ELECTRONIC MEDIA LEARNING MATERIALS OF INDIRA GANDHI NATIONAL OPEN UNIVERSITY, INDIA: An Analytical Study

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ABSTRACT

The establishment of the Indira Gandhi National Open University (IGNOU) in 1985 has been a milestone in the growth of higher education in India. A very special feature of the University is that a composite of several instructional methods in practice are aimed at giving effective support to distance learners. Self-instructional print materials are the mainstay of the courseware. Besides this, at the support centres, the learners attend a few face-to-face counselling sessions and get access to audio-video materials stocked in the library. Gyandarshan and Gyanvani, the educational television and radio channels broadcast programmes with academic content. The curriculum-based audio-video programmes developed by the University are supplementary in nature. This blending of traditional printed self-learning materials with electronic courseware is a conscious decision of the University which is intended to enhance the quality and effectiveness of learning.

Over the years, audio and video cassettes have made way for digital compact discs. Resultant development in information and communication technology heralded virtual campus initiatives of IGNOU, conspicuous among them being the creation of eGyanKosh, the digital repository of the learning materials of IGNOU. Nevertheless, majority of the academic programmes are not being provided audio video supports. The paper analyses the application of electronic media in IGNOU's course delivery platform.

Keywords: distance education, self-learning materials, electronic media, eGyanKosh.

BACKGROUND

Media, in the context of education, may be espoused as a communication delivery mechanism with its significance in our daily life. "Media refers to forms of communication and how knowledge is represented" (Panda 2006). Traversing through sculptures and pictorial writings for conveying messages we reached the printed media and subsequently the electronic media. Media, both print and electronic have always played a major role in our lives, not just for transfer of messages or synchronous communication but also as a device for storing information for the future. he term electronic media has attained diverse meanings over the passage of time. It has been defined in various ways. According to Euler and Berg (1998), electronic media are educational materials based on electronic information technologies (audio or video modules, computer aided learning modules, multimedia modules, databases, etc.) or electronic means used in communicating with the learners (telephone, fax, TV, radio, data networks etc.).

Greater Washington Educational Telecommunications Association (2004) defines electronic media as "media that require electricity in order to operate, function or communicate messages". In general, electronic media (EM) includes radio, television, computer, internet, hand held gadgets, etc. Most new media are in the form of digital mobile devices. Electronic media or the new media is nothing but information that is generated, processed, disseminated and accessed using any form of electronics or any electronic media equipment. Electronic (media) equipment processes and transports information to and from the user by means of electronic involvement.

The print media co-exists with radio and television in the internet era. However, electronic media is a favourite in commerce, entertainment, communication, health, education and industry. This is mainly for the reason that electronic media delivers and retrieves information rapidly and precisely in an easy and comprehensible manner. A large chunk of information can be stored in small electronic devices which can be reproduced and multiplied most accurately and economically in a short span of time. Electronic media devices can be produced in more environment friendly manner than manufacturing paper. The advantages do not end here. Electronic data does not wear down like paper. Moving visuals have greater appeal than printed pictures. In developing countries where illiteracy remains a bottleneck to development, electronic media has wide significance.

However, it should not be construed that electronic media calls the knell of a parting print media. Print shall remain as the mainstay in education for the developing world where electric power required to operate an electronic device is either not available or erratic. Moreover, electronic media, through its various forms, creates the opportunity for working out a judicious combination with print medium for efficient dissemination of knowledge.

Introduction of electronic media in education was a significant innovation in the progress of education. Schramm (1977) described technologies for instruction as Big Media and Little Media. The Big media meant the high cost large audience like the television and computers and the little media comprising transparencies and slides which are now a passé.

From 1987 to 1996, the Communication Division of the Indira Gandhi National Open University (IGNOU) produced curriculum based audio and video programmes. In 1996, the Communication Division was upgraded to the Electronic Media Production Centre (EMPC), and thereafter more number of audios and videos began to be produced. According to EMPC, "...in addition, freelance filmmakers have been empanelled and suitable programmes are also sourced from agencies such as UKOU, Transtel DW TV and RCI, etc." The decision to use electronic media besides print was envisioned 'to enhance the effectiveness of teaching-learning and for reaching a wider group of learners in remote rural, tribal and isolated places' (Panda 2006).

