him gain a better understanding of the material. "I found that there was a lot of difference in the courses on OCW," Khan elaborates. "They were very comprehensive, and very precise. There was a level of detail I hadn't experienced in my own courses."

Khan has also found the materials on MIT OCW helpful because of the high cost of textbooks in Pakistan. "Technical books," he explains, "especially from authors in the U.S. and Britain, are financially impossible for me to afford. OCW has been an important alternate source of information."

More recently, MIT OCW has been helping Khan with his thesis work. "Mathematics are quite exceptional at MIT, and a strong background in mathematics really matters for thesis work. I have found OCW really helpful as I prepare to write my thesis." MIT OCW also allows Khan to benchmark his own education against one of the top engineering schools in the world. "MIT is a dream university," says Khan simply. "Most people won't have the chance to be admitted, due to academic deficiencies or other reasons. But OCW gives people an idea of what it is to be at MIT. And if you do want to try to go to MIT, you can go to the OCW site first and experience the level of mathematics or physics taught at MIT. It sets a standard."

Student, Israel

Twenty-three year old Edan Kenig is in his first year of a biophysics program at Israel's Bar-Ilan University. Bar-Ilan, which is situated on a 70-acre campus in Ramat Gan, outside of Tel Aviv, has grown by 90 percent over the last nine years, and now boasts more than 32,000 students.

Kenig, who recently spent six months traveling around the United States, stumbled upon MIT's OpenCourseWare after doing an Internet search for "physics" and "video lectures." The Walter Lewin lectures on MIT OCW were some of his first hits, and Kenig quickly realized that his cyber-search was over.

"I think these lectures are great," Kenig enthuses, "and since I found them, I have been using them all the time. Especially the Walter Lewin lectures. Last semester I used mechanics, Course 8.01, now I'm using Electricity and Magnetism, Course 8.02, and in the future I plan to use Course 8.03 – Physics III: Vibrations and Waves."

"During the semester," Kenig elaborates, "if I have to miss a class, I ask someone in my class what they did, and then I watch it on MIT. At the moment, I am in my exam period, so I'm using the lectures from MIT instead of books. And not only in physics: I also used Course 7.012 – Introduction to Biology."

Kenig prefers the video lectures to the other resources available on OCW. "The lecture supplements on OCW are very helpful," he explains, "but these types of things I also have here in Hebrew, which make them easier to read. But the video lectures are fantastic. I find that the level of physics work here at Bar Ilan is maybe even a higher level than at MIT, in the sense that the questions we are assigned are more difficult. But in terms of the teaching, the MIT lecturers are just extraordinary. I feel like I have a better understanding when I listen to the MIT lectures."

North America

Student, United States

A first-year doctoral student in mathematics curriculum and instruction at the University of North Carolina at Charlotte, Margaret Adams hopes eventually to use her degree to help public school systems modify their math curricula to better prepare low-performing students for secondary and post-secondary educational opportunities.

As a student of education, Adams is a staunch believer in the potential of the Internet to help students of all levels and backgrounds achieve educational success outside of the traditional classroom. It is a success she has experienced first-hand: for example, Adams' use of Gilbert Strang's Course 18.06 – Linear Algebra on MIT's OpenCourseWare has helped her develop a better grasp of the subject than classroom work alone.

"I'm not really a math major, but rather somebody who wants to get a background in math," she explains. "The extra supplements on the Internet have really helped me develop the foundation that I need to be successful in this subject."

Adams is keenly aware that it is not simply placing information online that creates impact. Different teaching styles can have an enormous effect on a student's understanding — and enjoyment — of difficult concepts. As an example, Adams again cites Dr. Strang's course. "I think his down-to-earth approach is what makes the difference," Adams explains. "He explains things on a very basic level, and gives wonderful examples. He'll set the stage for what's about to come… for me it's almost like reading a novel. It holds my attention, unlike most math books, which generally are very cut-and-dried. It's different from the traditional lecture format that I receive at the university."

In addition to helping her grasp the fundamentals of linear algebra, Adams adds, Strang's teaching has had a larger impact on her education. Adams describes Strang's course as *giving her hope*.

"If that Web site were not there," she explains, "I think a lot of people would give up in their current courses, and maybe even give up in the whole field of mathematics — just like typical middle and high school students do. But he makes it so that people can start to learn, and enjoy math, and be successful overall. He gives people hope."

