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## Use of Open Courseware by Engineering Students of Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth Dapoli Dist.- Ratnagiri Maharashtra: With Reference To NPTEL

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### Abstract

The open access movement provides ample opportunities for study and learning to the students, faculty members, and the general public. It involved different kinds of persons in the communities who are working in various institutions, organizations, universities, and industries. The present study explores the awareness and use of the NPTEL project of MHRD initiated by 7 IITs along with the IISc, Bangalore in 2003, to provide quality education to anyone interested in learning from the IITs.. The paper highlights knowledge, the Source of Awareness, Place and Time of accessing E-Resources, Types of material preferred, Reasons for using E-learning courseware, Frequency of using E-Content, Purposes of using E-Content, Reasons for using e-content over the print articles, Satisfaction and Perception about project NPTEL. It also highlights the Problems faced by users while accessing E-Content.

**Keywords:** Open Courseware, Open Educational Resources, NPTEL, Swayam, MOOC

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### 1 Introduction:

National Programme on Technology Enhanced Learning (NPTEL) is a project of MHRD initiated by seven Indian Institutes of Technology (Bombay, Delhi, Kanpur, Kharagpur, Madras, Guwahati and Roorkee) along with the Indian Institute of Science, Bangalore in 2003, to provide quality education to anyone interested in learning from the IITs. The main goal was to create web and video courses in all major branches of engineering and physical sciences at the undergraduate and postgraduate levels and management courses at the postgraduate level. It is Largest online repository in the world of courses in engineering, basic sciences, and selected humanities and social sciences subjects.

Its Online web portal <http://nptel.ac.in> has more than 471 million+ views. The Youtube channel for NPTEL is the most subscribed educational channel, 1.5 million+ channel subscribers, 819 million+ views, and 50000+ Video Hours. It has More than 54000+ hours of video content,

transcribed with subtitles It is the Most accessed library of peer-reviewed educational content in the world. It consists high quality, interactive course materials for the various subjects in all disciplines of engineering sciences, agriculture, arts, fine arts & humanities, natural & mathematical sciences, linguistics, languages, etc. All these contents can be accessed by anyone from anywhere without paying anything. This initiative fulfills the gap of teachers in the various institutions and helps the students impart education and advancement of their knowledge of the particular subject. It is a Gateway for all postgraduate courses which enhance the self-learning process, assessment and update with other courses.

### 2. Objectives

The following objectives have been undertaken for the compilation of the study, these are as follows: To explore the use and awareness of NPTEL Courses and resources

1. Investigate the source of awareness and time spent in accessing e-content

2. Explore the search approach and the type of materials preferred by the users
3. Discover the reasons and purpose to use e-content
4. Investigate the problems faced by users while accessing and using the E-Content
5. Identify the satisfaction and perception regarding NPTEL

### 3. Methodology

The survey method is used for the completion of the study. Questionnaires were used as an instrument for the collection of the data. The

### 4. Data Analysis

**Table 1: Questionnaire Distribution and Receiving**

Name of University	Questionnaire Distributed	Questionnaire Received	Response
DBSKKV, Dapoli	157	118	75.16

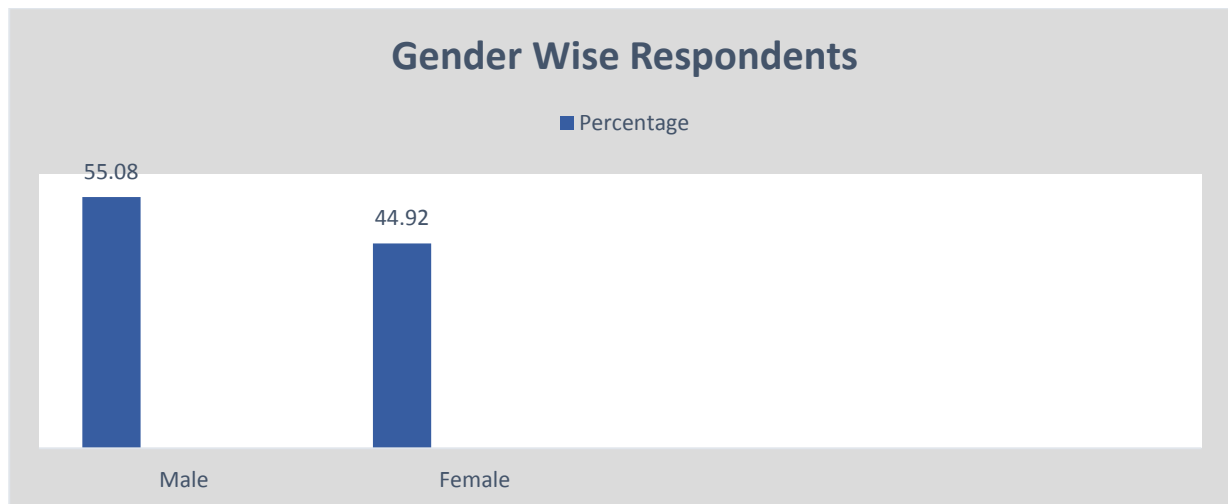
The above table show that distribution and receiving of the questionnaires were total 157 questionnaires were distributed among the

questionnaire was prepared and distributed among the engineering students of Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth Dapoli. The collected data were codified, classified, and tabulated for analysis and interpretation. A total of 118 filled questionnaires were received from engineering college students of the university. On the basis of the collected data, the findings and suggestions have been drawn.

engineering students of the DBSKKV, Dapoli out of those only 118 (75.16%) questionnaires were received.

