

An Analytical study on the Impact of Technology in Adolescents and Teenagers of Pune Region

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Abstract: This study is directed to examine the effectiveness of technology on Adolescent and Teenager's activities and its Impact. This study's main objectives were to judge the perception of adolescents and teenagers towards technology and emotional quotient, Impact of technology on Childs emotional quotient. this study has two null hypotheses such as there is no any relationship between children familiar with technology and learning it-at a fastest rate and second one is Technology is bane to Children. Researcher has selected 150 child-sample respondent 28 schools in Pune city by using convincing sample technique. Collected data has been analyzed by applying descriptive statistical tools as mean, mode, percentage and proposed hypotheses has tested by using parametric and non parametric statistical test such as "t" test and Friedman Test to test significance or non significance result. The result is directed towards the majority of sample respondents are agreed that they are using technology for learning and to solve their study related doubts. Similarly the designed hypothesis proves that there is a relationship between children familiar with technology and learning it-at a fastest rate and second hypothesis revealed that technology is boon to children

Keywords: Technology, Adolescents, Teenagers, Perception

1.Introduction and Research Methodology

In today's fast moving era where life cannot be thought without technology, parents, adolescents and teenagers also cannot be away from it. Technology has not only made life easy to live but also helping us grow towards a positive growth creating various opportunities in our daily lives. It be an entertainment, daily routine or any business activities.

The word "Technology" may be referred as interactive digital and electronic devices, software, multi-touch tablets, technology-based toys, apps, video games and interactive (nonlinear) screen-based media.

Technology is embracing all ages of society with open hands. Due to new advancements in technology and updated system it becomes difficult for one to stay away from it.

I.Origin of research problem:-

I. If we keenly look at the technology has transformed the main stream culture in India we can see technology used by all segments of the society. The Hawkers, Thailawala, rikshawala, taxi driver or the maids working for us all carry handsets and use different kinds of apps for various purposes. All the parents, teachers, businessmen, entrepreneurs and youth all use technology.

II. Significance of the study in the context of current status:

“Technology always has unforeseen consequences, and it is not always clear, at the beginning, who or what will win, and who or what will lose.” Informing Ourselves to Death -Neil Postman

It is often seen that adolescents and teenagers are using handsets and huge amount of internet. Most of their time is seen spent on Internet for the use of social media, games, chatting, shopping, entertainment and education. Help of technology they remain connected with their friends and relatives and this promotes sense of belongingness. That is why we call them Digital citizen. But along with it they do not understand the consequence of using it beyond limitations. They tend to post personal details that take them to various problems like Cyber bullying, Trolling, Isolation, inappropriate relationships etc.,

III. INTERDISCIPLINARY RELEVANCE:-

The research areas cover various interdisciplinary areas like

- ✓ Research
- ✓ Students
- ✓ Marketing
- ✓ Industries
- ✓ Manufacturing
- ✓ Psychologist
- ✓ Social Relevance
- ✓ I.T Professional
- ✓ Decision Support System(DSS)

2. Objectives of the Study:-

- I. To Study the effectiveness of technology on children.
- II. To understand significance of technology from children's point of view.
- III. To analyze Emotional Quotient of children with technology.

Hypotheses of the Study:-

- IV. H_0 : There is no any relationship between Children familiar with Technology & learning it at a faster rate.
- V. H_1 : Technology is boon to children.
- VI. H_1 : Technology is bane to children.

IV. RESEARCH METHODOLOGY

Scope of the Study:-

- The study covers children between the age group 4 -18 years. Adolescents' considered between the age group of 4 to 14years and between the age group of 14 to 18 years considered as Teenagers.
- All the respondents are from the age group 4 to 18 years.
- Only Fractional market is covered for the study
- All the data is relevant to Pune city
- There may be bias in choosing sample for the study.
- Broadly following Elements are covered for the study
 - ✓ Schools
 - ✓ Family
 - ✓ Community

4.1 Research Methodology and Research Design :-

In order to achieve above stated objectives of the study, the research methodology used is as follows:-

1. Primary Data Collection Sources:- The first hand data collection was made through questionnaire, Interviews, surveys, experiments, observation, and focus groups.
2. Secondary Data Collection Sources:- The second hand data collection was made through Reference books, Research journals and magazines, newspaper, and websites.