Educator/Self learner, United States

Based at the San Diego Naval Station, the Southwest Regional Maintenance Center (SWRMC) provides maintenance support and maintenance training to more than 50 surface ships, aircraft carriers, and submarines of the U.S. Navy and Coast Guard. This is a weighty responsibility for Captain Kevin Gannon, Commander of the SWRMC—as is the complement of roughly 3,000 sailors and civilians under his command.

Captain Gannon, who describes himself as a "lifelong learner," holds an undergraduate degree from Tulane University in mathematics, an MS in Mechanical Engineering from the Naval Postgraduate School in Monterey, and an MS in Systems Engineering from University of Virginia. But he is quick to point out that his education is not confined to formal schooling; in each of his positions in the Navy, Gannon has worked to keep abreast of new developments in his fields of expertise.

Gannon describes his main responsibilities at SWRMC as overseeing lots of industrial processes (anything from fixing a pump to overhauling a gun)—and he is constantly looking for ways to streamline these processes. This quest led him to MIT's OpenCourseWare several years ago, while browsing for information on lean manufacturing.

"Lean is a tool that industry has been using for the last couple of years," explains Gannon, "focusing on process improvement, and minimizing waste. I was looking generically for lean information, and stumbled across OCW. I was really impressed. This site is a true intellectual gem. They have a couple of lean classes in the engineering section, such as Course ESD.60 – Lean/Six Sigma Processes, that were very useful."

MIT OCW has also proved helpful in other areas of Gannon's job. For example: leadership training for the sailors under his command is one of his major concerns. So, soon after discovering the MIT OCW Web site, Gannon browsed through the MIT Sloan School courses on OCW to see if any of these courses could be helpful. "The Leading Organizations course [Course 15.322] has turned me on to all sorts of useful references," Gannon says. "We've used a bunch of books mentioned in the syllabus. And the lecture notes are also an important tool. They include documents on the problems and prospects of a changing organizational world, and models of organizational change. We've used these for our discussion and our teaching here."

"OCW has definitely accelerated our ability to train," Gannon continues. "As far as I'm concerned, these courses are already tried-and-true. They've worked with a high-performing group. They're a nicely bundled package, and they're free. How can you beat that?"

MIT faculty member, United States

Professor Charles Stewart III, head of the Department of Political Science in MIT's School of Humanities, Arts, and Social Sciences, is a specialist in the fields of American politics and behavior, political institutions, and research methodology.

Stewart, who has long been a proponent both of using technology as a teaching aid, and also of free and open access to ideas, was an early fan of the OpenCourseWare concept. And now that the concept has become a reality, he has become a strong advocate for the site. "I think that OCW serves the higher purposes that have been touted for it," Stewart explains. "It really does provide opportunities for people around the world to see what we do at MIT, and perhaps learn from it. There are heartwarming stories of faculty, out in the middle of nowhere, who somehow get to the OCW site, and discover our stuff, and use it to teach classes. I think that's really important and valuable."

In addition to these global benefits, Stewart has found that OCW can provide important exposure for young faculty members in his department — and across the Institute. "I think the opportunities include getting your name associated with a particular subject area," Stewart elaborates. "After all, for faculty at MIT, one of the things you're supposed to do is establish that you are one of the world's preeminent experts in a particular field. And OCW is a way of highlighting what you do, and how you do it. It gives you a broader audience than just purely an academic audience. It gives you a lay audience from around the world."

In the early days of OCW, Stewart often found that he had to defend OCW to peers who were uncertain about what all this public exposure might mean. More recently, however, he has found that most members of his department are eager to participate.

"These days, all I really do to promote OCW is encourage them to participate whenever there's a call for new material," Stewart explains. "And by now it's gotten such a good reputation that I don't even need to do that very explicitly!"

MIT undergraduate student, United States

MIT junior Aron Walker is an environmental science and chemical engineering major who hails from San Francisco. Walker decided to attend MIT, he recalls, because he wanted to study in a vibrant atmosphere, filled with people who were passionate about what they were doing.

Though he had never experienced MIT's OpenCourseWare before coming to the Institute, Walker heard about the site from a friend soon after his arrival in Cambridge, and quickly found that it was a valuable resource for MIT students.

"As far as a practical use," Walker explains, "students here visit OpenCourseWare to get a sense of what a class is like. Yes, MIT also has course evaluations, which are compiled, quantified, and put online — and people definitely use those, as well. But the evaluations don't offer much information about the actual content of the class. It's more, 'What have my peers thought of this class in past years? What have my peers thought of this professor?' The OCW course sites are more detailed than an evaluation, or a course description, because they include the actual course material."