**Table 2: Gender-wise Respondents**

Gender	Responses	Percentage
Male	65	55.08
Female	53	44.92
Total	118	100



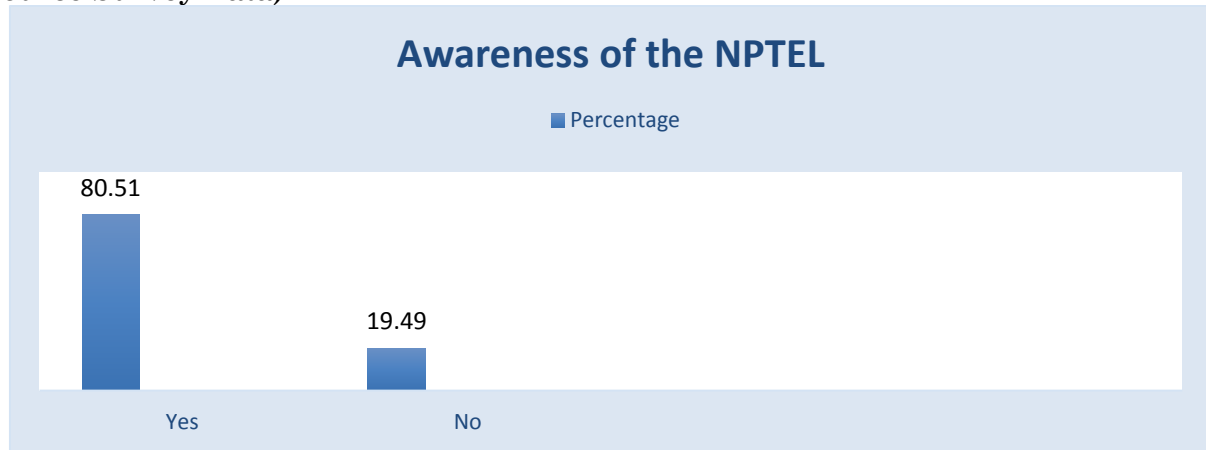
The table above and Figure 2 explore the gender distribution of the respondents were total respondents are 118. The total

population includes 65 (55.08%) male and 53(44.92%), female respondents.

**Table 3: Awareness of the NPTEL**

Awareness	Frequency	Percentage(%)
Yes	95	80.51
No	23	19.49
Total	118	100

(Source-Survey Data)

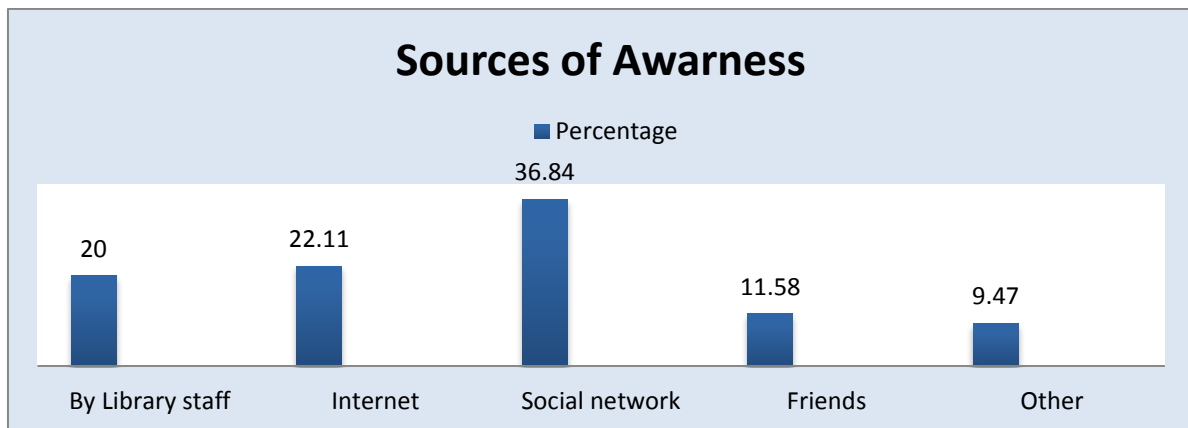


From the table and figure 3, the majority of the students 95(80.51%) are aware of NPTEL Courses and resources which is highly appreciable because it enhances the use of

online resources developed for the engineering students while 23 (19.49%) are not aware.

