

Case Study on Vidya-Mitra (e-Learning MHRD Initiative): A Quantitative Analysis on Multimedia Content (Video)

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Abstract

The present study reports about the usage of audiovisual resources available under Vidya-Mitra, An integrated e-Content Portal. Vidya-mitra facilitates to host all the content and provides search-browse facility for all hosted content wherein a learner can easily access the desired material including audio/video learning material, textual material, multimedia enriched materials etc., through a single interface. Resource analysis has been done in different area such as collections, viewership of content, subscribers, outreach in terms of geographical region, gender etc.

Keywords: E-Learning, Learning Analytics, NME-ICT, NPTEL, Vidya-Mitra, YouTube

1. Introduction

India is emerging as a knowledge super power country in the world before 2020. India will also count in smart cities in the world policy makers, also understand the value of technology in education which lead smart education smart learners and smart India. The data of current education system shows potential growth in the country like “The country has more than 1.5 million schools with over 260 million students enrolled and about 751 universities and 35,539 colleges. India has become the second largest market for e-learning after the US. Higher education system in India has undergone rapid expansion. Currently, India’s higher education system is the largest in the world enrolling over 70 million students while in less than two decades, India has managed to create additional capacity for over 40 million students. It witnesses spending of over Rs 46,200 crore (US\$ 6.93 billion).” [5]As Mangala (2009 and Ravi and Jain (2011) has also noted around 700,000 students have been joining

engineering annually for last few year. It’s evident that all of them will not get quality of education. India need 1500,000-200,000 teachers for engineering students population of about 2.6 million. Against this only 4,000 teachers trained by higher education institute every year same issue with other discipline also [6] [7], to deal with this big population of learners India needs a solid infrastructure, good academician and effective reading content. Learners inclination towards open and self paced education systems attracted the elearning industry in India. It’s true the pupil teacher ratio is not good for this large population and also it si not possible for all students to reach to the best teacher, this may be solve by Information and Communication Technology (ICT)-enabled education NPTEL, CEC, Vidya-Mitra, ePGPathshalla, SWAYAM a MOOC platform will offer 350 online courses, Swyamprabha, NIOS, NCERT etc. initiated, run or funded by MHRD, NME-ICT, UGC, IITs etc. This study will discuss all the elearning projects which is initiated by NME-ICT under Vidya-Mitra platform.

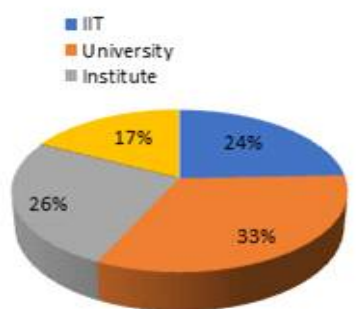


2. About NME-ICT

National Mission on Education through ICT (NME-ICT) is an important initiative of the Ministry of Human Resource Development (MHRD) to fulfil the demand of content and their connectivity among learners, professionals and educational organizations in India. NME-ICT was launched on February 3, 2009 at Tirupati, Andhra Pradesh as a Centrally Sponsored Scheme to leverage the potential of ICT in teaching and learning process with two major components:

- ❖ Providing connectivity, along with provision for access devices, to institutions and learners;
- ❖ Content generation.

The mission was started with the aim to extend computer infrastructure and connectivity, and to make available knowledge in the form of e-content to learners across the country to fill the gap of digital divide in India. To achieve the goal all the central institutions and universities was connected through BSNL/MTNL and other providers, provision of different educational programs through EduSAT