4.2 Research Design:-

- **Sample Size:-** A sample size of 150 adolescents (age 4 to 18) was taken for qualitative research. Samples of 53 male and 97 female adolescents (age from 4 to 13, and 14 to 18 years) was drawn from the above age strata that had been decided in Pune City.

Table No. TS.1

Sampling Units	Respondents	Sampling Procedure
Children	150	Stratified random sample using age and gender.

- **Sample Technique:-** A Stratified random sampling technique using age and gender as stratification variables will be applied. Age groups decided was 4 to 13, and 14 to 18 years.
- **Types of Research :-**
 1. Descriptive for children
 2. Explorative for Parents
- **Research Instruments:-**
 1. Questionnaire Likert Scale and close ended,
 2. Qualitative comments from parents,
 3. Controlled Field Experiments.
- **Method of contact:-**
 1. Personal and In home and Class room interview
 2. Length of Interview – 20 minutes.
- **Tool of Analysis :-**
Simple Percentile Method, Mean, Chi-square Test, “T” Test, and ‘Friedman’ Test.

4.3 Direction For Further Research :-

The research can be extended to study the active influence and passive influence of children on the consumer market of Technology. Every individual is unique and identical so research scholar can target them by studying their behavioral, psychological and social aspects in to a developing economy.

V .Review of Literature

1. (Bocij, 2006)

Many of us come into contact with computers every day, whether at work, school or home. As useful as the new technologies are, they also have a darker side. By making computers part of our daily lives, we run the risk of allowing thieves, swindlers, and all kinds of criminals directly into our homes. Armed with a personal computer, a modem and just a little knowledge, a thief can easily access confidential information

Bocij, P. (2006). *The Dark Side of the Internet*. Santa Barbara, California: ABC-CLIO.

2. (Dupper, 1997)

The Human Side of Intranets avoids information overload, addressing three critical dimensions of creating an effective and valuable intranet-content, style, and politics

Dupper, P. R. (1997). *The Human Side of Intranets* (first Ed.). Boca Raton, Florida, US: Crc Press.

3. (Keen, 2015) *The Internet Is Not the Answer*.

By tracing the history of the Internet, from its founding in the 1960s to the creation of the World Wide Web in 1989, through the waves of start-ups and the rise of the big data companies to the increasing attempts to monetize almost every human activity, Keen shows how the Web has had a deeply negative effect on our culture, economy and society

Keen, A. (2015). *The Internet Is Not The Answer* (1st ed., Vol. 1st). New Delhi, India: Atlantic Books.

4. Nazim Uddin Ahmed, D. Y. (2010). *Impact of Science and Technology on Society*.12

This book *enhances* the General study skills. This book has been designed for the students and aims at educating every reader with vast knowledge. The chapters in the book cover the syllabus helping each reader to understand and have required knowledge to clear the examination with excellent results. The book is divided into chapters to help the readers to take up each section of the syllabus independently and prepare for it in the best possible way. It will act as the best preparation material so that you are ready to celebrate overwhelming results. It is an amazing work Nazim Uddin Ahmed and D.K. Yadav.

Nazim Uddin Ahmed, D. Y. (2010). *Impact of Science and Technology on Society*. Delhi: Vayu Education of India.

5. Coupland, D. (2010) *Life in the Postmodern Age*

re-construction process which complicates and even makes it impossible to find a definite answer to the question 'who am I?' This book is an *analysis* of the postmodernist author Douglas Coupland's fiction as an example of how the possibility of looking for the meaning of life is addressed in the postmodern novel. It specifically focuses on Generation X, Microserfs, JPod and The Gum Thief to analyse the effects of technology and media on individuals' identity development in terms of different perspectives that might play an important role in the process. It explores the marketability of identity, daily life and relationships to find out about the twenty-first century identity and the search for the meaning of life represented in these novels. It aims to show that the modern humans are highly influenced and manipulated by media and technology. As a result, the meaning of contemporary life is in a continuous I?"

Coupland, D. (2010). *Looking for the Meaning of Life in the Postmodern Age* (1st ed.). Saarbrücken, Germany: LAP Lambert Academic Publishing.

6).V.K.Sharma. Information Technology In Education. 2013.

