ACCESS, EQUITY AND EXCELLENCE IN HIGHER EDUCATION - THE POSSIBILITIES OF DIGITAL INITIATIVES IN INDIA: LEARNINGS FROM EMPIRICS

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Abstract: The educational sector always relied upon technology for its advancement - be it production or dissemination of educational resources - for overcoming the geographical and time barriers and other constraints related to access, equity and excellence in higher education. All over the world, both public and private agencies of education are involved in various initiatives for reaching the learners effectively. The main Governmental agencies in India were never behind in utilizing the advances in information and communication technology for the betterment of education at all levels. This paper is a part of a doctoral research on the contribution of one of the main agencies of education of India - UGC Media Centres under CEC - in the domain of educational telecast and webcast. The paper attempts to investigate the awareness and utilisation of educational telecast and webcast by the students. The findings are expected to shed light on the strategies to be adopted by the concerned agencies in popularizing and promoting educational telecasts and webcasts.

Index Terms: Educational Telecast, Educational webcast, UGC Media Centres, CEC, DTH, MOOCs, E contents

Introduction

The education sector worldwide has always used the services of technology in reaching the learners. Starting with paper and print technology with the help of postal service, the educators were able to reach millions of people effectively, and the popularity of the method is still evident with the plethora of correspondence and distance courses available even at present. The correspondence aspect soon gave way to electronic communication while retaining its hold. When radio was introduced, for some considerable time, its educational broadcasts became very popular. It can said to be the first electronic medium used to reach the distance learners. Then as television came in to picture, the popularity of it surpassed that of radio as it could combine audio and video aspects of communication. Owing to its huge accessibility factor and penetration power, television from the beginning itself was utilized by the education sector in the dissemination of educational content. Television remained the most effective platform for this purpose for a long time. When internet took over the world, television and the educational telecasts received a setback in most of the developed and developing countries. The use of internet as a repertoire for educational resources / content has also come a long way with more and more online and interactive courses and specially designed platforms. With Direct-to-Home networks and many exclusive channels for education, television is trying for a comeback while internet for education is still moving ahead with momentum. Today all over the world, educational institutions, both private and government, are heavily involved in the production and dissemination of educational resources to the learners utilizing the advances in information and communication technology, overcoming the geographical and time barriers and other constraints related to access, equity and excellence in higher education.

In India, when television was first introduced in 1959, the priorities were in the order “educate, inform and entertain the masses”. At first, with respect of education, television was used mainly for imparting new and scientific methods of farming to the farmers through programmes like Krishidarsan. Then the educators used its accessibility to impart education to primary, secondary and college level students. The telecasts of educational programmes, especially prepared for college going students, were immensely popular for some considerable time. The availability of an exclusive satellite, EduSat, for education further fostered the growth of telecasts particularly with the interactive aspect of EduSat transmissions. With the advancements in ICT coupled with low tariffs for

internet usage, availability of personal computers at homes and educational institutions etc., the Governmental agencies also geared up to utilize the web for dissemination of educational content. Some of the earlier initiatives and the ongoing projects included the National Digital Repository of Indira Gandhi National Open University (IGNOU), NPTEL (National Programme on Technology Enhanced Learning - project initiated in 2003) developed by seven Indian Institute of Technologies (IITs) along with Indian Institute of Science (IISC) for students pursuing Engineering education, the development of e-contents for college students under the NME-ICT Project of MHRD in 2009, Sakshat portal for accessing e-contents, Shishya by CBSE Board for providing e-resources for plus two students, Vidya Vahini - school computerization programme etc. The Government of India has also launched SWAYAM (Study Webs of Active learning by Young Aspiring Minds) portal in 2017, the indigenous platform of MHRD that provides an integrated platform for interactive online courses, using information and communication technology (ICT). The portal was launched to supplement the formal education system in the country from high school to higher education. Nine National Coordinators are involved in the production and delivery of best quality educational content to the learners. The various domains are Engineering education, Non-technical Post graduate education, Under graduate education, School education, Education for out-of-school students, Management studies, Teacher Education programmes and for Self-paced & international courses.

