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Where does educational TV go?

45 years of educational television in Japan

To illustrate the development of educational programmes in Japan, NHK is taken as an example, tracing the evolution from the traditional range of programmes for schools towards a digital curriculum. This curriculum now offers in addition to TV programmes video clips, message boards and interactive contents.

2004 marks the 45th anniversary of the Japan Broadcasting Corporation (NHK). From the beginning of the Corporation's operation, one of its most important services has been provision of educational and cultural programming (ETV). In doing so, it has earned a reputation as one of the world's few channels specialising in education. As NHK-ETV prepares itself for its most recent challenge – preparation for broadcasting to children in the digital age, it continues to follow its initial programming goal – “to help foster richer minds, enrich life and promote culture.”¹

This article reviews major changes in NHK-ETV over the past 45 years and discusses its future direction with an emphasis on services provided to children.²

Initiation of broadcast services

The NHK launched its television service – today's General Television (GTV) – in February 1953. From its inception, NHK has tried to provide

a variety of TV programmes, including programmes for pre- and primary school-aged children as well as educational programmes for schools.

With the initiation of commercial stations in April 1953, television viewing became widespread and rapidly influenced Japanese society. In the midst of discussion on the nature of this influence as well as the merits and disadvantages of the medium, there was increasing demand to realise the educational potential of the “new media”, especially for children. The NHK considered carefully the role of TV as an educational tool, including a review of how radio was involved in providing educational services. A significant amount of time and thought were directed to developing plans to advance a form of television that would help create a new broadcasting culture. These efforts finally bore fruit with the launching of NHK Educational TV (NHK-ETV) on January 10, 1959. In his inaugural speech, the new President of NHK proclaimed that the main goals of ETV would be to promote equal opportunities in education; to help improve the level of national education and the liberal arts; and to strive to promote cultural development, public welfare and world peace.

Initially, total broadcasting time was 4 hours and 20 minutes daily. The morning period was devoted to programmes for schools, while evening programming targeted juvenile and adult audiences at home with a wide range of programmes, ranging from vocational, science, language and academic to art programmes. Later,

broadcast hours were extended and programmes diversified, including cultural and educational programmes for schools, pre-school children, and lifelong education. ETV began broadcasting around the clock in the year 2000.

Expansion of TV school broadcast programmes

15 minutes per day were devoted to school broadcasts for classroom viewing when television broadcasting first started in Japan in 1953. By April 1959, 3 months after the launch of the NHK-ETV channel, 35 school programmes were broadcast per week, accounting for 2 and a quarter hours of daily programming. *Science Class* was the first programme to offer grade-specific programming for pupils in grades 5 and 9. *Junior High English* and *Elementary School Social Studies* soon followed on the same model. Schools throughout the country rapidly adopted this televised curriculum.

There was remarkable growth in both the diffusion and use of school-oriented television programmes in the first five years of broadcasting. By 1964, more than 90 % of Japanese elementary schools possessed TV sets and the utilisation rate reached 73 % of the schools. The average number of television sets per school was still only 2.2, indicating that either TV programmes were generally utilised only by a limited number of enthusiastic teachers or that several classes watched at the same time.

In April 1963, NHK started regular broadcasts of high school correspondence courses targeted to working youth, housewives and the elderly. Classes delivered through ETV became an important means of learning for pupils who were able to study for their high school diploma while also holding a job.

Language courses for general audiences were broadcast by NHK-ETV from the beginning. Initial conversation courses in English were followed by courses in German and French. The period from the latter half of the 1960s to the early 1970s saw the largest expansion and major enrichment of NHK-ETV. By 1967, ETV had extended its broadcast hours from 6.00 a.m. to 12.00 p.m. The foundations for the present ETV programme genres were laid during this period.

While some commercial educational stations were active early in this process, by 1973 all had educational programmes and devoted broadcast time to general programming.

Introduction of new types of school programmes and strengthening of lifelong learning

During the 1970s, the number of TV sets present in elementary schools increased to roughly one television set per classroom. The sets themselves changed from black-and-white to colour. By around mid-1970s, more than 95 % of elementary and 50 % of junior and senior high schools were tuning in to broadcasts of school programmes. Science, social studies and moral education were the most popular subjects that utilised television in school.