The *major topics dealt* in this book are:Technoogy and Education;Digital Technology in Education;Inquiry-Based Learning Technology;Computer Techniques in Education,etc.The pace of change brought about by new technologies has had a significant effect on the way people live,work and play worldwide.

V.K.Sharma. Information Technology In Education. 1st. Vol. 1. New Delhi: Global Publications, 2013.

DATA ANALYSIS AND INTERPRETATION

The collected data has been analyzed by using parametric and non- parametric statistical tools. A statistical tool involves frequency mean and mode as well as Freidman Test.

1. Demographic Profile

2. Opinions of Sample respondents through Diagram

3. Hypotheses Testing.

A. Demographic Profile:

Table No: A.1.1

(N=150)

1	Gender with percentage	Male	53	35.3%
		Female	97	64.7%
		Total	150	100
2	Age with percentage	13 th year	45	30%
		14 th year	26	17.3%
		15 th year	28	18.7%
		16 th year	24	16%
		17 th year	27	18%
		Total	150	100
3	Class with percentage	8 th class	46	30.7%
		9 th class	49	32.7%
		10 th class	10	7.6%
		11 th class	45	30%
		Total	150	100

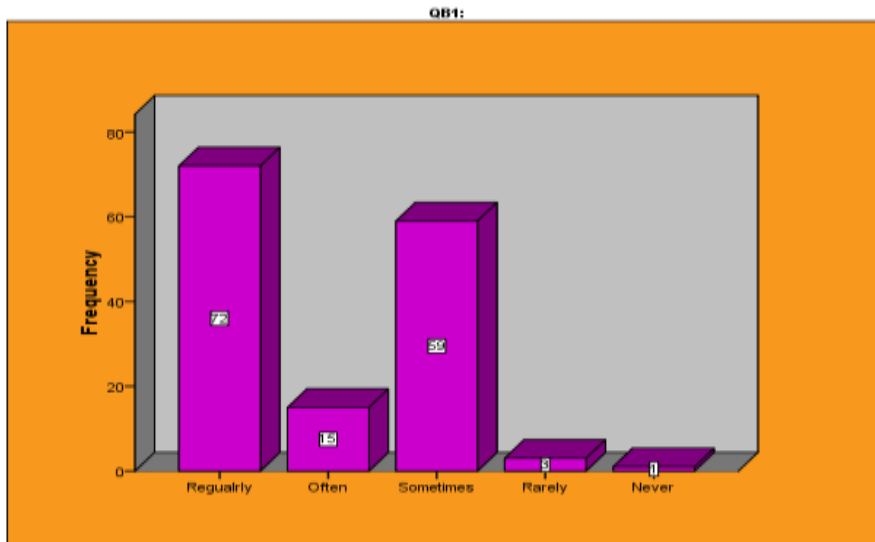
The above **Table No: A.1.1** describes the demographic profile of sample respondents with respect their gender, age and class. It shows that female respondents are more than male sample respondents as female are 97 with 64.7% whereas male are 53 with 35.3%. age profile highlights that age group 13th years occupy 45 respondents with 30% following 15th years 28 respondents with 18.7%, 17th years, 27 respondents with 18%. 14th years 26 respondents with 17.3% and last 16th years 24 respondents with 16%. It shows that 13th year's sample respondents are leading. Similarly class wise data of sample respondents bring to light that 9th class sample respondents having 49 respondents with 32.7%. Following 8th class having 46 respondents with 30.7%. 11th class having 45 respondents with 30% and last 10th class having the 10 respondents with 7.6%. it shows that 8th class has dominated the overall sample.

B. Opinions of Sample respondents through Diagram

Q.B1: How frequently do you use technology??