As for the comeback of television, the Government of India has launched SwayamPrabha along with the launch of SWAYAM in 2017, which is a group of 32 DTH (Direct To Home) Channels devoted for telecasting high quality educational programmes covering courses from Class IX level on 24 x 7 basis using the GSAT- 15 satellite. The channels are uplinked from BISAG (Bhaskaracharya Institute for Space Applications and Geo-informatics), Gujarat. The 4 hour transmission of fresh content is repeated 5 more times in a day. The contents for transmission are provided by various educational agencies under Ministry of Human Resources and Development (MHRD), India and the web portal is maintained by the INFLIBNET Centre.

One of the main agencies in the area of educational communication is the Consortium for Educational Communication (CEC), an Inter-University Centre under University Grants Commission (UGC) - India's apex body for higher education. CEC and the Media Centres under it are responsible for the production of educational video programmes for non-technology higher education sector.

The above discussion traces clearly the digital pathway succeeded in the area of education by the nation. To fix a road map further, a systematic feedback from the stake holders is inevitable, but sad to notice that a concerted effort has not been made so far to investigate the awareness and utilisation of educational telecast and webcast by the students. This study is a part of the doctoral research on the contribution of UGC Media Centres in the domain of educational telecast and webcast. The findings are expected to shed light on the strategies to be adopted by the concerned agencies in popularizing and promoting educational telecasts and webcasts.

The paper prepared out of the study is structured and presented as four sections. In the first section, evolution of UGC-CEC and the Media Centres is presented followed by a brief discussion on the various studies regarding telecasts and webcasts. The Methodology section presents the methods adopted for the study as well as the measures adopted for collecting data with respect to the topic. The findings section presents the empirical results and the conclusion part gives the practical implications of the study.

CEC and Media Centres: A reflection on institutional evolution and functions

The evolution of the CEC and the Media Centres has begun in 1984 with the launch of Countrywide Classroom (CWCR) programme by the UGC. It was the first serious effort for reaching the learners at college level outside traditional classrooms using television. For producing educational video programmes for the project, UGC set up 6 video production centres - called Audio Visual Research Centres (AVRCs) and Educational Media Centres (EMRCs) - in different universities. From just 6 such Media Centres, the number of centres grew to 14 by 1990, and 21 by 2016. To coordinate, guide and facilitate the activities of Media Centres in the educational video production at the national level, UGC established an autonomous body called the Consortium for Educational Communication popularly known as CEC in 1993. The 21 centres, now called Educational Multimedia Research Centres (EMRC/EMMRC), are functioning in various universities and institutions in the country and spread in 16 states and one Union Territory.

From the telecast of educational video programmes/documentaries on general subjects, the CEC and the Media Centres progressed to the production of subject based programmes and then to syllabus based programmes transmitted first via National Network, then through Cable TVs, and then also in interactive mode utilizing EduSat virtual classrooms. These virtual classrooms are of interactive nature and were made possible by the help of Satellite Interactive Terminals and Receive Only Terminals. With the advent of Information and Communication Technology, the focus shifted to the production of e-contents and the Centres have already completed the development of e-Contents in 87 subjects based on UG syllabus. Today the Centres are involved in the production of in-house, quality multimedia rich educational programmes for electronic media, mapped to the curriculum

followed in the country in the form of TV Lecture series, e-contents, DTH lectures and Massive Open Online Courses and dissemination of the resources via both broadcast and non-broadcast modes.

The programmes are available through,

- Swayam Prabha DTH Channels: 11 channels including Vyas
- CEC YouTube channel: Started in 2012 and live lectures are uploaded.
- Webcast: at CEC site (cec.nic.in) (Also available on www.swayam.gov.in, www.sakshat.ac.in, www.webcast.gov.in, web portals of Government of India)
- MOOCs : At the SWAYAM portal

After presenting a brief on the evolution and functions of the institution in India, it is very interesting to critically reflect on the observations made by experts and other authors on the effectiveness and allied issues pertaining to the educational broadcasting in the national and international scenario.

Learning from Literature

Some of the factors related to the success and failure of educational broadcasting from different studies are examined in this section.

Coolahan (1984) outlined several factors which eventually led to the closing of formal educational broadcasting service in Ireland which were, the termination of financial support by the Department of Education, neglecting the reports and guidelines forwarded by different committees to rectify the situation, the inaction and air of indifference by the administrative system on educational broadcasting etc. Studying about the failure of educational broadcast in Cyprus, Karagiorgi (2003) pointed out that no major research or need assessment was carried out before implementing the programmes. Reluctance of the teachers to implement the programme in the classroom and lack of faith of teachers in the educational value of educational broadcasting also were listed as reasons for the failure of the project. Though these two studies were conducted nearly 20 years apart, these factors are still relevant.

