

Technology – A Catalyst For Improving Literacy Rate In India

Dr. Deepti Rani

*Associate Professor in the Department of Physics
MMH College, Ghaziabad.*

Abstract

Among the various benefits which have accrued to the society through revolution in information technology sector, one of the most important has been increasing awareness and uplifting the inquisitiveness to learn. This change in behavior among the different sections of society had important bearing on increasing the literacy rate in India. The major beneficiary on account of this change has been the states where literacy rate was significant low as compared to other states of India. Internet facility has proved successful in removing all kinds of barriers particularly geographical and time constraints which were hindering the accessibility to education for significant part of society particularly in the rural sector. This study has been conducted to examine the impact of internet penetration level on literacy rate of India over last few decades. Secondary as well as primary sources of information have been used for the study. Various statistical techniques have been applied on the data collected during the study to arrive at meaningful conclusion.

Keywords: *Internet Penetration level, Literacy rate, Correlation, Probable error, Coefficient of determination.*

Introduction

Over the last few decades, the education system has witnessed phenomenal changes. Large section of society not only in urban area but also in rural area has realized the importance of education and this has led to upsurge in demand for education. The importance of education has also been felt and highlighted by various policy makers for achieving sustainable development goals. In order cope up with the increasing demand for education and to meet the challenges posed by competitive job environment, use of technology for imparting education has become imperative. It has proved effective in removing all kind of geographical barriers and facilitated the process of transformation in the education sector besides acting as catalyst in changing teaching pedagogy and creation of different interdisciplinary and vocational courses. The online teaching system is gradually replacing traditional old class room. The main reasons which can be attributed to this fact include social and economic transformations in the global environment to individual's aspiration and constraints. All the countries having good penetration level of internet are resorting to online system of education. Though, the need for increasing literacy rate has always been the main agenda for Government in India but the real upsurge has been witnessed after the revolution in information technology sector.

Objective of the study

The present study has been conducted to examine the impact of technology in expanding the domain of education and thereby increasing the literacy rate in India.

Research Methodology

The study has been conducted using primary as well as secondary sources of information and drawing interpretation from the same keeping in view the objective of the study. View and opinions were also sought from 56 respondents on role of technology in increasing awareness and literacy rate . A questionnaire containing five questions related to the study was designed and views of respondents were sought using convenience sampling method. Various statistical measures have been employed to arrive at meaningful conclusion of the study.

Observations

1. The internet penetration level in India has phenomenally increased during the period 2000 to 2016 as can be observed from the details given in table 1 below:

Period	Year	Internet penetration level (in percentage)
1	2000	0.53
2	2001	0.66
3	2002	1.54
4	2003	1.69
5	2004	1.98
6	2005	2.39
7	2006	2.81
8	2007	3.95
9	2008	4.38
10	2009	5.12
11	2010	7.5
12	2011	10.07
13	2012	12.58
14	2013	15.21
15	2014	21
16	2015	26
17	2016	29.55

Table1: Internet Penetration level during the period 2000 - 2016

In order to reflect the sharp increasing trend of internet penetration level in India, the above data is diagrammatically presented below in figure 1

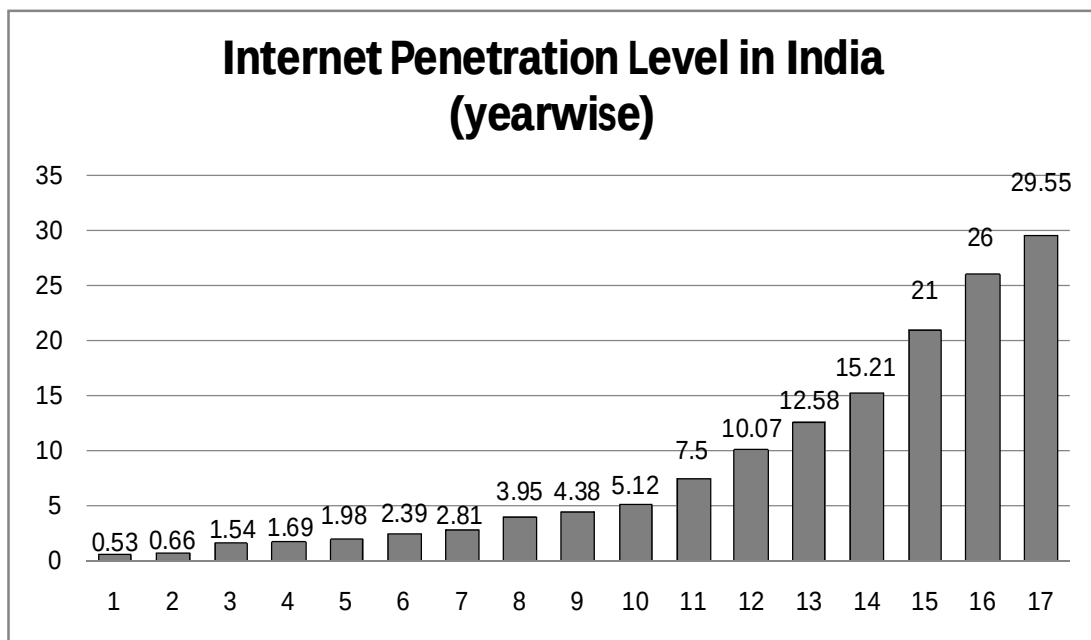


Figure 1 : Bar chart showing internet penetration level

2) The literacy rate (in percentage) during the period 1981 to 2015 has been shown in table 2 below :