	Frequency	Percent	Valid Percent	Cumulative Percent
Regularly	72	48.0	48.0	48.0
Often	15	10.0	10.0	58.0
Sometime	59	39.3	39.3	97.3
Rarely	3	2.0	2.0	99.3
Never	1	.7	.7	100.0
Total	150	100.0	100.0	

Table No: TB.2.1



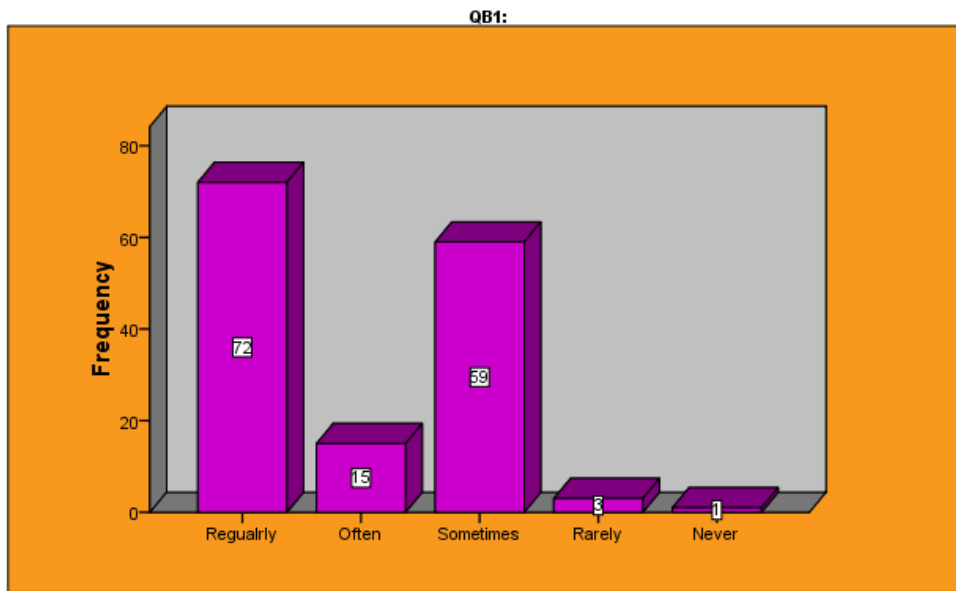
Graph No: GB. 2.1

The above **Table No: TB.2.1** and **Graph No: GB.2.1** describes the sample respondent’s opinions about How frequently they use technology, around 150 sample respondents opined. Majority of sample respondents ie 72(48%) are agree that they use technology regularly. Following 59(39.3%) sample respondents rated that they use technology sometime following 15 (10%) sample respondents uses technology often. Sample respondents 3(2%) and 1(.7%) use technology rarely and never respectively. It shows that more than sample respondents use technology.

Q.B2: For what purpose do you use this technology?

	Frequency	Percent	Valid Percent	Cumulative Percent
Education	108	72.0	72.0	72.0
Entertainment	26	17.3	17.3	89.3
Time-Pass	16	10.7	10.7	100.0
Total	150	100.0	100.0	

Table No: TB.2.2



Graph No: GB.2.2

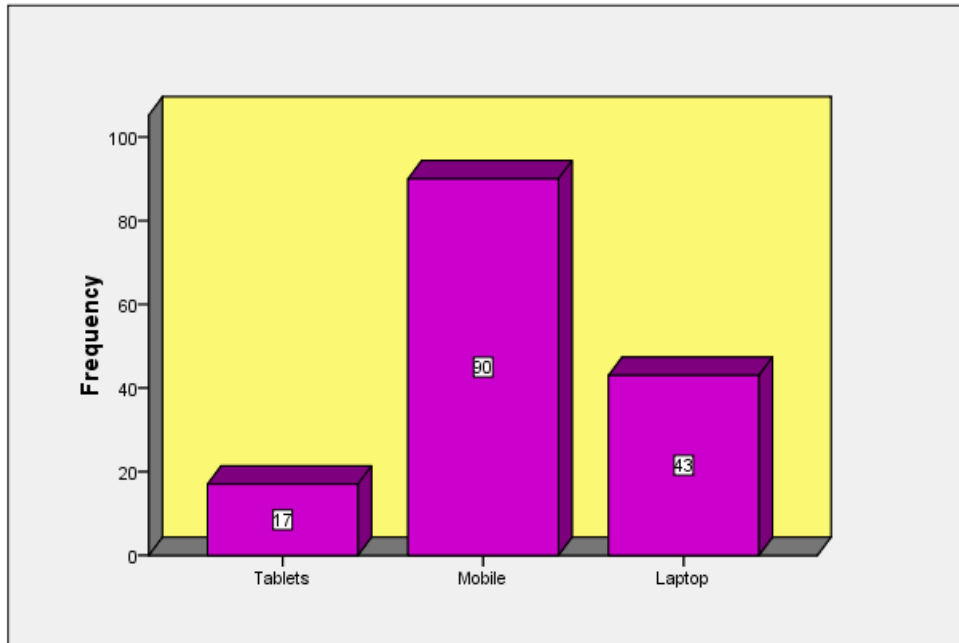
The above table No: -- **TB.2.2** and **Graph No: GB.2.2** describes the sample respondents opinions on the purpose and use of technology, around 150 sample respondents opined. Majority of sample respondents ie 108(72%) agree that they use technology for Education. Following 26(17.3%) sample respondents rated that they use technology for Entertainment. Following 16 (10.7%)sample respondents uses technology as Time-Pass. It show that more than 108(72%) sample respondents uses technology for Education.

