

t-Learning for Lifelong Learning: Combining Television with e-Learning

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Abstract:

Television has been around for many years and it's still ubiquitous. However, since the advent of computers and the Internet, it has been pushed to the sideline as a medium of teaching and learning. Yes, television has been a primarily one-way medium so far that has been abhorred in this day of touted constructivist learning. Yes, I am a strong believer of interactive learning, learning, collaborative learning and constructivist learning, but I also believe that television be more than mere a medium of passive entertainment. Today's digital television can offer very high quality video with many features which have not been fully utilized yet due to their commercial viability. In addition, television and the Internet have been converging; you can watch television programs on your computers with television tuners; television sets can be used surf the Internet if they are connected to the Internet; and mobile phone devices can be used to watch "one-seg" television programs. Technically the beauty of television lies in the fact that it does not have to compete with many other services in terms of its bandwidth though the limitation still exists.

Besides those technical advantages, television has many other advantages. First of all, it's the medium everybody is familiar with, including senior citizens and those who are not well with computers and the Internet. People also tend to trust what you see on television rather than on the Internet. It can offer rich contents with high-quality video and audio that can motivate viewers. Though the above are advantages television has over computers, the lack of is a serious drawback of television as a learning medium. In this paper, the ways to overcome such lack of interactivity and still make most of the television medium will be discussed.

Sub-theme #4: *Future Directions, Spaces and Possibilities in ODeL.*

Keywords: *t-learning, lifelong learning, open learning, television, e-learning, Japan*

Introduction

Television was the medium of instruction for many years at open universities around the world. When the U.K. Open University (UKOU) was established, it extensively utilized television broadcasts to supplement their print-based materials through the partnership with the U.K.'s national public broadcaster, BBC. At UKOU, the television broadcasts had never been the primary instructional delivery method and had been used primarily to raise public awareness of the institution for student recruiting purposes and for motivating students to study, according to the late Robin Mason in the interview the author conducted on April 24, 2008. However, the use of television was perceived as the primary feature of UKOU by the governments in other countries in establishing their own open universities in their respective countries. Those open universities were established using television broadcasts as the primary mode of instruction as it was considered by policy makers to be the most effective way to reach mass audience throughout the country; hence providing regular public with a wide access to higher education.

In Asia, Allama Iqbal Open University in Pakistan, China Radio and Television Universities (CRTVU; recently it has changed its name to the Open University of China), Korea National Open University (KNOU), the University of the Air in Japan (it changed its English name to the Open University of Japan in 2007), Sukhothai Thammathirat Open University in Thailand, Indira Gandhi National Open University (IGNOU), Universitas Terbuka in Indonesia, and Anadolu University in Turkey, all used television broadcasting to deliver instruction.

Though UKOU had never really focused on the delivery of lectures in its use of television broadcasting as BBC emphasized the variety of formats in educational television, the open universities in Asian countries including Japan used television broadcasting mainly for delivering lectures as it is the most economical way of producing television programs and also probably because the lecture formats are very common in traditional university classrooms in those countries. Though many open universities in Asia have recently moved their focus away from broadcasting and provide education through more flexible ways such as multimedia learning and e-learning, there are some open universities that still focus on broadcasting as the primary means of delivering instruction.

The Open University of Japan (OUJ, formerly known as the University of the Air in English until 2007) was established in 1983 and began its instruction via television and radio broadcast in April 1985. After over 25 years of its operation, the primary instructional delivery method at OUJ is still television and radio broadcasting. In the following, the detailed account of production and delivery of broadcast materials is explained.

Delivery of Broadcast Programs at OIJ

As mentioned before, since its inception, OIJ has relied on broadcasting mediums as the main mode of instructional delivery. Though it has the mission “anytime, anywhere, anybody,” the television broadcast of the lectures was initially limited to the Tokyo metropolitan area until the broadcast through the CS (commercial satellite) digital service was started in January 1998. The CS broadcasting service has the nationwide footprint and its reception is free; however, in order for a household to receive the CS broadcasting service, it has to install a special satellite antenna and CS antennas are not as popular as the other kind of satellite services, BS (broadcasting satellite). Though many cable television operators relay the CS signals, households still have to sign up for the service.