S.No.	Year	Overall	Male	% growth rate in Male literacy rate	Female	% growth rate in Female literacy rate
1	1981	40.76	54.84		25.68	
2	1991	48.22	61.64	12.39971	33.73	31.34735
3	2001	61.01	73.41	19.09474	47.84	41.8322
4	2006	62.75	75.19	2.424738	50.82	6.229097
5	2011	69.3	78.88	4.907567	59.28	16.64699
6	2015	71.96	80.94	2.611562	62.98	6.241565

Table2: Literacy rate overall, male and female for the period 1981 to 2015

It can be observed from the details given in table that overall literacy rate has consistently improved over a period of time. However, the percentage rate of increase was observed to be higher in case of female than male. The same has been demonstrated in the figure 2 below

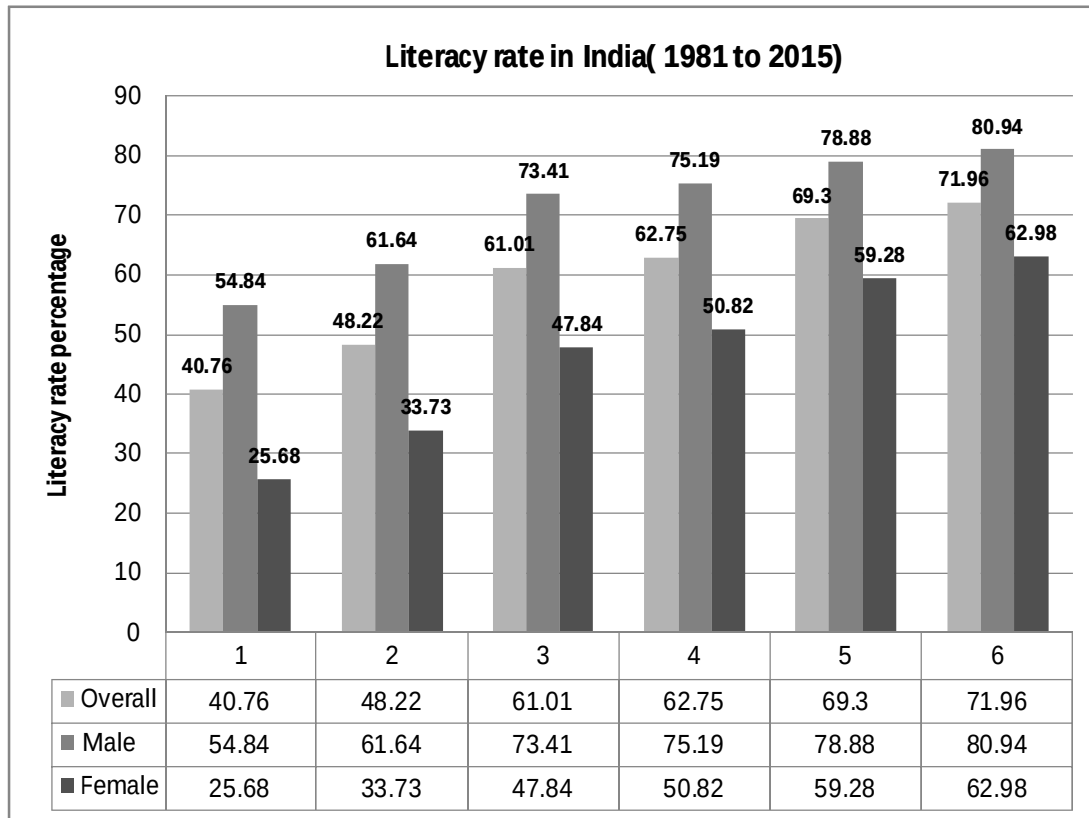


Figure 2: Bar chart showing literacy rate overall, male and female for the period 1981 to 2015

3.The internet penetration level (statewise) for the year ended March 2019 is shown below in figure 3

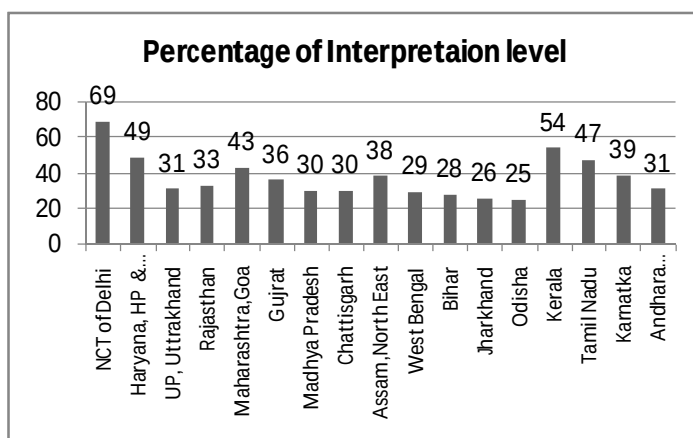


Figure 3: Bar Chart showing internet penetration level statewise

It can be observed that highest level of internet penetration was found in NCT of Delhi followed by Kerala. In order to examine the degree of relationship between internet penetration level and literacy rate (statewise), coefficient of correlation was calculated from the data shown in table 3