Q.B3: Which technologies do you like most (cost effectiveness)?

	Frequency	Percent	Valid Percent	Cumulative Percent
Tablets	17	11.3	11.3	11.3
Mobile	90	60.0	60.0	71.3
PC/Laptops	43	28.7	28.7	100.0
Total	150	100.0	100.0	

Table No: TB.2.3

Q.B3



Graph No: GB.2.3

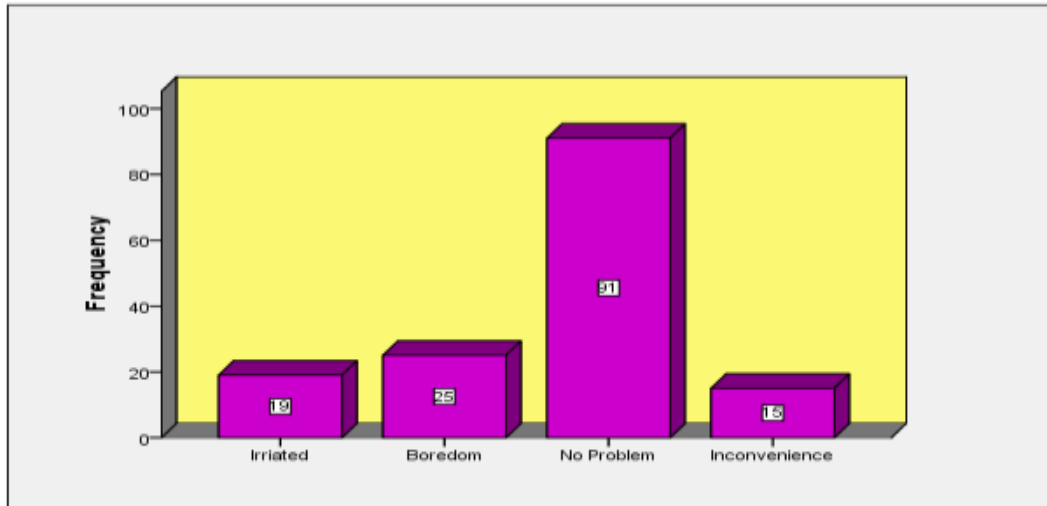
From **Table No: TB.2.3** and **Graph No: GB.2.3** describes the sample respondents opinions on the technologies liked the most from cost effectiveness point of view, around 150 sample respondents opined. Majority of sample respondents ie 90(60%) agree that they like technology in Mobiles. Following 43(28.7%) sample respondents rated that they use PC/Laptops as most liked technology. Following 17 (11.3%)sample respondents uses Tablets as most liked technology. From the table It show that more than 90(60%) sample respondents like using Mobile as most liked technology.

Q.B6: How do you feel when you are away from technology?

	Frequency	Percent	Valid Percent	Cumulative Percent
Irritated	19	12.7	12.7	12.7
Boredom	25	16.7	16.7	29.3
No problem	91	60.7	60.7	90.0
Inconvenience	15	10.0	10.0	100.0
Total	150	100.0	100.0	