One of the important and relevant recommendations forwarded by Palmer (1999), an originator of Sesame Street - the famous television programme for children - for capacity building to improve educational television in developing countries was to expand and improve technical facilities by way of better national planning involving wide stakeholder participation. Writing about Kheda Communications Project in India, Rani (2006) highlighted the uniqueness and significant features, which points to the nature of the programmes for TV. She pointed out that the success of communication depends on the availability and accessibility of resources to the target audience.

In another study, Rani, (2006) reported that at the height of its popularity, the Indian CWCR telecasts enjoyed the viewership of about 20 million people and daily viewership of 4 million people. Soon the scenario changed. Rani pointed out many reasons for the decline in the popularity and loss of viewership for the educational programmes such as, insignificant viewing slots, unannounced change in telecast timings on account of sports programmes/parliamentary sessions etc., the importance given by Doordarshan (DD) to revenue generating entertainment programmes, explosion of satellite private television channels offering a wide variety of entertainment programmes etc. Ngai, Poon and Chan (2007) pointed out the importance of user support and training in influencing the perceptions of users and, eventually their use of the system, and because of this, it is essential for universities to provide effective user support and to encourage users to use the system.

The growth of e-learning and webcasts had been phenomenal since the introduction of internet which surpassed the role of television in reaching the masses. Internet's fundamental and powerful capacity to share any content globally at almost no incremental cost enabled sharing of educational content online either openly or for profit (Walsh, 2012).

Studying about youngsters' relationship with technology, Bennet, Maton and Kervin (2008) observed that while technology is embedded in their lives, young people's use and skills are not uniform. According to Wagner, Hassanein and Head (2008), e-leaning success in higher education is a shared responsibility between the various e-learning stakeholders and when all stakeholders fulfill their responsibilities to create effective and meaningful e-learning experiences, positive outcomes extend beyond success in specific courses and programme to facilitate lifelong learning and discovery.

Analysing learners' acceptance of educational webcasts, Giannakos and Vlamos (2013) recommended that instructors may consider different methods to increase the experience of learners with the webcast system and also that they and higher education institutions should focus on the educational webcasts' usefulness and ease of use because their predictive effect on educational webcast acceptance is higher.

Based on an extensive research review, Bell and Federman (2013) proposed that academics and institutions need to collaborate to address the challenges surrounding academic integrity in online environments, devise effective support systems for under prepared learners, evaluate the economic models that underlie e-learning, and understand how to deliver e-learning across geographic and cultural boundaries. In 2014, studying about the

prospects and challenges of e-content development, Sekhar and Muralidhar noted that the very low percentage (14%) e-literacy against 74% of literacy rate among the country population prevents the full utilization of online contents in India.

Reviewing literature on the challenges of e-learning faced by academics in higher education, Islam, Beer & Slack (2015) forwarded that academics should be well trained for technological aspects so as to achieve the expected outcome.

The few studies selected here point to the importance of making the stakeholders aware about the services in the area and improving the technical infrastructure. The underutilization of the television programmes again points to the lack of awareness of the quality and number of programmes, lack of publicity about the content and timings of the programmes at the Governmental level, University level and college level, lack of interactive nature of the programmes, non-availability of signals, lack of interest from the side of the service providers (Cable TVs, Government networks) in allotting better time slots for the programmes etc. E-learning, in recent years, has become a widely accepted and popular mode of learning / delivering educational materials in higher education by universities throughout the world. A lot of studies were undertaken by researchers about the factors contributing to e-learning success. Unlike traditional classroom learning, e-learning requires much motivation and interest from the learners' side. Though there are a lot of benefits to e-learning both from the perspectives of learners and faculty, e-learning has a higher drop-out rate than traditional delivered instruction. So it is imperative to consider learner characteristics and preferences, and also the attitude / competencies of teachers while developing and using e-learning materials.