In response to a controversy about a lack of diversity in the curricula, NHK began to explore the use of different contents for school broadcasts in the mid 1970s. Newly developed programmes included interdisciplinary curricula, such as environmental

and life education that transcended conventional school subjects (such as science, social studies, language, math, music, moral education, etc.). These new types of educational programmes were a precursor of today's Integrated Study Periods that, in and of themselves, are leading to the development of various new school programmes and digital curricula [see below].

Widespread diffusion of VCRs in schools throughout the 1980s triggered an increased use of school broadcasts, now in a recorded format, and also the increased use of video software developed as educational material and published by various private companies.

Since the latter half of the 1970s, interest in lifelong learning, too, has increased in Japanese society and NHK-ETV started to pay attention to the changing interests of its viewers in order to meet their changing needs. Thus, in April 1982, NHK decided to reform the programming policy of its ETV Channel. More emphasis on lifelong learning led to the introduction of new types of programmes: easily understood art programmes; portrayals of the lives of company workers; interviews with people from the world of culture, theatre and other artistic endeavours; foreign documentary features; and a large variety of hobby programmes, including *A Special Course in Fishing*, *Introduction to Personal Computers*, *Best Golf*, etc. These programmes were concentrated mainly in the evening hours, together with conventional programmes in adult education such as *NHK University Course* programmes.

Various ideas were proposed that sought to eliminate the stuffy image of NHK-ETV's educational programmes. Changes in the contents and style of presentation rendered the programmes far more interesting than conventional educational programmes, for example, in history and science programmes directed at



Okome – Rice (integrated studies for 5th and 6th grades)

general audiences. This trend was extended to school-oriented television programmes and as a result they became more realistic in style, friendlier in general atmosphere with a more child-oriented structure. Greater emphasis was placed on encouraging children to engage in active self-learning by demonstrating how learning can be fun. Adult presenters sought to be viewers' friends rather than teachers or specialists in subjects. Child presenters/reporters have been given important roles in providing guidance in programme development. These changes in contents and the style of school broadcasts sought to encourage children's self-learning at home and/or self-learning by use of programme-related digital materials.

New trends in ETV programming and enrichment of programmes for children in the 1990s

The NHK broadcasts various kinds of entertainment and informational programmes for after school viewing at home, in addition to a wide range of educational programmes for children at school. Intended to have direct educational value, all these programmes aim to assist children meet the challenges of growing up. Until the end of the 1980s, most of the home-directed programmes were broadcast on GTV while school-oriented programmes were broadcast on ETV.

Here it is important to note that the existence of two television channels within the nationwide public broadcasting network has from its inception provided sufficient hours of programming for different age groups of children, with preschool children established as a special target audience. Commercial networks, too, have played a significant role in Japan from the very beginning in terms of children's programming for home viewing.

A long history of TV programmes for preschool children as the special target audience, separate from children's programming in a general sense, is a distinctive feature of Japanese TV, and especially of NHK. The NHK started two regular programmes in 1956 for viewing in nursery and kindergarten schools. *With Mother* was initiated in October 1959 with the intention that it would be viewed by preschool children and their mothers at home, and accordingly has been viewed by three generations of children and mothers. Later, seven regular preschool programmes were offered by NHK and a number of preschool TV programmes were broadcast by commercial stations in the 1970s following the introduction of *Sesame Street*. However, most of commercial stations' programmes for preschool audiences ceased broadcasting by the beginning of the 1980s. In this regard, in comparison with the situation up to the beginning of the 1970s, there was a decline in the diversity of programming for children as a whole in Japan throughout the 1970s and 1980s. This is due mainly to the rapid growth of animated cartoons and superhero/metamorphosis action dramas broadcast by commercial stations. Actually these two genres of children's programmes have been by far the most popular TV programmes among elementary school children in Japan for a long time.

Given this situation, it was deemed necessary at the outset of the 1990s

to improve the quality of TV programmes for children and to enrich programme variety. NHK responded to this need by taking its role as a public broadcaster even more seriously. It did so by allocating more time-slots already devoted to children's programming under a clear umbrella title on its ETV Channel and expanded its services.

In 1990 a time allocation system, or zone programming, was established by the NHK-ETV Channel. This enabled development of varied, distinctive programmes for different target audiences, for both children and adults. Thus, following daily life patterns, morning broadcasts begin with programmes for older children and gradually move on to those directed to children in lower age brackets, while the reverse occurs in the late afternoon/early evening.