Table No: TB.2.6

Q.B6



Graph No: GB.2.6

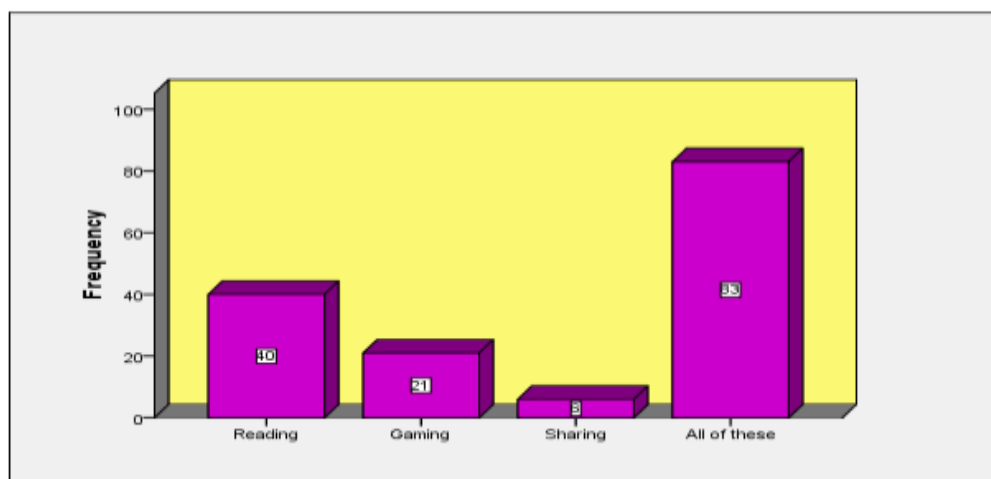
Table No: TB.2.6 and Graph No: GB.2.6 represents that the sample respondents opinions on how they felt being away from technology , around 150 sample respondents opined. Majority of sample respondents ie 91(60.7%) agree that they did not feel any problem being away from technology. Following 25(16.7%) sample respondents rated that they faced Boredom when they are away from technology. Following 19(12.7%) sample respondents feel irritated when they are away from technology. Following 15(10%) sample respondents said they felt the inconvenience while being away from technology. Therefore From the table It show that more than 91(60.7%)sample respondents agree that there is no problem when they are away from technology.

Q.B8: Following which purpose do you use internet?

	Frequency	Percent	Valid Percent	Cumulative Percent
Reading	40	26.7	26.7	26.7
Gaming	21	14.0	14.0	40.7
Sharing	6	4.0	4.0	44.7
All of these	83	55.3	55.3	100.0
Total	150	100.0	100.0	

Table No: TB.2.8

Q.B8



Graph No: GB.2.8

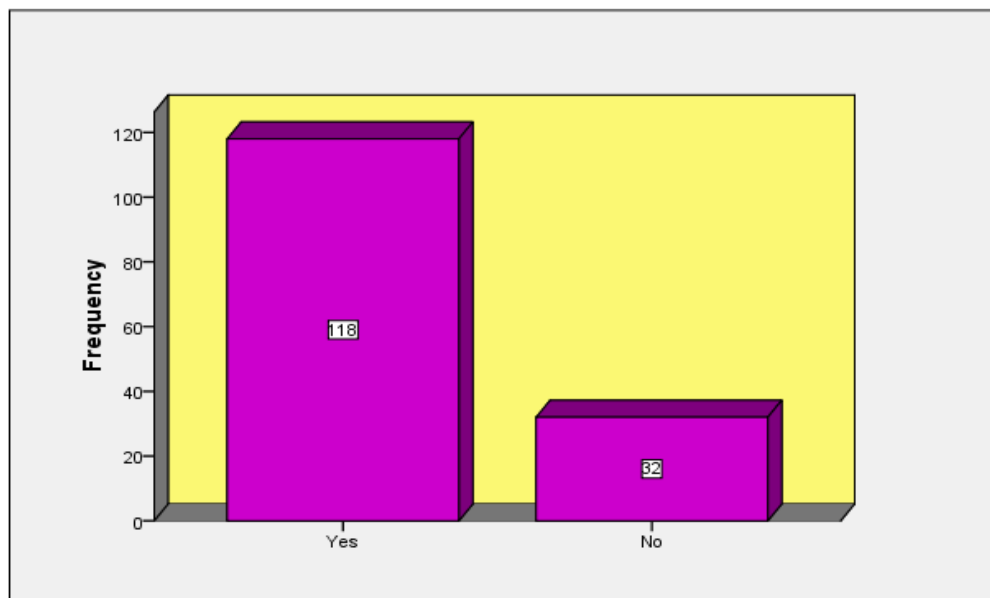
The above **Table No: TB.2.8** and **Graph No: GB.2.8** describes the sample respondent's opinions about the purpose of using Internet technology, around 150 sample respondents opined. Majority of sample respondents ie 83(55.3%) have agreed that they use technology for all the purpose like reading, gaming, sharing. Following 40(26.7%) sample respondents rated that they use Internet technology for reading purpose, following 21 (14%) sample respondents uses technology for gaming purpose. Sample respondents 6(4%) use internet technology for sharing data . It shows that maximum respondents that is 83(55.3%) use Internet Technology for all the three purpose that is reading gaming and sharing purpose.