S.No.	State	Literacy rate year 2011 census	Internet Penetration level
1	NCT of Delhi	86.34	69
2	Haryana, HP & Punjab	76.64	49
3	UP, Uttrakhand	69.72	31
4	Rajasthan	67.06	33
5	Maharashtra,Goa	82.91	43
6	Gujrat	79.31	36
7	Madhya Pradesh	70.63	30
8	Chattisgarh	71.04	30
9	Assam,North East	73.18	38
10	West Bengal	77.08	29
11	Bihar	63.82	28
12	Jharkhand	67.63	26
13	Odisha	73.45	25
14	Kerala	93.91	54
15	Tamil Nadu	80.33	47
16	Karnatka	75.6	39
17	Andhara Pradesh, Telangana	67.35	31

Table 3: Statewise Internet penetration level and Literacy rate

The degree of coefficient of correlation was found to be 0.78 which denotes fairly high positive correlation between literacy rate and internet penetration level . In order ensure the reliability of the coefficient of correlation, probable error was calculated using the formula:

$$P.E = 0.6745 \times (1 - r^2)/N$$

$$\text{Probable error} = 0.064014$$

As probable error is significantly lower than coefficient of correlation, it signifies the reliability of degree of correlation achieved from the above data. Further , degree of correlation is 12.30 times more than probable error as against required value of six times which further signifies the reliability of the degree of correlation. The coefficient of determination in this case is 62.16 % which implies the increase in literacy rate could be explained due to increase in internet penetration level to the extent of 62.16% besides other variables.

4. In order to further substantiate the fact that internet penetration level is an important variable determining literacy rate and increasing awareness among general public, views and opinions of 56 respondents were sought on following issues:

- Do you use internet facility?
- Does internet facility provides useful and reliable information?
- Do you think that internet facility has helped in increasing literacy rate ?
- Are you familiar with online courses offered through internet facility?
- Has internet facility helped in increasing your awareness?

Profile of Respondents

The respondents were selected from different age groups as shown below in table 4 :

Age group	Number of respondents
15-25	19
25-35	13
35-45	12
Above 45	12
Total	56

Table 4 : Age profile of respondents

The detail of academic qualification of the respondent is shown below in table 5 :

Qualification	Number of respondents
Upto 10	8
Class 10-12	12
Undergraduate	16
Post Graduate and above	20
Total	56

Table 5 : Qualification profile of respondents

Summary of responses

S.No.	Question	Yes	No
1	Do you use internet facility?	56	0
2	Does internet facility provides useful and reliable information?	42	14
3	Do you think that internet facility has helped in increasing literacy rate ?	48	8
4	Are you familiar with online courses offered through internet facility?	40	16
5	Has internet facility helped in increasing your awareness?	45	11

It can be observed from the summary of responses that majority of the respondents are of the opinion that internet facility has helped in increasing awareness and provides useful information. It can be considered as one of the important variable in increasing the literacy rate besides other variables. With regard to its application of providing online courses, the familiarity among respondents seems to be less in comparison to other aspects related to internet facility.

Conclusion of the study

The study clearly demonstrate a significant relationship between literacy rate and internet penetration level. As the literacy rate has phenomenally improved subsequent to revolutionary uptrend in internet penetration level, it can be concluded that internet facility has helped in increasing awareness among people and raising their inquisitiveness towards education which has finally helped in increasing literacy rate. Further, the accessibility to learn through online method has eased considerably, as time and geographical issues are no more barriers for anyone desiring to seek education.

References

1. Sinha Manoj, "Higher Education in India: Need for innovative and transformative approach.", *International Journal of Advance and Innovative Research*, Volume 6, Issue 2 (XXI): April - June, 2019
2. "Education Statistics at a Glance" report published by MHRD, GOI, 2018.
3. "Higher education in India: Moving towards global relevance and competitiveness" report released at FICCI Higher Education Summit 2014
4. Sharma, S., & Sharma, P. (2015). *Indian Higher Education System: Challenges And Suggestions*, *Electronic Journal for Inclusive Education*, 3 (4).
5. Chandra, S.S. and Sharma, R.K. (1996). 'Principles of Education.' Atlantic Publishers, New Delhi, pp. 35-50.
6. Kaul Sanal (2006). "Higher Education in India: Seizing The Opportunity." *Working paper*, No.179, ICRIER, New Delhi, pp.19-25.

Websites

- i) www.ibef.org
- ii) <https://inc42.com/buzz/internet-in-india-2019-equal-split-of-internet-users-in-rural-and-urban-areas/>