In Japan, analogue television service was virtually terminated in July 24, 2011 except some areas where switching to digital services was delayed due to the unexpected disaster in March 2011. The number of households that can receive BS digital signals is expected to increase dramatically in the next few years as the newly manufactured digital television sets now have the built-in BS antenna. OIJ started its BS digital broadcasting service in October 2011, which made the OIJ signal more viewable by millions of households outside the Tokyo metropolitan area where the OIJ digital terrestrial service covers. It required a tremendous investment in switching the transmission facilities from the CS broadcasting to BS broadcasting, but OIJ hoped it would give a significant advantage in terms of its visibility.

With a superior compression technology, one regular digital television channel can carry one high definition program or up to three regular definition programs. With the increasing demand of course offerings, OIJ is planning to make a full utilization of these simultaneous broadcasting of multiple programs. However, with the tight allocation of budget that is foreseeable in the future, it'll become the trade-off between the quantity of programs and the quality of each program.

What is unique about OIJ among all open universities in the world is that OIJ owns and operates its television and radio stations which OIJ has to fill their airtime by themselves. Other open universities that utilize or used to utilize television broadcasts as an instructional delivery, including UKOU, bought or leased the airtime from national broadcasters for their instructional programs. OIJ is the only open university in the world that has its own television and radio station. This, in my opinion, is increasingly becoming a bottleneck for innovation at OIJ as a major portion of its budget has to be set aside for production of broadcast programs, maintenance of the facilities, and operation of the stations.

In addition to the broadcast delivery of lecturers, OIJ also has sold videotapes and

audiotapes (nowadays DVDs and CDs) of recorded lectures through its subsidiary, the Society for the Promotion of the University of the Air (SPUA). As students have free access to those materials, the purchasers include municipal and school libraries and college teachers who want to use those materials in their classes. As discussed later, a significant percentage of television lecture programs are now made available online to those registered students through the student portal though the video clips are only available as streaming video and not as downloadable video clips.

Production of Broadcast Programs at OUI

As for the actual production of broadcast programs, in the early days of OUI history NHK (the only public broadcast network in Japan) and TV Asahi (a commercial television network in Japan) were assisting the production. But, gradually TV Asahi withdrew and NHK had become the sole technical support provider. Because of this, the relationship between OUI and NHK has always been rather strong, and many technical people for video production at OUI come from NHK. In addition, NHK Educational, a subsidiary of NHK, assists production of television lecture programs at the television studios located in the campus of the Open University of Japan.

OUI started producing all the television programs in digital format in 2006 when it started digital terrestrial broadcasting. It also started production in HDTV format and since then it has been expanding the number of programs produced in HDTV format. Some OUI programs take advantage of the HDTV format and offer high quality visuals. In addition, digital broadcasting allows providing additional data information and OUI is planning to provide supplemental information to facilitate the understanding of the television lecture program via such data channels.

Making an OUI broadcast lecture course usually takes three years. Usually a proposal is submitted in spring and then the decision is made in summer. Then, in fall course team members meet for the first time to discuss the general outline of the program. A course team usually consists of at least a chief lecturer who is usually a full-time faculty member of OUI, a producer who is responsible for overseeing the entire process, and a director who is responsible for the actual production process of the program. Directors are usually those experienced in directing educational programs in NHK. They will spend the next eight to nine months to develop detailed course outline and then spend one year to actually produce the program.

A course usually consists of 15 45-minute video programs or audio lecture programs which are usually broadcast one 45-minute program per week. Once the programs are made, they are expected to be broadcast for the minimum of four years. In 2011, a total of 330 course programs (169 television programs and 161 radio course programs) were broadcast during the first semester (from April 1 to July 21) and 331 programs (170

television programs and 161 radio programs) were broadcast during the second semester (from October 1 to January 20). Most of the programs are broadcast twice a year.

During the off-period season between the semesters, a series of course programs are run consecutively daily and some special programs that are not part of the curriculum are also broadcast. These special programs intend to increase the visibility of OIJ programs and explore the potential needs of new programs. Out of the 331 programs which were broadcast during the second semester, 71(21.5%) of them (36 television programs and 35 radio programs) were newly introduced programs. On average, 18 million yen (roughly 160,000 Euros) is spent on producing one course of television programs (i.e., 15 x 45-minute programs).

In the early days of OIJ, television programs were made by filming the actual scenes of classroom teaching, but the style has changed to focus on a teacher talking directly to the camera. It has been considered that in this way a learner who watches those programs may feel more like being directly talked to by the teacher instead of observing a classroom interaction as the third party. In addition to the talking head of the teacher, photographs, video clips, computer graphics, and tables and charts which are printed on a board are often used to supplement the lecture.