Talking about the webcasts, overabundance of programmes in the web can be a problem with the learners. They may not know the judicious selection of educational materials. Among the surplus of materials and courses available in the web, the quality programmes developed by the Governmental agencies get side lined. Here also lack of awareness among the students about the services of various Governmental agencies matters the most. Despite spending huge amounts for utilization of modern technology in the educational content dissemination, it is not reaching the stake holders. With the above learning in mind the researcher moved to the procedural aspects.

Methods and procedures adopted

The objective of this study was to uncover some facts about the awareness of students with respect to educational telecast and webcasts. The study is expected to answer such questions as:

1. How much awareness is there among the students about the many initiatives of Governments/ private sector in the domain of educational telecasts and webcasts?
2. What are the perceptions and experiences of students regarding the use of television/ internet and the TV/web based educational resources?
3. Are these massive efforts of Governmental agencies reaching the stakeholders?

The data sources selected and adopted and for the study are presented here.

Data Sources used

Owing to the ease of use and convenience in access, search engine use is one of the most common online activities of people for meeting their information needs. Assuming that if people have heard of or are aware of the initiatives of Government about providing e-learning resources like e-contents, SWAYAM, MOOCs, DTH lectures, SWAYAMPrabha, address of the relevant sites etc., they will be searching for the details via web, a search for each of the terms was performed using Google as a preliminary step.

The investigators selected a Search analysis tool - Google Trends (www.google.com/trends), a free tool by Google, which reveals internet search interest and provides data on the relative popularity of search terms, for a preliminary check on the popularity of the services of Government sector in the domain of e-learning and also the awareness of people.

This study used Google Trends based on the assumption that people in India are more familiar with Google for queries than any other search engines. Also, as per an industry report, majority (95.9%) of Internet searches in India are conducted on Google, which receives over 12 billion search queries each month (https://99firms.com/).

Students are the main stake holders of telecast and webcast of educational programmes. The development, the expenses, the efforts on dissemination by the main agencies of Government under study are being carried out for uplifting and improving the conditions related to tertiary education in the country, to overcome the many problems related to the sector, for providing equal opportunities to all for accessing quality educational resources irrespective of geographical conditions, economic status, rural/urban divide etc. With new advancements in technology, the Governmental agencies have spared no effort in presenting before the students a whole new world of opportunities in the form of OERs, E-resources, Online courses, Courseware, Lecture series through DTH channels,

other knowledge resources available through web etc. Now the learners are able to access any material from around the world, anytime.

In this context, the investigators tried to gain some understanding about the awareness of learners with respect to the many projects and newer initiatives of the Governmental agencies, their perspectives on the utilization of these programmes etc. through a questionnaire.

A total of 27 items were presented to the learners check whether they are aware of the availability of general educational programmes on television, telecast and webcast of educational programmes by Governmental agencies: both old and newer initiatives of Government such as EduSat broadcasts, Vyas channel telecasts, e-contents, SWAYAM portal, MOOCs, SwayamPrabha channels, facilities arranged by the UGC etc. Questions were also included for knowing their expertise in using internet and the purpose of using it. One open ended item was also given soliciting their suggestions for the improvement of programmes.

For scoring, similar responses of the questions were pooled and categorised. Then the percentages of the responses were tabulated for each item.

For ensuring the validity, as a first step, a pilot survey was conducted among the students before the preparation of the actual questionnaire. During the process of construction of the tool itself, content validity and face validity were ensured. The questionnaire covers the pertinent points associated with the different programmes available with television and web. Hence the investigators believe that the tool is valid enough to yield the facts and reflections of a student. For establishing face validity the investigators consulted with experts in the field of study. The experts agreed that the items in the questionnaire are valid enough to check the objectives of the study.

Data were collected from under graduate students from various disciplines across India, from the states - Kerala, Rajasthan, Jharkhand, Odisha, Uttar Pradesh, Karnataka, Tamil Nadu, West Bengal, Andhra Pradesh and Telengana. The students were treated as one unit, the rationale being that the reach of technology is tremendous and with the wide use of television/ mobile phones/ smart phones/ personal computers and low internet tariffs, students from formal education sector across India have somewhat similar opportunities in accessing telecasts and webcasts. Students were contacted directly as well as through e-mails and social media and as such questionnaire was administered directly and over mail. The final sample of respondents was comprised of 225 students from regular as well as distance education stream.