Graph:1 Division of Projects per Organization

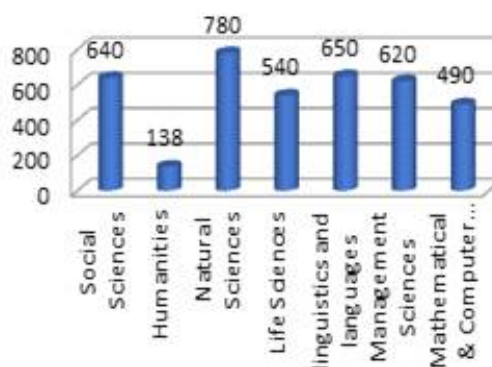
channels, Eklavya and other programs for promoting e- learning. Under the guiding philosophy of this mission “no talent of the country should be allowed to go waste.”⁴ With this mission MHRD want to synergize the work of educational institutions like IITs, NITs, IGNOU etc. to develop world class content and educational applications. The content developed by these institutions are of different nature, discipline for different type of learner and different formats.¹

2.1. Project detail developed under NME-ICT, MHRD

Near about 86 projects are developed or developing under NMEICT, MHRD (list is taken from <http://nmeict.ac.in/Document/NMEICTProjects.pdf>) under which 26 recognized as not e-content projects.

So many recognized Institutions, universities and IITs are involved in contributing their content to strengthen the e-learning in country. Effort of institutions can be seen in the graph-1 Division of Projects per Organization where most of the IITs and universities are contributing more and graph 2 shows that no. of modules/units in each subject

Graph:2 No. of module in discipline



The above data shows the contribution of content from different institutions of higher education which is available on their own websites by different names which is more popular among students, who are related with that institute, same as this with discipline one discipline has different content/modules/units/lectures in different projects which may be missed out sometimes if they are not aware about that, the solution of this problem is a portal which provides the result of all the e-content (content, modules, links) projects on a single platform.

To resolve these access and networking issues INFLIBNET came with the initiative to create an integrated one-stop e-content portal for easy access to all the contents developed under the Mission Vidya-Mitra.

3. About Vidya-Mitra: Integrated e-Content Portal

In 2014 Vidya-mitra came as a solution for learners and developed an online learning portal for all the e-content projects developed under the NME-ICT, MHRD. The portal is facilitating to host all the content and provides search-browse facility for all hosted content wherein a learner can easily access the desired material including audio/video learning material, textual material, multimedia enriched materials etc. through a single interface. Most of the electronic content with funding from NME-ICT is ready and hosted on the various portals developed by the different institutions across the country. To overcome with the problem in accessing various learning objects from different portals, a need was felt to develop a portal which can host all the e-content developed by various institutions. To solve this problem Vidya-Mitra project came as a solution and is providing access to all the e-content of

different projects under the single umbrella. The major e-content developed by various institutions are NPTEL, e-PG Pathshala, CEC, NCERT-Pathshala, NIOS, e-Gyankosh, etc. There are several e-content projects which have been developed by different institutions (apart from these major projects) are also covered in this portal. Electronic content provided by all these institutions have been hosted on the e-Acharya with metadata.

Objective of Vidya-Mitra

The objectives of Vidya-mitra project are as follows:

1. Provide open access of almost all e-Content project developed or being developed under NME-ICT, MHRD, Govt of India.
2. All the e-Content projects developed or being developed under NME-ICT, MHRD should be available through single point with search-browse, indexed, and user-friendly interface.
3. Interlinking with other type of material (e-books, journals, articles, learning objects) to present one-stop access to related scholarly content.
4. Adopt digital preservation strategies to ensure long-term availability of e-content developed under the NME-ICT;
5. Provision to host other relevant e-modules available in open access;
6. Promote usage of e-content amongst students and peers.
7. Help in interdisciplinary research by providing content of all disciplines on one platform

Development of the project

The INFLIBNET Centre, an IUC of UGC is responsible to initiate and execute Vidya-Mitra project in 2014. The Centre acquires content from

different principal investigators of different projects. Steps involved in processing for publishing content on web 1) analyze of acquired content in terms of volume, type, category, format nature of content 2) integration of standards & metadata 3) interlinking with other relevant resources and 4) made available as web-resources over portal for learners. In it's journey project working fine on its objectives and fast growing no. of content also advocate its popularity among learners. Current status is shown below in table Table 1. Content details available on Vidya-Mitra portal (data collected on 18-01-2018)

Type of content on Vidya-Mitra

e-Text	e-tutorial/videos	Others
44450	63038	37827
No. of content for different type of learners		
UG	PG	Others
46515	20487	4753

Above table shows different type of content and learners, which indicate that maximum content is in video format and most of the modules contain the audio-visual resources in its content. This study will evaluate the usage productivity statistics in different aspects mention in methodology.