**Table 4: Source of Awareness**

Source of Awareness	Frequency	Percentage (%)
By Library staff	19	20.00
Internet	21	22.11
Social network	35	36.84
Friends	11	11.58
Other	09	9.47
Total	95	100

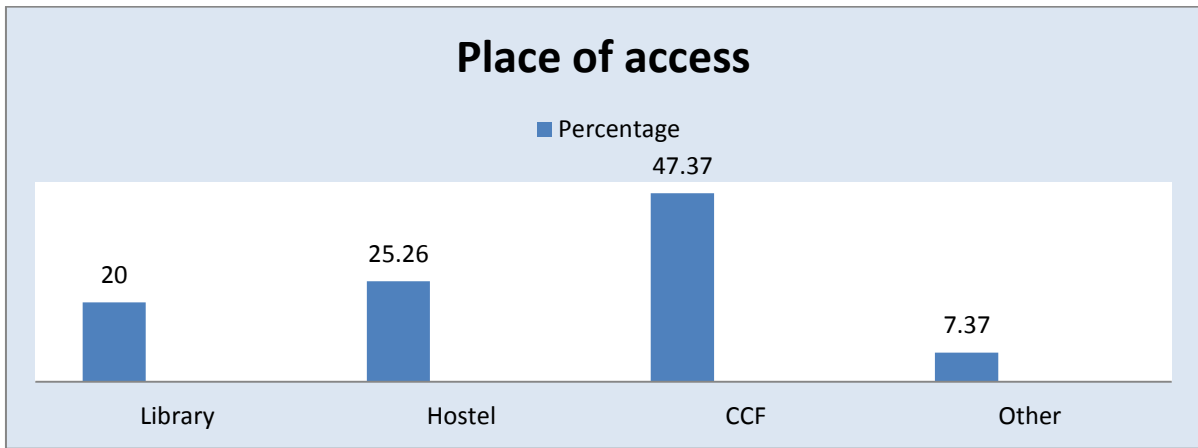


The table and figure 4 shows that the sources of awareness of NPTEL Courses and resources, where 19 (20%) students of DBSKKV aware by Library staff, 35(36.84%)

by Social Networks, 21(22.11%) by Internet and 09(9.47%) of users by others sources. It means that most of the students of DBSKKV aware about NPTEL through Social Network

**Table 5: Place of accessing E-Resources/content**

Place of access	Frequency	Percentage (%)
Library	19	20.00
Hostel	24	25.26
CCF	45	47.37
Other	07	7.37
Total	95	100

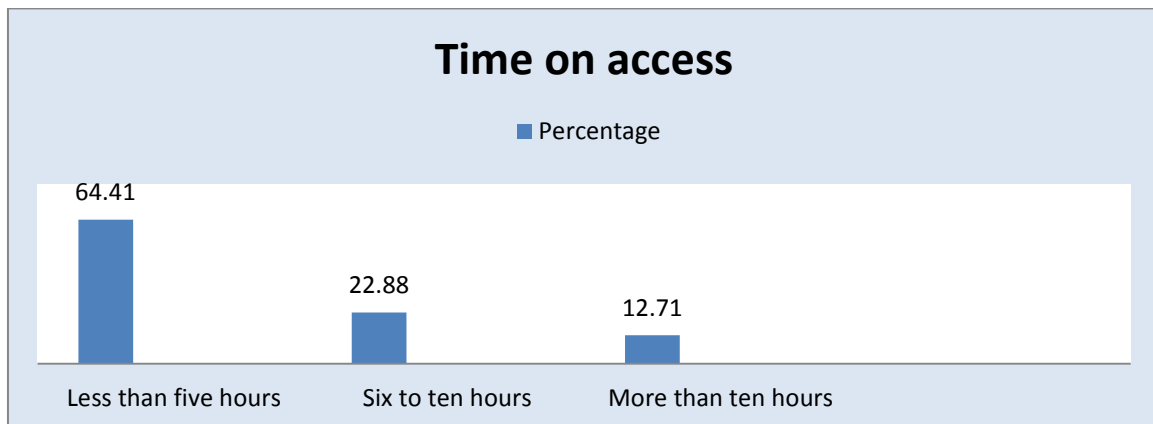


The above table and figure 5 show that the place of accessing e-resources/content where best place to access e-resources/content is hostel which is 24(25.26%), 19(20.00%) in Library, 45(47.37%) in computer center

facility, 45 and 07(07.37%) use in other places. It shows that most of the users access E-Resources/content from the hostel and computer center

Time on access	Frequency	Percentage (%)
Less than five hours	76	64.41
Six to ten hours	27	22.88
More than ten hours	15	12.71

**Table 6: Time spent on E-content accessing**



It is observed from the above table and figure, 76(64.41%) respondents spent less than five hours on E-contents, 27(22.88%) users spent six to ten hour and 15(12.71%)

students spent more than ten hours. It clearly means that most of the students of DBSKKV spent less than five hours on accessing E-contents.