Under this reform, most of the NHK's children's programmes on GTV were moved to the ETV Channel to make it easier for children to find their programmes in one place. Since then ETV has become a channel for children, not just for study at school, but also for enjoyment at home with programmes that contain both entertainment and intellectual contents.

ETV programming by major genres

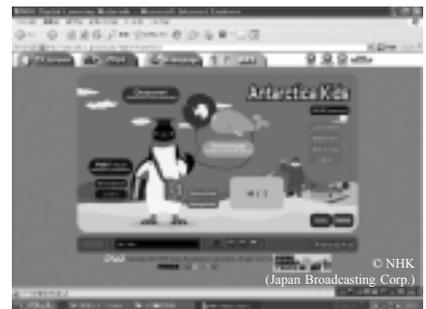
- School broadcasts directed to kindergarten, elementary, junior and senior high schools were developed according to curricular guidelines.
- Senior high school courses available to pupils studying through correspondence courses for school leaving diploma are also viewed in senior high schools and by individuals at home.
- Cultural and liberal arts programmes deal with culture, literature, history, science and society. Hobbies and practical knowledge programmes address a wide range

of areas useful for daily life such as cooking, fashions, health, etc.

- Arts and performing arts focus on classical music, opera, Kabuki and Noh performances.
- Language courses in various foreign languages and Japanese focus on practical conversation and learning about different cultures.
- Legal and welfare programmes provide information useful to various minority and age groups, for example the elderly, and include a daily news bulletin in sign language.
- Programmes for preschool children and their mothers use a variety of formats – animation, foreign dramas and audience participation with elementary school children in the studio.
- News programmes include participation of experts who add commentaries on social and world affairs (n. b. most news programmes are broadcast on GTV Channel).

Development of educational services for schools in the digital era

Today, NHK-ETV presents a comprehensive schedule that consists of specialised programmes of different genres targeted at different age groups. Audience feedback indicates that they identify ETV as the channel that they choose for the specific purpose of satisfying their intellectual curiosity. On the 40th anniversary of the NHK-ETV in 1999, the channel reaffirmed



Antarctica Kids (best prize for the Web Division in Japan Prize 2003)

that education of the next generation was to be its major goal for the coming years. The need to renew the current school broadcast programmes was cited as one of its most important tasks.

Overall status of the development of NHK's Digital Curriculum & learning materials for school education

Although the educational use of television broadcasts has been in decline in relation to the widespread use first of VCRs and then computers, TV still has an important role to play in schools.³ The transition from the 1980s to the 1990s found an increased use of computers in education. Accordingly, since the mid-1990s, attempts have been advanced to combine use of school broadcast programmes and the Internet as a new ETV service.

Integration of new technologies into the classroom progressed rapidly under the auspices of the MEXT (Ministry of Education, Culture, Sports, Science and Technology) Millennium Project. The aims of this project included connecting all public elementary and secondary schools to the Internet by 2001/02, connecting all classrooms to broadband networks, and training all teachers to use computers for teaching various subjects to their pupils in their classroom by 2005/06. The overall goal was to organise an environment in which teachers and pupils in every grade in every class can use computers connected to the broadband. Further, the basic direction then was to encourage the use of a combination of different media, not just television and radio programmes.

With such new media environments in schools in mind, NHK has been developing digital learning materials to supplement the programmes broadcast, including use of video

clips, interactive sites, and message boards. With the spread of broadband networks, all these media can be integrated and delivered seamlessly on the Internet. In April 2001, NHK released on the Internet the first digital curricula – *Okome* (Rice), an integrated approach for study in the 5th and 6th grades; and, *Japanese History* for study in 6th grade social studies. 3 additional digital curricula were added the following year: *Kawa* (River, integrated curriculum for 4th, 5th and 6th grades); *A World of Wonders* (science for 3rd grade), and *BIKKURIKA* (Wonder Science for 4th grade).

Contents of NHK Digital Curricula

The most important characteristic of the NHK Digital Curriculum is the availability of 4 media for the delivery of content: TV programmes, video clips, interactive activities, and the message board. All 4 can be accessed on the same television screen by simply selecting an appropriate tag. This design is standardised across all NHK Digital Curricula so that teachers and pupils can use the same functions, even in different subjects or grades (examples can be accessed at <http://www.nhk.or.jp/school>). In doing so, NHK has sought to build a hypermedia space that is an open-ended learning environment.⁴

TV programmes

By selecting the “TV programme”, viewers can watch school programmes that have been broadcast on television on the Internet at any time. Written information including an outline of each programme is available. In general, 20 programmes are provided each year, each a quarter of an hour in duration.