4. Objective

This study has been done to know the usage and effectiveness of the multimedia content through Vidya-Mitra platform

- ❖ To identify different e-learning projects initiated by NME-ICT in India on different discipline and for different type of learners.
- ❖ To evaluate and analyze the productivity of the project in different accept.

- ❖ Draw conclusion to improve the present platform.

5. Methodology

The study is made to evaluate the usage of the audiovisual content of the Vidya-Mitra project and for that data is collected from Vidya-Mitra channel located on YouTube. Period of data is from its inception to 19-01-2018 all subscribers and viewers are taken as a sample for the study and used for analysis. The collected data from channel and their viewers are presented in graphs. Available document has been referred to investigate the past, present and future of the projects and their detail.

6. Scope

Scope of study has covered e-content projects for e-learning developed under NME-ICT, and by other institutions i.e. NIOS, NCERT etc. this study has done only on the audiovisual resources of the modules whether they have other resources also like e-text, self assessment etc.

7. Limitation

Study is only limited with Vidya-Mitra project, the study was made on the reports and data available on internet and on its website. The usage report has been gathered only by the feature available on YouTube.

8. Data Analysis and Interpretation:

To evaluate the usage statistics of multimedia/audio-visual resources of NME-ICT, Vidya-Mitra the data is collected from YouTube on (April 7, 2015 – January 17, 2018). The gathered data is presented here in form of graphs.

8.1. Watch Time Report

Watch time means -The amount of time that a viewer has watched a video. The formula for calculation watch time is $\text{Watch Time} = \text{Views} \times \text{Average View Duration}$. The increasing rate of graph in figure-1 shows the interest of learners of vidya mitra channel.

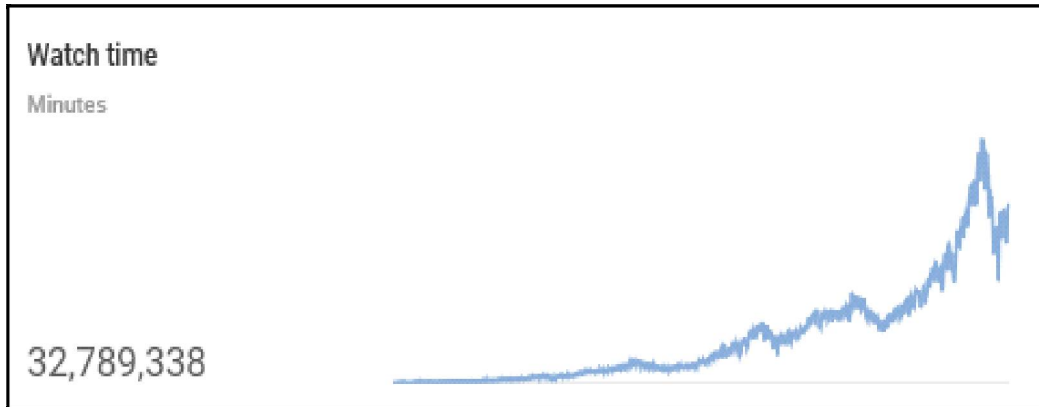


Figure 1: Average watch time of viewers for Vidya-Mitra channel

8.2. Audience Retention

Audience retention means how long viewers are watching your video, the in audience retention graph spikes tells the level of interest of the user and the dips shows the time when user get bore and stop to watching the videos.