Students also visit the site to find materials for review purposes. "I think students also use it," Walker said, "if they're taking some class one year, and they want more practice doing things. They look at material from a previous year, and they adopt that as something to practice with."

But for Walker, the most valuable aspect of OCW is the perspective it offers on the unique aspects of an MIT education. "I think that for me," he says, "the biggest advantage of OpenCourseWare is that it brings into focus the things that you can only find here at MIT, and not on the Web. It highlights the programs that aren't on OCW because they can't be —things like research, and doing programs with other students who are all really focused and excited about the work… Not to mention the discussions that happen here, the people who are here, the ideas floating around.

"For me, it moves the educational focus back towards the intangibles, rather than just, 'Here's a sheet of paper with some problems on it, and I want you to do them,'" he continued. "There's a very strong community of ideas here, and there's a lot of energy in that community — and that's what really sets MIT apart."

Educator, United States

When the University of Idaho asked James Wixson to design a new course on product development, the assignment struck Wixson as somewhat daunting.

The subject matter was not the problem. Wixson—an advisory engineer in systems engineering at the Idaho National Laboratories, and affiliate instructor for the University of Idaho—had extensive experience in product development. In fact, his MBA thesis detailed techniques for improving new product development through value engineering. But Wixson had designed courses from scratch before, and he knew from experience how arduous and time-consuming the process could be. "I learned the hard way," Wixson chuckles. "The last course took such a long time… So I thought this time, I'll do a little research, and find out what other people are doing out there."

Wixson's research led him to MIT's Course 15.783J – Product Design and Development on the OpenCourseWare Web site, and he was immediately impressed by both the content and format of the material. "I was looking specifically for courses in product development," he explains, "to see what texts that they were using, and get an idea of the syllabi, and see how they taught the course. I had run across some other courses out there in product development, but this really stood out. This was such a complete, complex course, and they had a good syllabus—so I decided I'd just basically use it, with some minor modifications." These modifications included additional content on value engineering and systems engineering, reflecting Wixson's own interests and background.

Wixson worked closely with MIT OCW staff to adapt the MIT course content for the University of Idaho. The resulting site, housed on Wixson's university Web page, looks remarkably like the original MIT OCW page—but with added lines of magenta text that reflect Wixson's content modifications. The collaboration has resulted in a course that is deep, rigorous, and tested.

The most surprising part, for Wixson, was that MIT's materials were available free of charge. "I couldn't possibly have paid for this curriculum—it would have been prohibitive," notes Wixson. "So it certainly helped me out, to have this course, rather than starting from zero."

Educator, Canada

Susan Rankin, an artist and educator who lives on idyllic Vancouver Island, is grateful that she's been able to create a profession around the things that matter most to her. "My interests are music, science, and children's education," Rankin explains. "I put that all together into a presentation that I call 'Suzee Science-Singer.' I go into schools, libraries, and daycare centers, and I sing songs about science. And then we play some games and do some art projects, all around various science concepts."

Rankin, who is also in the process of designing and programming educational video games to complement her science programs, is a strong proponent of making educational materials available to the widest possible audience. She herself uses materials from "all over the place," and is never sure where or when something she has learned will emerge in her work. In her estimation, MIT's OpenCourseWare, which she discovered several years ago through an article in the online edition of The New York Times, will be useful to her over a long period of time, as she continues to develop her educational software and her musical lectures.

Rankin does not tend to use OCW to find specific information, but she explores the site frequently to find interesting topics. Currently, she is working her way through a course on thermodynamics—a subject that does not have any immediate application to her lectures, but may well show up there in the future. She has also downloaded a music program—from Course 21M.113 – Developing Musical Structures – "to play around with," as she puts it.

"I was really excited when I heard about OCW," Rankin explains, "because as far as I'm concerned, information is power. And to keep information from people because they aren't smart enough or rich enough to get it is antidemocratic.

"This is an especially important concept for rural areas," Rankin continues. "In my case, the nearest library is about 30 miles away. It's a very small, rural library. I would probably have to wait several weeks to get any kind of book on an unusual topic… if I were even able to figure out which books to get. So I think that this is just a phenomenal concept, and I hope that all the universities do this. I think it's really important to human evolution."