**Table 7: Search terms used while accessing E-Resources**

Search by Term	Frequency	Percentage(%)
Author	09	7.63
Title	19	16.10
Subject	57	48.31
Keywords	33	27.97

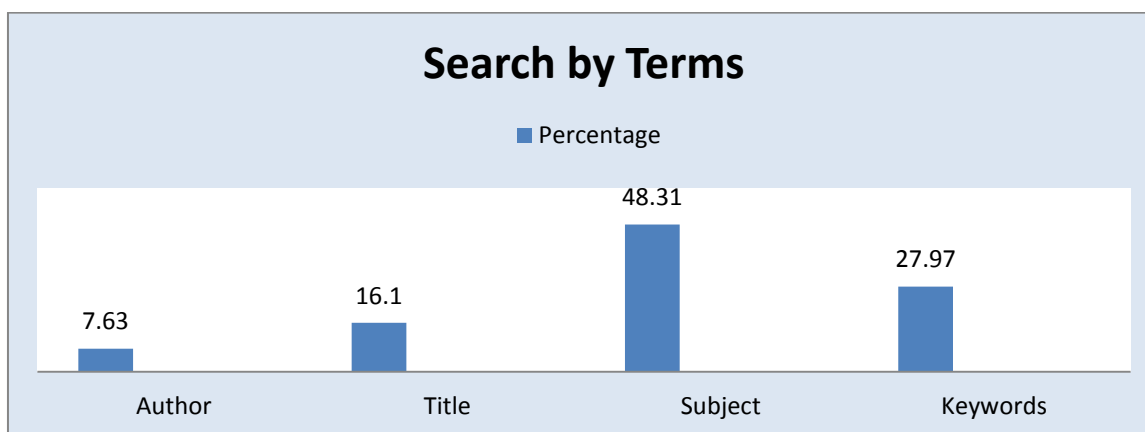
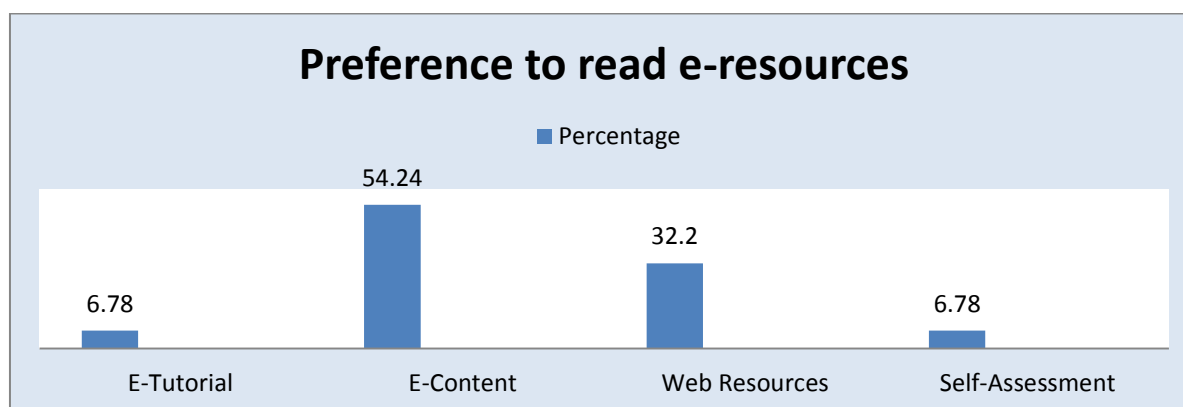


Table and figure no. 7 reveal the search terms used while accessing e- resources were 09(7.63%) respondents search by author, 19(16.10%) by the article title, 57(48.31%) by subject and 33(27.97%) by keywords. It reveals that in DBSKKV, the most used search term is Keywords

**Table 8: Types of material preference to read E-Resource**

Types of material preference to read e-resources	Frequency	Percentage(%)
E-Tutorial	08	<b>6.78</b>
E-content	64	<b>54.24</b>
Web Resources	38	<b>32.20</b>
Self-Assessment	08	<b>6.78</b>