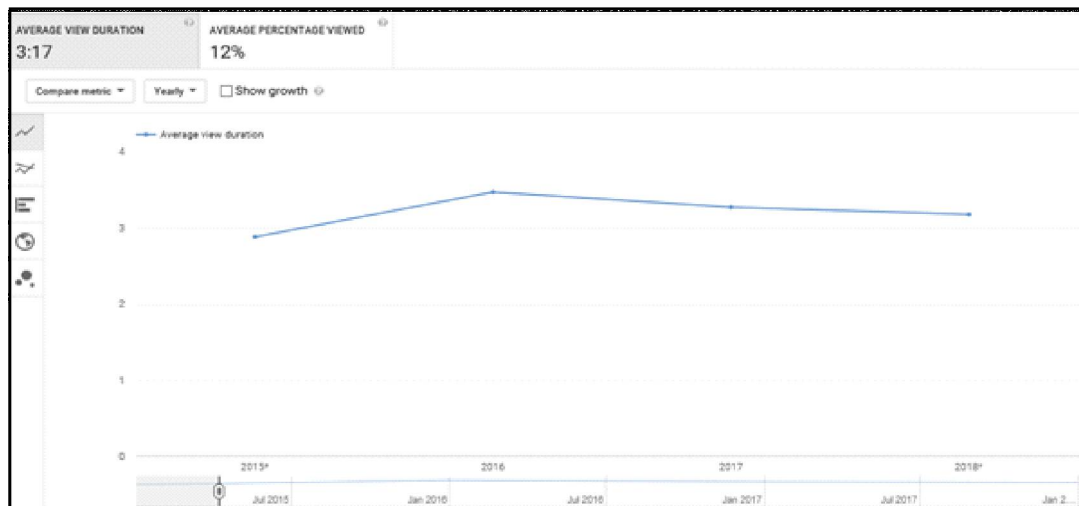


Figure 2: Length of Audience retention

8.3. Demographic breakdown of your audience

Figure- 3 depicts the age structure diagrams the giving data is for both age and gender distribution of the user of Vidya-Mitra. Which indicate male in the left side and female in the right side which shows that maximum no. of females learner are from age group of 18-24 and males are of 25 to 34 which is a population who may engage in their higher study

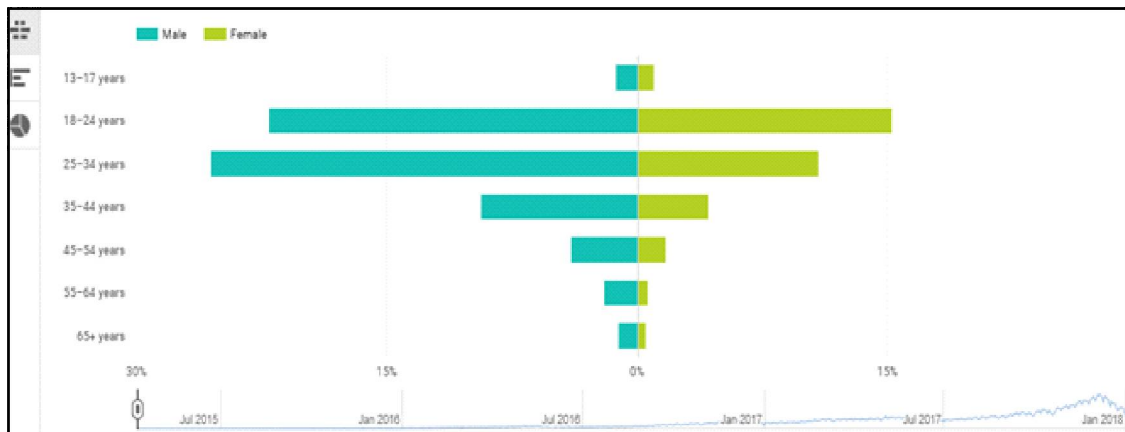


Figure 3: Demographic distribution by age

8.4. Playback location details:-

Playback location means a list of location or sites from where learners have viewed the uploaded video and the figure 4 depict that maximum videos are viewed from inflibnet.ac.in and then from facebook, gmail, google scholar, swayamprabha.gov.in and others.