MIT faculty member, United States

Professor Karen Willcox, a member of the MIT faculty since 2001, has been teaching a required course in aeronautics and astronautics to MIT juniors every year since she arrived at MIT. In her first year, Willcox was surprised — and disappointed — to find that many of her students were less proficient in math than she expected, and she has been working ever since both to better understand this phenomenon, and to counteract it.

"I really had the impression coming here that all the students would just be fantastic in math," explains Willcox. "When I realized this was not the case, the first thing I did was to try to understand the source of the problem. I started talking to the math faculty, and I realized that there was this huge disconnect between the math department and the engineering department – who are the downstream users of the material that's taught in the math classes. For example, even though I relied heavily on material from Course 18.03, I had no idea how it was being taught -- or for that matter, what was being taught."

Her students were "falling into this gap a little bit," continues Willcox. "So one part of the solution -- and of course, the materials on OCW were very helpful for this -- was to really understand exactly what was in those courses, and for those professors to also understand how that material would be used by their downstream colleagues, and get some context for teaching it."

Once Willcox better understood the relationships between her course and related math department classes, she realized she needed to make these connections clear to her students. "The next step," she explains, "was to make these links explicit for the students. I got started on this last fall. So in my first lecture, I'd say, 'This is what we're talking about today in aeronautics, and this is directly related to what you learned in this math class.' And then with the pointer, I could show them the OCW website, and the lecture, and the problem sets related to what we're learning."

Wilcox has already seen improvements – but in her opinion, it's only the beginning. "I think there are even more opportunities in this direction," she explains. "Down the line, I'd like to bring more of the technology into the classroom, so that while I was giving a lecture, I could give them a flashback to something they had seen in a previous course -- a visual reminder up on the screen of something that they would have seen in their math class, or a little clip of a video. My sense is that this will really enable us to create better linkages, and to fully integrate the learning experience. Our students will have the opportunity to look broadly across their education, and that will have enormous implications for learning."

Alumnus, United States

A 1972 MIT graduate with degrees in Applied Math and Electrical Engineering, Mark Horowitz went on to complete a Master's degree at the University of Chicago in Information Sciences in 1973 before pursuing a career as an actuary. For the past 12 years, Horowitz has worked as a consultant for Towers Perrin in Philadelphia, PA, designing and implementing software that supports benefits valuation tasks.

Horowitz, who is an active supporter of the Institute and has followed the development of OpenCourseWare with great interest, uses the site both to pursue academic interests and to help him solve problems on the job. "One area that I've gotten interested in over the last couple of years," Horowitz explains, "is behavioral economics. So when I discovered Course 14.127 – Behavioral Economics and Finance on OCW, I downloaded a bunch of the readings to look at."

Horowitz said he tends to browse the site to find areas of interest, though he says his interaction with the materials is rarely comprehensive. "In general," he continues, "I tend to do some reading from the courses, as opposed to imposing the discipline on myself to take each course. But it's been so helpful to be able to find information on OCW that's organized in a way that allows you to really learn the material."

OCW also comes in handy when Horowitz encounters challenges in the course of his work. In general, Horowitz tries to keep abreast of advancements in MIT's Course 6 (Electrical Engineering and Computer Science), to see if there are any new developments that can help him on the job. His investigations are not limited to this area, however. "At one point," he elaborates, "we were looking into doing some work in options pricing. In order to try to get some background for that, I looked around at about three or four different sites, one of which was OCW. In Course 15.433 – Investments, I was able to find some lectures on option theory. I did some reading on the subject, and learned something about pricing of options, primarily lattice models. It was a useful place where I could go to get background for this very specific need."

On a more philosophical level, Horowitz also credits OCW with helping him achieve success in his life and work. "In some respects," Horowitz muses, "to the extent that I've had success in my life, it's been because I'm curious about a lot of things. I find that when I allow myself to read lots of different things, it has an effect of a cross-fertilization of ideas for the work that I do. So whereas I can't always justify the time for something in the moment, a lot of what I learn finds its way back into what I'm doing."

Educator, United States

Shirley Harrell, an assistant professor in the School of Management at Cambridge College in Cambridge, MA, speaks with pride of the educational environment of her institution. As an open-enrollment school, she explains, Cambridge has "a gate at the end, not the beginning," and welcomes students from a wide range of backgrounds, experiences, and abilities.

This range requires a delicate balancing of student needs and academic standards – a challenge that Harrell is mindful of as she designs the four management courses that she teaches at Cambridge each year. According to Harrell, this challenge was more than a little daunting when she first began teaching. "When you come through a graduate program," she explains," they don't really teach you to teach. There's no course that says, 'This is how you construct a graduate course in organizational theory and behavior.'"