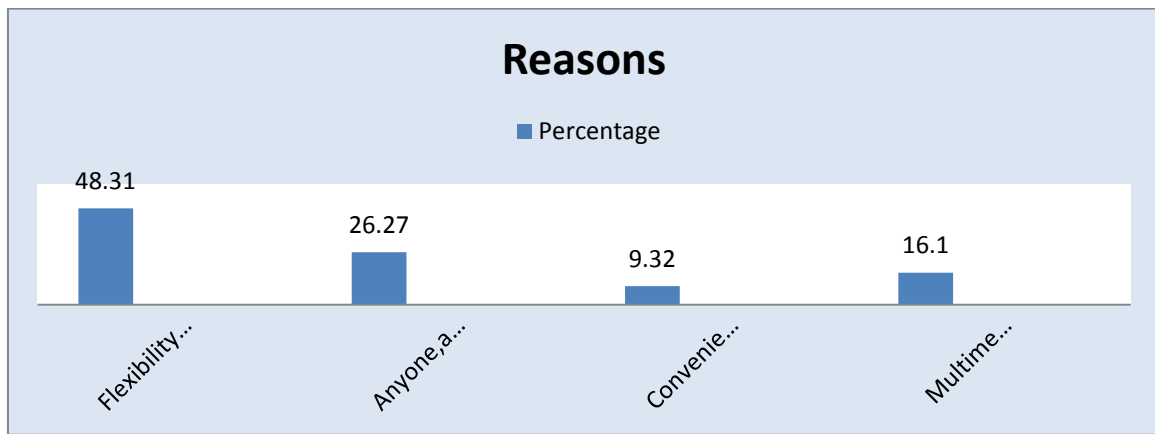


It is observed from the previous table and figures that types of material preference to read e-resources where 08(6.78 %) students prefer E- Tutorial, 64(54.24%) E-Contents,

38(32.20 %) web-resources, and 08(6.78%) prefer by self-assessment. It means that most of the students ofDBSKKV prefer web resources.

**Table 9: Reasons of using E-learning Courseware**

Reasons	Frequency	Percentage (%)
E-learning, speedily, flexibility & save money	57	<b>48.31</b>
Due to anyone, anywhere, anytime	31	<b>26.27</b>
Due to convenience and self-assessment	11	<b>9.32</b>
Due to multimedia interactive contents	19	<b>16.10</b>

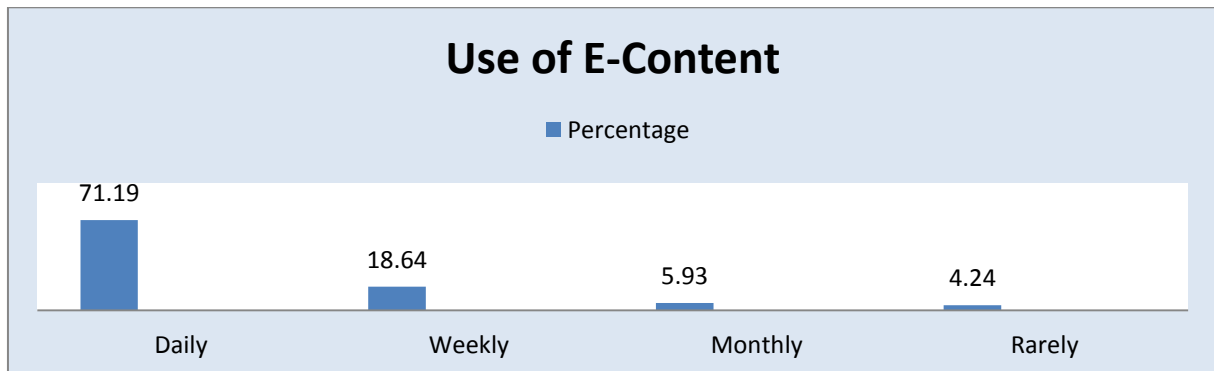


The table and figure no. 9 show that reasons of using e-learning courseware where 57(48.31%) are using for speedily, flexibly & save money, 31(26.27%) due to anyone, anywhere, anytime, 11(9.32%) for convenience and self-assessment and

19(16.10%) for multimedia interactive contents for using elearning courseware. The result of the table indicates that the most of the students of DBSKKV 57(48.31%) feel that e-learning courseware is speedy, flexible and saves money

**Table 10: Frequency of using E-Content**

Use E-Content	Frequency	Percentage (%)
Daily	84	<b>71.19</b>
Weekly	22	<b>18.64</b>
Monthly	07	<b>5.93</b>
Rarely	05	<b>4.24</b>