Though the University aims to reach all its distance learners through electronic media, the intent remains partially unfulfilled, as the audio-video courseware produced supplement the curriculum requirements only partially, the core course content being delivered through printed learning materials. This study reveals that there is inconsistency in the production of electronic courseware by IGNOU and quite evidently the printed self learning materials are taking over, jeopardizing the quality of distance learning.

Audio courseware and Gyanvani, the Educational FM Radio

Under the aegis of IGNOU, the first Gyanvani educational FM radio broadcast began in 2001. Since then the number of radio stations has increased to around 40. They are spread across the country in cities and towns. A Gyanvani FM radio station has a reach of around 60-80 km (apx). The Gyanvani stations produce audio programmes independent of the EMPC, regionally in several Indian languages; therefore its semi compliance to the curriculum requirements of IGNOU, as main medium of instruction in IGNOU is English and Hindi. Moreover, Gyanvani is not just an exclusive IGNOU radio platform.

Other stakeholders produce programmes covering various levels of education like primary and secondary education, adult education, technical and vocational education, extension education etc. Other aspects of learning, socially relevant topics and various facets of Indian culture are dosed into Gyanvani to make the programmes entertaining as well.

Table: 1 below shows the number of audio and video produced by the EMPC since beginning. This does not include the audio programmes produced at the Gyanvani FM radio stations.

Table: 1
Year-wise production of Audio and Video materials by EMPC, IGNOU

Year of Production	Audio	Video
1987-88	85	67
1988-89	115	81
1989-90	92	64
1990-91	54	50
1991-92	79	63
1992-93	113	71
1993-94	35	80
1994-95	32	36
1995-96	40	42
1996-97	14	52
1997-98	33	89
1998-99	103	124
1999-2000	189	122
2001	67	161
2002	58	144
2003	126	274
2004	13	69
2005	45	203
2006	209	208
2007		70
2008		830
2009		207
2010	24	241
2011	23	221
2012	367	660
Total	1916*	4229

***Excluding audio programmes produced at Gyanvani FM radio stations**
Source: Vice-chancellors's Reports and IGNOU Profiles, IGNOU, New Delhi

Video Courseware and Gyandarshan, The Educational Television

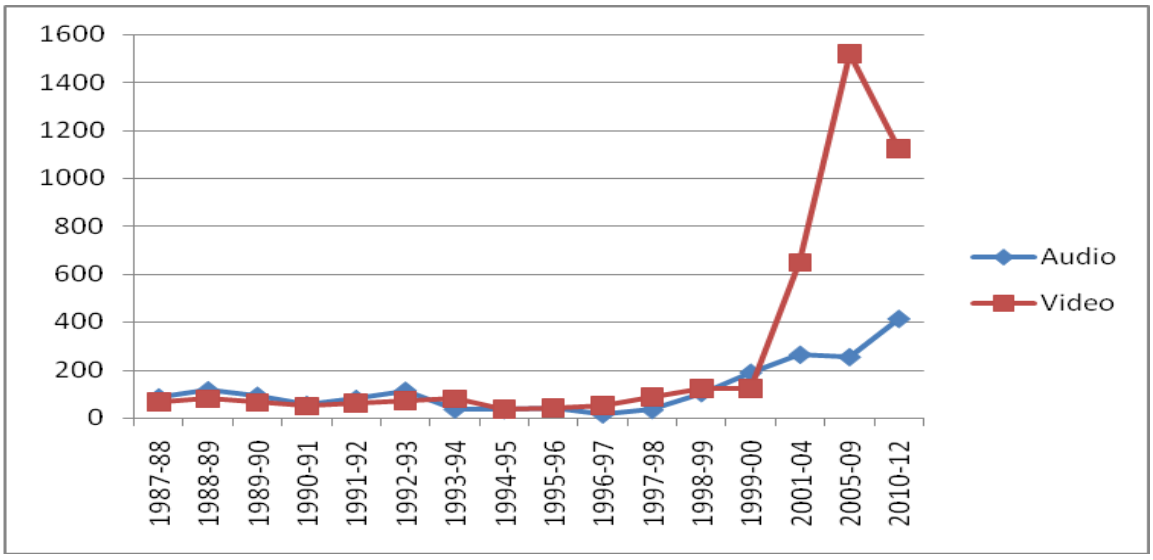
The television broadcasting of IGNOU video courseware began initially in 1991 through the national broadcaster Doordarshan's network. However, very few of IGNOU's video course material could find space on Doordarshan, due to miniscule time slot provided.