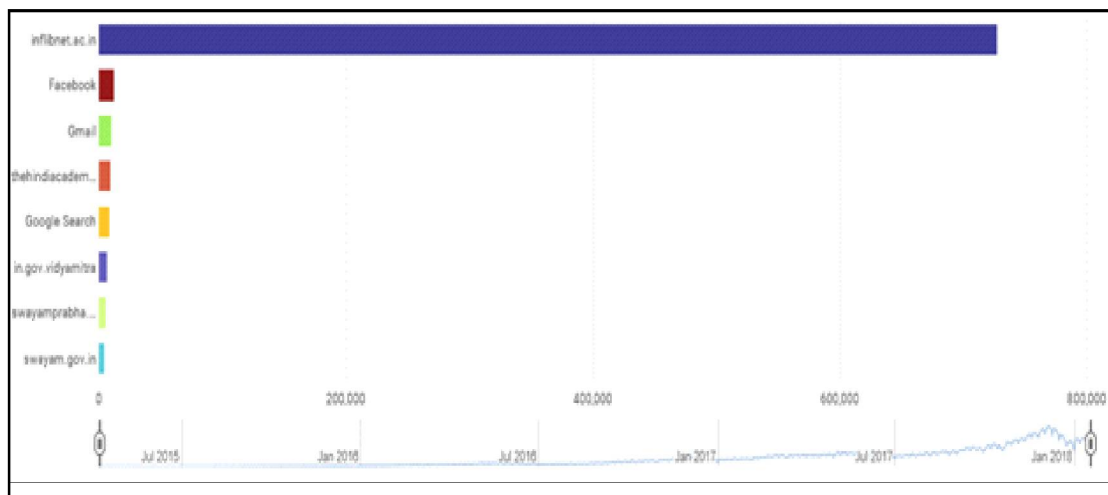


Figure- 4 List of playback location

8.5. Traffic sources report

The Traffic sources report shows the sites and YouTube features that viewers use to find your content means how learner are finding the videos on a channel. YouTube search is the most popular among learners for finding the content then suggested video then may more.

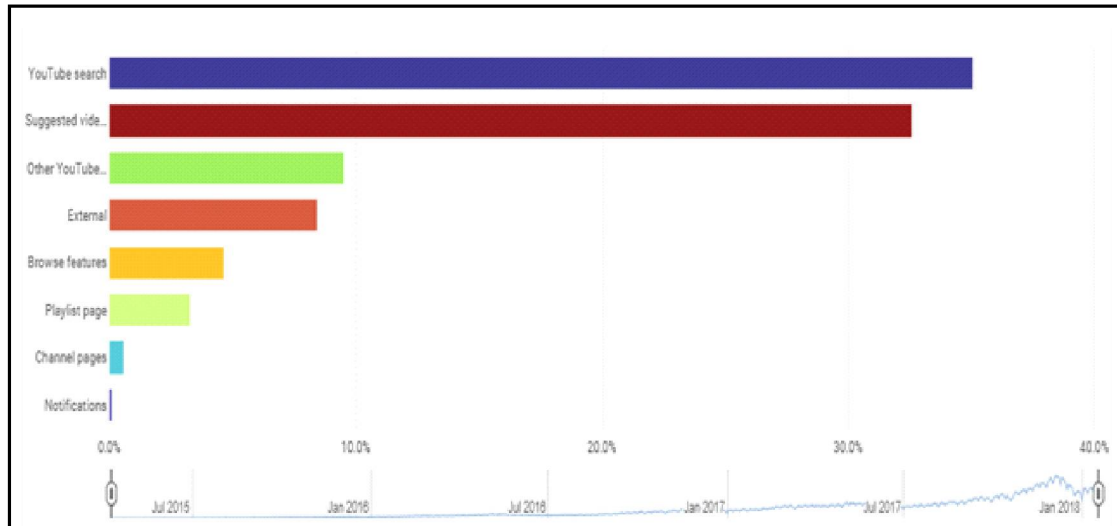


Figure- 5 Popular traffic sources for finding videos on Vidya-Mitra

8.6. Devices for watching video

This Graph shows that, this gennext population of learners are interested in using mobile phone for finding their learning content from vidya mitra channel then 2nd preference is going with computers than other like tablets, TV etc.