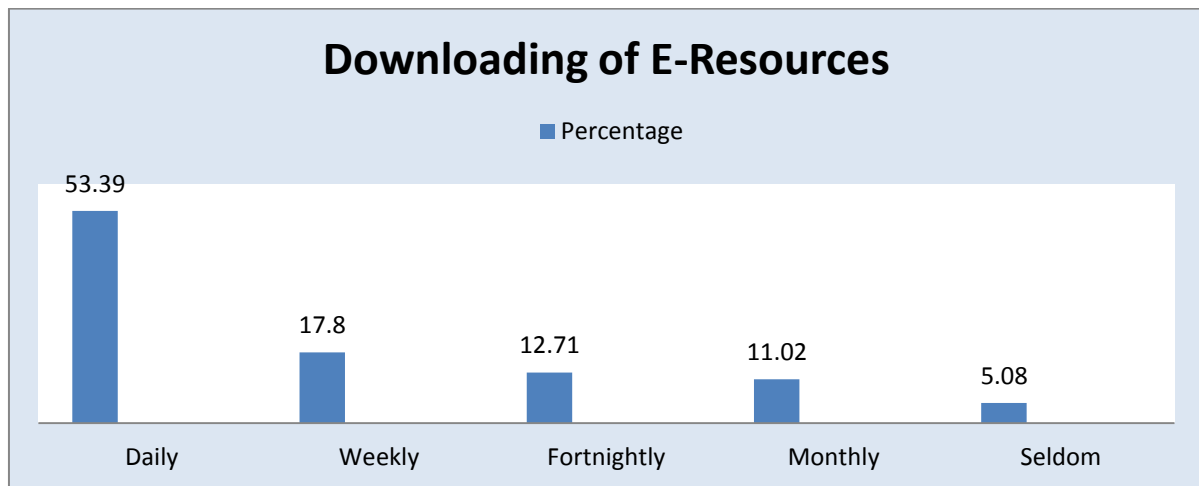


It is revealed from the above table and figure that frequency of using e-contents where 84(71.19%) respondents use daily, 22(18.64%) use weekly, 7(5.93%) use monthly and also

5(4.24%) use rarely. The Graph clearly indicates that the students of DBSKKV use e-resources daily

**Table 11: Frequency of Downloading E-Resources**

Frequency of Downloading	Frequency	Percentage (%)
Daily	63	<b>53.39</b>
Weekly	21	<b>17.80</b>
Fortnightly	15	<b>12.71</b>
Monthly	13	<b>11.02</b>
Seldom	06	<b>5.08</b>



From the above table and figure, 63(53.39%) users download e-resources daily, 21(17.80%) users download e-resources weekly, 15(12.71%) users use fortnightly, 13(11.02%)

users download monthly, and 6(5.08%) users download seldom. Mostly users download e-resource daily and weekly

**Table 12: Purposes of using E-Content**

Purpose of Using E-Resources	Frequency	Percentage (%)
For keeping up to date	13	11.02
For information search	17	14.41
For study and research	76	64.41
For teaching and learning	12	10.17

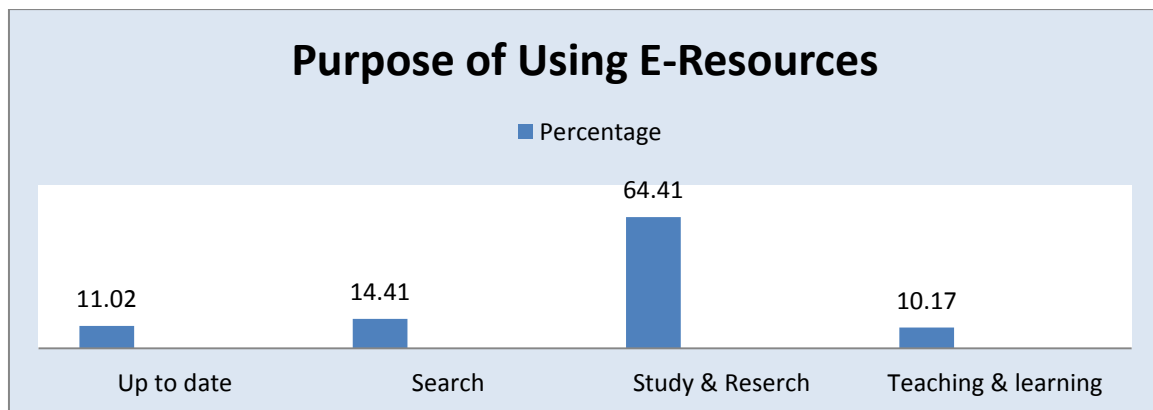
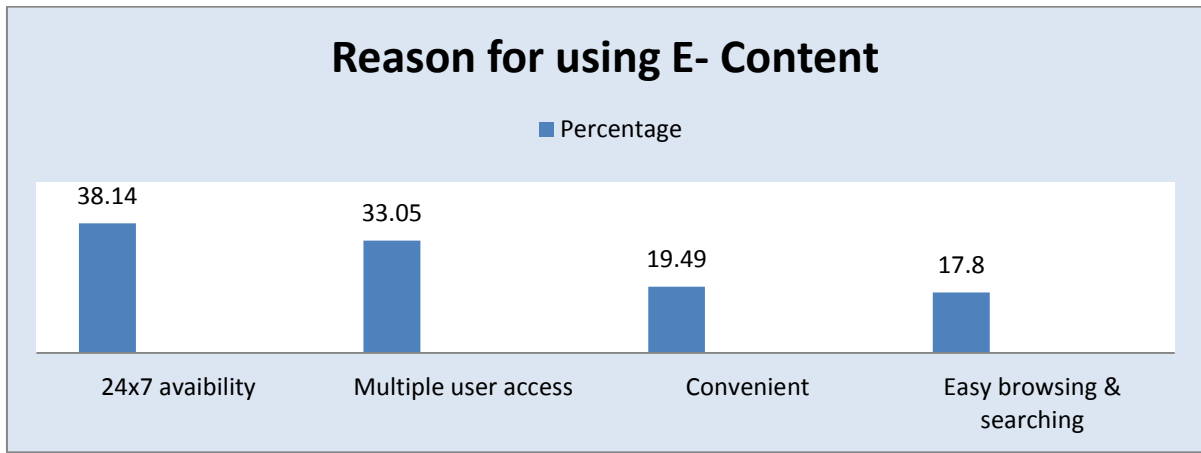