Gyandarshan-I was launched as an exclusive educational television channel of India in 2000. Edusat, the exclusive education satellite launched in 2004, helped IGNOU strengthen its video broadcasts through Gyandarshan. Since Gyandarshan channels are not transmitted terrestrially, the reach of the programmes is limited mainly to the urban households where cable/Direct to Home (DTH) facilities exist. The four Gyandarshan channels carry round the clock programmes which are educational materials produced by various agencies including primary and secondary, higher and technical education providers and a host of other open education institutes.

Audio and video compact disc productionin IGNOU: the current status

Besides broadcasting, the audios and videos are sent in compact disc form to the University's Regional Centres and Study Centres and are accessioned at the libraries along with printed books.
During 1987-1988, IGNOU produced 85 audio and 66 video programmes. The cumulative figure of audios and videos produced till 2012 is 1916 and 4229 respectively. The graph below indicates the trend in increased production of video programmes over the years.

Figure
Comparative representation of Audio and Video production in IGNOU since beginning



IGNOU produced 984 audios during the first half, i.e. from 1987 to 2000. During the second half, between 2001 and 2012, only 932 audio programmes were produced. The number of audio programmes produced has reduced. Various explanations can be given for this trend.

One reason could be that video courseware has greater appeal than audio. Secondly, as Gyanvani radio stations began producing audio programmes in multiple locations in the country, EMPC began concentrating mostly on video modules. The number of video programmes has been steadily increasing since production began in 1987. The number of videos produced during the first half of production period between 1987 and 2000 is 941, whereas the number has almost tripled to 3288 during the second half between 2001 and 2012.

Interactive Radio Counselling and Tele-conferencing

Gyanvani FM radio stations and Gyandarshan II television channel are further utilized by IGNOU for conducting its regular weekly Interactive Radio Counselling (IRC) and Teleconferencing (TC) programmes respectively. IRC and TC programmes facilitate synchronous communication taking place between distance learners and the provider through radio and television respectively. The conferencing enables the participants to communicate and respond in real time. IRC facility is being provided to enable IGNOU students to interact with the faculty, academic counsellors and students' support staff.

The IRC sessions are conducted by Gyanvani FM radio stations at least once a week.

Table: 2
Number of Video programmes of various Schools of Studies available on YouTube

Sl No	Schools of Studies	Videos on YouTube
1	School of Agriculture	111
2	School of Computer and Information-on Sciences	177
3	School of Continuing Education	117
4	School of Education	85
5	School of Engineering & Technology	188
6	School of Extension and Development Studies	29
7	School of Foreign Languages	13
8	School of Gender and Development Studies	5
9	School of Health Sciences	382
10	School of Humanities	224
11	School of Inter-Disciplinary and Trans-Disciplinary Studies	29
12	School of Journalism and New Media Studies	51
13	School of Law	67
14	School of Management Studies	252
15	School of Performing and Visual Arts	70
16	School of Sciences	95
17	School of Social Sciences	291
18	School of Social Work	30
19	School of Tourism and Hospitality Service Sectoral Management	None
20	School of Translation Studies and Training	1
21	School of Vocational Education and Training	11

Toll free telephone facility is available to enable learners to interact with experts and facilitate synchronous communication. While interactivity is greatly infused through the one-way video and two-way audio teleconferencing conducted through Gyandarshan television channel, a distance learner can sit in front of the personal radio and participate in IRC.

However, for participating in a TC session the learner has to reach the Regional Centre or the select Study Centres where the facility of receiving the satellite signals is available.