Q.C3: Do you solve your study related problems using Internet?

	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	118	78.7	78.7	78.7
No	32	21.3	21.3	100.0
Total	150	100.0	100.0	

Table No:GC.3.3

Q.C3



Graph No: GC.3.3

From **Table No: TC.3.3** and **Graph No: GC.3.3**, describes the sample respondents opinions on study related problems solved using Internet, around 150 sample respondents opined. Majority of sample respondents ie 118(78.7%) said Yes, that their study related problems are solved using Internet. Following 32(21.3%) sample respondents said No that their problems are not solved using Internet. Therefore the table shows that more than 118(78.7%)sample respondents agree that most of their problems are solved using Internet.

HYPOTHESIS TESTING

Data collected has fed into SPSS version 18 to test the purported hypotheses. Researcher has used appropriate statistical tools to test the significance to non-significance to the test by using parametric and non-parametric statistical test.

To verify the result of parametric statistical 't' test. Non parametric statistical test workout.

Friedman Test

Perception of sample respondent about E learning	Mean Rank
Q.1: Do you think internet is essential for better study?	2.91
Q.2: Do you think use of technology in study make our study practical and interesting ?	2.66
Q.3: Is Internet useful to make our doubt clear	2.86
Q.4 : Do you think internet is a cheapest and fast medium to do our study?	3.26

Perception of sample respondent about E learning	Mean Rank
Q.1: Do you think internet is essential for better study?	2.91
Q.2: Do you think use of technology in study make our study practical and interesting ?	2.66
Q.3: Is Internet useful to make our doubt clear	2.86
Q.4 : Do you think internet is a cheapest and fast medium to do our study?	3.26
Q.5.Do you think you can do your study yourself with the help of internet/.	3.31

Test Statistics^a

No of Respondent	150
Chi-Square	41.413
Df	4
Asymp. Sig.	.000

a. Friedman Test

To verify the result of parametric 't' test, Friedman test has worked out. It revealed two tables one table describes perception of sample respondents on five variables directed to judge perception about E learning with their mean rank. Table no two highlights Friedman test output. It shows that chi-square value 41.413 at the degree of freedom at 95% level of confidence, p value is .000 which is lower than .005. it put strong evidence to reject null that there is no any relationship between children familiar with technology and learning it-at a fastest rate and accept the alternative hypothesis that there is a relationship between children familiar with technology and learning it-at a fastest rate.

Hypothesis No : 2

H0 : 1 : Technology is bane to Children.

Table No :TH.3

One-Sample Statistics

No. of Sample	Mean	Std. Deviation	Std. Error Mean
150	1.34800 0E0	.3502099	.0285945

Table No :TH.4

One-Sample Test

Technology is bane to	Technology is bane to Children.				
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference

					Lower	Upper
	47.142	149	.000	1.3480000	1.291497	1.404503

One sample t' test displayed two tables one is one sample statistics and second one is one-sample test. table on describe the information about no. of respondents, mean score, std.deviation and std.error mean. Table no two highlights the result to t test . It shows that 't' value 47.142 at 149 degree of freedom, at 95% level of confidence p value is .000 which is less than .005 leaves sufficient evidence to reject the null hypothesis that **Technology is bane to Children and accept the alternative hypothesis that technology is boon to children.**

To verify the result of parametric statistical 't' test. Non-parametric statistical test workout.