Analysis and Interpretation of Data

First, the data from the Google Trends were used to describe the extent of awareness of people in general about the existence of CEC, Educational Multimedia Research Centres, SWAYAM portal, SwayamPrabha Channels and the products namely e-contents, DTH lectures and MOOCs collected through the use of these key terms as well as the website address.

Second, the data from 225 numbers of under graduate students were pooled to get a clear picture on their awareness about educational telecast and webcast in general as well as the initiatives of Government of India in this domain and the popularity of the programmes among them.

Results and Discussion

Google Trends data showed that search interest in e-contents emerged around March 2004 though in India, the NME-ICT project for courseware e-content development was launched in 2009. An average interest could be seen until 2011, and then it decreased to a minimum in the coming years. This may be attributed to the assumption that by the time the NME-ICT e-contents were started disseminating by the CEC, people may have searched for it with more specific key words or sites. The interest in SWAYAM and SWAYAMPrabha started soon after the projects were launched in July 2017. The general search use on the key words SWAYAM MOOCs and SWAYAM registration showed a peak value by December the same year, and up to June 2019, SWAYAM MOOCs maintained an average value. The key word MOOC also generated a steady interest from July 2017 to May 2019. The search for the website www.swayam.gov.in showed peak values during the period from October to December 2017 and then decreased. From 2015 to 2019, the website www.cec.nic.in showed a steady, above average values. The term 'DTH lectures' did not generate any data, but with the term DTH a steady average values could be seen during the time period from April 2017 to May 2019.

Though these values cannot be taken conclusively as an indication of the popularity or interest of people in the aforementioned initiatives of Government of India, it can be concluded that people are searching for or are showing an interest in different projects in the initial months after launching of the same. The providers need to take aggressive marketing strategies and popularization programmes to sustain the interest of the people and for attracting the learners.

Percentage analysis was used to analyse the responses of students to the questionnaire. For each item, percentage of responses was tabulated as seen in Table 1.

Table 1

Percentage of the Total Score of Responses of Students on Awareness and Popularity of Educational Telecast and Webcast

No.	Aspects	Percentage of responses			
1.	Familiar with educational telecast and webcast	Yes			No
		73.4			26.6
	Whether watched any programmes	28.6			71.4
	Habit of watching programmes	Regularly	Sometimes	Rarely	Never
		4.2	39.4	38	18.4
2.	Aware of educational telecast/ webcast by Govt. of India	Yes			No
		27.8			72.2
	If yes, watched any programmes	14.9			85.1
3.	Heard of VYAS telecast	Yes			No
		7.9			92.1
	If yes, watched any programmes	2.6			97.4
4.	Heard of EduSat telecast / programmes	Yes			No
		65.4			34.6
	If yes, watched any programmes	26.3			73.7
5.	Heard of Consortium for Educational Communication (CEC)	Yes			No
		13			87
6.	Heard of Educational Multimedia Research Centres (EMRCs)?	Yes			No
		24.4			75.6
	If yes, seen any CEC/EMRC telecast / webcast	3.9			96.1
7.	Whether your college publish the programme schedule of CEC/EMRC?	Yes	No		Do not know
		5.1	23.8		71.1
8.	Confidence in using Internet	Excellent	Good	Fair	Poor
		18.2	54.5	26	1.3
9.	Purpose of using internet	Entertainment	Study		Both
		55	9.1		35.9
10.	Using internet for extracting study materials for supplementing classroom learning	Yes		No	
		97.5		2.5	
	If yes, how often?	Regularly		Some times	
		53.2		46.8	
11.	Do you think the materials you extract from web are authentic?	Yes	No	May be/Not sure	
		38.3	4	57.7	
12.	Ascertaining the authenticity of the materials collected from web	Syllabus prescribed site	Teacher opinion	Well known Publisher	Other
		35.5	14.5	42.1	7.9
13.	Preference for educational material provider sites	Indian		Foreign	
		50.6		49.4	
14.	Of educational programmes, which are more authentic?	Public sector		Private sector	
		74		26	
15.	Are you aware that, GoI through CEC/EMMRC has uploaded e contents on many subjects on to the web?	Yes		No	
		15.4		84.6	
16.	Heard of / seen telecast of educational programmes via DTH	32.9		67.1	
17.	Heard of SWAYAM portal of GoI	33.8		66.2	