Audio and Video Courseware in eGyanKosh

eGyanKosh is IGNOU's digital repository for storing, distributing and sharing its digital learning resources. The educational content finds open access through YouTube at http://www.youtube.com/user/egyankosh. Around 2300 courses and 2100 video lectures are made available through YouTube*Review of Literature*

Roy and Ghosh (2011) state that in India, one of the first serious studies in the area of educational television was conducted in 1956 by Mathur and Neurath. The report "An Indian Experiment in Farm Radio Forums" was published by UNESCO in 1959 to assist in the improvement of the use of the mass communication media. Singh, Mullick and Chaudhary (1994) conducted a study during 1989-90 which revealed that only two distance education directorates of the universities in India produced audio cassettes and two state open universities produced two to four audio cassettes per course. In the national open university, IGNOU, five audio cassettes were produced per eight-credit course. Regarding video cassettes, in two state open universities, one to three video cassettes were produced per course while IGNOU produced four video cassettes per eight-credit course. The audio and video cassettes, in all cases, were made available at the study centre libraries for students' use. Only about 35 percent of the students made use of the cassettes at the study centres.

A World Bank Report (1994) highlighted that though many positive results have been reported on a small scale, there has been no breakthrough in learning improvements because of application of Information and Communication Technology (ICT) on a large, replicable scale. Bates (1995) remarked that even in distance education that depends substantially on educational technology; there is more talk than action. Khan (1996) maintained that despite the potential of educational technologies and the evidence of their effectiveness, and the instances of successful and sustained application in many countries, educational technologies have not been as widely adopted as earlier anticipated.

In the first study conducted by the Communication Division of IGNOU (Basu 1996), it was revealed that the main purpose of the students visiting the Study Centres was for attending counselling sessions. The audio and video equipment available at the Study Centres were not put in use. The audio sets and TV/VCR were 'seldom' or 'never' in working condition. In some cases, the students could not find relevant cassettes. Sukumar (2001) has pointed out that Interactive Radio Counselling (IRC) is more effective than video shows at the Study Centre.

An analysis of the responses of a study (Devi, 2007) conducted among distance learners of Dr B.R Ambedkar Open University indicates that about 70 percent of respondents had never used audio-video materials, whereas only five percent had used it quite often.

Kumar and Rai (2008) conducted a study among IGNOU students on their utilisation of various electronic media made available by the university. 63 percent students pointed out that the various infrastructure facilities for teleconferencing available at their learner support centers are inadequate and needed improvement. 14 percent students listen to IGNOU hour programmes on a regular basis on Gyanvani FM and 47 percent students watch IGNOU slot programmes telecast on Doordarshan Channel- I. Gaba and Sethy (2010) highlight the fact that there are many technological instructions available with the IGNOU, yet these are not familiar to the learners. The facilities that IGNOU provides to its learners are mostly unknown.

Commensurate with the increase in number of academic programmes offered by IGNOU, the increases in the production of videos is minuscule. According to Das (2009), the number of video has been reduced to half (apx) between 2006-2007 and 2007 and 2008. One of the reasons for this could be due to adoption of a non-integrated/supplementary approach of using video in the overall instructional design. Das (2009) further states that 'over a period, it is no more a mandatory task for the teachers of IGNOU towards the production of video programmes, although IGNOU has a policy of producing one video programme per course. In a study conducted by Kumar and Sharma (2009), it was highlighted that 78% of learners evaluated the help extended by various media as poor.

There is no demand for video programmes from the learners due to their poor notion of video helplessness in understanding the subject. Cumulatively 69% students evaluated various media adopted in their course as non-relevant, even though nearly 50% agreed and strongly agreed that learning through audio/video was more interesting than printed self learning materials. The positive finding was that 80% of the learners felt the use of electronic media effective in improving the interest in studies. As a problem faced by distance learners Kumar and Sharma (2009) reported that relevant audio and video as per requirement of the course are not available. So much has not changed over the years.