Among the advantages of this provision are that, first, teachers can view and analyse the programmes before they introduce the programmes to



Okome – a digital curriculum example

their pupils. Second, pupils can also follow their interests and progress ahead or they can spend more time reviewing what they do not quite understand. Third, there is no need to adjust school schedules to match broadcast times nor is it necessary to take into account differences in contents or pacing in the use of school textbooks as teachers can integrate the programme when appropriate.

Video clips

Each programme is supported by a series of 2- to 3-minute video clips accompanied by written information. Each clip presents the information in a straightforward, general manner and may be accessed at any time from other programmes and curricula. Use of short video clips seems to be quite attractive to teachers, since they sometimes find difficulty using the full 15-minute television programme during the rather limited number of school hours allocated each subject. Video clips are also used directly by pupils in their own learning programmes.

Interactive activities

In this mode, different kinds of interactive activities have been prepared to supplement the television programmes. More than 200 educational quizzes and games are available for children to use in order to review the contents of TV programmes and to advance their own learning in relation to NHK school TV programmes. Teachers are expected to encourage children to pursue their own learning

by selecting from among the activities according to their interests. For example, on the “Antarctica” website, which received the best prize for the Web Division in the Japan Prize 2003, there are interactive activities such as *Ask! Virtual Penguin Professor* and *Live Data*. While at *Challenge! Penguin Rescue Game*, children can learn about problems in the Antarctica by rescuing penguins with other rescue members online on the Internet.

Message Boards

“Message Board” enables pupils to share information and exchange opinions. There are several different kinds of “Message Boards”: *Let’s talk about the programme!* focuses on the contents of each programme; *Let’s talk in the meeting room!* is for discussion of specific issues; and *Send a report!* is for presenting the results of research by pupils including visual data, for further communication with other schools. As of 2004, there were 13 programmes with “Message Board” capabilities; in science, social studies, moral education and five Topic Studies including “Rice”, “Antarctica”, and “Only One Earth”. In order to maintain children’s privacy and encourage meaningful, education-oriented communication among participants, only schools registered by the teachers have passwords to access the Message Boards. Also, a group of university members who have been involved in developing these new educational materials have reviewed these “Message Boards” as a responsible body.

NHK assistance to teachers

Besides the 4 media sites accessible for each programme, a variety of useful information is made available to teachers on *NHK School Online* including, for example, sample lesson plans and worksheets developed by school teachers as well as supplementary information including a list of

websites and reading materials related to each topic. Such services will likely prove to be very helpful to teachers as new learning topics are introduced under the recent education reform and until textbooks are issued for new curricula such as in media studies, local area studies, topics related to aspects of human life, the environment, etc. Communication between teachers and the NHK has become increasingly important. The “Message Board for Teachers” enables teachers to exchange ideas about how to develop their teaching methods in the new media-rich learning environment. The NHK site also contains the annual catalogue of print and digital materials available as well as a broadcast schedule of school related programmes (n. b. programmes are broadcast three times a year for each grade of elementary schools as well as for junior and senior high schools and kindergartens/nursery schools). By registering for the NHK automatic bi-weekly mailing service, teachers can also receive news regularly on particular TV/digital curricula, examples for their use in schools, information about upcoming events related to “school and media”, etc.

Discussion about further developments of the use of media in schools

Notwithstanding these important advances, a number of challenges remain. First, while almost all schools are now connected to the Internet, not all teachers and pupils can access such computers whenever they would like to use it in classes. Provision of the hardware necessary for full utilisation of the Digital Curriculum, such as viewing visual images, has yet to be completed in many schools. There are not enough teacher-designated sites that enable teachers to access computers at school, therefore many have to use their own home computers for class preparations. And, de-

spite opportunities for specially designed training, many teachers do have difficulty using computers and the Internet in their classes with confidence.