So when Harrell first heard about MIT OpenCourseWare on a CNN feature in 2004, she was quick to visit the site. Almost immediately, MIT OCW became a crucial reference tool for her, both for curriculum design and as a benchmark. Harrell describes MIT OCW as a "gold standard" against which she can assess her course materials, and also track the success of her students. "I look at grading policies, reading lists, writing requirements, assignments, attendance policies, and assessment," she says. "For me, it's an important way to ensure the quality of my courses."

MIT OCW has been especially important in her assessment of individual students' contributions to teams. "I ran into a real difficulty with teamwork," Harrell notes. "In MIT's Organizational Processes course, they've developed rubrics whereby team members can give feedback on other team members, and the instructors can then use that as a way to gauge grading for the course. These rubrics really changed how I thought about assessment."

The process of adapting MIT materials for her students can sometimes be challenging, as Harrell readily admits—but the improvement in her students' work has more than justified that investment. And MIT OCW can also be a motivating touchstone for the students, as Harrell explains: "The students are very focused on the quality of the education they're getting here. They want reassurance that an open-enrollment school like this can impose high standards. So sometimes I'll point out to them, very deliberately, 'These are the readings from MIT. This is comparable to what they're doing at the Sloan School.' And it really does motivate them."

Pacific

Educator, Australia

Richard Hall received a Ph.D. in computer science from LaTrobe University in Melbourne, Australia, in 2002. Shortly thereafter, Hall found himself playing a different role in LaTrobe's laboratories and lecture halls: teaching courses in introductory information systems, beginning microprocessors, and advanced computer-aided software engineering.

In early 2005, Hall learned that he would also be teaching a fourth-year computer graphics course later in the year. Hall knew immediately that the subject would demand a lot of work on his part, since he had had little experience with this rapidly changing field over the previous 10 years. While casting about for a means to brush up on the topic—intensively, and in hurry!—Hall recalled hearing something about MITs OpenCourseWare from a member of LaTrobe's technical support staff. He decided to visit the site to see if he could find a solution there.

To his great relief, Hall quickly located the lectures and labs from MIT's Course 6.837 –Computer Graphics, which guided him through an in-depth review of the subject. In fact, Hall credits the 6.837's labs—which he completed over the course of several months—with not only fine-tuning his existing skills, but also adding new techniques to his repertoire. The whole process, according to Hall, saved him "an enormous amount of time and stress."

Based on this experience, Hall plans to use a subset of the lectures and labs in his own course next semester. The MIT OCW resource has enabled Hall to offer a course at what he calls a "stunning" level of quality. One of the best things about the MIT OCW computer graphics materials, reports Hall, is how quickly and completely the students are empowered. "The students can get to the fun stuff immediately," Hall notes. "They're generating aesthetic pictures right from the start, and all the while their math understanding is growing almost visibly in the background."

And Hall is equally impressed by the aesthetic approach of the materials. "I was also delighted by the weaving in of historical art techniques," he adds, "and the way the material is so coherently presented. It is truly inspiring to see this level of excellence."

Self-learner, Australia

With the exception of a brief detour into management in the late 1980s, Malcolm Douglas has spent most of his career as an engineer in the wireless and radio transmission field. For the last four years, Douglas has worked in the information technology department of Telstra—a large telecommunications firm in Australia—designing and supervising the installation of Internet protocol networks and server farms.

But Douglas also defines the term "lifelong learner." He holds a bachelor's degree in Communications Engineering from the Royal Melbourne Institute of Technology, as well as a postgraduate diploma in accountancy from Deakin University. He has achieved Cisco certification through the Cisco Academy, and has taken Microsoft Windows and Sun Solaris 9 courses to keep him up to date in his field. In addition, he regularly trolls through the research pages of top engineering institutions—schools like MIT, Stanford, Berkeley, and UCLA—to keep abreast of current trends.

From MIT's OpenCourseWare, Douglas has downloaded syllabi and lecture notes for many of the courses in the computer engineering section (including Courses 6.111, 6.823, 6.826, and 6.828). Douglas credits the detailed syllabi with creating the necessary structure and focus to allow him to systematically work through a broad subject and absorb the key concepts. Douglas also finds the references in the course notes very helpful, and often uses them to locate classic papers or publications that he had not previously encountered, opening new areas of inquiry.