In a study conducted among select students of IGNOU, Gaba and Sethy (2010) pointed out that some learners expressed that study through ICT will not enhance their performance in examination. Some others remarked that DVDs/VCDs received by them are of very ordinary quality.Dikshit, Gupta and Garg (2012) acknowledge that this innovation in education was "...initially introduced by the UK Open University (UKOU) using multiple media instructional package (wherein face-to-face, print and technology components were integrated). Despite the complex environment, within which it operates, Indira Gandhi National Open University (IGNOU), imitated UKOU model, albeit with significantly reduced weightage on electronic media".

The non-broadcast mode of delivery of electronic media has not been appealing to the distance learners of IGNOU as they face many hurdles to access the audio-video materials made available at the learner support centre libraries. The electronic materials are not provided to the students as freely as the printed study materials. The audio and video CDs can be used by the students only at the Study Centres and that also as per the convenience of the staff of the Study Centre. When the television or the CD player is non-functional or when there is power failure the students have to go back disappointed. Several studies have pointed to the fact that there has never been full utilization of a vast volume of audio video materials stocked in the Central, Regional and Study Centre libraries of IGNOU.

PROBLEM ANALYSIS

During 2012, IGNOU offered around 500 academic programmes. The programmes may generally be classified under six months' certificate/post graduate certificate programmes, one year diplomas/post graduate diplomas/advanced diplomas, two year post graduate and three year undergraduate programmes etc. Besides these there are specialization/research programmes, etc. Each academic programme comprises a number of courses. For example, the Master of Library and Information Science programme comprises seven courses (6 core courses +1 project). Credit System is followed for most of the academic programmes. Credits are small measurable modules or entities.

In IGNOU, each credit is equivalent to 30 hours of student study comprising all learning activities (i.e. reading and comprehending the print material, listening to audio, watching video, attending counselling sessions, teleconference and writing assignment responses).

Thus, a 36-credit Master of Library and Information science (MLIS) programme involves 1080 hours of study. "The credit system helps the learners to know the academic effort they need to put in to successfully complete a programme of study" (Student Handbook and Prospectus 2012). The table below presents a picture of courseware production in IGNOU at the intervals of ten years

Table: 3
Number of academic programmes and production of electronic materials

Parameters	*Year*		
	Up to 1992	*Up to 2002*	*Up to 2012*
Programmes on offer	**26**	**72**	**477**
Courses on offer	**256**	**854**	**3000+**
Number of Audios Produced	**425**	**1109**	**1916**
Number of Videos Produced	**325**	**1246**	**4229**

Source: Various annual reports and convocation reports of IGNOU, New Delhi

We may note that there is no consistency in the production of electronic courseware production.

- **In 1987, IGNOU started with the launch of two academic programmes. Audio and video production began the same year.**
- **By 1992, there were 26 academic programmes supplemented with 425 Audios and 325 Videos, emphasis clearly was on audio production.**
- **By 2002, there were 72 programmes and 1109 audios and 1246 videos. There was a decrease in the production of audios compared to the videos over a period of ten years.**
- **By 2012, IGNOU's academic programmes increased to 477. However, there was no corresponding increase in the production of audios and videos. While the increase in the number of programmes from 2002 to 2012 was 86%, the increase in audio and video production was 42% and 71% respectively.**

What is intriguing is that there are many academic programmes declared launch worthy by just having the self-learning printed materials. Such a scenario raises the obvious question – Is production of electronic components mandatory for distance education programmes offered by IGNOU? How many audio and video modules are essentially required to be developed for a course? These thoughts may point to the absence of laid down policies or non-adherence of stipulated norms on the production of audio and video courseware for each academic programme. Some literatures published a decade or two back mentions about production of one audio and video each for a 2 credit course. Panda (2006) maintains that "as a general rule, an eight credit course contains in the learning package 4 video and 6 audio programmes, though any academic programme, with due justification, may contain more audio and video programmes along with or in lieu of print materials, or even lesser than these numbers.