Table above and figure indicate that the purposes of using e-content were 13(11.02%) for keeping up to date, 17(14.41%) for information search, 76(64.41%) for study and

research and 12(10.17%) for teaching and learning. From the table and figure, it means that most of the students of DBSKKV use e-resources for study and research.

**Table 13: Reasons for using e-content over Print Article**

Grounds for Using E-Contents	Frequency	Percentage (%)
24x7 availability	45	38.14
Multiple user access	39	33.05
Convenient	23	19.49
Easy browsing & searching	21	17.80

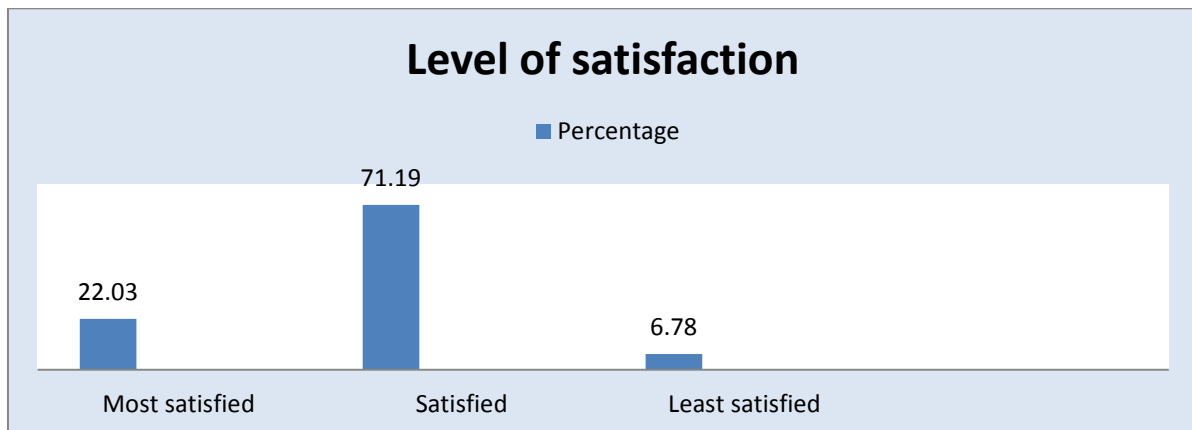


The table and figure no. 13 show that reasons for using e-content over print article in DBSKKV, most of 45(38.14%) students access

for 24×7 availability, 39(33.05%) for multiple user access , 23(19.49%) for convenient and 21(17.80%) for easy browsing & searching.

**Table 14: Satisfaction of E- Resources/Content through NPTEL**

Satisfaction level	frequency	Percentage (%)
Most satisfied	26	<b>22.03</b>
Satisfied	84	<b>71.19</b>
Least satisfied	08	<b>6.78</b>



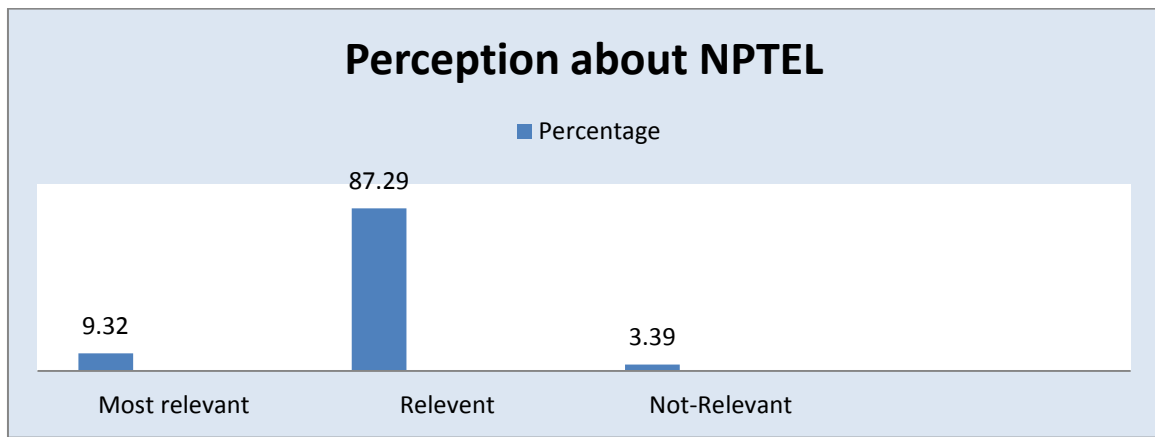
It is explored from the above table and figure about the satisfaction of e- resources/contents through NPTEL where 26(22.03%) are most satisfied, 84(71.19%) are Satisfied and