In Douglas' opinion, the MIT courses offer an unusual blend of theory and practice. "I have found that MIT has an almost unique way of looking at the learning and teaching experience," Douglas explains. "It is theoretically advanced, but grounded in learning by doing and building."

"Many courses at other institutions offer the same old textbooks and materials that very rarely change," Douglas continues. "In fact, I often wonder how students learn to think! I am very impressed with the MIT approach, and it is also very refreshing for a practicing engineer to learn this way, because this is how we continue to learn in the workplace."

South Asia

Educator, India

Hemalatha Thiagarajan first discovered MIT's OpenCourseWare Web site several years ago during an Internet search for materials on artificial intelligence. A professor of mathematics and computer science at the National Institute of Technology Tiruchirappalli, in Tamil Nadu, India, Thiagarajan was dissatisfied with the traditional textbook on artificial intelligence, and was hoping to find materials to supplement her lectures.

The MIT OCW materials she found for Course 6.825 – Techniques in Artificial Intelligence were just what she was looking for, and she quickly adapted several PowerPoint presentations and lectures to fit her syllabus. To her surprise, however the materials didn't just improve the content of her lectures; they also allowed her to cover more material in the same number of classes. "I used to spend a lot of class time drawing the pictures on the board," Thiagarajan confesses. "In data structures, for example, I need to show a lot of pictures of data trees and structures, and I had to draw all of them. Here, with the click of a button, I can show them something which has been very neatly and very beautifully done."

Initially, Thiagarajan notes, the students were not entirely happy with her new approach. "For the first month," she recalls, with evident amusement, "many of them felt that the course was moving too fast. Obviously, when I have to write everything on the board, I go more slowly, so they get a lot of time to follow the whole thing. When I use the slides, everything moves more quickly."

In the end, though, Thiagarajan received rave reviews from her students—both on the amount of material she was able to cover, and the quality of the MIT materials.

Thiagarajan also has found that MIT OCW is a valuable resource for students who would benefit from a deeper look at a particular topic. In her own teaching, Thiagarajan is constrained by a rigid university syllabus. So when a topic emerges in class that she cannot spend enough time on, she is quick to steer her students to MIT OCW. "I've told my students that some of the OCW courses would be very, very useful for them. Things like, for example, database management, or microprocessors. I can't cover these topics fully enough, but they're important to the students. And when the students do follow up, and look at the material, they find it very useful."

Sub-Saharan Africa

Student, Nigeria

Kunle Adejumo is finishing up his fourth year of engineering studies at Ahmadu Bello University in Zaria, Nigeria. By all rights, he should now be in his fifth and final year, but local strikes and instability in Nigeria have added almost a full year to his studies at Ahmadu Bello.

Established in 1952, Ahmadu Bello is Nigeria's largest university, with 35,000 students. Though the university boasts a large and well-maintained physical infrastructure, its Internet access—like that of almost all Nigerian universities—is extremely limited. Even the computer lab does not have a Web connection. And because of the large number of students and the limited number of terminals, students can sign up for only 20 minutes each week on university computers.

When Adejumo was first introduced to MIT's OpenCourseWare through a CD-ROM in the university computer lab, therefore, he had only 20 minutes to look through the material. Immediately impressed with the content, he asked the computer lab for a copy of the CD; when they were unable to give him one, Adejumo decided to find the site on his own, and copied down the Web address. From his home computer, he has enjoyed regular access to MIT OCW, and has used it to complement the course materials he has gotten through Ahmadu Bello.

"For example, last semester, I had a course in metallurgical engineering," offers Adejumo. "For one of the lectures, having to do with ion making, I didn't have notes, and I couldn't find the information I needed, so I went to OCW. I was able to download a course outline on this, and also some review questions. I actually took these to the university and gave them to the lecturer to answer. He was able to answer these questions, and helped me gain a deeper understanding of the material."

As much as Adejumo has benefited from MIT OCW, it worries him that this resource is not available to the vast majority of students in Nigeria. "You see," he explains, "in this part of the world, only the rich can afford Internet access. Probably only 500 students at Ahmadu Bello have an Internet connection. In my own case, I visit about four times a week. But most cannot do this."

For this reason, Adejumo hopes eventually to work with the local radio station to broadcast MIT OCW course material, as well as publicize the site. "I run the Web site for a local radio station," he says, "and they are interested in broadcasting educational programs. OCW would be the perfect fit… And in the process, more students will learn about the site. Students need to know that these things are available."