No.	Aspects	Percentage of responses		
18.	Heard of Massive Open Online Courses (MOOCs)	50.6		49.4
	If yes, seen MOOCs of any foreign universities?	19.5		80.5
	Would you like to enrol for any MOOCs?	Yes	No	Do not know
		52.6	14.1	33.3
19.	Heard / aware of Credit Transfer for MOOCs enrolled?	Yes		No
		7.8		92.2
20.	Whether teachers advise to use e-contents / DTH telecasts / webcasts / MOOCs?	Yes		No
		30.3		69.7

The first question in the tool was given to check whether the students are aware about the availability of educational telecasts or webcasts in general, not necessarily by the Governmental agencies. It can be seen from the figures that though a good number of students (73.4%) are aware about telecasts and webcasts of educational programmes, only a low percentage (28.6) of students watch such programmes. Also, those who watched the programmes, do so sometimes or rarely mostly. Regular views are very low.

The low number of students (28.6%) who watch other educational telecasts and webcasts watch only a few programmes: at Discovery channel, ViCTERS, NPTEL, National Geographic Channel and Open Coursewares (OCW).

When asked specifically about the services of Govt. of India agencies in the domain exclusively for college students, majority of the students responded that they are not aware of such programmes. While 72.2% students are not aware of these initiatives, 85.1% of students who are aware do not watch these programmes. Again a high percentage of students (92.1) have not heard about VYAS telecast, for which the Government had an exclusive channel for many years.

Though about 65% of the students have heard about EduSat telecast, majority admitted that they have not watched any of the programmes. Similarly a large percentage of students, 87 and 75.6 % respectively, have not heard about CEC or EMMRC, and have not watched any telecast or webcast by these agencies. Although the 8 states out of 10 from which the data were collected have an EMRC each, 87.2 percentage of respondents maintained that they are ignorant about the establishments.

Though the EMRCs are regularly intimating and sending schedules of programmes shown in TV/web to most of the colleges under the University they are functioning, and also to other colleges in the respective states, it can be seen from the figures that many students (71.1%) are not aware of these telecasts/ webcasts unless it was pointed out to them specifically by their teachers.

54.5% students think that they have good knowledge about the internet. It implies that they are more than being able to use net: not just for surfing and sending mails. 18.2% of students think that they have excellent capacity to use internet. Only a few students admitted that they are fairly ignorant about using internet. A high percentage of students use internet for entertainment only, 9.1% use net for study purposes and about 35% use net for both.

As high as 97.5% students remarked that they use internet for extracting study materials for supplementing classroom learning. 35.5% of students sampled do not experiment with many sites, they resort to only the sites prescribed in their syllabus for collecting study materials. 42.1% students go for well-known publishers while 14.5% follow the directions of their teachers.

About equal number of students prefer Indian and foreign sites for educational materials, 74% of the students are of the opinion that the educational programmes prepared by the public sector agencies are more authentic than those prepared by private agencies.

Government of India, through NME-ICT project, prepared and uploaded e-contents in many subjects for different levels of study on to the web. As CEC/EMRCs deal with under graduate level subjects, students were asked about these. Majority (84.6%) replied that they are not even aware about this initiative of the Government. Similar is the status of DTH transmissions too. 67.1% have not heard of / seen telecast of educational programmes via DTH.

The Government has recently launched SWAYAM portal for hosting online courses for various levels - from Class 9 to PG level - and the UGC has announced Credit Transfer (transferring of credits earned for courses done on SWAYAM on to the academic record of students) too for the courses taken up in this portal. Still, only about 33% students have heard about this facility and majority (92.2%) have not even aware of the opportunity of Credit Transfer for these online courses to students registered in any Indian University.

Even with the popularity of online courses around the world, only about 50% of the students have heard about MOOCs. Several well-known foreign universities have uploaded many of their courses as MOOCs too, but majority of the students have not seen these popular MOOCs ever.

As many as 69.7% remarked that their teachers do not advise them to use e-contents / DTH telecasts/ webcasts /MOOCs for supplementing the education they receive at their respective institutions.

The suggestions for improvement of programmes included the need for more awareness programmes, adoption of more popularisation strategies, making the programmes more interesting etc.

Derivatives from the analysis

It is alarming to notice that despite the efforts of the Government and the amount spent, a large percentage of students are not aware of the television lectures, e-contents, Massive Open Online Courses and DTH lectures developed by Government agencies. Though many are familiar with educational telecast and webcast, students are not watching or utilising the programmes made exclusively for them to its full extent.