The audio and video programmes were meant to supplement and support the text, enrich learning, and could be used in group learning situations with replay facilities available at study centres". Over the years, one audio and one video were advocated for a four credit course.Panda further maintains that the University has a general provision of a fixed number of audio and video programmes for 4-credit and 8-credit courses. However, this is not always compulsory to follow-the programme coordinators may use less or more number of non-print media programmes than printed course materials, either as supplementary or as the main medium of communication".It appears that there is lot of adhocism in respect of having these norms in place. The process may begin with a few audio/video programmes per 2 or 4 credits. But there should be suitable mechanism for feedback which would enable the University to take a decision regarding more number of Audio/Video programmes to be produced depending on the need of the learners. Setting a norm is not essential.

Table: 4 IGNOU Schools of Studies-wise
Academic Programmes supplemented with Audios and Videos (AVs) and
Academic Programmes without Audios and Videos

Sl No	Schools of Studies	Academic Programmes*	Programmes supplemented with AVs	Programmes without Audios and Videos
1	School of Agriculture	22	10	12
2	School of Computer and Information-on Sciences	3	2	1
3	School of Continuing Education	17	9	8
4	School of Education	18	9	9
5	School of Engineering & Technology	10	2	8
6	School of Extension and Development Studies	8	2	6
7	School of Foreign Languages	6	5	1
8	School of Gender and Development Studies	4	1	3
9	School of Health Sciences	22	10	12
10	School of Humanities	9	7	2
11	School of Inter disciplinary and Trans disciplinary Studies	28	2	26
12	School of Journalism and New Media Studies	6	3	3
13	School of Law	13	7	6
14	School of Management Studies	24	16	8
15	School of Performing and Visual Arts	9	3	6
16	School of Sciences	8	1	7
17	School of Social Sciences	20	13	7
18	School of Social Work	7	3	4
19	School of Tourism and Hospitality Service Sectoral Management	4	1	3
20	School of Translation Studies and Training	4	2	2
21	School of Vocational Education and Training	7	3	4
Total		249	111	138

Source: Student Handbook and Prospectus (2012), IGNOU, IGNOU Audio/Video catalogue available at:www.ignou.ac.in

Note: * Including Distance and Online academic programmes and excluding Regular programmes.
**** Research programmes are not considered***
**** Bachelor of Degree Programme under a school (with different optional majors) has been considered as one academic programme of the school***

All that is essential is to have good Audio-video materials to enhance the understanding of the distance learner and its integration with the printed material which can be achieved through e-learning platform. However, based on the available norms, we have made an analysis on the quantity of production of electronic media components and it emerged that the figures do not at all corroborate any available norms whatever.

FINDINGS

All the audios and videos produced by EMPC have not been uploaded in eGyanKosh. This could be for the reason that many of these require content updation. There are many other hitches too.

- **A composite data of the uploaded films have not been provided on the main page by some Schools. Very few videos have been viewed by visitors. Lack of professionalism in presentation has been quite a common feedback.**
- **Very few distance learners follow IGNOU audio video repository available under eGyanKosh . Number of hits received on the YouTube repository is very low for most of the videos.**
- **There is an overdose of audio and video materials for certain programmes but for some programmes there aren't any at all.**
- **More than 50% of the Schools of Studies have more than 50% of their academic programmes not supplemented with any audio or video courses**
- **Of the 249 academic programmes of IGNOU (except doctoral programmes etc) counted for this study, 138 academic programmes are offered without audio/video support, ie around 55% of the total programmes.**
- **Only 45 % of the academic programmes are supplemented with audio/video materials.**

CONCLUSION

IGNOU has completed 25 years of its existence. The University has achieved a few milestones, especially in introducing a large number of academic programmes. It is highlighted that the repository of electronic learning materials stacked in the libraries of IGNOU learner support centres should be revised and updated timely. Accessibility of the electronic media through the libraries should be strengthened considering the fact that all learners do not have access to eGyanKosh available online. India has just 13% internet penetration (Singh 2013). The obsolete audios and videos should be pulled down from eGyanKosh. There is as well an urgent need to improve the quality of presentation of self-learning materials in electronic form.

Another aspect is launching of distance education programmes by Schools of Studies of IGNOU, without providing adequate learning support in the form of audio and video materials.

And finally there is the urgent need to popularise electronic media use among distance learners. Like newspapers are made available online and in printed form concurrently, the learning materials of distance education institutions should be made available in dual formats - print and electronic.

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