Educator, South Africa

As director of Viruly Consulting—a leading South African real estate analysis firm—property economist François Viruly has acquired extensive experience in the South African commercial real estate market over the past decade. Viruly is passionate about his field, and makes an effort to share his expertise with students at the University of the Witwatersrand in Johannesburg, as well as the University of Cape Town and the University of Pretoria.

One of Viruly's regular courses is a property investment module for graduate students at the University of the Witwatersrand. When Viruly first began teaching the module several years ago, he chose as his textbook Commercial Real Estate Analysis & Investments, a graduate-level real estate text written by MIT Professor David Geltner. As Viruly began to design the module as a complement to the text, he came across MIT's OpenCourseWare, and was excited to discover that the author himself had already structured a course, Course 11.431J – Real Estate Finance and Investment, to fit the text. Viruly readily adapted a similar structure to fit his module.

"OCW is just a great system," declares Viruly. "It opens up knowledge across the world, which I think is critical. And it allows universities like ours—and I think this is important by itself—to benchmark our teaching. It gives us confidence that we're in close contact with the international body of knowledge, and international standards. In addition, it assures the students that they are receiving high-quality instruction. What it really means to them is that we are following a course and a methodology which is of the highest caliber."

Asked if real estate instruction can really follow the same model in countries as different as the United States and South Africa, Viruly admits that there are some crucial distinctions. "Obviously, some of the course material is focused on the United States," he agrees. "We have specific issues in a developing country, and so we complement the OCW materials with South African material, and substitute different assignments. Nevertheless, I think the OCW model is especially important in developing cultures. It can make such a difference to students here to have access to the best professors in the world."

Self-learner, Mauritius

Vikash Hurrydoss recently completed a degree in software engineering from the University of Technology Mauritius. Though he wanted to continue on for an MS or a PhD immediately, three years of university study had cut deeply into his savings. So Hurrydoss decided instead to take a position with a local software engineering firm. He plans to return to his education full-time in two to three years; in the meantime, he has turned to MIT's OpenCourseWare to keep abreast of new developments in his field—and also to explore new areas of interest.

Hurrydoss, who first discovered MITOCW during his student years, is currently making his way through three MIT courses: Professor Walter Lewin's Course 8.01 – Physics I video lectures, Professor Gilbert Strang's video lectures for Course 18.06 – Linear Algebra, and S.P. Kothari's Course 15.511 – Financial Accounting.

He generally begins his day with one of Lewin's lectures: "I watch the Lewin classes in the morning," Hurrydoss says, "just after I wake up. My mind is quite fresh, you see, and I find it's a good time to think really deeply."

The courses allow Hurrydoss to pursue new interests, such as economics, and at the same time to plug some gaps in his education. "The Strang class has been very helpful to me," Hurrydoss explains, "because the mathematics in my own course of study was somewhat insubstantial. There was much more focus on IT programming." In addition, Hurrydoss feels that MIT OCW will help him determine the direction of his future studies. "I want to return to school in the next several years," Hurrydoss explains, "and I feel that OCW will allow me to resume my studies without having fallen behind in any way. And OCW may also help me figure out what I will pursue when I return."

"OCW has all of the things I believe a true education system should provide," Hurrydoss concludes. "An openness, and a sense of sharing. Not just for the sake of money, or getting the certificate, but just for the sake of learning, of sharing knowledge. Of course you have books, and libraries. But the fascinating thing about OCW, in my opinion, is that you have access to the work of professors who are doing research in their areas that is quite new—and all this for free!"

Western Europe

Student, England

Nineteen-year-old Justin Song is embarking on his second year of physics at Imperial College London. Malaysian by background, Song's family is based in Singapore, and the Singapore government is paying for his education in London.

Song, who heard about MIT's OpenCourseWare early in his studies, regularly visits MIT OCW as part of his study routines. Sometimes, MIT OCW helps Song fill in information that was not covered in one of his Imperial College classes. For example, Song felt that his first-year electricity and magnetism course did not fully explain the phenomenon of electromagnetic waves, so he went to the MIT OCW web site—specifically, to MIT Professor Walter Lewin's video lecture covering resonance, electromagnetic waves, and speed of light from Course 8.02 – Electricity and Magnetism—and found additional information on the topic.

More often, though, the lectures offer another perspective on material already covered by Song's professors, helping to solidify his understanding of core concepts.