Vyas - the 24 hours exclusive channel for higher education - was launched in 2004. Since then it has been airing thousands of educational programmes, both on TV and web. Though many articles and studies point out that the students from rural areas are mostly the beneficiaries of these programmes, majority of the sampled students remarked that they have not even heard about VYAS telecast and webcast, much less about watching the programmes. The position about Vyas telecast may be attributed to the fact that the sampled students are from undergraduate courses from the last 2 - 3 years, and VYAS has stopped telecasting due to some technical issues. Now it is being webcast through the CEC web site. When majority of the students are not even aware of the existence of CEC or Media Centres, they won't be looking for these webcasts either.

In this era of digital revolution, it is surprising to note the low number of students who are aware of the availability of e-contents, produced as a part of National Mission on Education through ICT, on the web.

Considering these facts, it can also be deduced that the students might have seen the programmes in TV/web, but are not aware of the name or existence of the Centres which produces these programmes and also did not take any effort to further search for the availability of such educational programmes.

The prestigious SWAYAM portal was designed to achieve the *three cardinal principles of education: access, equity and quality*. It was initiated specifically to take the best teaching learning resources, prepared by eminent academicians and subject experts catering mostly to formal education from various universities and institutions, to all learners including the most disadvantaged, free of cost. It also seeks to bridge the digital divide for students. Now, majority students have the habit of using internet for extracting study materials for supplementing classroom learning. Also MOOCs are gaining popularity all over the world. Still, more than half of the students sampled have not even heard about the portal even though a good number of students claimed that they are adapted at using internet for various purposes. It can be deduced that the learners are not utilising the authentic curriculum based study materials available with the portal as envisaged by the Government.

Except a small number of distance education students, the entire sample belongs to the formal education sector. Naturally the expectation is that students should be aware of the facilities and services offered by Universities, other agencies etc. but it can be seen that, that is not the case. Majority are not even heard about the important movement of UGC in allowing Credit Transfer for the MOOCs undertaken by the students from the SWAYAM portal. This shows that the agencies of education are not successful in popularising these types of initiatives which can be most beneficial to the student community.

The internet is over loaded with a huge amount of information and a judicial selection of study materials is of paramount important. Many students are of the opinion that they are not sure about the authenticity of the learning materials collected from web, but admit that they think programmes produced by Government/ public sector agencies are more authentic. Even with this realisation, the low number of students who are aware of these facilities and services offered by Governmental agencies of education points to the fact that the efforts for popularising these services are to be carried out more effectively.

In a formal education sector, teachers are the facilitators of learning. More than half of the students pointed out that their teachers never indicated the availability of such telecasts and webcasts. Either the teachers themselves are ignorant about the various schemes, or are reluctant to allow their students to follow the classes of other experts. Whatever be the reasons, it is imperative to familiarise the teachers with the services offered by governmental agencies and also encourage them to supplement their teaching with the other resources made available to the students for the effective utilisation of the products.

Conclusion

Looking at the various initiatives, it can be seen that the Indian Government has spared no efforts in developing various projects for the upliftment of education at all levels in the country starting from ETV programmes to MOOCs. The important question here is whether the efforts/ products are being exploited by the stake holders. The findings of the study reveal that the situation is not as it should be. In the present scenario, majority of the students have the habit of using internet for extracting study materials for supplementing classroom learning relying heavily on the all-encompassing Google, not ascertaining first whether those are authentic or not. They are not taking full advantage of the authentic and if not better resources available free, prepared by quality teachers from formal educational sector. Considering the facts, it is recommended that,

- Concerted efforts on increasing awareness and visibility among learner community and popularization of the programmes are to be taken up by the concerned agencies for remedying the problem.
- The programmes can also be made more engaging by adapting better instructional designs. A better design and good presentation strategies make the programmes more attracting and attention sustaining.
- Aggressive marketing strategies are to be adopted by the Governmental agencies making the learners more aware about the authenticity of the programmes.
- In the formal education sector, the colleges also need to take initiative in making the students notice the availability of such programmes and urge them to utilise these for their benefits.
- Television can be effectively utilised for the dissemination of the programmes provided the convenient timing/ slots are allotted.

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