Finding appropriate learning materials from the abundance of information available on the Internet, too, is one of the obstacles to teacher use of computers in their classes. If the NHK Digital Curriculum, which is based directly on Japanese school education curricula, could successfully reach these teachers, they undoubtedly could be assisted by information available online. Over the past several years the NHK has provided information about its ongoing development of digital learning materials through various different ways, including providing demonstration lessons to teachers on use of the NHK Digital Curriculum, by establishing the conditions for broadband reception in various parts of Japan, and by also producing additional TV programmes for teachers that include examples of schools who have had experience in utilisation of such materials. As the government proceeds with its plan to complete provision of broadband connection to schools throughout the country, more widespread demonstration of the newest NHK digital learning materials through use of schools that have successful experiences will be of great assistance, just as was the case when utilisation of television was introduced into the school 45 to 50 years ago.

Teachers today do not have common media experiences. Generally speaking, veteran teachers have rich experience in the integration of television in the classroom, but they are not very active users of the computer in their teaching. On the other hand, younger teachers who are very interested in advancing use of the computer have relatively less experience in the use of televised programmes. This being the case, it will be important to develop a variety of innovative approaches and examples

of utilisation of digital curricula so that teachers will be able to understand in demonstrable ways the many possible ways in which a variety of learning materials, including television programmes, can be combined for use in their classrooms.

Analysis of interviews conducted recently by the NHK Broadcasting Culture Research Institute with teachers who have not been especially involved in the use of new media reveals that initial orientation of teachers should be provided that will enable them to attain a holistic understanding of the Digital Curriculum with follow-up guidance in use of the website since there is significantly more information on each website in comparison with a TV school programme. If teachers have the impression that they need more preparation time to use the new materials, they will not show further interest in using the new materials, since teachers are too busy for so many tasks besides preparing for their class lessons.

The NHK continues development and testing of learning materials through pilot studies in order to provide schools with the capabilities necessary for use of the NHK Digital Curriculum by the time all classrooms in Japan are connected to broadband in 2005/06, according to the Government plan. According to this plan, the Digital Curriculum will be able to be accessed on TV at anytime with any type of digital television by 2007 and then such capabilities will be diffused throughout the country by 2011.

In October 2003, the Investigative Commission for Utilisation of Digital Terrestrial TV Broadcasting was established within the Ministry of Education, Culture, Sports, Science and Technology. The Commission began to explore the potential of digital television for school education, assuming that the transition from analogue to digital broadcasting would be completed as scheduled in 2011. The Commission's report includes an evaluation of the roles tel-

evision played in Japanese school education and concluded that the contribution of TV to education may be even greater as a result of the shift from "conventional viewing of television" to "use of TV" through digitalisation. The Commission suggested that there is a need to advance a plan for dissemination of media environment to schools that will provide teachers with various examples of the effective uses of digital TV in schools, exemplars of new lesson models and means of coping with copyright issues. The Commission concluded that if all the educational materials developed will be available on television, then it might be easier for teachers to use than Internet access. ■

Revised by Peter Lemish

NOTES

- 1 An educational TV channel is defined as one in which educational programmes make up more than 50% of the programming, and cultural programmes more than 30%. With quasi-educational TV channels, the percentages change to more than 20% for educational programmes, and more than 30% for cultural programmes.
- 2 The following publications in English will be helpful to understand the overall situation of educational television and radio services along with a brief history and some of the basic features of Japan's broadcasting systems:
NHK Radio and TV Culture Research Institute (1977). *50 Years of Japanese Broadcasting*. NHK Broadcasting Culture Research Institute
NHK (2002). *Broadcasting in Japan: Twentieth Century Journey from Radio to Multimedia. Adaptation from the Japanese version of The History of Broadcasting in the Twentieth Century, published in 2001.*
NHK (2003). *50 Years of NHK Television.*
- 3 The NHK Broadcasting Culture Research Institute (previously The NHK Radio and TV Culture Research Institute) has conducted an NHK School Broadcast Utilisation Survey since 1950 with the goal of obtaining basic information for use in the planning, production, and programming of NHK school broadcasts and educational services in general. This survey is a nationwide questionnaire conducted on a regular basis by sampling. The most recent survey have covered a total of 4200 kindergartens, nursery schools, elementary, junior high and senior high schools. The results of the 2000 Survey conducted at a time of transition to the digital age are available in English in: Kodaira, S. I. & Takahashi, Y. (2001). "New Developments in Media Use in Schools: From the NHK School Broadcast Utilisation Survey, now its 50th Year". *NHK Broadcasting Culture & Research, No. 17 (Summer 2001).*

4 Information about current NHK school broadcasting and digital learning materials is available at NHK School Online website:
<http://www.nhk.or.jp/school/>
[partially in English].
For additional information available in English see References.

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