Lewin's lectures from Courses 8.01, 8.02, and 8.03 have quickly become favorites of Song's, and in his opinion, were a central part of his first-year physics experience. In fact, he credits these lectures with changing his whole outlook on education. "After my exposure to Professor Lewin," Song explains, "I don't study my notes as much anymore. I take a blank piece of paper and try to answer a fundamental question or problem. If I can't, I put it to a friend. When that breaks down, we turn to books or to someone more able. His lectures have made me understand that it's not knowledge alone that's important, it's how you are able to use it."

The lectures, Song adds, have also made him more trusting of his own abilities. "Lewin's lectures never fail to leave me in awe of physics. As a result, I feel more like a physicist—and that makes me feel more confident."

The MIT OCW web site has also had a profound effect on Song's study habits. "One thing MIT OCW has made me do," he explains, "is study constantly. Maybe study is the wrong word. I would say it's become easier to enquire constantly."

Student, Ireland

Currently in his third year of Ph.D. studies in information technology at the University of Ireland at Galway, graduate student Alan Ryan has spent the last several months working on background material for his thesis, which deals with fault tolerance at the virtual machine level of the Java software program.

Ryan's Ph.D. program includes an extended period of research and a dissertation, but no formal classwork. So while Ryan has had frequent and intensive meetings with his supervisor on his thesis topic, he has had little opportunity to attend lectures on core subjects. Because of this, he has occasionally struggled to find clear explanations for complex mathematical concepts.

One day, in passing, a fellow student recommended that Ryan take a look at MIT's OpenCourseWare. Although Ryan was intrigued by what he saw there, he initially gave the Web site little more than a cursory glance. Several weeks later, though—in the midst of his literature review—he found himself stuck on the concept of differential equations. He returned to MIT OCW, and was excited to find a reference to several lectures on the subject by MIT Professors Arthur Mattuck and Gilbert Strang. He immediately watched the Course 18.03 – Differential Equations video lectures on his computer, and was stunned by the professors' ability to explain, in only 45 minutes, material that he had been struggling with for weeks.

"Just like that, my problem was solved," Ryan says. "Apart from getting me out of a tight spot, this has changed my whole outlook. I had always intended to pursue math to a post-graduate level, but felt a little intimidated by it. If the difficult stuff can be explained this clearly, maybe it won't be as difficult as I had imagined."

Ryan has also appreciated the convenience of having the lectures at his fingertips. "This is really easy to use at my own pace," Ryan comments. "I can watch the lectures, pause to reference items as I need, and replay the tricky stuff. The level was just right, too. They made very fair assumptions about prerequisite knowledge, erring on the side of caution, if anything."

Ryan plans to continue to use the site over the coming year, as he completes his dissertation. "I certainly intend to watch the entire video series of quite a few modules," Ryan adds. "And I plan to share the information, as well. I've already shown a friend of mine the material, and I have another few people in mind whom I know will appreciate the resource."

Student, Greece

A fifth-year civil engineering student at Aristotle University of Thessaloniki in Greece, Maria Karamitsou spent the summer of 2005 working at an institute of seismology, studying earthquake-resistant construction techniques.

Recently, however, she found herself focusing more on the behavior of water than of earth. During the spring semester, Karamitsou completed an intensive research project on different aspects of hydraulics, including water handling, the water cycle, reservoirs, filter banks, gates, and dams.

As she began work on the project, Karamitsou realized that she needed outside sources to bolster her research, and recalled that she had once heard about information being available on the MIT Web site. "I was searching for information for this project," Karamitsou explains, "and I remembered that once in the newspaper in Larissa, where I grew up, there was an announcement and an Internet address for OpenCourseWare. So I sent an email to MIT, asking them to help me — and they did. They told me where to search for information on the site, and which courses to look for, and it was very helpful.

"Course 18.327 – Wavelets, Filter Banks, and Applications had lots of information," continues Karamitsou. "I didn't find any videos, but I found lecture notes, handouts and slides from presentations, and some problem sets. It helped me a lot; I learned many, many things. I especially liked the fact that I saw many diagrams there. I was able to find almost the same information at my own university, but it was more theoretical. Sometimes I have a hard time with the theoretical style, and having all the information in mathematical style was very informative, and very helpful."

Karamitsou has not yet had the opportunity to use MIT OCW as a complement to her other courses, but she plans to take advantage of it in the near future. "This coming semester," Karamitsou explains, "I'm taking some courses on concrete. I have already searched for this on OCW, and found many courses in this area, so I'm sure that that is going to be a big help."