Table No :TH.5

Friedman Test

Technology is bane or boon to children	Mean Rank
Q.1: How frequently do you use technology?	5.89
Q.2 : for what purpose do you use this technology?	4.49
Q3 : Do you think internet is essential for better study?	4.24
Q.4: Do you think use of technology in study make our study practical and interesting?	3.85
Q.7 Do you think internet is a cheapest and fast medium to do our study	4.88
Q.8. Do you think you can do your study yourself with the help of internet.	4.91

Table No :TH.6

Test Statistics^a

No of Sample Respondents	150
Chi-Square	264.892
Df	7
Asymp. Sig.	.000

a. Friedman Test

To verify the result of parametric t test, Friedman test has workout. It revealed two tables one table describes perception of sample respondents on five variables directed to judge perception about technology is bane to children with their mean rank. Table no two highlights Friedman test output. It shows that chi-square value 264.892 at 7 the degree of freedom at 95% level of confidence, p value is .000 which is lower than .005. It put strong evidence to reject null hypothesis that that technology is bane to children and accept the alternative hypothesis technology is boon to children.

Conclusion:

Framed hypotheses were tested with parametric statistical and non parametric statistical tool to test the hypotheses. It result shows that hypothesis no one and two were rejected and accepted alternative hypothesis i.e. there is a relationship between children familiar with technology and learning it-at a fastest rate and second one is technology is boon to children

VI.Findings, Conclusions and Suggestion

From the above research it helps to understand the relevance of the study and to find the effective solution to develop and build the favorable environment. Similarly, this study will help in designing the policy on E- learning and its implication in education sector. These findings has based on the data analysis and interpretation Chapter. The following are the vital findings of the study.

1. From table No- **TB.2.1** and Graph No. _ **GB.2.1** shows that more than 72(48%) sample respondents uses technology in some way on the other and avoiding it in today's era is just next to impossible.
2. From table No- **TB.2.2** and **Graph No: GB.2.2.** reflects that more than 108(72%) sample respondents uses technology for Education, which is a good sign for the present generation and for the society.
3. From table No- **TB.2.3** and **Graph No: GB.2.3** It show that more than 90(60%) sample respondents like using Mobile as most liked technology and the reason is mobile being the hands on free technology it becomes easy to use.
4. From table No- **TB.2.4** and **Graph No: GB.2.4** _It show that more than 137(91.3%) sample respondents like using Internet at Home. There are various reasons for this. Using of internet during studies, doubts or quest of knowing something new or it may be entertainment. All this is done at Home.
5. From table No- **TB.2.6** and **Graph No: GB.2.6** It is understood that more than 91(60.7%)sample respondents agree that there is no problem when they are away from technology, and this is because they are involved with some other activity, it could be sports, travelling or socializing with friends and relatives. This shows a positive sign of our today's youth that they are not technology addicted, and have the sense of controlling the usage.
6. From Table No: **TB.2.8** and Graph No: **GB.2.8-** that maximum respondents revealed that 83(55.3%) use Internet Technology for all the three purposes that is reading gaming and sharing purpose.
7. The table **No: TC.3.3** and **Graph No: GC.3.3** shows that more than 118(78.7%) sample respondents agree that most of their problems are solved using Internet.
8. Therefore **Table No: TC.3.5** and **Graph No: GC.3.5** shows that more than 94(62.7%) sample respondents do not agree that most of their problems are solved using Internet. They believe that internet is a media to pass on information and not a problem solver.

Conclusion:

As a Researcher I would like to mention that these findings will help in policy making about E technology in educational sector as well as it will help students to do their study, clear their study related doubts and to get More reference about their study.

SUGGESTIONS

This study has vital to know the importance and relevance of E technology in teaching and learning ie in education sector. Findings provide better suggestion to implement for effective teaching and learning as well as it helps in create favorable learning atmosphere in education sector in respect to students. The following are the main suggestions will help to make teaching and learning effective.

1. Majority of sample respondent like learn through E technology so education sector should foster teaching& learning facilities in colleges and schools.
2. Sample respondents more than 108 agree that they use technology for education purpose so educations sector should develop policy about E learning facilities in the education sector.
3. It was found that majority of sample respondents use mobiles and tablets for getting knowledge and learning new theme as well as to unknown information. So education sector should develop teaching software and provide student in their tablets and Laptop if possible.

Majority of sample respondents says that their teaching related problems are to be solved through E technology so it is better to provide them facilities of E learning in college and school campus.

Conclusion:

These Suggestions will definitely help the educational sector to make student smart and faster in their study and to bring out their hidden talent.

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