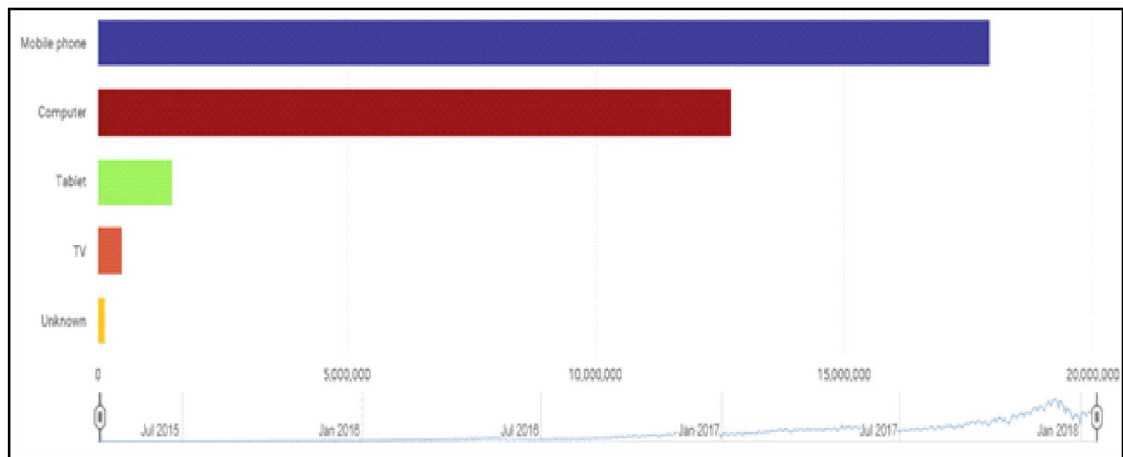


Figure- 6 Use of devices for watching video

8.7. Interaction report

This report of YouTube gives the data that how users are getting interacted with the content which help the content creator in collecting the feedback direct from the viewers. Criteria like likes, dislikes, share and comment help creator to evaluate their work. The below mention graphs of likes, dislikes, share and comment shows the increasing amount of interaction of learner of Vidya-Mitra with the channel and other users.



Figure- 7 Interaction report of learners of Vidya-Mitra

9. Findings and discussion

1. Study shows that maximum no. of females learner are from age group of 18-24 and males are of 25 to 34;
2. Majority of the viewers/learners are using INFLIBNET platform to view the content;
3. Most of the learners are using YouTube search platform for finding the video as it is the first medium to interact with the YouTube then use suggested video but to improve views and to promote the videos channel need to use different communication medium like- gmail, social media, blogs etc.;
4. According to google india by 2018 half of the counter will be connected through internet and from them more than 80% of them will use internet by mobile (by quartz india), this study also shows that maximum no. of users are more interested in using mobile for viewing the content;
5. The increasing graph of interaction report showing the interest of users for giving the feedback on the content which may help for future purpose;
6. Need more statics for effective analysis, data is not downloadable from YouTube for further study;
7. Usage statistics are very useful for learners and developer for improvement and decision making, this analytics should be available for all type of content on the website also; and
8. Proper mapping between subjects and keywords will increase the quality of result.

10. Conclusion

The rapid growing country like India need a big knowledge powerhouse of its human resource in coming future but the problem of less add unconsumed infrastructure like disproportion ratio of pupil and teacher, bad connectivity between India and Bharat, digital divide are some of the reasons which pull country's legs to take fast and big steps in its development.

To cope up these issues India is changing the style of teaching and learning in the country promoting e-learning and using information and communication technology in education not even higher education the K to 12 are also try to take maximum benefit from it by proving interactive content to their learners.

E-learning is not a new buzz for India from NPTEL to Swyam and Swyamprabha so many project on different discipline for different users came but because of less awareness and available on different platforms it was less consumed by the learners a step of making an integrated platform for these projects pals a vital role in spreading awareness for the project and increase the usage of the projects and their content in between learners.6

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