Most television programs are produced in the studio located in the main campus of OIJ, but some programs are filmed at an appropriate location outside the studio. This method is usually used when the theme of the program requires filming of actual operations of something or interviewing of people who cannot be asked to come to the main studio such as those who reside outside the country.

Recently, a budget production method was also introduced for some courses. It is mainly due to the financial pressure to cut the cost of production of broadcast programs and the desire to keep the same number of television programs. In this newly introduced method, the number of cameramen is reduced to zero and the camera is remotely operated in the control room. In addition, the visuals are made mostly by the teachers themselves instead of being professionally created by graphic artists. The use of copyrighted materials is also strongly discouraged and Chroma key is used as the background instead of an elaborate physical set in the studio.

Convergence of Television and the Internet

At present, the utilization of the Internet for teaching and learning at OIJ is very limited. OIJ started putting streaming video of some of its television lecture programs online in 2008, and starting this year all the newly created courses are to be made available online. In 2011, 75 television courses (about 40% of the total television courses) are viewable online to students as streaming video.

The efforts have been made to increase the number of video lectures available

online; however, the issue of copy rights is still the major hindrance to making television programs viewable online as most copy right clearances in the past were made only for domestic limited-time broadcasting and not for the unlimited Internet broadcasting. It is expected to cost about additional 160 million yen (i.e., approximately 1.4 million Euros) to clear copy rights for all the 180 courses to be made available on the Internet.

Nowadays, for those programs which have not been able to clear all the copy rights for the materials appearing in the program, the strategy of blocking the parts of the programs that contain the materials without copy right clearance was started to be used instead of totally excluding the entire course from making it available online.

There are also some unofficial videos of lecture programs having been placed online in such sites as YouTube and Nico Nico Douga (i.e., a Japanese video sharing site that allows members to place comments on the top of the video screen.) However, these are the ones recoded off from the television set by regular viewers and not the official version of the programs.

Though television is a good medium to reach ordinary citizens without any additional cost for viewers and to present high-resolution video and audio, the biggest limitation of the broadcast television as an educational medium is that it is a one-way technology. However, digital television broadcasting technology offers the ability to provide some interactivity for audience, though the technology has not been widely utilized so far.

Digital television sets nowadays are equipped with an interactive communication system through connecting to the Internet via FTTH (Fiber To The Home) or Asymmetric Digital Subscriber Line (ADSL). With the use of the interactive capability, viewers can select a response by pressing one of the colored buttons on the remote control. Applying this to education, the viewers (i.e., the learners) can take short quizzes while watching the lecture programs or respond to some questions the teacher asks during the program, and the responses can be calculated and presented to the audience in real time. It is even possible to have security built into the system so that the responses can be recorded for the student to earn points toward the course completion.

Today videos are ubiquitous even on the Internet as seen in the popularity of YouTube and iTunes. Videos on the Internet have the advantage of being able to watch them at the time and location convenient to the viewer, except streaming videos that are transmitted in real time. However, the quality of the video on the Internet at present is still much inferior to that of the broadcast digital television due to the limitation of the bandwidth and not guaranteed quality of service (QoS). Digital television sets that are connected to the broadband such as fiber optic cables can offer video on demand, though to this day it has been limited to pay-per-view movies as it is very costly to

implement the system for it.

Whatever limitations we currently face may be overcome in the near future when the next generation network based on IPv6 is widely implemented and IPTV becomes the reality. Then, the distinctions between television sets and computers as hardware devices and between television services and the Internet services as video services will start to blur. Television broadcasting itself will not be limited to just video, but it can combine video and text in an interactive format. The interactivity supported by high-resolution video and audio will become possible, then distance education utilizing such technologies will reach to the stage where it has never been imagined in the past. Though currently it seems farfetched to think of that being deployed in open learning, the future may arrive sooner than anybody imagines at this moment.

Conclusion

Technological potentials of digital television and the convergence of television and the Internet are promising for educational applications and will have a huge impact on the way distance education will be delivered in the future. Though recently television has been discounted as a one-way medium by many practitioners of distance education, what it can hold for the future has not been fully realized yet. However, the technological potentials can only be realized when it is accompanied with organizational transformations to make that happen. OUI, being the only university in the world that has its own television station, may hold the key to the future of distance education.