08(6.78%) users least satisfied with the e- resources available in NPTEL .The study shows that the university students are satisfied with the e-resources.

**Table 15: Perception about NPTEL**

Perceptions	Frequency	Percentage (%)
Most relevant	11	<b>9.32</b>
Relevant	103	<b>87.29</b>
Not – Relevant	04	<b>3.39</b>



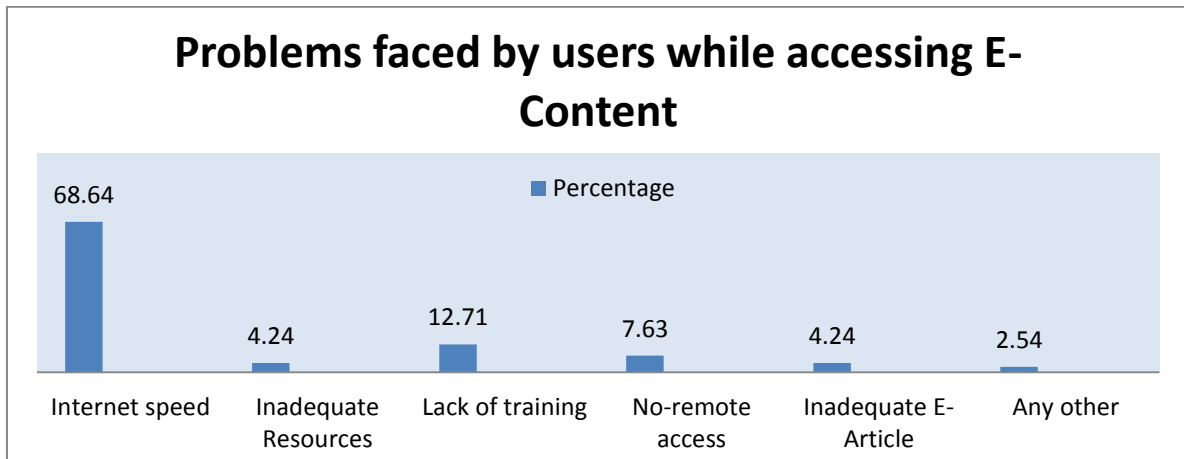


It is highlighted from the above table and figure 15 that the perception about NPTEL where 11(9.32%) respondents are saying most relevant, 103(87.29%) students say

relevant and 04(3.39%) users say not relevant. The study reveals that respondents of DBSKKV finds e-resources relevant on NPTEL

**Table 16: Problems faced by users while accessing E-Content**

Perceptions	Frequency	Percentage (%)
Internet speed	81	<b>68.64</b>
Inadequate Resources	05	<b>4.24</b>
Lack of training	15	<b>12.71</b>
No-remote access	09	<b>7.63</b>
Inadequate E-Article	05	<b>4.24</b>
Any other	03	<b>2.54</b>



The above table and figure no.16 reveal that in DBSKKV 81(68.64%) Students face main problem by internet speeds, 05(4.24%) users face by inadequate resource, 15(12.71%) face problem in the lack of training, 09(7.63%) faced by no-remote access, 05(4.24%) faced by inadequate e-article and 3(2.54%) faced problems from the others reasons.

#### 5. Conclusion

Online line course has provided ample opportunities for the students and distance learners, and for those organizations which are not having adequate faculty for teaching. Online courseware are developed by the eminent faculty members of the various

institutions for the lifelong learning. Today, most of the urban students are using computers, laptop and internet at their home for various studies and learning purpose. NPTEL project of MHRD initiated by 7 IITs along with the IISc, Bangalore in 2003, to provide quality education to anyone interested in learning from the IITs.. The paper highlights regarding knowledge, the Source of Awareness, Place and Time of accessing E-Resources, Types of material preferred, Reasons for using E- learning courseware, Frequency of using E-Content, Purposes of using E-Content, Reasons for using e-content over print article,

Satisfaction and Perception about project NPTEL. It also highlights the Problems faced by users while accessing E-Content. The responsibility of the educationist, teachers, faculty members, learners and students actively participate and advertise about the open educational resources.

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